Hercules Inc

General Information

| ID | Branch | SIC | County | Basin | Start | End |
|------|----------|------------------------|---------|------------------|------------|-----|
| 2022 | Chemical | 2821, 2861, 2899, 2899 | Forrest | Pascagoula River | 06/11/1991 | |

Address

| Physical Address (Primary) | Mailing Address |
|----------------------------|-----------------------|
| 613 West 7th Street | 613 West 7th Street |
| Hattiesburg, MS 39401 | Hattiesburg, MS 39401 |

Telecommunications

| Туре | Address or Phone |
|-------------------|------------------|
| Work phone number | (601) 545-3450 |

Alternate / Historic AI Identifiers

| Alt ID | Alt Name | Alt Type | Start Date End Date |
|--------------|-------------------------|--------------------------|-----------------------|
| 2803500001 | Hercules Inc | Air-AIRS AFS | 06/11/1991 |
| 080000001 | Hercules, Inc. | Air-State Operating | 06/11/1991 06/01/1994 |
| 080000001 | Hercules, Inc. | Air-Title V Fee Customer | 11/13/1998 |
| 080000001 | Hercules, Inc. | Air-Title V Operating | 11/13/1998 11/12/2003 |
| 080000001 | Hercules, Inc. | Air-Title V Operating | 04/22/2004 03/31/2009 |
| MSR110153 | Hercules, Inc. | GP-Baseline | 01/29/2001 12/16/200! |
| MSR110153 | Hercules Inc | GP-Baseline | 12/16/2005 09/30/2010 |
| MSR103943 | Hercules, Inc. | GP-Construction | 01/03/2006 05/31/2010 |
| MSR110153 | Hercules, Inc. | GP-Sara Title III | 10/17/1997 01/29/2001 |
| MSD008182081 | Hercules, Inc. | Hazardous Waste-EPA ID | 01/20/1997 |
| 2022 | Hercules Powder Company | Historic Site Name | 01/01/1912 09/01/1968 |
| 2022 | Hercules, Inc. | Official Site Name | 09/01/1968 |
| MS0001830 | Hercules, Inc. | Water - NPDES | 09/29/1986 09/28/1991 |
| MS0001830 | Hercules, Inc. | Water - NPDES | 10/22/1991 10/21/1996 |
| MS0001830 | Hercules, Inc. | Water - NPDES | 09/30/1997 09/29/2002 |
| MS0001830 | Hercules, Inc. | Water - NPDES | 10/31/2002 05/04/2007 |
| MS0001830 | Hercules, Inc. | Water - NPDES | 05/04/2007 04/30/2012 |
| MSP091286 | Hercules, Inc. | Water - Pretreatment | 03/12/1999 02/28/2004 |
| MSP091286 | Hercules Inc | Water - Pretreatment | 11/05/2004 10/31/2009 |

Regulatory Programs

| Program | SubProgram | Start Date | End Date |
|-----------------|--|------------|-------------|
| Air | MACT Subpart PPP | 06/01/1999 | 12/16/2005 |
| Air | MACT Subpart W | 03/08/1998 | |
| Air | NSPS Subpart Dc | 09/12/1990 | |
| Air | Title V - major | 06/01/1900 | |
| Hazardous Waste | Conditional Exempt Small Quantity Generator | 01/20/1997 | 11/21/2005 |
| Hazardous Waste | Large Quantity Generator | 01/20/1997 | |
| Water | Baseline Stormwater | 01/29/2001 | |
| Water | Construction Stormwater | 01/03/2006 | |
| Water | NPDES Major Industrial | 09/29/1986 | 03/12/1999 |



| Water | NPDES Minor Industrial | 09/29/1986 |
|-------|--|------------|
| Water | PT CIU | 03/12/1999 |
| Water | PT CIU - Gum and Wood Chemical Mfg (Subpart 454) | 03/12/1999 |
| Water | PT CIU - Organic Chemicals Mfg (Subpart 414) | 03/12/1999 |
| Water | PT SIU | 03/12/1999 |

Locational Data

| Latitude | Longitude | Metadata | S/T/R | Map Links |
|---------------------------------|-----------|--|----------|--------------------------------|
| 31 ° 20 ' 9 .02 (031.335839) | 26 .04 | Point Desc: PG- Plant Entrance (General). Data collected by J. Dewayne Headrick on 11/2/2005. | Section: | SWIMS TerraServer Map It |
| | | Method: GPS Code (Psuedo Range) Standard Position (SA Off) Datum: NAD83 Type: MDEQ | | |

12/4/2007 9:02:09 AM





Hercules Incorporated 613 West 7th Street Hattiesburg, MS 39401 (601) 545-3450 Eax: (601) 584-3226 Wown herc.com

July 31, 200



Mr. Rick Sumrall, Branch Chief Environmental Compliance & Enforcement Division Mississippi Department of Environmental Quality P.O. Box 10385 Jackson, MS 39289-0385

Re:

Hercules Incorporated
Facility No. 0800-00001
Title V Semi-Annual Report
1/01/07-6/30/07

Dear Mr. Sumrall:

As required by Title V Operating Permit Conditions 5.A.4. [ref.: APC-S-6, Section III.A.3.c.(1)], 5.C.1.(b) [40 CFR 63.182 (ref.: 40 CFR 63.528(b))], 5.C.4(b)(6), 5.C.4.(b)(7) [40CFR63.1439(e)(6) and 40CFR63.182(d)], 5.B.17, 5.C.3, 5.C.5, and 5.C.6, attached is the required summary data for the semi-annual reporting period ending June 30, 2006. Deviations from the Title V Permit requirements are identified and included in this report. The required summary data is included in the attached semi-annual report from January 1, 2007, to June 30, 2007.

As Responsible Official for Hercules Incorporated, I certify that based on information and belief formed after reasonable inquiry, the statements and information in the attached document are true, accurate, and complete.

If you have any questions or need further information, please contact Mr. Charles Jordan at (601) 584-3360.

Sincerely,

Rodney S. Bolton Plant Manager

Attachment(s)

Contents of Report

The Title V Operating Permit requires a semi-annual report by January 31 and July 31 of each year. This report, for the semi-annual reporting period of January 1, 2007 through June 30, 2007, contains the following sections:

- 1. Fuel Burning Equipment
- 2. Kymene Process Area
- 3. AKD Process Area
- 4. HRA Process Area
- 5. Neuphor Process Area
- 6. Kymene LDAR Monitoring
- 7. Deviations from Permit Requirements

Fuel Burning Equipment

FUEL BURNING REPORT SUMMARY

As required by 5.A.4, 5.B18, and 5.C.3, monthly records of the type and quantity of fuel combusted are provided in this section. Only natural gas was combusted during this semi-annual reporting period.

MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS 5.A.4

YEAR

2007

GAS USAGE - MCF

| POINT |
|-------|

AJOO1 AMOO2 AMOO3

AG001 AF001 AC001

AN001 TSngas

DESCRIPTION

JAN

APR MAR FEB

JUNE MAY

JULY

AUG

SEPT

00 T

Totals

DEC

NOV

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|--------------------------------------|--------|---------|--------|-------|-------|-------|--------------|---|---|---|---|---|
| Poly-pale nat, gas Dowtherm boiler | 0 | <u></u> | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | |
| RAD nat. gas Dowtherm boiler | 0 | 0 | o | 0 | 0 | 0 | o | 0 | 0 | 0 | 0 | |
| HRA nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Rosin dist. nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | o | 0 | 0 | 0 | 0 | |
| No. 5 package boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| No. 6 package boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| No. 7 package boiler | 11,410 | 9,691 | 11,157 | 9,795 | 9,568 | 8,259 | | | | | | |
| Carbon Reg.nat. gas Furnace | 0 | O | 0 | 0 | 0 | o | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | | | | | |

895'6

9,795

11,157

9,691

59,879

59,879

Kymene Process Area

KYMENE PROCESS AREA REPORT SUMMARY

As required by 5.B.20, for the entire facility, calculations and records for the tons of individual hazardous air pollutant (HAP) emitted each month and the total individual HAP emissions for each consecutive 12-month period were performed. Calculations and records for the total combined HAP's emitted for each consecutive 12-month period were performed.

As required by 5.C.5, for all hazardous air pollutant (HAP) emissions, monthly individual HAP emissions and the individual and combined HAP emissions for each consecutive 12-month period are included in this section.

Kymene Reactor Scrubber (AA-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Kymene Reactor Scrubber (AA-001).

Adipic Acid Dust Shaker (AA-002)

As required by 5.B.4, weekly operator and mechanic maintenance checks were performed on the Adipic Acid Dust Shaker (AA-002).

As required by 5.B.19, inspections for visible emissions (VE) were performed in accordance with 5.B.19.

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.

Deviations:

LDAR Tag #'s 6096, 6010, and 6010, were identified as leaking on 6/12, 6/13, and 6/20, respectively. All three events were monitored within 5 days of repair.

(MONTHLY) and (CONSECUTIVE 12-MONTH) HAP emissions, Individual and Conbined

| DATE | ETHYLE | NE OXIDE | EPICHLO | ROHYDRIN | TO ⁻ | TAL |
|--------|-----------------------------------|--|---------|----------|-----------------|----------|
| MY | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH |
| Apr-04 | 0.057 | 0.057 | 0,183 | 0.183 | 0.240 | 0.240 |
| May-04 | 0.057 | 0.114 | 0.182 | 0.385 | 0.239 | 0.479 |
| Jun-04 | 0.057 | 0.171 | 0.185 | 0.550 | 0.242 | 0.721 |
| Jul-04 | 0.057 | 0.228 | 0.186 | 0.736 | 0.243 | 0.964 |
| Aug-04 | 0.057 | 0.285 | 0.188 | 0.922 | 0.243 | 1.207 |
| Sep-04 | 0.057 | 0.342 | 0.185 | 1.107 | 0.242 | 1.449 |
| Oct-04 | 0.057 | 0.399 | 0.188 | 1.293 | 0.243 | 1.692 |
| Nov-04 | 0.587 | 0.986 | 0.183 | 1.476 | 0.770 | 2.462 |
| Dec-04 | 0.524 | 1.510 | 0.182 | 1.658 | 0.708 | 3.168 |
| Jan-05 | 0.211 | 1.721 | 0.194 | 1.852 | 0.405 | 3.573 |
| Feb-05 | 0.187 | 1.908 | | 2.036 | | |
| | | | 0.184 | | 0.371 | 3.944 |
| Mar-05 | 0.136 | 2.044 | 0.181 | 2.217 | 0.317 | 4.261 |
| Apr-05 | 0.242 | 2.229 | 0.178 | 2.212 | 0.420 | 4.441 |
| May-05 | 0.058 | 2.228 | 0.179 | 2.209 | 0.235 | 4.437 |
| Jun-05 | 0.058 | 2.227 | 0.179 | 2.203 | 0.235 | 4.430 |
| Jul-05 | 0.000 | 2.170 | 0.178 | 2.195 | 0.178 | 4.365 |
| Aug-05 | | 2.113 | 0.181 | 2.190 | 0.181 | 4.303 |
| Sep-05 | The state of the same of the same | 2.058 | 0.178 | 2.183 | 0.178 | 4.239 |
| Oct-05 | | 1.999 | 0.184 | 2.181 | 0.184 | 4.180 |
| Nov-05 | | 1.412 | 0.182 | 2.180 | 0.182 | 3.592 |
| Dec-05 | | 0.888 | 0.183 | 2.181 | 0.183 | 3.089 |
| Jan-08 | | 0.677 | 0.182 | 2.169 | 0.182 | 2.848 |
| Feb-06 | | 0.490 | 0.180 | 2.165 | 0.180 | 2.655 |
| Mar-08 | | 0.354 | 0.179 | 2.163 | 0.179 | 2.517 |
| Apr-08 | | 0.112 | 0.182 | 2.167 | 0.182 | 2.279 |
| May-08 | | 0.056 | 0.178 | 2.166 | 0.178 | 2.222 |
| Jun-06 | | 0.000 | 0.188 | 2.175 | 0.188 | 2.175 |
| Jul-06 | | 0.000 | 0.187 | 2.184 | 0.187 | 2.184 |
| Aug-08 | | 0.000 | 0.187 | 2.190 | 0.187 | 2.190 |
| Sep-08 | | 0.000 | 0.186 | 2.198 | 0.186 | 2.198 |
| Oct-06 | | 0.000 | 0.183 | 2.197 | 0.183 | 2.197 |
| Nov-08 | | 0.000 | | 2.198 | | |
| | | | 0.181 | | 0.181 | 2.196 |
| Dec-06 | | 0.000 | 0.177 | 2.190 | 0.177 | 2.190 |
| Jan-07 | | 0.000 | 0.183 | 2.191 | 0.183 | 2.191 |
| Feb-07 | | 0.000 | 0.179 | 2.190 | 0.179 | 2.190 |
| Mar-07 | | 0.000 | 0.180 | 2.191 | 0,180 | 2.191 |
| Apr-07 | | 0.000 | 0.187 | 2.196 | 0.187 | 2 198 |
| May-07 | | 0.000 | 0.180 | 2.198 | 0.180 | 2.198 |
| Jun-07 | | 0.000 | 0.184 | 2.194 | 0.184 | 2.194 |
| Jul-07 | | 0.000 | | 2.007 | 0.000 | 2.007 |
| Aug-07 | | 0.000 | | 1.820 | 0.000 | 1.820 |
| Sep-07 | | 0.000 | | 1.634 | 0.000 | 1.634 |
| Oct-07 | | 0.000 | | 1.451 | 0.000 | 1.451 |
| Nov-07 | | 0.000 | | 1.270 | 0.000 | 1.270 |
| Dec-07 | | 0.000 | | 1.093 | 0.000 | 1.093 |
| | | | | 0.910 | | 0.910 |
| | | | | 0.731 | | 0.731 |
| | | | | 0.551 | | 0.551 |
| | | | | 0.364 | | 0.364 |
| | | The State of | | 0.184 | | 0.184 |
| - | | | | 0.000 | | 0.000 |
| | | | | J.UUU | | ULUUU |

AKD Process Area

AKD PROCESS AREA REPORT SUMMARY

Paracol Water Scrubber (AB-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Paracol Water Scrubber (AB-001).

