



Sustainability in Action

June 23, 2022

Ms. Diane Kavanaugh Vetort
Michigan Department of Environment, Great Lakes, and Energy
Jackson District Office
301 E. Louis Glick Highway
Jackson, Michigan 49201-1556

Subject: Vienna Junction Industrial Park Sanitary Landfill
Response to June 3, 2022 Violation Notice
SRN: N2689, Monroe County

Dear Ms. Kavanaugh Vetort,

On June 3, 2022, the Allied Waste Systems of Michigan, LLC, the Vienna Junction Industrial Park Sanitary Landfill (VJ) located in Erie, Michigan received a Violation Notice (VN) issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

Following is a written response to each of the conditions cited as a violation in the VN. The response includes: the dates of each occurrence; an explanation of the causes and duration of the occurrences; whether the occurrences are ongoing; a summary of the actions that have been taken and are proposed to be taken to correct the occurrences and the date by which these corrective actions will take place; and what steps are being taken to prevent a re-occurrence.

Background

VJ is an active municipal solid waste landfill operating in Monroe County, Michigan. The facility is subject to 40 CFR 60 Subpart XXX (the Landfill NSPS) and 40 CFR 63 Subpart AAAAA (the Landfill NESHAP). VJ operates an active gas collection and control system (GCCS). Extracted landfill gas (LFG) is directed to an enclosed flare owned by the landfill.

On September 16, 2020, a performance test was conducted on the flare demonstrating compliance at a temperature of 1606 °F. After this test, the flare operating temperature setpoint was set and maintained at 1650 °F.

The enclosed flare has four air damper louvers that allow combustion air to enter the stack to optimize combustion. The flare operating temperature is maintained by adjusting the position of these air damper louvers. Opening the air damper louvers reduces the operating temperature by increasing the amount of quench air, while closing the air damper louvers increases the temperature by decreasing the amount of therefore requires the air damper louvers to open or close in response to these changes to maintain the preprogrammed operating temperature set

point. The opening and closing of two of the air damper louvers are automated and utilizes a stack-mounted thermocouple (selected based on gas flow rate) which senses the operating temperature and sends a low voltage signal to the control panel temperature controller. This controller sends a 4 - 20 mA signal to an electrically operated actuator on the air damper louvers directing the air damper louvers to open or close depending on the temperature signal received relative to the preprogrammed operating temperature control set point. The two other air louvers are manually adjusted to provide a minimum air flow rate and to help reduce the necessary movement of the automated louvers thus improving response times¹.

In addition to temperature control, the flare control system includes a low temperature shutdown which defaults at 1400 °F from the flare manufacturer. This setpoint is adjustable to accommodate site specific conditions. The site was not aware that the low temperature shutdown setpoint had remained at its factory default after the stack test was performed.

The low temperature shutdown is an instantaneous programmed control point that does not, nor can it be programmed to, determine the 3-hour average combustion temperature criteria mandated by both the landfill NSPS and NESHAP standards. Compliance with the 3-hour average criteria must be assessed based on records of the flare operating temperature which is logged at a minimum of 15-minutes in accordance with the regulations.

Dates of Event/Explanation of Causes/Duration:

The National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills (NESHAP), codified in 40 CFR 63 Subpart AAAA and Renewable Operating Permit (ROP), MI-ROP-N2689-2020, require that the site monitor combustion temperature at the enclosed flare and maintain a 3-hour block average combustion temperature that does not drop 28°C (82°F) or more below the temperature established in the most recent performance test for the flare. A three (3) hour block average combustion temperatures 28°C (82°F) or more below these values for the flare operating temperature is considered a deviation.

Attachment 1 provides the dates and durations of each rolling three-hour block average of time with temperatures 28°C or more below the established 2020 performance test values. The 3-hour block average temperature excursions occurred because heat input rates ²dropped below the minimum needed to maintain stack temperature at the operating setpoint. VJ has contacted the flare manufacture to determine the cause of the temperature fluctuation and will implement their recommendations.

