



Department of Energy
Ohio Field Office
Fernald Environmental Management Project
P. O. Box 538705
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(513) 648-3155



APR 29 2003

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

DOE-0349-03

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

Mr. Peter Sturdevant
Compliance Specialist
Air Quality Management Division
Hamilton County Department of Environmental Services
250 William Howard Taft Road
Cincinnati, Ohio 45218-2660

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

QUARTERLY REPORT ON DRYER STACK, APRIL 2003

The purpose of this letter is to transmit the subject report for your review. In response to the Ohio Environmental Protection Agency (OEPA) comments on the Draft Remedial Action Package, the Department of Energy, Fernald Closure Project (DOE-FCP), Fluor Fernald, Inc., and Shaw Environmental, Inc. (Shaw) agreed to provide quarterly reports of any deviations or excursions from emissions limitations, operational restrictions, and control device operating parameter limitations for the dryer stack. If no deviations or excursions occurred during the affected calendar quarter, a report stating so is required.

This information contained in this letter and the enclosure satisfies the commitment for Calendar Quarter January 1 through March 31, 2003. Specifically, there are three incidents to report for the time period; the information was reported to the Department of Environmental Services (DOES), via electronic mail. The electronic mail reports are enclosed.

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Mr. James A. Saric
Mr. Tom Schneider
Mr. Sturdevant

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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,



Johnny W. Reising
Fernald Remedial Action
Project Manager

FCP:Nickel

Enclosures: As Stated

cc w/enclosures:

N. Hallein, EM-31/CLOV
D. Lojek, OH/FCP
K. Nickel, 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:

R. Greenberg, EM-31/CLOV
D. Carr, Fluor Fernald, Inc./MS1
M. Cherry, Fluor Fernald, Inc./MS52-1
T. Hagen, Fluor Fernald, Inc./MS1
T. Walsh, Fluor Fernald, Inc./MS52-3
ECDC, Fluor Fernald, Inc./MS52-7

From: Shanks, Pat
Sent: Wednesday, February, 26, 2003 4:51 PM
To: Peter.Sturdevant@does.hamilton-co.org
Cc: Hagen, Terry; Jewett, Marc; Spradlin, Ted; Spotts, Phil; Poff, Timothy; Cherry, Mark; Dalga, Dennis; Zdelar-Bush, Diane; Desormeau, Joe; Lojek, Dave; Skintik, Ed; Houchins, Ronald; Limerick, Phil; Couch, Mark; Yaeger, Daniel; 'Saric.James@epa.gov'; 'Bill.Lohner@epa.state.oh.us'; 'Tom.Schneider@epa.state.oh.us'
Subject: Notification of OEPA-Malfunction of Thermal Oxidizer at WPRAP-2/25/03

Mr. Sturdevant

In accordance with OAC 3745-15-06, this e-mail message serves as a notification to OEPA of a malfunction that occurred at WPRAP. On 2/25/03 at approximately 0915 hours, the Thermal Oxidizer Burner was shut down due to an erroneous signal from a pressure transmitter in the compressed air system. This pressure transmitter provides signals to the WPRAP computer control system interlocks. Because the computer control system received a signal that the plant air pressure dropped below a certain operational pressure, the interlocks initiated signals that suspended Dryer feed, closed the feed slide gates, shut off the Dryer burners, and shut off the Thermal Oxidizer Burner. However, the following equipment continued normal operation: Dryer Rotation Systems, Dryer Product Conveyors, Induced Draft (ID) Fan, Cyclone Separator, Scrubber, Subcooled Quench, Wet Electrostatic Precipitator (WESP), HEPA Filtration System, and Stack Monitoring System. The cause of the erroneous signal from the pressure transmitter was due to moisture freezing inside the sense lines for the transmitter. As a result, the transmitter signaled a lower pressure reading to the computer control system than the actual pressure inside the compressed air system. After the problem was discovered, heat was applied to the sense lines for the transmitter to melt the ice blockage.