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.

HRA Process Area

HRA PROCESS AREA REPORT SUMMARY

HRA Water Scrubber (AG-003)

As required by 5.B.4, weekly operator maintenance checks were performed on the HRA Water Scrubber (AG-003). The operator visual inspections, were performed weekly (or more frequent) while the area was operating. The area did not operate.

HRA Flaking Belt Dust Collector (AG-005)

As required by 5.B.4, weekly maintenance checks were performed on the HRA Flaking Belt Dust Collector (AG-005). The operator visual inspections, were performed weekly (or more frequent) while the area was operating. The area did not operate.

A 502B10 notification was submitted on June 18, 2007, for the removal of emission points AG-003 and AG-005

Neuphor Process Area

NEUPHOR PROCESS AREA REPORT SUMMARY

Adduct Reactor Scrubber (AD-001)

Operator and mechanic maintenance checks were performed on the Adduct reactor scrubber

Kymene LDAR Monitoring

KYMENE LDAR MONITORING

In Accordance with 40 CFR 63, Subpart W, Subpart H, and Permit Conditions 5.B.1, 5.B.2, 5.B.3, and 5.C.1, Hercules Incorporated is providing the following required information:

- Report required by 40 CFR 63.182(d)(2);
- Summary report of actual monitoring data; and
- Recordkeeping and reporting of Startup, Shutdown, and Malfunctions per SSM Plan.
 - Form A: SSM Plan Conformance
 - Form B: Nonconformance to SSM Plan (no nonconformance incidents)

No problems or deviations from the permit were noted during the routine monthly LDAR monitoring.

PERIODIC LEAK MONITORING REPORT

January 1, 2007 through June 30, 2007

Hercules Incorporated Hattiesburg, Mississippi

KYMENE PROCESS AREA (AA-000)

- 1. Number of affected valves in HAP service for which leaks were detected as described in § 63.168(b), the percent leakers, and the total number monitored:
 - No affected valve was discovered leaking (V_L=0) during the referenced reporting period (>500 ppm);
 - $[V_L/V_T]$ * 100 = 0.00% of total valves monitored were leaking; and
 - 98 total valves (V_T=98) were monitored.
- 2. Number of valves for which leaks were not repaired per § 63.168(f), identifying the number of those that are determined non-repairable:
 - None.
- 3. Number of affected pumps in HAP service for which leaks were detected as described in § 63.163(b), the percent leakers, and the total number monitored:
 - No affected pumps were discovered leaking (P_L=0) during the required monthly monitoring (>1,000 ppm);
 - $[P_I/P_T]$ * 100 = 0.00% of total pumps monitored on a monthly basis were leaking as determined by § 63.163(d)(4); and
 - 2 affected pumps monitored 6 times, and 1 affected pump monitored 4 times for a total of 16 pumps (P_T=16) monitored.
- 4. Number of pumps for which leaks were not repaired per § 63.163(c):
 - None.
- 5. Number of affected agitators in HAP service for which leaks were detected as described in § 63.173(a) & (b):
 - The affected agitator did not leak during the referenced reporting period (>10,000 ppm);
- 6. Number of agitators for which leaks were not repaired per § 63.173(c):
 - None.

- 7. Number of affected connectors in HAP service for which leaks were detected as described in § 63.174(a), the percent leaking, and the total number monitored:
 - No affected connectors were measured at or above 500 ppm (C_L=0) during the referenced reporting period;
 - $[C_L/C_T]$ * 100 = 0.00% of total connectors monitored were leaking; and
 - 0 total connectors (C_T=0) were monitored.
- 8. Number of *connectors* for which leaks were not repaired per § 63.174(d), identifying the number of those that are determined non-repairable:
 - None.
- 9. Explain any delay of repairs:
 - All applicable repairs were made in a timely fashion.
- 10. Results of all monitoring within semi-annual reporting period to show compliance with § 63.165(a), pressure relief device releases:
 - None.
- 11. Notification of a change in *connector monitoring alternatives* as described in §63.174(c)(1):
 - As allowed in §63.174(c)(1)(ii), Hercules Incorporated changed connector monitoring alternatives during the July 1 December 31, 2000, semi-annual reporting period. Instead of monitoring opened or broken connectors for leaks within three (3) months of being returned to organic HAP service, Hercules chooses **not** to monitor connectors that have been opened or had the seal broken. It is realized that nonrepairable connectors can not be counted while complying with this alternative; therefore, in the percent leaking calculations C_{AN} will be set to zero.
- 12. Monitoring results and component summary report during the semi-annual reporting period:
 - Summary information from the referenced semi-annual reporting period is attached.

| | | | | | | | | Jan-Jun |
|--------|---------------------------------------|-----|----------|-----|-----|-----|-----|---------|
| | | JAN | FEB | MAR | APR | MAY | JUN | Total |
| alves | Monitored: | | | | | | | |
| : | KYMENE | 0 | Q | 49 | 0 | 0 | 49 | 93 |
| | · · · · · · · · · · · · · · · · · · · | 0. | 0 | 49 | 0 | 0 | 49 | 98 |
| | Total Leaking: | , o | <u> </u> | | | | | |
| | | | <u> </u> | | | | | |
| /alves | Leaking: KYMENE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| /alves | Leaking: | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 |

| | | | | | | | | Jan-Jun |
|--------------|------------|-----|-----|-----|-----|-----|-------------|---------|
| | | JAN | FEB | MAR | APR | MAY | אטע | Total |
| umps M | Conitored: | | | | | | | |
| ĸ | KYMENE | 3 | 3 | 3 | 3 | 3 | 3 | 18 |
| 7 | Total | 3 | 3 | 3 | 3 | 3 | 3 | 18 |
| = Pumps L | eaking: | | | | | | | |
| _ = | eaking: | | 122 | | | 51 | | |
| F. | KYMENE | C | 0 | 0 | 0 | 0 | 0 | 0 |
| F. | | 0 | 0 | 0 | 0 | 0 | 0 | C |

| | | | | | | | Jan-Jun |
|-------------------------|-------|-----|-----|-----|-----|-----|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| nnectors Monitored: | | | | | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | · · · | | | | | | |
| Total nnectors Leaking: | | | | | | | |
| | 0 | 0 | O | 0 | ٥ | 0 | 0 |

| | | | | | | | Jan-Jun |
|-------------------|-----|-----|-----|---------------------------------------|-------|-------|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| crewed Connectors | | | | | | | |
| Total | ٥ | O | ٥ | Ö | 0 | O | 0 |
| crewed Connectors | | | | | | | |
| | 0 | 0 | Ō | n | 0 | 0 | |
| Total | V | | | ~ | | | U |
| Total | | | | · · · · · · · · · · · · · · · · · · · | 0.00% | 0.00% | 0.00% |

| | | | | | | | Jan-Jun |
|-----------------------------|-----|-----|------|-----|-----|-----|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| tator Monitored: | | | | | | | |
| KYMENE | 1 | 12 | 1 | 1 | 1 | 1 | 5 |
| | | 100 | 1/6/ | | *. | 1 | - |
| Total | 1 | (4) | 1 | - | | 1 | |
| Total tator Leaking: KYMENE | 0 | 0 | 0 | 0 | 0 | 0 | ٥ |
| tator Leaking: | 0 0 | 0 0 | 0 0 | 0.0 | 0 | 0 | 0 |

| | | | | | · | | Jan-Jun |
|-----------------------------|-----|-----|-----|-----|-----|-----|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| ressure Relief Device | | | | | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | U | | | | 100 | | |
| Total ressure Relief Device | | | | | | | |
| | 0 | 0 | 0 | 0 | 0 | o | 0 |

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| rev 2 |

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| tion, us | | JAM | _ | 2/3 | | 30 | | PP | | 14695 | | THA TH | | SAM | | D-0-3-2 | | Shutdown Time (AM or PM) | |
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| utdown | 150 | GRC | GRO | 720 | 7 | 7 | PENE | B | d. | EP. | MO | 1/12 | MO | MG | CR. | CAC | | Initials | Shut |
| date an | 7 | 5 | 5 | 7 | 5 | 7 | 1 | < | 5 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | Yes | SSM Plan Properly Followed? | down |
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| vent. | (5 | 02 | b | 6. | ج اح | and | Serve | 2 | D D | S | 100 | Lut. | NPE | 75 | 3 | 0 D | | as a star | hecklist Form A |
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| | Sta | irtup, | Shutd | own, ar | nd Malfu | nction Pl | Startup, Shutdown, and Malfunction Plan (SSM) Checklist Form A | |
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| Shutdown Shutdown Time (AM or | Sta | Startup Time (AM | Initials | SSM Plan Properly Followed? | Was Form B | Was There A | Identify the event as a startup, shutdown, or malfuction and provide comments or Action(s) taken during SSM. Include scrubber water flowrate (gpm) at Startup. | |
| 3/1/7 2:000 | | | 0.0 | Yes No | Yes No | Yes No | Den Shit dout | |
| | 200 | 3/196 | 375 | 7 | 7 | 7 | Stadus | |
| 3/24/67 5/45% | * | | age | 7 | 7 | <u>,</u> | Shirt or torckery | |
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| 4/3/07 6pm | | | 620 | 1 | 9 | 1 | Shutdown learner walk such and Can | 2 |
| | 20/2/14 | 1638 | 3 | 7 | 1 | | - | |
| 4/7/67 45AM | 7 | | 4 | 7 | 7 | F | Plan Shat docum | |
| , | 140 | 2:3cm | M.G. | 7 | 4 | 7 | START UP SCRUBBER 14.74 | |
| 4/14/67 5m | 1.1 | , | Conce | 7 | 7 | 7 | Planner What the | |
| • | WHOT | 112 | 177 | 1 | 1 | 7 | Can stold in the state of the | |
| 4120/57 7 53m | 3 | | かが | 7 | , | 1 | Flame Shotaton | |
| | 4/331 | * So An | EP | 1 | 7 | 1 | Station Souther Flair Note 14. 78 9pm | |
| WEG 19/86/12 | , | | 3 | | 4 | , | Hamis shut down | |
| | 4/306 | 7624 | 7 | 4 | 9 | 4 | Start & Scaller water 16-00 14.57 683 | |
| 1 (0)HK | 1 | | 7% | 1 | 1 | 1 | Plane Shut down | |
| | 5/1/6 | 5/1/6/18 Jon | 7.2 | 1 | 7 | 7 | Start up for week (How 1885) | |
| For a malfunction, use the startup/shutdown date and time columns to record the duration of the | , use the s | startup/sh | utdown (| date and tir | ne columns | to record the | duration of the event. | |
| Form 042-0039-003 rev 2 | 3 rev 2 | | | | | | | |

| Form |
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| | | Sta | rtup, | Shutd | lown, a | nd M | alfun | ction | Pla | Startup, Shutdown, and Malfunction Plan (SSM) Checklist Form A | |
|------------------|--------------------------------|----------|-------------------------------|----------|-----------------------------------|------------|---------|-------------|----------|--|------|
| Shutdown Date | Shutdown Time (AM or PM) | Startup | Startup Time (AM or PM) | Initials | SSM Plan Properly Followed? | Was Form B | orm B | Was There A | | Identify the event as a startup, shutdown, or malfuction and provide comments or Action(s) taken during SSM. Include scrubber water flowrate (gpm) at Startup. | |
| | | | | | Yes No | Yes | No | Yes | No | | |
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| 一种 | | Virger | 7411 | MG | 7 | | 6. | | 7 | START-UP OF SCRUBBER. 1614 | 10 |
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| | | 3/14/67 | 3/14/67 2 pm | GRC | ~ | | 7 | | 7 | | |
| For a mal | function, u | se the s | tartup/shi | utdown | date and t | ime colu | umns to | o record | i the d | For a malfunction, use the startup/shutdown date and time columns to record the duration of the event. | |

Deviations from Permit Requirements

January 1, 2007 through June 30, 2007 DEVIATIONS FROM PERMIT REQUIREMENTS

Hercules Incorporated Hattiesburg, Mississippi

I. As required by 5.A.4 of the Title V Operating Permit, deviations from permit requirements must be clearly identified and reported. Deviations from permit requirements are detailed below:

Kymene Process Area LDAR Tag #'s 6096, 6010, and 6010, were identified as leaking on 6/12, 6/13, and 6/20, respectively. All three events were monitored within 5 days of repair.