As noted above, compliance with the 3-hour average criteria must be assessed based on records of the flare operating temperature which is logged at a minimum of 15-minutes in accordance with the regulations. The low temperatures were not discovered because the site's consultant used an antiquated tracking spreadsheet that did not adequately calculate or identify 3-hour average compliance deviations.

¹ The two manual louvers are closed as the result of modifications that were prompted by reduced gas flow to the flare. The site worked with the flare manufacturer to blank burners in the stack which consequently necessitated reduced air flow.

² Heat input rates fluctuated because gas flow intermittently declined below the necessary rate to support the operating temperature. The longest duration can be attributed to freezing conditions during January that impacted gas flow.

Because the 3-hour average temperature deviations were not found, they were not included in the deviation reports.

Event Status

No rolling 3-hour block average low temperature deviations have been recorded since February 28, 2022.

The low temperature shut down setpoint was reset to proactively shut the flare down and alert operators of a low temperature condition before it can extend to 3-hours or more. The automated control system for the flares is functioning as designed and should prevent similar occurrences.

Additionally, the site's consultant has implemented a more robust data review protocol to a more automated process to ensure reports convey necessary deviations.

Summary of Additional Actions Taken and Prevention of Reoccurrence

The underlying cause of the events is the heat input intermittently fell below the rate needed to maintain the operating temperature at the setpoint. As a result, the flare had intermittent periods with a three-hour block average of time with temperatures 28°C (82°F) or more below the established 2020 performance test value during subsequent operation.

To address the root cause of these events, the Site will require low temperature shutdown point adjustments be performed at the conclusion of performance testing result certification.

Response to the Violation Notice:

For clarity, the Department's comments appear below in italic type along with the responses to the issues in the order that they appeared in the VN.

***Item 1:** MI-ROP-N2689-2020, Condition I. Non-methane Organic Compound (NMOC), 20 ppmv dry as hexane at 3% oxygen OR 98% reduction or more (NESHAP 40 CFR 63.1959(b)(2)(iii)(B)); Comment: Unable to determine compliance with emission limit during periods of operation below required minimum temperature determined during most recent NSPS required performance test.*

Response: VJ disagrees that 40 CFR 63.1959(b)(2)(iii)(B) was violated. The statutory provision listed in 40 CFR 63.1959(b)(2)(iii)(B) relate to flare performance that was achieved during the stack test. It is important to note that flare performance testing is not always completed at the lowest possible flare operating temperature at which compliance with the NSPS operational standard for NMOC destruction can be attained. There is an inherent presumption that the established performance test temperature is the lowest possible to achieve compliance, but that is not always the case. While the rules stipulate flares must achieve 20 ppmv non-methane organic compound (NMOC), dry as hexane at 3% oxygen OR 98% reduction by weight, performance testing can be demonstrated using Method 25A if NMOC concentrations are less than 8 ppm NMOC as hexane. The flare did in fact demonstrate this performance. As such, the temperature needed to demonstrate compliance at 20 ppm NMOC as hexane would, consequently, be less than the performance test demonstrated (lower temperatures presumably result in less destruction and consequently higher concentrations).

Please note that the site did not attempt to establish the lowest possible temperatures capable of achieving the 20 ppm NMOC outlet concentration rate during the NSPS performance test. This was merely

the temperature measured during the testing, and it is entirely possible that the flare could have met the NSPS performance standards at lower temperatures.

Item 2: *MI-ROP-N2689-2020, Condition III. 3. and NESHAP 40 CFR 63.1959(d); Comment: Failed to operate at minimum compliant temperature (parameter range) as determined during most recent NSPS required NMOC control device performance test.*

Response: The incidents noted were caused by reduced heat input to the flare resulting in the flare not being able to operate at the operating temperature value established in the 2020 performance.

VJ has taken numerous corrective actions to ensure that the circumstances leading to the incidents are not repeated. These include:

- Resetting the operating control temperature shutdown limit to the correct set-point on June 1, 2022;
- Discussions with the flare manufacturer to determine additional improvements that should be implemented.

