



State of Ohio Environmental Protection Agency

Northwest District Office

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Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

Re: Response to Ohio EPA Comments
GMPT Landfill, Defiance County

November 30, 2007

Mr. Chuck Renn
Environmental Engineering
General Motors Powertrain
P. O. Box 70
Defiance, Ohio 43512-0070

Dear Mr. Renn:

The Ohio Environmental Protection Agency (Ohio EPA) has reviewed the submittal (received August 24, 2007) from the owner/operator which responds to the July 24, 2007 letter from Ohio EPA. This submittal was reviewed to determine compliance with OAC Rule 3745-30-08. Ohio EPA comments are detailed below.

COMMENTS

Owner/Operator's Response to Previously Cited Violations

1. **GM Powertrain continues to be in violation of OAC Rule 3745-30-08(C)(5). The July 24, 2007 letter from Ohio EPA cited the owner/operator in violation of OAC Rule 3745-30-08(C)(5) requiring that "...The statistical method specified shall ensure protection of human health and safety and the environment...". This violation was cited specifically regarding the use of iron data from MW-10DR in the background dataset for the inter-well statistical analysis of iron at the downgradient monitoring wells. To regain compliance with this rule, GM Powertrain needs to properly address Comment No. 2 below.**

In response to this violation, the submittal states "**The current Ground Water Monitoring Plan for the Residual Waste Landfill dated August 2003 was approved per Ohio EPA letter dated August 21, 2003. The approved Plan specifies that GMPT Defiance use a tolerance interval test for data evaluation procedures. Therefore, GMPT Defiance is adhering to the Ohio EPA approved plan to remain in compliance...**".

For clarification, Ohio EPA did not "approve" the current Ground Water Monitoring Plan. Rather, the August 21, 2003 letter from Ohio EPA stated "**...it appears that the Ground Water Monitoring Plan (dated August 2003) and the Sampling & Analysis Plan (dated August 2003) meet the requirements of Ohio Administrative Code Rule 3745-30-08 (effective August 15, 2003).**".

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Further, Ohio EPA is not disputing the use of a tolerance interval test for ground water data evaluation. Rather, Ohio EPA is disputing the background dataset which is being used to calculate the tolerance interval (specifically, the elevated iron concentrations at MW-10DR).

Additionally, in response to the cited violation, the submittal states **"GMPT Defiance questions the use of Ohio EPA's term *"protection of human health and safety and the environment"* when referring to the constituent *"iron"*. US EPA has published a secondary drinking water standard for iron (0.3 ppm). National Secondary Drinking Water Regulations...are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water..."**.

For clarification, Ohio EPA's concern regarding the *"protection of human health and safety and the environment"* in this issue does not focus on health-related issues of iron. Rather, Ohio EPA's concern is focused on the methods of statistically analyzing the iron data from the facility.

The purpose of a ground water monitoring program is to monitor the ground water and through evaluation of the resulting data, to examine whether or not the monitored facility is impacting the ground water flowing beneath it. The OAC Rules require that this evaluation be done through statistical analysis of the ground water quality data. Specifically, to statistically compare the compliance monitoring data to a background dataset to determine if there is a statistically significant difference between the compliance monitoring data and the background datasets. To this end, the statistical analysis methods need to be set up and performed in such a way that they are sensitive enough to detect all significant changes at the compliance monitoring points. Otherwise, the statistical analysis of the compliance monitoring data may not be effective at identifying impacts to the ground water if they occur.

In the case of iron at MW-10DR, the statistical analysis being performed is not sensitive enough to detect significant changes in iron concentrations at the downgradient monitoring wells (compliance points). As stated in the July 24, 2007 letter from Ohio EPA, **"...the tolerance limit for iron (for all downgradient wells) has increased from 5,400 µg/L in October 2003, to 18,000 µg/L in April 2007. This means that iron concentrations at the downgradient monitoring wells, which generally range from less than 100 µg/L to approximately 1,800 µg/L could increase on the order of 10- to 100-fold without causing a statistical trigger."** Therefore, potential releases from the landfill, impacting the ground water quality for iron, could easily be masked by the current statistical method and would thereby not be identified as landfill impact. As stated in the July 24, 2007 letter from Ohio EPA, **"This conflicts with the fundamental purpose of the ground water monitoring program (to detect and assess potential releases from the landfill) and as such does not ensure the protection of human**

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health and safety and the environment. Therefore, the owner/operator is in violation of OAC Rule 3745-30-08(C)(5)."