613 West 7th Street Hattiesburg, MS 39401 (601) 545-3450 Fax: (601) 584-3226 www.herc.com

Hercules incorporated

January 22, 2007

CERTIFIED MAIL – RETURN RECEIPT REQUESTED CERT. No.: 7005 0390 0000 1703 8663

Mr. Rick Sumrall, Branch Chief Environmental Compliance & Enforcement Division Mississippi Department of Environmental Quality P.O. Box 10385 Jackson, MS 39289-0385



Re:

Hercules Incorporated
Facility No. 0800-00001
Title V Semi-Annual Report
07/01/06-12/31/06

Dear Mr. Sumrall:

As required by Title V Operating Permit Conditions 5.A.4. [ref.: APC-S-6, Section III.A.3.c.(1)], 5.C.1.(b) [40 CFR 63.182 (ref.: 40 CFR 63.528(b))], 5.C.4(b)(6), 5.C.4.(b)(7) [40CFR63.1439(e)(6) and 40CFR63.182(d)], 5.B.17, 5.C.3, 5.C.5, and 5.C.6, attached is the required summary data for the semi-annual reporting period ending December 31, 2006. Deviations from the Title V Permit requirements are identified and included in this report. The required summary data is included in the attached semi-annual report from July 1, 2006, to December 31, 2006.

As Responsible Official for Hercules Incorporated, I certify that based on information and belief formed after reasonable inquiry, the statements and information in the attached document are true, accurate, and complete.

If you have any questions or need further information, please contact Mr. Charles Jordan at (601) 584-3360.

Sincerely,

HERCULES INCORPORATED

Terry D. Brooks
Plant Manager

TDB/vrf

Attachment(s)

Contents of Report

The Title V Operating Permit requires a semi-annual report by January 31 and July 31 of each year. This report, for the semi-annual reporting period of July 1, 2006 through December 31, 2006, contains the following sections:

- 1. Fuel Burning Equipment
- 2. Kymene Process Area
- 3. AKD Process Area
- 4. HRA Process Area
- 5. Neuphor Process Area
- 6. Kymene LDAR Monitoring
- 7. Deviations from Permit Requirements

Fuel Burning Equipment

FUEL BURNING REPORT SUMMARY

As required by 5.A.4, 5.B18, and 5.C.3, monthly records of the type and quantity of fuel combusted are provided in this section. Only natural gas was combusted during this semi-annual reporting period.

MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS 5.A.4

YEAR 2006

GAS USAGE - MCF

| | | | | , | | | 5 | | | | | | | |
|----------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|
| EMISSION | Z | | | | | | | | | | | | | |
| POINT | DESCRIPTION | JAN | FEB | MAR | APR | MAY | JUNE | JULY | AUG | SEPT | OCT | NOV | DEC | Totals |
| AC001 | Poly-pale nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AF001 | RAD nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AG001 | HRA nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AJ001 | Rosin dist. nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AM001 | No. 5 package boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AM002 | No. 6 package boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AMOO3 | No. 7 package boiler | 609'6 | 9,070 | 8,476 | 7,398 | 7,367 | 8,184 | 8,065 | 8,384 | 9,427 | 9,519 | 9,620 | 10,780 | 105,899 |
| AN001 | Carbon Reg.nat. gas Furnace | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T5ngas | | 609'6 | 9,070 | 8,476 | 7,398 | 7,367 | 8,184 | 8,065 | 8,384 | 9,427 | 9,519 | 9,620 | 10,780 | 105,899 |

Kymene Process Area

KYMENE PROCESS AREA REPORT SUMMARY

As required by 5.B.20, for the entire facility, calculations and records for the tons of individual hazardous air pollutant (HAP) emitted each month and the total individual HAP emissions for each consecutive 12-month period were performed. Calculations and records for the total combined HAP's emitted for each consecutive 12-month period were performed.

As required by 5.C.5, for all hazardous air pollutant (HAP) emissions, monthly individual HAP emissions and the individual and combined HAP emissions for each consecutive 12-month period are included in this section.

Kymene Reactor Scrubber (AA-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Kymene Reactor Scrubber (AA-001).

Adipic Acid Dust Shaker (AA-002)

As required by 5.B.4, weekly operator and mechanic maintenance checks were performed on the Adipic Acid Dust Shaker (AA-002).

As required by 5.B.19, inspections for visible emissions (VE) were performed in accordance with 5.B.19.

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.

(MONTHLY) and (CONSECUTIVE 12-MONTH) HAP emissions, Individual and Conbined

| DATE | ETHYLENE OXIDE | | EPICHLOROHYDRIN | | TOTAL | |
|--------|----------------|----------|-----------------|----------|---------|----------|
| MY | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH |
| Apr-O4 | 0.057 | 0.057 | 0.183 | 0.183 | 0.240 | 0.240 |
| May-04 | 0.057 | 0.114 | 0.182 | 0.365 | 0 239 | 0.479 |
| Jun-04 | 0.057 | 0.171 | 0 185 | 0.550 | 0.242 | 0.721 |
| Jul-04 | 0.057 | 0.228 | 0.186 | 0.738 | 0 243 | 0.964 |
| Aug-04 | 0.057 | 0.285 | 0.186 | 0.922 | 0.243 | 1.207 |
| Sep-04 | 0.057 | 0.342 | 0.185 | 1.107 | 0.242 | 1.449 |
| Oct-04 | 0.057 | 0.399 | 0.186 | 1 293 | 0.243 | 1.692 |
| Nov-04 | 0.587 | 0.986 | 0.183 | 1.476 | 0 770 | 2.462 |
| Dec-04 | 0.524 | 1.510 | 0.182 | 1.658 | 0.708 | 3.168 |
| Jan-05 | 0.211 | 1.721 | 0.194 | 1.852 | 0.405 | 3 573 |
| Feb-05 | 0.187 | 1.908 | 0.184 | 2.036 | 0.371 | 3.944 |
| Mar-05 | 0.136 | 2.044 | 0.181 | 2.217 | 0.317 | 4.261 |
| Apr-05 | 0 242 | 2.229 | 0.178 | 2.212 | 0.420 | 4 441 |
| May-05 | 0.056 | 2 228 | 0.179 | 2.209 | 0 235 | 4.437 |
| Jun-05 | 0.056 | 2.227 | 0.179 | 2.203 | 0.235 | 4,430 |
| Jul-05 | 0.000 | 2 170 | 0.178 | 2 195 | 0.178 | 4.365 |
| Aug-05 | | 2.113 | 0.181 | 2 190 | 0.181 | 4.303 |
| Sep-05 | | 2.058 | 0.178 | 2.183 | 0.178 | 4.239 |
| Oct-05 | | 1.999 | 0.184 | 2.181 | 0.184 | 4.180 |
| Nov-05 | | 1.412 | 0.182 | 2.180 | 0.182 | 3.592 |
| Dec-05 | | 0.888 | 0.183 | 2.181 | 0.183 | 3.089 |
| Jan-08 | | 0.677 | 0.182 | 2.169 | 0.182 | 2.846 |
| Feb-08 | | 0.490 | 0.180 | 2.165 | 0 180 | 2.655 |
| Mar-08 | | 0.354 | 0.179 | 2.163 | 0.179 | 2.517 |
| Apr-08 | | 0.112 | 0.182 | 2.167 | 0.182 | 2.279 |
| May-08 | | 0.058 | 0.178 | 2.168 | 0.178 | 2.222 |
| Jun-06 | | 0.000 | 0.188 | 2.175 | 0.188 | 2.175 |
| Jul-06 | | 0.000 | 0.187 | 2.184 | 0.187 | 2.184 |
| Aug-06 | | 0.000 | 0.187 | 2.190 | 0.187 | 2.190 |
| Sep-06 | | 0.000 | 0.188 | 2.198 | 0.188 | 2.198 |
| Oct-08 | | 0.000 | 0.183 | 2.197 | 0.183 | 2.197 |
| Nov-08 | | 0.000 | 0.181 | 2.196 | 0.181 | 2.198 |
| Dec-06 | | 0.000 | 0.177 | 2.190 | 0.177 | 2.190 |
| Jan-07 | | 0.000 | | 2.008 | 0.000 | 2.008 |
| Feb-07 | | 0.000 | | 1.828 | 0.000 | 1.828 |
| | | 0 000 | | 1.649 | 0.000 | 1.649 |
| | | 0.000 | | 1.467 | 0.000 | 1.487 |
| | | 0.000 | | 1.289 | 0.000 | 1.289 |

AKD Process Area

AKD PROCESS AREA REPORT SUMMARY

Paracol Water Scrubber (AB-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Paracol Water Scrubber (AB-001).

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.

HRA Process Area

HRA PROCESS AREA REPORT SUMMARY

HRA Water Scrubber (AG-003)

As required by 5.B.4, weekly operator maintenance checks were performed on the HRA Water Scrubber (AG-003). The operator visual inspections, were performed weekly (or more frequent) while the area was operating. The area did not operate.

HRA Flaking Belt Dust Collector (AG-005)

As required by 5.B.4, weekly maintenance checks were performed on the HRA Flaking Belt Dust Collector (AG-005). The operator visual inspections, were performed weekly (or more frequent) while the area was operating. The area did not operate.

Neuphor Process Area

NEUPHOR PROCESS AREA REPORT SUMMARY

Adduct Reactor Scrubber (AD-001)

Operator and mechanic maintenance checks were performed on the Aduct reactor scrubber

Kymene LDAR Monitoring

KYMENE LDAR MONITORING

In Accordance with 40 CFR 63, Subpart W, Subpart H, and Permit Conditions 5.B.1, 5.B.2, 5.B.3, and 5.C.1, Hercules Incorporated is providing the following required information:

- Report required by 40 CFR 63.182(d)(2);
- Summary report of actual monitoring data; and
- Recordkeeping and reporting of Startup, Shutdown, and Malfunctions per SSM Plan.
 - Form A: SSM Plan Conformance
 - Form B: Nonconformance to SSM Plan (no nonconformance incidents)

No problems or deviations from the permit were noted during the routine monthly LDAR monitoring.

PERIODIC LEAK MONITORING REPORT

July 1, 2006 through December 31, 2006

Hercules Incorporated Hattiesburg, Mississippi

KYMENE PROCESS AREA (AA-000)

- 1. Number of affected valves in HAP service for which leaks were detected as described in § 63.168(b), the percent leakers, and the total number monitored:
 - No affected valve was discovered leaking (V_L=0) during the referenced reporting period (>500 ppm);
 - $[V_L/V_T]$ * 100 = 0.00% of total valves monitored were leaking; and
 - 103 total valves (V_T=103) were monitored.
- 2. Number of valves for which leaks were not repaired per § 63.168(f), identifying the number of those that are determined non-repairable:
 - None.
- 3. Number of affected pumps in HAP service for which leaks were detected as described in § 63.163(b), the percent leakers, and the total number monitored:
 - No affected pumps were discovered leaking (P_L=0) during the required monthly monitoring (>1,000 ppm);
 - [P_L/P_T] * 100 = 0.00% of total pumps monitored on a monthly basis were leaking as determined by § 63.163(d)(4); and
 - 2 affected pumps monitored 6 times, and 1 affected pump monitored 3 times for a total of 15 pumps (P_T=15) monitored.
- 4. Number of pumps for which leaks were not repaired per § 63.163(c):
 - None.
- 5. Number of affected agitators in HAP service for which leaks were detected as described in § 63.173(a) & (b):
 - The affected agitator did not leak during the referenced reporting period (>10,000 ppm);
- 6. Number of agitators for which leaks were not repaired per § 63.173(c):
 - None.