VJ believes that these measures should prevent future temperatures excursions of this type.

Item 3: *MI-ROP-N2689-2020, Condition VI. 2. (b) NESHAP 40 CFR 63.1959(b)(2)(iii), 40 CFR 63.1983(c)(1)(i); Comment: Monitoring /recordkeeping shows excessive number of events during which the parameter boundaries established during the most recent performance test were exceeded. Average combustion temperature was more than 28 degrees C (82 degrees F) below the average combustion temperature during the most recent performance test at which compliance with 40 CFR 60.762(b)(2)(iii) was determined.*

Response:

Compliance with the 3-hour average criteria must be assessed based on records of the flare operating temperature which is logged at a minimum of 15-minutes in accordance with the regulations. The low temperatures were not discovered because the site's consultant used an antiquated tracking spreadsheet that did not adequately calculate or identify 3-hour average compliance deviations. Because the 3-hour average temperature deviations were not found, they were not included in the deviation reports.

The site's consultant has implemented a more robust data review protocol to a more automated process to ensure reports convey necessary deviations.

The semi-annual deviation/NSPS reports have been updated and were resubmitted on June 15, 2022.

Item 4: *MI-ROP-N2689-2020, Condition VII. 1.; Comment: Failed to promptly report deviations pursuant to General Conditions 21 and 22 of Part A.*

Response:

Same response as Item 3.

If you have additional questions, please contact me at 440-370-2764 or at rbaisden@republicservices.com.

Sincerely,

VIENNA JUNCTION INDUSTRIAL PARK SANITARY LANDFILL

A handwritten signature in black ink, appearing to read "Ryan Baisden". The signature is written in a cursive style with a large initial "R" and "B".

Ryan Baisden
Environmental Manager

cc: C. Ethridge, EGLE
S. Miller, EGLE
D. Kavanaugh Vetort, EGLE
J. Benya, EGLE
D. Oleniacz, EIL

Attachment 1

2020 - 2022 Enclosed Flare

Three-Hour Rolling Temperature Periods 28°C Below 2020 Performance Test Temperatures