Once the sense lines for the transmitter were clear of any blockage and the transmitter was placed back in service, the Thermal Oxidizer Burner was re-lit. The Thermal Oxidizer Burner was shut down for approximately 10 minutes before being re-lit. While the Thermal Oxidizer was shut down, a yellow plume was observed coming from the stack on the Thermal Oxidizer. The yellow plume was evident for approximately 20 minutes until the Thermal Oxidizer reached its normal operating temperature at approximately 0935 hours. The yellow plume slowly reduced as the temperature inside the Thermal Oxidizer increased. After the Thermal Oxidizer was operational again, the Dryer burner zones were then re-lit. When the temperatures inside the Dryers reached normal operating temperatures, feed was re-established to the Dryers. Dryer B feed was started at 1035 hours and Dryer A feed was started at 1055 hours.

Releases from the stack during the time the Thermal Oxidizer was not operational were considered minimal for the same reasons as with previous malfunctions of the Thermal Oxidizer: 1) feed was suspended while the Thermal Oxidizer was shut down, so pit material inside the Dryers became less as time elapsed; 2) the only potential emissions from the stack would be organics and carbon monoxide because the remaining Gas Cleaning equipment would remove the other potential emissions; 3) the scrubber would remove some of the organics from the off-gas stream; and 4) the period of time during which the Thermal Oxidizer was not at normal operating temperature was relatively short, approximately 20 minutes.

This incident is being reported to OEPA due to the fact that the Thermal Oxidizer was not operating while the ID Fan was operating and residual waste pit materials were still being processed inside the Dryers. The Thermal Oxidizer is considered Best Available Technology (BAT) for organics and carbon monoxide emissions from the Dryers and must be operating whenever the ID Fan is ventilating the Dryers during the processing of waste pit materials.

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

From: Shanks, Pat
Sent: Thursday, January 23, 2003 4:49 PM
To: Peter.Sturdevant@does.hamilton-co.org
Cc: Hagen, Terry; Jewett, Marc; Spradlin, Ted; Spotts, Phil; Poff, Timothy; Cherry, Mark; Dalga, Dennis; Zdelar-Bush, Diane; Desormeau, Joe; Kappa, John; Lojek, Dave; Skintik, Ed; Houchins, Ronald; Limerick, Phil; Couch, Mark; Yaeger, Daniel; 'Tom.Schneider@epa.state.oh.us'; 'Saric.James@epa.gov'; 'Bill.Lohner@epa.state.oh.us'
Subject: Notification of OEPA-Failure of HEPA Filters at WPRAP-1/21/03

Mr. Sturdevant

This e-mail message serves as a notification to OEPA of a malfunction that occurred at WPRAP. This notification of a malfunction to OEPA is in accordance with OAC 3745-15-06.

On 1/21/03, the DOP Crew went out to WPRAP to replace the HEPA filters inside Train A of the HEPA Filtration Units. The HEPA Filtration Units are part of the Dryer Gas Cleaning System. The HEPA filters needed to be replaced because the differential pressure across the filters had increase to the set point for filter replacement. The DOP Crew performed an in-place test of the HEPA filters prior to removing the HEPA filters. The purpose of the in-place test was to verify that the HEPA filters had not failed during service. The HEPA filters failed the in-place test with a particulate removal efficiency of 99.90% (passing is 99.97% removal efficiency or greater). The failed HEPA filters were replaced with new HEPA filters. The DOP Crew performed an in-place test on the new HEPA filters after installation and the filters passed the test with a removal efficiency of 99.985%.

The HEPA filters that failed were only in service since 1/17/03. Prior to removing the failed HEPA filters, the DOP Crew observed that the pre-filters and HEPA filters were exceptionally wet and the media for the HEPA filters had started to sag in, as if the wet softened media was pushed back by the airflow. No other observations with the HEPA filters were made such as the gasket shifted out of place or holes in the filter media. Investigations have begun into the cause of why the pre-filters and HEPA filters became exceptionally wet and how to prevent this problem in the future.