- 7. Number of affected connectors in HAP service for which leaks were detected as described in § 63.174(a), the percent leaking, and the total number monitored:
 - No affected connectors were measured at or above 500 ppm (C_L=0) during the referenced reporting period;
 - $[C_L/C_T]$ * 100 = 0.00% of total connectors monitored were leaking; and
 - 0 total connectors (C_T=0) were monitored.
- 8. Number of connectors for which leaks were not repaired per § 63.174(d), identifying the number of those that are determined non-repairable:
 - None.
- 9. Explain any delay of repairs:
 - All applicable repairs were made in a timely fashion.
- 10. Results of all monitoring within semi-annual reporting period to show compliance with § 63.165(a), pressure relief device releases:
 - None.
- 11. Notification of a change in connector monitoring alternatives as described in §63.174(c)(1):
 - As allowed in §63.174(c)(1)(ii), Hercules Incorporated changed connector monitoring alternatives during the July 1 December 31, 2000, semi-annual reporting period. Instead of monitoring opened or broken connectors for leaks within three (3) months of being returned to organic HAP service, Hercules chooses **not** to monitor connectors that have been opened or had the seal broken. It is realized that nonrepairable connectors can not be counted while complying with this alternative; therefore, in the percent leaking calculations C_{AN} will be set to zero.
- 12. Monitoring results and component summary report during the semi-annual reporting period:
 - Summary information from the referenced semi-annual reporting period is attached.

| | | | | | | | | Jul-Jan |
|-------|------------|-----|-----|------|-----|-----|-----|---------|
| | | JUL | AUG | SEPT | OCT | NOV | DEC | Total |
| alves | Monitored: | | | | | | | |
| | KYMENE | 0 | Ō | 54 | 1 | 48 | 0 | 103 |
| | Total | 0 | Ö | 54 | I | 48 | 0 | 103 |
| | | | | | | | | |
| 200 | Leaking: | | | | | | | |
| 200 | Leaking: | , o | 0. | Q | 0 | Q | 0 | o |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | Jul-Jan |
|--|-------------|--------|-----|------|-----|---------------------------------------|-----|---------|
| | | JUL | AUG | SEPT | OCT | NOV | DEC | Total |
| umps 1 | Monitored: | ······ | | | | | 191 | |
| • | KYMENE | 2 | 28 | 2 | 3 | 3 | 3 | 15 22 |
| The state of the s | Total | 2 | 20 | 2 | 3 | 3 | 3 | 15 25 |
| | Leaking: | | | | | | | |
| | Leaking: | | | | | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | | |
| rumps I | KYMENE | 0 | 0 | 0 | 0 | 0 | ø | 0 |
| Pumps I | | 0 | 0 | 0 | 0. | 0 | 0 | |

| | | | | | | | Jul-Jan |
|----------------------------|----------|----------|------|---------|-------|-------|---------|
| | JUL | AUG | SEPT | OCT | NOV | DEC | Total |
| onnectors Monitored | l: | | | - | | | |
| KYMENE | 0 | 0 | 6 | 0 | 22 | 195 | 223 |
| | | Ö | 6 | 0 | 22 | 195 | 223 |
| Total | <u> </u> | <u> </u> | | | E.303 | | |
| onnectors Leaking: | | ٥ | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| onnectors Leaking: KYMENE | 0.00% | 0 0 | 0 0 | 0 0.00% | 0.009 | 0.00% | 0 00.00 |

| | | | | | | | | Jul-Jan |
|-------|--------------------|-----|-----|---------|-----|-----|-----|---------|
| | | JUL | AUG | SEPT | OCT | NOA | DEC | Total |
| crewe | d Connectors | | | | | | | |
| | KYMENE | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| | | | 6 | | 0 | ^ | 18 | 1 |
| | Total d Connectors | 0 | U | * | 0 | N/ | V | |
| crewe | | .0 | 0 | 0 | ō | o. | 0 | C |
| crewe | d Connectors | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | Jul-Jan |
|-------------------|-----|-----|------|-----|-----|------|---------|
| | JUL | AUG | SEPT | OCT | NOV | DEC | Total |
| itator Monitored: | | | | | | | |
| KYMENE | 1 | 10 | 1. | 12 | 1 | 1 | 6.4 |
| Total | 1 | 18 | 1 | 1.8 | 1 | - 12 | 6 4 |
| | | | | | | | |
| ritator Leaking: | | | | | | | |
| ritator Leaking: | O | 0 | Q | 0 | 0 | O | ğ |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | Jul-Jan |
|------------------------------|------|-----|------|-----|-----|-----|---------|
| | JOT. | AUG | SEPT | OCT | NOA | DEC | Total |
| ressure Relief Device | | | | | | | |
| KYMENE | 0 | 0 | 3 | Q. | 0 | 0 | 3 |
| | | 100 | 3 | 0 | 0 | 0 | 3 |
| Total ressure Relief Device | O | | | | | | |
| ressure Relief Device | 0 | | | | | | 0 |
| ressure Relief Device | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ressure Relief Device | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Shutdown Time (AM) or Startup Time (AM) Interest Dempendent Startup Time (AM) Interest Dempendent Startup Time (AM) Interest Dempendent Dempendent Startup. 12 19 19 19 19 19 19 19 | | | Sta | Startup, Shutdown, | Shutd | lown, | a | Malf | unction | on Pla | nd Malfunction Plan (SSM) Checklist Form A |
|--|----------|-------------------------|--------|---------------------|--------|------------------|---|----------|--|----------|---|
| WARE CONTRACTOR NO VESS NO VES | Shutdown | Shutdown Time (AM or | | Startup Time (AM | | SSM PI Proper | | Nas Form | | | Identify the event as a startup, shutdown, or malfuction and provide comments or Action(s) taken during SSM. Include scrubber water flowrate (gpm) at |
| 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | | | | | | Yes | ╅ | } | +- | 2 | |
| 1350 730 MG 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | | | 14/6 | 9 | A | | - | \vdash | | <u> </u> | Stated up reculler, Alm reto 156Pm |
| 230 720 M C 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | | | | | | | | | ļ | | 1218/10 Moven shot lower scrubber less |
| 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 13/16/6 | | 1 | , s | 0/5 | > | | د. | 1 | > | Thist charge the itself and insertend |
| 13200 MG V V V V V V V V V V V V V V V V V V | CAST | 000 | 19 | , , | 1/2 | 7 | | 7 | _ | 7 | Stort up souther flow 169pm |
| 23-120-120-120-120-120-120-120-120-120-120 | dokatel | | | | Z | | | 7 | \ | 7 | SHINT DOWN BUILDING ASK WEEK END |
| 130-730 M.S. L. | | 1 | 19570c | 187 | ₹ S | 7 | | 7 | (| 7 | START UP SCRUBBER FLOW 14.54 GAM. |
| 1857 739 M.S. L. | rasold | 7.50% | ` | | 214 | 7 | , | .7 | _ | 1 | Dolan shut down |
| 118577:34m 5.H V V V V V V V V V V V V V V V V V V V | | | 13/07 | 730m | 3 | 7 | | 7 | - | 7 | STAPLED UP SCRUBBER HOW HIST OF |
| 11867 7:34 5th 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Bolli | 4.30m | 爲 | K | 7.4 | 7 | _ | 1 | | 7 | Shut down huilden for workind |
| 13 52m 51m E.P 17 17 17 17 17 17 17 17 17 17 17 17 17 | | ١ | | 3/4 | 5.4 | 1 | | 7 | + | 7 | Start us servale flows -1.09 com |
| ER L | 1/18/27 | S | | | 古 | 7 | 1 | 7 | 1 | 7 | Plan shit down |
| | | | 1456 | 15:Pm | E.P. | 1 | | 7 | 1 | 1 | Parto DV O Scrubber utater flag noto 1892 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

For a malfunction, use the startup/shutdown date and time columns to record the duration of the event.

| | | Ste | artup) | Shuto | lown, a | nd Malfur | nction Pla | Startup, Shutdown, and Malfunction Plan (SSM) Checklist Form A |
|--|--------------------|--|---------------------|----------|--|--------------------------|-----------------------------|--|
| | Shutdown | 1 | Startup | u. | SSM Plan | | | Identify the event see a tup, shutdown, or malfuction and provide comments |
| Shutdown Date | Time (AM or PM) | Startup | - | Initials | Properly Followed? | Was Form B Completed? | Was There A Malfunction? | or Action(s) taken during Startup. |
| | | a c | | | Yes No | Yes No | Yes No | |
| 2010/101 | 6:0An | a de la companya de l | ě. | E.P. | 7 | 1 | 1 | Plan Shut down. |
| | | 10/9/4/ | 10/9/16 6:30 Am E.P | 1 E.P. | | | 1 | Starten Serubber Floresto wester 16.03 80m. |
| 10/14/01 | 147 | | | 25 | | X | 7 | Plan shit down |
| | | 19/6/4 | 5. C M. 9 39/6! | A | The state of the s | 37 | 7 | Started Sembles, water 15.41 CPM |
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| With the | SERRA | 10/3/10 | 8000 | F | 7 | 7 | | Starters Scrubber flowlate 14th of |
| 11/4:4 | 13.38M | | , | D.W | 7 | 7 | 7 | Q |
| | ` | 11-6-a | | BRC | 7 | 7 | 7 | of collections and by Dies 1 |
| 11-11-06 | 1.copin | | | GARC | \ | 7 | 7 | Planned Shut down of being as |
| | | | 1413/00 6:36 M.S. | MG | 7 | 7 | 7 | STARTED SCRUBBER WITH 15.19 UPAN |
| The state of the s | | | | | | | , | |
| 11/18/06 | 517 Son | | | (TB) | 7 | 7 | 7 | Weekend shutclown |
| , | , | 1/6d/l | 116016 7Am | 715 | 7 | 7 | 1 | Start us sometime water good com |
| 11/23/04/0/3 | 1013 | | | [JB | 1 | 7 | 7 | Shut down Thurbagain |
| | | 10/15/1 | WESTER JEAM | FP | 7 | 7 | 1 | Frita Serible a late Houset 17.579pm. |
| 12/21/6 | 1216 3:45pm | · • | | E.P. | / | 7 | 1 | Den Shit dense |
| For a malf | unction u | se the s | tartup/sh | utdown (| date and tir | ne columns t | o record the c | a malfunction, use the startup/shutdown date and time columns to record the duration of the event. |

| and Malfunction Plan (SSM) Checklist Form A | Identify the event as a startup, shutdown, or maffection and provide comments or Action(s) taken during SSM. Include scrubber water flowrate Maffunction? (gpm) at Startup. | S No | 7 | 1 (4.4.00 in some | VOCALLA A DA LANGE TOUR TOUR TOUR TOUR TOUR TOUR TOUR TOUR | | John Some Hx Money | Afrit Sur Con | 16 to 1 + 1 +10 0 16 8 | Dea De la desta de la como la | | Distraction 1 | Die der Wook- out | 7 Ling Bandari | 100 Mon Weeken | De Shellow | To the second of | The standard of the standard o | For a malfunction, use the startup/shutdown date and time columns to record the duration of the event. |
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| d Malfunct | Was Form B We Completed? Ma | Yes No Yes | ? | 7 | > | ! | | 1 | | . 1 | 2 | 7 | 1 | 7 | 1 | 7 | 7 | 7 | columns to reco |
| Startup, Shutdown, an | SSM Piz Propert Follower | Yes No | \ | 7 | > | 7 | 7 | 7 | 7 | 1 | 7 | 7 | 7 | > | 7 | 7 | 7 | 7 | late and time o |
| Shut | Inittals | | À | 66 | CRC | 12 | 7 | 17/3 | 12/2 | 16 | 38 | 12 | R | 380 | E | 77 | 村 | TH | down d |
| tho, | Startup Time (AM or PM) | | | TiAM | | 43 | , | 635 | | 439 | | A/S | | | | が | | NA | up/shut |
| Sta | Startup Date | | | Sallo T | | 848/4 | | 34/46 | / ر د | 9/5/04 | | 2/11/5 | | 118/64 | | 6.8793.9 | | 3 09/2/9 | the stan |
| | Shutdown Time (AM or PM) | | 8/19/06 HOURS | | Spopm | | 3 Am | | 8/4 | . , | 12:30 | | 530 | 9 | Sign | 16 | L'Ogun | Q. | ınction, use |
| | Shutdown Date | | 8/14/06 | | 8/36/06 | | 3671/6 | | 9/5/00 | 2/5/06 | 90/6/6 | gitt for | 2/16/24 | 9418/02 | 425 66 8 3 4 W | 9/20/0C | 969B6 | 本 | For a maifu |