Time Start	Time End	Duration (hh:mm)	Time Start	Time End	Duration (hh:mm)	Time Start	Time End	Duration (hh:mm)
09/17/20 00:48	09/17/20 14:54	14:06:00	12/23/20 08:20	12/23/20 12:54	4:34:00	09/14/21 11:29	09/17/21 15:20	75:51:00
09/18/20 19:35	09/19/20 16:30	20:55:00	12/24/20 05:24	12/27/20 14:44	81:20:00	09/17/21 18:21	09/18/21 15:35	21:14:00
09/19/20 18:58	09/22/20 14:11	67:13:00	12/28/20 02:39	12/30/20 13:02	58:23:00	09/18/21 19:18	09/19/21 09:12	13:54:00
09/22/20 19:57	09/23/20 10:24	14:27:00	12/30/20 15:15	01/01/21 14:46	47:31:00	09/19/21 16:38	09/20/21 11:54	19:16:00
09/24/20 19:24	09/25/20 12:01	16:37:00	01/01/21 17:19	01/03/21 08:55	39:36:00	09/22/21 00:35	09/24/21 17:33	64:58:00
09/25/20 20:59	09/26/20 01:51	4:52:00	01/03/21 14:38	01/12/21 16:14	217:36:00	09/24/21 18:02	09/25/21 17:47	23:45:00
09/26/20 04:01	09/26/20 09:26	5:25:00	01/15/21 12:26	01/16/21 18:34	30:08:00	09/25/21 18:56	09/26/21 15:04	20:08:00
09/27/20 17:07	09/30/20 17:27	72:20:00	01/16/21 22:43	01/17/21 20:39	21:56:00	09/26/21 21:11	09/27/21 13:30	16:19:00
10/02/20 00:38	10/02/20 16:00	15:22:00	01/17/21 23:19	01/18/21 07:32	8:13:00	09/27/21 19:25	09/30/21 15:00	67:35:00
10/05/20 00:13	10/05/20 12:11	11:58:00	01/18/21 08:55	01/18/21 16:52	7:57:00	09/30/21 21:00	10/01/21 12:00	15:00:00
10/07/20 21:05	10/08/20 11:07	14:02:00	01/18/21 18:26	01/18/21 22:39	4:13:00	10/01/21 18:00	10/02/21 12:00	18:00:00
10/11/20 04:08	10/11/20 10:51	6:43:00	01/19/21 12:32	01/19/21 20:56	8:24:00	10/04/21 00:00	10/04/21 03:00	3:00:00
10/13/20 01:10	10/13/20 14:20	13:10:00	01/19/21 22:42	01/20/21 02:40	3:58:00	10/04/21 06:00	10/10/21 15:00	153:00:00
10/13/20 18:22	10/13/20 22:37	4:15:00	01/20/21 13:08	01/22/21 11:19	46:11:00	10/10/21 18:00	10/11/21 15:00	21:00:00
10/14/20 01:37	10/14/20 16:12	14:35:00	01/22/21 13:27	01/22/21 22:04	8:37:00	10/11/21 18:00	10/21/21 09:00	231:00:00
10/15/20 08:52	10/16/20 15:27	30:35:00	01/22/21 23:58	01/23/21 04:20	4:22:00	10/21/21 12:00	10/21/21 15:00	3:00:00
10/16/20 17:53	10/21/20 05:06	107:13:00	01/23/21 12:28	01/24/21 00:23	11:55:00	10/21/21 18:00	10/22/21 09:00	15:00:00
10/21/20 15:29	10/22/20 09:19	17:50:00	01/24/21 14:43	01/26/21 18:11	51:28:00	10/25/21 21:00	10/26/21 09:00	12:00:00
10/24/20 02:25	10/25/20 15:24	36:59:00	01/26/21 20:38	01/27/21 04:24	7:46:00	10/26/21 21:00	11/04/21 21:00	216:00:00
10/26/20 16:31	10/27/20 06:10	13:39:00	01/27/21 08:16	01/27/21 18:21	10:05:00	11/05/21 00:00	11/05/21 06:00	6:00:00
10/29/20 18:57	11/01/20 02:42	55:45:00	01/28/21 07:31	01/28/21 10:32	3:01:00	11/05/21 09:00	11/16/21 18:00	273:00:00
11/01/20 11:28	11/02/20 11:18	23:50:00	07/02/21 01:23	07/02/21 06:53	5:30:00	11/17/21 06:00	11/17/21 21:00	15:00:00
11/03/20 03:43	11/03/20 14:49	11:06:00	07/02/21 07:04	07/02/21 10:24	3:20:00	11/18/21 06:00	11/20/21 09:00	51:00:00
11/03/20 16:19	11/04/20 08:21	16:02:00	07/03/21 00:47	07/03/21 09:07	8:20:00	11/20/21 12:00	11/20/21 21:00	9:00:00
11/06/20 05:50	11/06/20 10:25	4:35:00	07/05/21 04:16	07/05/21 08:16	4:00:00	11/21/21 03:00	11/22/21 12:00	33:00:00