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

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

Pat Shanks
Fluor Fernald

From: Shanks, Pat
Sent: Friday, January 10, 2003 3:55 PM
To: Peter.Sturdevant@does.hamilton-co.org
Cc: Hagen, Terry; Jewett, Marc; Spradlin, Ted; Spotts, Phil; Poff, Timothy; Cherry, Mark; Dalga, Dennis; Desormeau, Joe; Houchins, Ronald; Kappa, John; Lojek, Dave; Skintik, Ed; Limerick, Phil; Couch, Mark; Zdelar-Bush, Diane; Yaeger, Daniel; Tom.Schneider@epa.state.oh.us'; 'Saric.James@epa.gov'; Bill.Lohner@epa.state.oh.us'
Subject: Notification of OEPA-Malfunction of Thermal Oxidizer at WPRAP-1/10/03

Mr. Sturdevant

The purpose of this e-mail message is to notify the OEPA in accordance with OAC 3745-15-06 of a malfunction that occurred at WPRAP. On 1/9/03 at 0911 hours, the flame failed on the Thermal Oxidizer for the Dryer Gas Cleaning System. The flame failure was caused by the displacement of the burner fire eye from its mounting position as a result of unrelated work taking place adjacent to the Thermal Oxidizer. As a result of the flame failure on the Thermal Oxidizer, feed to both Dryers was automatically halted. However, the following pieces of equipment continued normal operation: Dryer Rotation Systems, Dryer Product Conveyors, Induced Draft (ID) Fan, Cyclone Separator, Scrubber, Subcooled Quench, Wet Electrostatic Precipitator (WESP), HEPA Filtration System, and Stack Monitoring System.

The burner fire eye was reinstalled and the re-lighting sequence for the Thermal Oxidizer burners was initiated. The Thermal Oxidizer burners were re-lit at 0931 hours and WPRAP personnel began to bring the Dryers back up to operating temperature. The Thermal Oxidizer and the Dryers were brought back up to operating temperature in a relatively short period of time and feed to Dryer A was re-established at 0935 hours. Feed to Dryer B was not re-established until 1220 hours due to unrelated operational activities that needed to be completed.

Immediately after the flame failed on the Thermal Oxidizer, WPRAP personnel observed a small amount of black smoke being emitted from the stack for the Gas Cleaning System. This release of black smoke lasted only for a few seconds. After the release subsided, no more visible emissions were observed being emitted from the stack. During previous malfunctions of the Thermal Oxidizer, a yellow plume was usually observed being emitted from the stack. During this malfunction, no yellow plume was observed, which was probably due to the fact that the flame failure on the Thermal Oxidizer lasted for a short period of time (20 minutes) and little temperature loss was observed inside the Thermal Oxidizer during the flame failure.

Releases from the stack during the time the Thermal Oxidizer was not operational were considered minimal for the same reasons as with previous malfunctions of the Thermal Oxidizer: 1) feed was suspended immediately after the flame failed, so pit material inside the Dryers became less as time elapsed; 2) the only potential emissions from the stack would be organics and carbon monoxide because the remaining Gas Cleaning equipment would remove the other potential emissions; 3) the scrubber would remove some of the organics from the off-gas stream; and 4) the flame failure of the Thermal Oxidizer lasted only 20 minutes. As mentioned above, little temperature loss was observed inside the Thermal Oxidizer during the flame failure which would maintain some of the capacity of the Thermal Oxidizer to control emissions.

This incident is being reported to OEPA due to the fact that the Thermal Oxidizer was not operating while the ID Fan was operating and residual waste pit materials were still being processed inside the Dryers. The Thermal Oxidizer is considered Best Available Technology (BAT) for organics and carbon monoxide emissions from the Dryers and must be operating whenever the ID Fan is ventilating the Dryers during the processing of waste pit materials.

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

Pat Shanks
Fluor Fernald