Form 042-0039-003 rev 2

| | | Sta | Startup, S | Shutdown, | own, ar | nd Malfur | iction Pla | and Malfunction Plan (SSM) Checklist Form A |
|-----------------|--------------------------------|-----------------|--------------------------------|-----------|------------|--------------------------|---------------|--|
| Shutdown | Shutdown Time (AM or PM) | Startup Date | Startup Time (AM or PM). | Initials | Per Pi | Was Form B Completed? | Was There A | Identify the event as a startup, shutdown, or maifuction and provide comments or Action(s) taken during SSM. Include scrubber water flowrate |
| 6 Ax466 | 12466 3:30 AM | | | 72 | Yes No | Yes No | | |
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| 7/4/66 | Loopin | - | | K.P. | 7 | 17 | 1 | Jon Start in Flower 1503th |
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| | | 7/mpd | T.3480 J | 3 | 7 | 1 | | Hanned Shut & our |
| 90/cc/L | 5:30pm | 1 | | 98 | 7 | 12 | 77 | Doc. |
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| 40182/2 | 5:00AM | | - | | 7 | 7 | Z | DI. I SCRUBBER WATER LOW 1525 |
| | | 7/3/1/2 | 8pm G | 785 | > | > | 1 | Transed Mutchaum |
| SISIOL 6:35 AIM | 35 AIR | | 1 | 1 1/2 | \ \ | . \ \ | 1 | Clart |
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| 19/E1/8 | O ODOGW | | | EP 1 | | 7 | 7 | 31ARTED 14PSERUBBER WATER HOW 16.34 |
| | - 30 | 18/1×1/8 | 150 day 3 | 24 1 | \ | 7 | 1 | The state of |
| | nction, use | the start | up/shutde | own date | e and time | columns to re- | cord the dura | is a maintenant, use the startup/shutdown date and time columns to record the duration of the event. |

Deviations from Permit Requirements

DEVIATIONS FROM PERMIT REQUIREMENTS

January 1, 2005 through June 30, 2005

Hercules Incorporated Hattiesburg, Mississippi

1. As required by 5.A.4 of the Title V Operating Permit, deviations from permit requirements must be clearly identified and reported. Deviations from permit requirements are detailed below:

There were no deviations from permit requirements during this reporting period.





July 21, 2006

CERTIFIED MAIL - RETURN RECEIPT REQUESTED CERT. MAIL # 7005 0390 0000 1703 8540

Mr. Rick Sumrall, Branch Chief Environmental Compliance & Enforcement Division Mississippi Department of Environmental Quality P.O. Box 10385 Jackson, MS 39289-0385

Re:

Hercules Incorporated
Facility No. 0800-00001
Title V Semi-Annual Report
01/01/06 – 06/30/06

Dear Mr. Sumrall:

As required by Title V Operating Permit Conditions 5.A.4. [ref.: APC-S-6, Section III.A.3.c.(1)], 5.C.1.(b) [40 CFR 63.182 (ref.: 40 CFR 63.528(b))], 5.C.4(b)(6), 5.C.4.(b)(7) [40CFR63.1439(e)(6) and 40CFR63.182(d)], 5.B.17, 5.C.3, 5.C.5, and 5.C.6, attached is the required summary data for the semi-annual reporting period ending June 30, 2006. Deviations from the Title V Permit requirements are identified and included in this report. The required summary data is included in the attached semi-annual report from January 1, 2006, to June 30, 2006.

As Responsible Official for Hercules Incorporated, I certify that based on information and belief formed after reasonable inquiry, the statements and information in the attached document are true, accurate, and complete.

If you have any questions or need further information, please contact Mr. Charles Jordan at (601) 584-3360.

Sincerely,

Terry D. Brooks Plant Manager

Attachment(s)

Contents of Report

The Title V Operating Permit requires a semi-annual report by January 31 and July 31 of each year. This report, for the semi-annual reporting period of January 1, 2006 through June 30, 2006, contains the following sections:

- 1. Fuel Burning Equipment
- 2. Kymene Process Area
- 3. AKD Process Area
- 4. HRA Process Area
- 5. Poly-Pale Process Area (Melter)
- 6. Neuphor Process Area
- 7. Kymene LDAR Monitoring
- 8. Deviations from Permit Requirements

Fuel Burning Equipment

MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS 5.A.4

YEAR 2006

GAS USAGE - MCF

| MOISSIME | | | | - | GAS USAGE - MICF | HOE . M | 5 | | | | | | | |
|----------|--------------------------------------|-------|-------|-------|------------------|---------|-------|------|-----|------|-----|-----|-----|--------|
| POINT | DESCRIPTION | JAN | FEB | MAR | APR | MAY | JUNE | JULY | AUG | SEPT | OCT | NOV | DEC | Totals |
| AC001 | Poly-pale nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| AF001 | RAD nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| AG001 | HRA nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| AJ001 | Rosin dist. nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| AM001 | No. 5 package boiler | 0 | 0 | 0 | 0 | 0 | o | | | | | | | |
| AM002 | No. 6 package boiler | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| AMOO3 | No. 7 package boiler | 609'6 | 9,070 | 8,476 | 7.398 | 7.367 | 8.184 | | | | | | | 50 104 |
| AN001 | Carbon Reg.nat. gas Furnace | 0 | 0 | 0 | 0 | | | | | | | | | 20, 00 |
| T5ngas | | 609'6 | 9,070 | 8,476 | 7,398 | 7,367 | 8,184 | | | | | | | 50 104 |
| | | | | | | | | | | | | | | |

FUEL BURNING REPORT SUMMARY

As required by 5.A.4, 5.B18, and 5.C.3, monthly records of the type and quantity of fuel combusted are provided in this section. Only natural gas was combusted during this semi-annual reporting period.

Kymene Process Area

KYMENE PROCESS AREA REPORT SUMMARY

As required by 5.B.20, for the entire facility, calculations and records for the tons of individual hazardous air pollutant (HAP) emitted each month and the total individual HAP emissions for each consecutive 12-month period were performed. Calculations and records for the total combined HAP's emitted for each consecutive 12-month period were performed.

As required by 5.C.5, for all hazardous air pollutant (HAP) emissions, monthly individual HAP emissions and the individual and combined HAP emissions for each consecutive 12-month period are included in this section.

Kymene Reactor Scrubber (AA-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Kymene Reactor Scrubber (AA-001).

Adipic Acid Dust Shaker (AA-002)

As required by 5.B.4, weekly operator and mechanic maintenance checks were performed on the Adipic Acid Dust Shaker (AA-002).

As required by 5.B.19, inspections for visible emissions (VE) were performed in accordance with 5.B.19.

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.

(MONTHLY) and (CONSECUTIVE 12-MONTH) HAP emissions, Individual and Conbined

| DATE | | ETHYLE | NE OXIDE | EPICHLO | ROHYDRIN | 701 | AL. |
|--------|--------------|---------|----------|---------|----------|---------|----------|
| MCY | | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH |
| Apr-04 | | 0.057 | 0.057 | 0.183 | 0.183 | 0.240 | 0.240 |
| May-04 | | 0.057 | 0.114 | 0.182 | 0.365 | 0.239 | 0.479 |
| Jun-04 | | 0.057 | 0.171 | 0.185 | 0.550 | 0.242 | 0.721 |
| Jul-04 | | 0.057 | 0.228 | 0.186 | 0.736 | 0.243 | 0.964 |
| Aug-04 | | 0.057 | 0.285 | 0.188 | 0.922 | 0.243 | 1.207 |
| Sep-04 | | 0.057 | 0.342 | 0.185 | 1.107 | 0.242 | 1.449 |
| Oct-04 | | 0.057 | 0.399 | 0.188 | 1.293 | 0.243 | 1.692 |
| Nov-04 | | 0.587 | 0.986 | 0.183 | 1.476 | 0.770 | 2.462 |
| Dec-04 | | 0.524 | 1.510 | 0.182 | 1.658 | 0.706 | 3.168 |
| Jan-05 | | 0.211 | 1.721 | 0.194 | 1.852 | 0.405 | 3.573 |
| Feb-05 | | 0.187 | 1.908 | 0.184 | 2.036 | 0.371 | 3.944 |
| Mar-05 | | 0.138 | 2.044 | 0.181 | 2.217 | 0.317 | 4.261 |
| Apr-05 | | 0.242 | 2.229 | 0.178 | 2.212 | 0.420 | 4.441 |
| May-05 | | 0.058 | 2.228 | 0.179 | 2 209 | 0.235 | 4.437 |
| Jun-05 | | 0.056 | 2.227 | 0.179 | 2.203 | 0.235 | 4.430 |
| Jul-05 | | 0.000 | 2 170 | 0.178 | 2.195 | 0.178 | 4.365 |
| Aug-05 | | | 2113 | 0.181 | 2.190 | 0.181 | 4.303 |
| Sep-05 | | | 2.058 | 0.178 | 2.183 | 0.178 | 4.239 |
| Oct-05 | | | 1.999 | 0.184 | 2.181 | 0.184 | 4.180 |
| Nov-05 | | | 1.412 | 0.182 | 2 180 | 0.182 | 3 592 |
| Dec-05 | | | 0.888 | 0.183 | 2.181 | 0.183 | 3.069 |
| Jan-08 | | | 0.677 | 0.182 | 2.169 | 0.182 | 2.846 |
| Feb-06 | | | 0.490 | 0.180 | 2.165 | 0.180 | 2.655 |
| Mar-08 | | | 0.354 | 0.179 | 2 163 | 0.179 | 2.517 |
| Apr-08 | | | 0.112 | 0.182 | 2.167 | 0.182 | 2.279 |
| May-06 | | | 0.056 | 0.178 | 2.168 | 0.178 | 2.222 |
| Jun-08 | | | 0.000 | 0.188 | 2 175 | 0.188 | 2.175 |
| Jul-06 | re mare mare | | 0.000 | | 1 997 | 0.000 | 1.997 |
| Aug-08 | | | 0.000 | | 1.816 | 0.000 | 1.816 |
| Sep-08 | | | 0.000 | | 1.638 | 0.000 | 1.638 |
| Oct-08 | | | 0.000 | | 1.454 | 0.000 | 1.454 |
| Nov-08 | | | 0.000 | | 1.272 | 0.000 | 1.272 |
| Dec-06 | | | 0.000 | | 1.089 | 0.000 | 1.089 |
| Jan-08 | | | 0.000 | | 0.907 | 0.000 | 0.907 |
| | | | 0.000 | | 0.727 | 0.000 | 0.727 |
| | | | 0.000 | | 0.548 | 0.000 | 0.548 |
| | | | 0.000 | | 0.366 | 0.000 | 0.366 |
| | | | 0.000 | | 0.188 | 0.000 | 0.188 |

AKD Process Area

AKD PROCESS AREA REPORT SUMMARY

Paracol Water Scrubber (AB-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Paracol Water Scrubber (AB-001).

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.

HRA Process Area

HRA PROCESS AREA REPORT SUMMARY

HRA Water Scrubber (AG-003)

As required by 5.B.4, weekly operator maintenance checks were performed on the HRA Water Scrubber (AG-003). The operator visual inspections, were performed weekly (or more frequent) while the area was operating. The area did not operate.

HRA Flaking Belt Dust Collector (AG-005)

As required by 5.B.4, weekly maintenance checks were performed on the HRA Flaking Belt Dust Collector (AG-005). The operator visual inspections, were performed weekly (or more frequent) while the area was operating. The area did not operate.

Poly-Pale Process Area

POLY-PALE PROCESS AREA REPORT SUMMARY

Poly-Pale Process Melter (AC-004)

The Melter did not operate during this reporting period.

The complete POLY-PALE process area, including the melter, has gone through Demolition.

A 502B10 notification was submitted on June 12, 2006, for the removal of emission point AC-004

Neuphor Process Area

NEUPHOR PROCESS AREA REPORT SUMMARY

Adduct Reactor Scrubber (AD-001)

Operator and mechanic maintenance checks were performed on the Aduct reactor scrubber

Kymene LDAR Monitoring

KYMENE LDAR MONITORING

In Accordance with 40 CFR 63, Subpart W, Subpart H, and Permit Conditions 5.B.1, 5.B.2, 5.B.3, and 5.C.1, Hercules Incorporated is providing the following required information:

- Report required by 40 CFR 63.182(d)(2);
- Summary report of actual monitoring data; and
- Recordkeeping and reporting of Startup, Shutdown, and Malfunctions per SSM Plan.
 - Form A: SSM Plan Conformance
 - Form B: Nonconformance to SSM Plan (no nonconformance incidents)

No problems or deviations from the permit were noted during the routine monthly LDAR monitoring.