In conclusion regarding this citation, the submittal states "GMPT Defiance believes the current statistical methods and the inclusion of the iron data remain "protective of human health and the environment" and therefore questions Ohio EPA's claim. For the reasons provided above, GMPT Defiance requests that Ohio EPA withdraw the alleged violation."

For the reasons noted above, Ohio EPA respectfully declines to withdraw the violation of OAC Rule 3745-30-08(C)(5) which was cited in the July 24, 2007 letter. The owner/operator will remain in violation of this rule until the issue is adequately addressed.

More Information Needed to Determine Compliance

2. **Compliance with OAC Rule 3745-30-08(B)(1)(a) cannot be determined at this time. This rule requires that the ground water monitoring network include wells which can yield samples which represent the quality of the ground water that has not been affected by past or present operations at the landfill facility. To assure compliance with OAC Rule 3745-30-08(B)(1)(a), GM Powertrain needs to do one of the following:**

- **Submit documentation to Ohio EPA which provides support for a demonstration that MW-10DR is capable of yielding samples which represent the quality of the ground water that has not been affected by past or present operations at the landfill facility;**

OR

- **Remove dissolved iron data collected from MW-10DR from the statistical background database. Specifically, dissolved iron data from MW-10DR from October 2001 to present;**

OR

- **Switch to an intra-well statistical method for the downgradient monitoring wells. This would be done after the Sampling & Analysis Plan (SAP) was revised to document these changes to the statistical methods;**

GM Powertrain needs to notify Ohio EPA of its intentions regarding this issue as soon as possible.

Comment No. 2 of the July 24, 2007 letter from Ohio EPA noted that more information

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was needed to determine compliance with OAC Rule 3745-30-08(B)(1)(a).

Specifically, Comment No. 2 of the July 24, 2007 focused on the point that **"...while MW-10DR is an upgradient monitoring well for the landfill facility, Ohio EPA questions whether or not the ground water quality data from MW-10DR represents the quality of the ground water that has not been affected by past or present operations at the landfill facility."** Further, as noted in Comment No. 2 of the July 24, 2007 this issue was first documented in the September 8, 2004 letter from Ohio EPA and was restated in the February 1, 2005 letter from Ohio EPA.

In response to this comment, the submittal states **"GMPT Defiance responded to this comment for the first time in a letter dated November 9, 2004. At that time, GMPT Defiance explicitly demonstrated that upgradient monitoring well MW-10DR is "capable of yielding samples which represent the quality of the ground water that has not been affected by past or present operations at the landfill facility". However, Ohio EPA continues to pose this issue and has never responded to the 2004 demonstration."**

For clarification, Ohio EPA did respond to, and disputed the 2004 demonstration as documented in the December 15, 2004 letter from Ohio EPA. Further, this response from Ohio EPA was also referenced in the recent July 24, 2007 letter from Ohio EPA.

Additionally, in response to Comment No. 2 of the July 24, 2007 letter, the submittal states [in regard to Defiance County Ground-Water Resources Fact Sheet – Ohio State University Extension] **"That article presents a range in iron concentrations in typical water supply wells in Defiance County from 0.11 ppm to 10 ppm. The two water supply wells completed in the unconsolidated deposits had iron concentrations of 10 ppm and 2.2 ppm. The iron concentrations at GMPT Defiance have never exceeded 10 ppm in any of the wells."**

While this is true and is interesting to consider, it is not relevant to the issue of iron concentrations at MW-10DR. The purpose of the ground water detection monitoring program is to monitor for and to detect any potential releases from the landfill based on comparisons of on-site ground water quality, rather than on comparison to regional ground water quality within the county.