11/06/20 16:47	11/07/20 09:41	16:54:00	07/09/21 22:50	07/10/21 03:11	4:21:00	11/22/21 15:00	11/24/21 18:00	51:00:00
11/07/20 18:16	11/08/20 12:59	18:43:00	07/17/21 10:41	07/17/21 14:46	4:05:00	11/25/21 03:00	11/25/21 12:00	9:00:00
11/08/20 16:25	11/09/20 13:13	20:48:00	07/18/21 05:06	07/18/21 08:11	3:05:00	11/25/21 15:00	11/25/21 18:00	3:00:00
11/10/20 23:10	11/12/20 08:01	32:51:00	07/21/21 00:53	07/22/21 00:19	23:26:00	11/25/21 21:00	11/30/21 00:00	99:00:00
11/12/20 09:37	11/13/20 04:50	19:13:00	07/22/21 00:25	07/22/21 11:34	11:09:00	11/30/21 09:00	11/30/21 18:00	9:00:00
11/13/20 14:12	11/13/20 20:51	6:39:00	07/22/21 14:06	07/22/21 19:32	5:26:00	12/01/21 00:00	12/01/21 12:00	12:00:00
11/15/20 20:21	11/17/20 02:30	30:09:00	07/23/21 08:56	07/23/21 14:14	5:18:00	12/02/21 06:00	12/03/21 15:00	33:00:00
11/17/20 18:09	11/19/20 12:45	42:36:00	07/23/21 14:52	07/23/21 18:19	3:27:00	12/03/21 18:00	12/08/21 09:00	111:00:00
11/19/20 18:42	11/20/20 14:30	19:48:00	07/24/21 05:19	07/24/21 10:52	5:33:00	12/08/21 21:00	12/09/21 15:00	18:00:00
11/20/20 19:25	11/22/20 08:23	36:58:00	07/25/21 00:35	07/25/21 04:44	4:09:00	12/10/21 03:00	12/10/21 15:00	12:00:00
11/22/20 11:49	11/22/20 15:11	3:22:00	07/25/21 23:39	07/26/21 11:56	12:17:00	12/11/21 18:00	12/15/21 12:00	90:00:00
11/23/20 18:10	11/24/20 02:07	7:57:00	07/26/21 20:20	07/27/21 14:06	17:46:00	12/16/21 18:00	12/20/21 15:00	93:00:00
11/24/20 22:52	11/25/20 12:48	13:56:00	07/27/21 18:54	07/29/21 03:32	32:38:00	12/20/21 18:00	12/21/21 15:00	21:00:00
11/26/20 02:42	11/27/20 23:21	44:39:00	07/29/21 22:50	07/31/21 09:05	34:15:00	12/22/21 00:00	12/23/21 21:00	45:00:00
11/28/20 18:12	11/28/20 21:13	3:01:00	07/31/21 09:55	07/31/21 14:50	4:55:00	12/24/21 00:00	12/24/21 15:00	15:00:00
12/01/20 10:00	12/01/20 13:01	3:01:00	07/31/21 20:00	08/01/21 12:53	16:53:00	12/24/21 18:00	12/25/21 00:00	6:00:00
12/01/20 14:38	12/03/20 09:49	43:11:00	08/01/21 14:18	08/06/21 16:52	122:34:00	12/25/21 06:00	12/27/21 15:00	57:00:00
12/04/20 19:30	12/06/20 09:52	38:22:00	08/06/21 18:24	08/09/21 14:19	67:55:00	12/28/21 00:00	01/05/22 00:00	192:00:00
12/07/20 19:43	12/08/20 01:04	5:21:00	08/10/21 23:44	08/11/21 02:48	3:04:00	01/05/22 09:00	01/08/22 15:00	78:00:00
12/08/20 03:59	12/08/20 11:13	7:14:00	08/13/21 04:06	08/18/21 00:03	115:57:00	01/08/22 18:00	01/09/22 03:00	9:00:00
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12/10/20 17:15	12/12/20 05:23	36:08:00	08/25/21 14:17	08/28/21 12:06	69:49:00	02/04/22 12:00	02/09/22 03:00	111:00:00
12/12/20 18:42	12/15/20 09:53	63:11:00	08/28/21 12:12	08/30/21 14:42	50:30:00	02/12/22 09:00	02/15/22 09:00	72:00:00
12/16/20 19:44	12/17/20 14:21	18:37:00	08/30/21 17:05	09/07/21 04:41	179:36:00	02/23/22 15:00	02/23/22 18:00	3:00:00
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12/20/20 17:47	12/21/20 13:30	19:43:00	09/07/21 16:58	09/08/21 16:57	23:59:00			
12/21/20 18:35	12/23/20 06:58	36:23:00	09/08/21 17:16	09/14/21 11:21	138:05:00			