PERIODIC LEAK MONITORING REPORT

January 1, 2006 through June 30, 2006

Hercules Incorporated Hattiesburg, Mississippi

KYMENE PROCESS AREA (AA-000)

- 1. Number of affected valves in HAP service for which leaks were detected as described in § 63.168(b), the percent leakers, and the total number monitored:
 - No affected valve was discovered leaking (V_L=0) during the referenced reporting period (>500 ppm);
 - $[V_L/V_T]$ * 100 = 0.00% of total valves monitored were leaking; and
 - 98 total valves (V_T=98) were monitored.
- 2. Number of valves for which leaks were not repaired per § 63.168(f), identifying the number of those that are determined non-repairable:
 - None.
- 3. Number of affected pumps in HAP service for which leaks were detected as described in § 63.163(b), the percent leakers, and the total number monitored:
 - No affected pumps were discovered leaking (P_L=0) during the required monthly monitoring (>1,000 ppm);
 - [P_L/P_T] * 100 = 0.00% of total pumps monitored on a monthly basis were leaking as determined by § 63.163(d)(4); and
 - 2 affected pumps monitored 6 times, and 1 affected pump monitored 4 times for a total of 16 pumps (P_T=16) monitored.
- 4. Number of pumps for which leaks were not repaired per § 63.163(c):
 - None.
- 5. Number of affected agitators in HAP service for which leaks were detected as described in § 63.173(a) & (b):
 - The affected agitator did not leak during the referenced reporting period (>10,000 ppm);
- 6. Number of agitators for which leaks were not repaired per § 63.173(c):
 - None.

- 7. Number of affected connectors in HAP service for which leaks were detected as described in § 63.174(a), the percent leaking, and the total number monitored:
 - No affected connectors were measured at or above 500 ppm (C_L=0) during the referenced reporting period;
 - $[C_L/C_T]$ * 100 = 0.00% of total connectors monitored were leaking; and
 - 0 total connectors (C_T=0) were monitored.
- 8. Number of connectors for which leaks were not repaired per § 63.174(d), identifying the number of those that are determined non-repairable:
 - None.
- 9. Explain any delay of repairs:
 - All applicable repairs were made in a timely fashion.
- 10. Results of all monitoring within semi-annual reporting period to show compliance with § 63.165(a), pressure relief device releases:
 - None.
- 11. Notification of a change in *connector monitoring alternatives* as described in §63.174(c)(1):
 - As allowed in §63.174(c)(1)(ii), Hercules Incorporated changed connector monitoring alternatives during the July 1 December 31, 2000, semi-annual reporting period. Instead of monitoring opened or broken connectors for leaks within three (3) months of being returned to organic HAP service, Hercules chooses not to monitor connectors that have been opened or had the seal broken. It is realized that nonrepairable connectors can not be counted while complying with this alternative; therefore, in the percent leaking calculations C_{AN} will be set to zero.
- 12. Monitoring results and component summary report during the semi-annual reporting period:
 - Summary information from the referenced semi-annual reporting period is attached.

| | | | | | | | | Jan-Jun |
|---------------|-----------------|-----|-----|-----|-----|-----|-----|---------|
| | | JAN | FEB | MAR | APR | MAY | JUN | Total |
| Valves | Monitored: | | | | | | | |
| | FYMENE | .0 | 49 | 0 | 0 | 10 | 49 | 93 |
| | | | *** | A | n | Ď. | 4.9 | 98 |
| | Total Leaking: | Q | | | U | | 4.9 | 96 |
| /alves | Leaking: | 0 | 49 | 9 | 3 | 0 | 49 | 36 |
| /alves | | 0 | 10 | 0 | 0.0 | 0 | 0 | 0 |
| /alves | Leaking: | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 |

| | | | | _ | | | | Jan-Jun |
|---------|------------|-----|-----|-----|-----|-----|-----|---------|
| | | JAN | FEB | MAR | APR | MAY | JUN | Total |
| umps | Monitored: | | | | | | | |
| | KYMENE | 3 | 3 | 3 | 3 | 2 | 2 | 16 |
| | Total | 3 | 3 | 3 | 3 | 2 | 2 | 16 |
| | • 54 | | | | | | | 301300 |
| sdmn | Leaking: | | | | | | | |
| eqmu? | KYMENE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 cymus | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ?umps | KYMENE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | Jan-Jun |
|---------------------|-----|-----|-----|-----|-----|-----|---------|
| | JAN | FEB | MAR | APR | MAY | אטע | Total |
| nnectors Monitored: | | | | | | | |
| Total | Ö | 0 | 0 | 0 | Ö | Ó | 0 |
| | | | | | | | |
| nnectors Leaking: | | | | | | | |
| nnectors Leaking: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | JAN | FEB | MAR | APR | MAY | JUN | Jan-Jun Total |
|-------------------|-----|-----|-----|-----|-----|-----|------------------|
| crewed Connectors | | | | | | | |
| Total | 0 | Ó | O | 0 | · o | 10 | 0 |
| | | | | | | | |
| crewed Connectors | | | | | | | |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | Jan-Jun |
|----------------------|-----|-----|-----|-----|-----|-----|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| tator Monitored: | | | | | | | |
| KIMENE | 1 | 1 | 1 | 1 | 1 | 1 | 6 |
| | | | 4 | 141 | 1.4 | | |
| Total | 1 | 1 | | | | | |
| Total tator Leaking: | 0 | 0 | 0 | 0. | 0 | 0 | 0 |
| tator Leaking: | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | · · · · · · · · · · · · · · · · · · · | | Jan-Jun |
|-----------------------|-----|-----|-----|-----|---------------------------------------|-----|---------|
| | JAN | FEB | MAR | APR | MAY | אטע | Total |
| ressure Relief Device | | | | | | | |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | |
| ressure Relief Device | | | | | | | |
| | 0 | 0 | t | 0 | Ö | Q | 0 |

| 13/24/05 53.54m 12/26.1138m 1-14-06 8:304m 1/21/26 10:29 1/28/26 143 | Shutdown Time (AM or Startup Time (AM) 334 334 334 5,540 1,266 6,254 E. 8,504 1,1466 8,947 1,1396 1,135 1,1466 8,947 1,1310 1,135 | Startup Time (AM) Date or PM) 2. (S. (37/1) -2. C. (6:25.44) [1466 8: 4m] [23/06 6:334 8 | Initials Initials Initials | SSM Plan Properly Yes No Y | Was Form B Completed? Yes No | | Was There A Malfunction? Yes No | Identify the event as a and provide comments or Action(s) taken during SSM. Include scrubber water flowrate gpm) at Startup. **Comments or Action(s) taken during SSM. Include scrubber water flowrate f |
|--|--|---|----------------------------|----------------------------|------------------------------|-------|---------------------------------|--|
| 66 4:4m Ed 1 20 20 1 20 1 1 20 1 1 1 1 1 1 1 1 1 1 | 2//00/ | 432 | 4 5 E 3 | 7 7 7 | | 7 7 7 | 7 7 | Caking Collection |

Form 042-0039-003 rev 2

| | | Sta | Startup, S | Shutdown, | | and | Malfu | nction Pla | and Malfunction Plan (SSM) Checklist Form A |
|--|-------------------------|------------|---------------------|----------------------------|------------------------------------|--------|--------------------------|---------------|--|
| Shutdown Date | Shutdown Time (AM or | Startup | Startup Time (AM | nitials | SSM Plan Properly- Followed? | | Was Form B Completed? | | Identify the event as a startup, shutdown, or maifuction and provide Was There A comments or Action(s) taken during SSM. Include scrubber water flowrate Malfunction? |
| | | | | | Yes No | | Yes No | ٠., | definition of the control of the con |
| Retaless | | 2 lula | 9:57 _{Pm} | 340 | 7 | | \ | 7 | Steet up Plent |
| 211106 | 2.34Am | | | £. | 7 | | 7 | 7 | The state of the state of |
| | | Histole | 263/66 6 40 | 7.2 | 1 | | 1 | 7 | Short no Sex like witer flowerett 19 29 mm |
| 2/8/2 12:46Pm | 12:46Pm | | | A | 7 | | 7 | \ | Flered shift down |
| | | Jolock | 6:30 an Osch | 9/200 | 7 | | 7 | 7 | Plant Starting noter Mariate 1143 asm |
| 2/34/lob | 7.110 | ١ | | 22 | 7 | | 7 | 7 | Planned Ship Doning |
| | - | Alick. | 10.3 | 77 | Ţ | | 7 | 7 | Hams of that eno |
| 3/4/06 | 4.33Am | 4 | | 1 1 1 1 1 1 1 1 1 1 | 1 | | 7 | ٨ | Beneal still the |
| | | 3/6/00 | 6.30m | GRU | > | | 7 | 7 | Plenma Herter according |
| 3/11/06 | 452 | | | | 7 | | 7 | 7 | Planet Stut Jour |
| | | 713/6 | 413/26 6:43Am D.B | DB | 7 | | \ | `\ | Started us semillar hade a les 1587Ch |
| 3/17/06 | Upm | | | 18 | 7 | | 7 | 1 | med Shed down |
| | | 3 role | 161.50m E.P. | . E.P. | 7 | | 7 | 1 | Stated & Southwester 76 169 00 |
| 325/2 3:17Am | 3.17Am | - | | P P | 7 | | 7 | 7 | Plane sont drew |
| | | 3/23/ | 3/8 | 72 | 7 | | 7 | 7 | Planed Start up |
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| For a malfunction, use the startup/shutdown date and | unction, u | se the sta | artup/shu | tdown d | ate and t | time c | olumns to | record the du | time columns to record the duration of the event |

luidown date and time columns to record the duration of the event.

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| Shutdown Date | Shutdown Time (AM or 9 | Startup Date | Startup Time (AM or PM) | Initials | SSM Plan Properly Followed? | Was Form B Completed? | Was There A | Identify the event as a comments or Action(s) taken during SSM. Include scrubber water flowrate (gpm) at Startup. |
| | | | | | Yes No | Yes No | Yes No | |
| 100 | 100 353 | | | 78 | 7 | 7 | 7 | |
| | | 13.106 | 4/3/06/12: 128/12 B | A) A | 7 | 7 | , | State of the state |
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| 11/66 | Sign | ~ | | 72 | 7 | 1 | 1 | 1 |
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| 4/14/06 | 5:30 | | | GRU | 7 | 7 | 7 | The Assessment of the Assessme |
| | | 4112/06 | 8/20 | T.2 | 7 | 7 | 7 | 26 . O . J. For |
| gi/ov | 1135FM | | 3 | MO | 7 | 7 |) | |
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| | <u> </u> | S1/10C | 7.30am | AG | 7. | 7 | 5 | |
| 3/06 | 1:30PM 5 | 306 | 7.15m | 50 | \ | > | 1 | LCAKING CFOIND LINDS |
| 16/00 | 9:30Am | | | F.P | 1 | 1 | 7 | 11/2 |
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Form 042-0039-003 rev 2

| | | Sta | rtup, | Shutd | Startup, Shutdown, and Ma | | nction | function Plan (SSM) Checklist Form A | |
|---------------|--------------------------------|-----------|-------------------------------|----------|-----------------------------------|--------------------------|-----------------------------|---|-------|
| | | | | | | | | | |
| Shutdown | Shutdown Time (AM or PM) | Startup | Startup Time (AM or PM) | Initials | SSM Plan Properly Followed? | Was Form B Completed? | Was There A Maifunction? | Identify the event as a startup, shutdown, or malfuction and provide are A comments or Action(s) taken during SSM. Include scrubber water flowrate don? (gpm) at Startup. | |
| | | | | | Yes No | Yes No | Yes | No | |
| Sinial Risoff | S. SOPPM | | | F.P. | 7 | 7 | _ | 1 Plan Shut deller | |
| - | | Stula | Stulde Gusan F.P. | F.P. | 7 | 7 | \ | - Sauther whater I Permet 19.84 8 Pm. | |
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| 6/3/cl | 12.30 | | | GRE | > | 7 | | V Plan State | ,- |
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| 4/19/06 | 1245m | | | N.S. | 7 | 7 | 1 | - PLAY SHUT DOWN | |
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| 41700 | OW 3.45AM | | | R | 7 | 7 | 1 | VAN SHUT DOWN | *** |
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| | | 6/19/20 | 700 | 100 MG | | 7 | _ | Starton | |
| For a malf | unction, u | se the st | artup/sh | ntdown c | date and tim | e columns | to record t | For a malfunction, use the startup/shutdown date and time columns to record the duration of the event. | |