Additionally, in response to Comment No. 2 of the July 24, 2007 letter, the submittal restates various points which were used in the owner/operator's "2004 demonstration". However, each of these issues were previously disputed by Ohio EPA in the December 15, 2004 letter from Ohio EPA and are not restated herein.

- 2. Compliance with OAC Rules 3745-30-08(C)(1) and (C)(1)(c) cannot be determined at this time. OAC Rule 3745-30-08(C)(1) requires that the ground water monitoring program include consistent sampling and analysis procedures that are designed**

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to ensure monitoring results that provide an accurate representation of ground water quality. Further, OAC Rule 3745-30-08(C)(1)(c) requires that the Sampling & Analysis Plan (SAP) include a detailed description of the procedures and techniques to be used for the performance of field analysis. To assure compliance with OAC Rules 3745-30-08(C)(1) in the future, the owner/operator needs to either revise the SAP to document the field parameter stabilization criteria noted below, followed by field implementation or demonstrate to Ohio EPA how the current field parameter stabilization criteria in the SAP meet the requirements of OAC Rule 3745-30-08(C)(1).

Comment No. 3 of the July 24, 2007 letter from Ohio EPA noted that more information was needed to determine compliance with these rules. This comment specifically regarded the stabilization of field parameters during purging and stated "**Based on review of current technical literature, Ohio EPA agrees with the stated parameter fluctuation for stabilization of temperature and that parameter fluctuation be monitored for stabilization over three consecutive measurements. However, Ohio EPA also believes that the stabilization of purge water within ± 0.1 SU for pH and within ± 3 percent for specific conductance are essential in evaluating when purging can be terminated.**

To assure compliance with OAC Rules 3745-30-08(C)(1) in the future, the owner/operator needs to do one of the following:

- ▶ revise the SAP to document the field parameter stabilization criteria noted above, followed by field implementation;
- OR
- ▶ demonstrate to Ohio EPA how the current field parameter stabilization criteria in the SAP meet the requirements of OAC Rule 3745-30-08(C)(1)."

In response to this comment, the submittal states "**GMPT Defiance is willing to modify the Sampling and Analysis Plan (SAP) to include this sampling technique, however, after a meeting that includes Ohio EPA's legal staff since the SAP covers the ground water monitoring sampling techniques at the North Perimeter Area as well.**"

It is true that the most recent version of the SAP (August 2003) is used for both the Residual Waste Landfill (RWL) and the North Perimeter Area (NPA). However, to date the August 2003 SAP has not been approved for the NPA. Therefore, such a revision to the SAP would not require an alteration to an approval as it regards the NPA.

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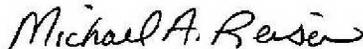
Therefore, as GMPT Defiance is willing to modify the SAP to conform to the field parameter stabilization criteria noted above and to assure compliance with OAC Rules 3745-30-08(C)(1) in the future, GMPT Defiance needs to proceed with revising the SAP to document the field parameter stabilization criteria noted above, followed by field implementation.

Statements

- The July 24, 2007 letter from Ohio EPA contained four (4) comments regarding the ground water monitoring program for the facility. As noted in Comments No. 1 and 2 above, issues of Comments No. 1 and 2 of the July 24, 2007 letter from Ohio EPA remain outstanding. Comment No. 4 of the July 24, 2007 letter did not yet require a response.**

If you have any questions please feel free to contact Ken Brock at the Ohio EPA Northwest District Office (419-373-3143). Any written correspondence should be sent to the attention of Mike Reiser, Division of Solid and Infectious Waste Management, Ohio EPA Northwest District Office, 347 N. Dunbridge Road, Bowling Green, Ohio 43402.

Sincerely,



Michael A. Reiser, R.S.
Environmental Supervisor
Division of Solid and Infectious Waste Management

/lb

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~~Defiance County, GMPT Landfill, Ground Water~~

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