Form 042-0039-003 rev 2

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|---|--|---------------|-----------------------|-------------|------------|----------------|---------------------------------------|------------------|--------|--------|---|------|--|--|--|
| and Malfunction Plan (SSM) Checklist Form A | Identify the event as a startup, shutdown, or maffuction and provide comments or Action(s) taken during SSM. Include scrubber water flowrate (gpm) at Startup. | Do a x / Ld. | X p. J. Souther water | a Shit Land | 11, 11, | Plan Alut Amil | Started wo Scarlling 1. The 11 10 | Planed Shit Down | | | | | | | time columns to record the duration of the event. |
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| ction | Was There A Malfunction? | X 68 | | | , | | | | | | | | | | ecord |
| alfun | orm B | 2 | 7 | 7 | 7 | | 1 | 7 | 1 | | | | | | ins to r |
| N P | Was Form B Completed? | Yes | | | | | | | | | | | | | colum |
| n, an | F S S | 2 | | | \ | | | | | | | | | | |
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| Startup, Shutdown, | Startup Time (AM or PM). | | 66 7.7 m | | 5/1/ 7: Am | | mode 6 Zm D.B. | | 7.3/2h | | | | | | irtup/shu |
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| | Shutdown Time (AM or PM) | Aylek 3:30 AM | | l'echin | | 1128/1 | , , , , , , , , , , , , , , , , , , , | 106 4 1/3m | • | | | | | | inction, us |
| | Shutdown T | C. Aylob | | 29/1/2 | , | 1/2/11/12 | | Jolhili | | | | · | | | For a malfunction, use the startup/shutdown date and |

Form 042-0039-003 rev 2

Deviations from Permit Requirements

DEVIATIONS FROM PERMIT REQUIREMENTS

January 1, 2005 through June 30, 2005

Hercules Incorporated Hattiesburg, Mississippi

1. As required by 5.A.4 of the Title V Operating Permit, deviations from permit requirements must be clearly identified and reported. Deviations from permit requirements are detailed below:

There were no deviations from permit requirements during this reporting period.



Hercules Incorporated 613 West 7th Street Hattiesburg, MS 39401 (601) 545-3450 Fax: (601) 584-3226 www.herc.com

Dept of Environmental Quality

Strice of Pollution Control

January 27, 2006

CERTIFIED MAIL – RETURN RECEIPT REQUESTED CERT. MAIL # 7005 0390 0000 1703 8380

Mr. Rick Sumrall, Branch Chief Environmental Compliance & Enforcement Division Mississippi Department of Environmental Quality P.O. Box 10385 Jackson, MS 39289-0385

> Re: Hercules Incorporated

> > Facility No. 0800-00001 Title V Semi-Annual Report

7/01/05-12/31/05

Dear Mr. Sumrall:

As required by Title V Operating Permit Conditions 5.A.4. [ref.: APC-S-6, Section III.A.3.c.(1)], 5.C.1.(b) [40 CFR 63.182 (ref.: 40 CFR 63.528(b))], 5.C.4(b)(6), 5.C.4.(b)(7) [40CFR63.1439(e)(6) and 40CFR63.182(d)], 5.B.17, 5.C.3, 5.C.5, and 5.C.6, attached is the required summary data for the semi-annual reporting period ending June 30, 2005. Deviations from the Title V Permit requirements are identified and included in this report. The required summary data is included in the attached semi-annual report from July 1, 2005, to December 31, 2005.

As Responsible Official for Hercules Incorporated, I certify that based on information and belief formed after reasonable inquiry, the statements and information in the attached document are true, accurate, and complete.

If you have any questions or need further information, please contact Mr. Charles Jordan at (601) 584-3360.

Sincerely

Walter D. Langhans Plant Manager

Attachment(s)

Contents of Report

The Title V Operating Permit requires a semi-annual report by January 31 and July 31 of each year. This report, for the semi-annual reporting period of July 1, 2005 through December 31, 2005, contains the following sections:

- 1. Fuel Burning Equipment
- 2. Kymene Process Area
- 3. AKD Process Area
- 4. HRA Process Area
- 5. Poly-Pale Process Area
- 6. RAD Process Area
- 7. Neuphor Process Area
- 8. Kymene LDAR Monitoring
- 9. Polyether Polyols Production LDAR Monitoring
- 10. Deviations from Permit Requirements

Fuel Burning Equipment

FUEL BURNING REPORT SUMMARY

As required by 5.A.4, 5.B18, and 5.C.3, monthly records of the type and quantity of fuel combusted are provided in this section. Only natural gas was combusted during this semi-annual reporting period.

MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS 5.A.4

2005 YEAR

GAS USAGE - MCF

OCT SEPT AUG JULY JUNE MAY APR MAR FEB JAN DESCRIPTION EMISSION

| POINT | DESCRIPTION | JAN | FEB | MAR | APR | MAY | JUNE | JULY | AUG | SEPT | 13 13 | NOV | | Totals |
|--------|--------------------------------------|--------|--------|--------|-------|-------|-------|--------|-------|-------|----------|-------|--------|---------|
| AC001 | Poly-pale nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AF001 | RAD nat. gas Dowtherm boiler | 0 | 2,016 | 497 | 0 | 0 | 0 | 3,444 | 0 | 0 | 0 | 0 | 0 | 5,957 |
| AG001 | HRA nat. gas Dowtherm boiler | 0 | 0 | Ö | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AJ001 | Rosin dist. nat. gas Dowtherm boiler | 0 | 0 | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AM001 | No. 5 package boiler | 0 | 0 | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AM002 | No. 6 package boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AM003 | No. 7 package boiler | 10,763 | 8,820 | 10,181 | 8,796 | 6,483 | 5,898 | 7,136 | 7,999 | 609'9 | 8,006 | 8,264 | 10,795 | 99,748 |
| AN001 | Carbon Reg.nat. gas Furnace | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T5ngas | | 10,763 | 10,836 | 10,678 | 8,796 | 6,483 | 5,898 | 10,580 | 7,999 | 609.9 | 8,006 | 8.264 | 10.795 | 105,705 |

Kymene Process Area

KYMENE PROCESS AREA REPORT SUMMARY

As required by 5.B.20, for the entire facility, calculations and records for the tons of individual hazardous air pollutant (HAP) emitted each month and the total individual HAP emissions for each consecutive 12-month period were performed. Calculations and records for the total combined HAP's emitted for each consecutive 12-month period were performed.

As required by 5.C.5, for all hazardous air pollutant (HAP) emissions, monthly individual HAP emissions and the individual and combined HAP emissions for each consecutive 12-month period are included in this section.

Kymene Reactor Scrubber (AA-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Kymene Reactor Scrubber (AA-001).

Adipic Acid Dust Shaker (AA-002)

As required by 5.B.4, weekly operator and mechanic maintenance checks were performed on the Adipic Acid Dust Shaker (AA-002).

As required by 5.B.19, inspections for visible emissions (VE) were performed in accordance with 5.B.19.

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.



(MONTHLY) and (CONSECUTIVE 12-MONTH) HAP emissions, Individual and Conbined

| DATE | ETHYLE | NE OXIDE | EPICHLO | ROHYDRIN | TO | TAL |
|--------|---------|----------|--|----------|---------|----------|
| M/Y | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH |
| Apr-O4 | 0.057 | 0.057 | 0.183 | 0.183 | 0.240 | 0.240 |
| May-04 | 0.057 | 0.114 | 0 182 | 0.385 | 0 239 | 0.479 |
| Jun-04 | 0.057 | 0.171 | 0.185 | 0.550 | 0 242 | 0.721 |
| Jul-04 | 0.057 | 0.228 | 0.188 | 0.736 | 0 243 | 0.984 |
| Aug-04 | 0.057 | 0.285 | 0.188 | 0.922 | 0.243 | 1.207 |
| Sep-04 | 0.057 | 0 342 | 0.185 | 1.107 | 0.242 | 1.449 |
| Oct-04 | 0.057 | 0.399 | 0.186 | 1.293 | 0.243 | 1.692 |
| Nov-04 | 0.587 | 0 986 | 0.183 | 1.476 | 0.770 | 2.462 |
| Dec-04 | 0.524 | 1.510 | 0.182 | 1.658 | 0.706 | 3.168 |
| Jan-05 | 0.211 | 1.721 | 0.194 | 1.852 | 0.405 | 3.573 |
| Feb-05 | 0.187 | 1.908 | 0.184 | 2.036 | 0.371 | 3.944 |
| Mar-05 | 0 136 | 2.044 | 0.181 | 2.217 | 0.317 | 4.261 |
| Apr-05 | 0.242 | 2.229 | 0.178 | 2.212 | 0 420 | 4.441 |
| May-05 | 0.056 | 2.228 | 0.179 | 2.209 | 0 235 | 4.437 |
| Jun-05 | 0.058 | 2 227 | 0.179 | 2.203 | 0.235 | 4 430 |
| Jul-05 | 0.000 | 2.170 | 0.178 | 2.195 | 0.178 | 4.365 |
| Aug-05 | 0.000 | 2.113 | 0.181 | 2.190 | 0.181 | 4.303 |
| Sep-05 | | 2.058 | 0,178 | 2.183 | 0.178 | 4.239 |
| Oct-05 | | 1 999 | 0.184 | 2.181 | 0.184 | 4.180 |
| Nov-05 | | 1.412 | 0.182 | 2.180 | 0.182 | 3.592 |
| Dec-05 | | 0.888 | 0.183 | 2.181 | 0.183 | 3.069 |
| Jan-08 | | 0.677 | | 1.987 | 0 000 | 2.664 |
| Feb-06 | | 0.490 | | 1.803 | 0.000 | 2.293 |
| Mar-08 | | 0.354 | | 1.622 | 0.000 | 1.976 |
| Apr-06 | | 0.112 | | 1.444 | 0.000 | 1.556 |
| May-06 | | 0.058 | | 1.265 | 0.000 | 1.321 |
| | | 0.000 | | 1.086 | 0.000 | 1.088 |
| | | 0.000 | | 0.908 | 0.000 | 0.908 |
| | | 0.000 | | 0 727 | 0.000 | 0.727 |
| | | 0.000 | | 0.549 | 0.000 | 0.549 |
| | | 0.000 | | 0.365 | 0.000 | 0.365 |
| | | 0.000 | | 0.183 | 0.000 | 0.183 |
| | | 0.000 | | 0.000 | 0.000 | 0.000 |
| | | 0.000 | | 0.000 | 0.000 | 0.000 |
| | | 0.000 | The same of the sa | 0.000 | 0.000 | 0.000 |
| | | 0.000 | | 0.000 | 0.000 | 0.000 |
| | | 0.000 | a second or transcript to | 0.000 | 0.000 | 0.000 |
| | | 0.000 | | 0.000 | 0.000 | 0.000 |

AKD Process Area

AKD PROCESS AREA REPORT SUMMARY

Paracol Water Scrubber (AB-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Paracol Water Scrubber (AB-001).

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.

HRA Process Area

HRA PROCESS AREA REPORT SUMMARY

HRA Water Scrubber (AG-003)

As required by 5.B.4, weekly operator maintenance checks were performed on the HRA Water Scrubber (AG-003). The operator visual inspections, were performed weekly (or more frequent) while the area was operating.

HRA Flaking Belt Dust Collector (AG-005)

As required by 5.B.4, weekly maintenance checks were performed on the HRA Flaking Belt Dust Collector (AG-005). The operator visual inspections, were performed weekly (or more frequent) while the area was operating.

Poly-Pale Process Area

POLY-PALE PROCESS AREA REPORT SUMMARY

Poly-Pale Process Melter (AC-004)

The Melter did not operate during this reporting period.

RAD Process Area

RAD PROCESS AREA REPORT SUMMARY

As required by 5.B.20, for the entire facility, calculations and records for the tons of individual hazardous air pollutant (HAP) emitted each month and the total individual HAP emissions for each consecutive 12-month period were performed. Calculations and records for the total combined HAP's emitted for each consecutive 12-month period were performed.

As required by 5.C.5, for all hazardous air pollutant (HAP) emissions, monthly individual HAP emissions and the individual and combined HAP emissions for each consecutive 12-month period are included in this section.

Ammonia Packed Bed Scrubber (AF-002)

As required by 5.B.4, weekly maintenance checks were performed on the Ammonia Packed Bed Scrubber (AF-002). The operator visual inspections, were performed weekly (or more frequent) while the area was operating.

EO Packed Bed Scrubber (AF-004(EO))

As required by 5.B.14, weekly maintenance checks were performed on the EO Packed Bed Scrubber (AF-004). The operator visual inspections, were performed weekly (or more frequent) while the area was operating.

As required by 5.B.7, 5.B.10, and 5.B.11, the scrubbing liquid flow rate and the scrubber effluent were monitored as required.

On May 5, 2005, Polyether Polyol Production (40 CFR 63 Subpart PPP) was shutdown.

The Ethylene Oxide storage tank was properly cleaned by venting any residual material remaining in the empty tank after May 5,2005, to the scrubber. The EO Packed Bed Scrubber (AF-004) operation was shut down on July 6, 2005.

(MONTHLY) and (CONSECUTIVE 12-MONTH) HAP emissions, Individual and Conbined

| DATE | ETHYLEI | NE OXIDE | EPICHLO | ROHYDRIN | TOT | AL | |
|--------|----------|----------|-------------------------|----------|---------|----------|--|
| M/Y | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | |
| Apr-O4 | 0.057 | 0.057 | 0.183 | 0 183 | 0.240 | 0 240 | |
| May-04 | 0.057 | 0.114 | 0.182 | 0.365 | 0.239 | 0.479 | |
| Jun-04 | 0.057 | 0.171 | 0.185 | 0.550 | 0.242 | 0.721 | |
| Jul-04 | 0.057 | 0.228 | 0.186 | 0.738 | 0.243 | 0.964 | |
| Aug-04 | 0.057 | 0.285 | 0.186 | 0.922 | 0 243 | 1.207 | |
| Sep-04 | 0 057 | 0.342 | 0.185 | 1.107 | 0.242 | 1.449 | |
| Oct-O4 | 0 057 | 0.399 | 0.186 | 1,293 | 0.243 | 1.692 | |
| Nov-04 | 0.587 | 0 986 | 0.183 | 1.476 | 0.770 | 2.462 | |
| Dec-04 | 0.524 | 1.510 | 0.182 | 1 658 | 0.708 | 3.168 | |
| Jan-05 | 0.211 | 1.721 | 0.194 | 1.852 | 0.405 | 3.573 | |
| Feb-05 | 0.187 | 1.908 | 0,184 | 2.036 | 0.371 | 3.944 | |
| Mar-O5 | 0.136 | 2 044 | 0.181 | 2.217 | 0.317 | 4.261 | |
| Apr-O5 | 0.242 | 2.229 | 0.178 | 2.212 | 0 420 | 4.441 | |
| May-05 | 0.058 | 2.228 | 0.179 | 2.209 | 0.235 | 4.437 | |
| Jun-O5 | 0.056 | 2.227 | 0.179 | 2.203 | 0.235 | 4.430 | |
| Jul-05 | 0 000 | 2 170 | 0.178 | 2.195 | 0.178 | 4.365 | |
| Aug-Q5 | 0.000 | 2.113 | 0.181 | 2.190 | 0.181 | 4.303 | |
| Sep-05 | 19 88811 | 2.056 | 0.178 | 2.183 | 0.178 | 4.239 | |
| Oct-05 | | 1.999 | 0.184 | 2.181 | 0.184 | 4.180 | |
| Nov-05 | | 1.412 | 0.182 | 2.180 | 0.182 | 3 592 | |
| Dec-05 | | 0.888 | 0.183 | 2.181 | 0.183 | 3.069 | |
| Jan-08 | | 0.677 | | 1 987 | 0.000 | 2.664 | |
| Feb-06 | | 0.490 | | 1.803 | 0.000 | 2.293 | |
| Mar-06 | | 0.354 | | 1.622 | 0.000 | 1.976 | |
| Apr-O8 | | 0.112 | | 1.444 | 0.000 | 1.556 | |
| May-06 | | 0.056 | | 1.265 | 0.000 | 1.321 | |
| | | 0 000 | The same of the same of | 1.086 | 0.000 | 1.086 | |
| | | 0.000 | | 0.908 | 0.000 | 0.908 | |
| | | 0.000 | | 0.727 | 0.000 | 0.727 | |
| | | 0.000 | | 0.549 | 0.000 | 0.549 | |
| | | 0.000 | | 0.365 | 0.000 | 0.365 | |
| | | 0.000 | | 0.183 | 0.000 | 0.183 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0 000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |

Neuphor Process Area

NEUPHOR PROCESS AREA REPORT SUMMARY

Adduct Reactor Scrubber (AD-001)

Operator and mechanic maintenance checks were performed on the Aduct reactor scrubber

Kymene LDAR Monitoring

KYMENE LDAR MONITORING

In Accordance with 40 CFR 63, Subpart W, Subpart H, and Permit Conditions 5.B.1, 5.B.2, 5.B.3, and 5.C.1, Hercules Incorporated is providing the following required information:

- Report required by 40 CFR 63.182(d)(2);
- Summary report of actual monitoring data; and
- Recordkeeping and reporting of Startup, Shutdown, and Malfunctions per SSM Plan.
 - Form A: SSM Plan Conformance
 - Form B: Nonconformance to SSM Plan (no nonconformance incidents)

No problems or deviations from the permit were noted during the routine monthly LDAR monitoring.

HURRICANE KATRINA- Contractor performing LDAR monitoring was unable to travel to plant both times scheduled before and after hurricane. Governor/MDEQ Emergency Order 5062 05 covers facilities rendered inoperable for monitoring required by permits.

PERIODIC LEAK MONITORING REPORT

July 1, 2005 through December 31, 2005

Hercules Incorporated Hattiesburg, Mississippi

KYMENE PROCESS AREA (AA-000)

- 1. Number of affected valves in HAP service for which leaks were detected as described in § 63.168(b), the percent leakers, and the total number monitored:
 - No affected valve was discovered leaking (V_L=0) during the referenced reporting period (>500 ppm);
 - $[V_L/V_T]$ * 100 = 0.00% of total valves monitored were leaking; and
 - 103 total valves (V_T=103) were monitored.
- 2. Number of valves for which leaks were not repaired per § 63.168(f), identifying the number of those that are determined non-repairable:
 - None.
- 3. Number of affected pumps in HAP service for which leaks were detected as described in § 63.163(b), the percent leakers, and the total number monitored:
 - No affected pumps were discovered leaking (P_L=0) during the required monthly monitoring (>1,000 ppm);
 - $[P_L/P_T]$ * 100 = 0.00% of total pumps monitored on a monthly basis were leaking as determined by § 63.163(d)(4); and
 - 3 affected pumps monitored 5 times for a total of 15 pumps (P_T=15) monitored.
- 4. Number of pumps for which leaks were not repaired per § 63.163(c):
 - None.
- 5. Number of affected agitators in HAP service for which leaks were detected as described in § 63.173(a) & (b):
 - The affected agitator did not leak during the referenced reporting period (>10,000 ppm);
- 6. Number of agitators for which leaks were not repaired per § 63.173(c):
 - None.

- 7. Number of affected *connectors* in HAP service for which leaks were detected as described in § 63.174(a), the percent leaking, and the total number monitored:
 - No affected connectors were measured at or above 500 ppm (C_L=0) during the referenced reporting period;
 - $[C_L/C_T]$ * 100 = 0.00% of total connectors monitored were leaking; and
 - 94 total connectors (C_T=94) were monitored.
- 8. Number of *connectors* for which leaks were not repaired per § 63.174(d), identifying the number of those that are determined non-repairable:
 - None.
- 9. Explain any delay of repairs:
 - All applicable repairs were made in a timely fashion.
- 10. Results of all monitoring within semi-annual reporting period to show compliance with § 63.165(a), pressure relief device releases:
 - None.
- 11. Notification of a change in *connector monitoring alternatives* as described in §63.174(c)(1):
 - As allowed in §63.174(c)(1)(ii), Hercules Incorporated changed connector monitoring alternatives during the July 1 December 31, 2000, semi-annual reporting period. Instead of monitoring opened or broken connectors for leaks within three (3) months of being returned to organic HAP service, Hercules chooses not to monitor connectors that have been opened or had the seal broken. It is realized that nonrepairable connectors can not be counted while complying with this alternative; therefore, in the percent leaking calculations C_{AN} will be set to zero.
- 12. Monitoring results and component summary report during the semi-annual reporting period:
 - Summary information from the referenced semi-annual reporting period is attached.

| | | | | | | | | Jul-Dec |
|----------|------------|---------------------------------------|-----|------|-----|-----|-----|---------|
| | | JUL | AUG | SEPT | OCT | NOV | DEC | Total |
| Valves | Monitored: | | | | | | | |
| | KYMENE | 0 | 9 | 54 | 0 | 49 | 0 | 103 |
| | m - L - 1 | 0 | Ö | 54 | 0 | 49 | 0 | 103 |
| i/al wee | Total | | | | | | | |
| Valves | Leaking: | , , , , , , , , , , , , , , , , , , , | | 0 | | 6 | ă | |
| Valves | Leaking: | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Valves | Leaking: | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | Jul-Dec |
|---|-----|----------|------|-----|-----|-----|---------|
| | JUL | AUG | SEPT | OCT | NOV | DEC | Total |
| umps Monitored: | | | | | | | |
| KYMENE | 3 | 0 | 3 | 3 | 3 | 3 | 15 |
| Total | 3 | 0 | 3 | 3 | 3 | 3 | 15 |
| Pumps Leaking: | | <u> </u> | | | | | · · · |
| Pumps Leaking: | | | | | | | |
| KYMENE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Carrier and the second of the | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | Jul-Dec |
|----------------------|-----|-----|------|-----|-----|-----|---------------------------------------|
| | JUL | AUG | SEPT | OCT | NOV | DEC | Total |
| onnectors Monitored: | | | | | | | |
| KYMENE | 0 | 0 | 27 | 0 | 67 | 0 | 94 |
| Total | 0 | 0 | 27 | 0 | 67 | 0 | 94 |
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| | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| onnectors Leaking: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | Jul-Dec |
|---------------------------------------|-----|-----|------|-----|-----|-----|---------|
| | JOT | AUG | SEPT | OCT | NOA | DEC | Total |
| crewed Connectors | | | | | | | |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
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| crewed Connectors | 0 | 0 | 0 | 0 | 0 | o | 0 |
| Total | 0 | 0 | o | 0 | 0 | 0 | 0 |

| | | | | | | | Jul-Dec |
|--------------------------------|-----|-----|------|-----|-----|-----|---------|
| | JUL | AUG | SEPT | OCT | NOV | DEC | Total |
| itator Monitored: | | | | | | | |
| KYMENE | 1 | Q. | 1 | 1 | 1 | 1 | 5 |
| | * | 0 | 1 | 1 | 1 | 1 | 5 |
| Total | * 1 | | | | | | |
| Total Ltator Leaking: KYMENE | 0 | 0 | .0 | 0 | 0 | 0 | 0 |
| itator Leaking: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | Jul-Dec |
|------------------------------|-----|--------|------|-----|-------|-------|---------|
| | JUL | AUG | SEPT | OCT | NOA | DEC | Total |
| ressure Relief Device | | | | | | | |
| KYMENE | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| | | 107.00 | 1.00 | | -0003 | 17.50 | _ |
| Total ressure Relief Device | 0 | 0 | 1 | 0 | 0 | 0 | |
| ressure Relief Device | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 0 0 | 0 0 | 0 0 | 0 0 | 0 | 0 | 0 |
| ressure Relief Device KYMENE | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 |

| Form 042-0039-003 rev 2 | | | |
|-------------------------|--|--|--|
| 03 rev 2 | | | |
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| For a malfunction, use the startup/shutdown date and time columns to record the duration of the event | 1/8 8 C. O.C. D. W. Y | 07/6/05 12 cc pm 2.13 V | This 2/14 2 7 7 2 | CT/Cy/25 3.75 Am R.B. U | Thorson By | 1/cHest 2:47 mm / / / 2 | works cisto In I | 100 100 100 100 100 100 100 100 100 100 | Charles In 1 | CY18/as 5:30AM Mics W | 1/3/87:30 1 | CO/NOT AM | C1965973800 V | 4/8/ps 1329 | 96/05 110HM 60 - | 644105 739MM Det 1 | Yes No Yes No | Shutdown Time (AM or Startup Date PM) Date Or PM) Initials Followed? Completed? Masfunction? (gpm | Startup, Shutdown, and Malfunction Plan (SSM) Checklist Form A |
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| artup/shu | 7-4 | X106 | | 75,00 | | 13:10 | | 7:AM | | 7.AM | | 14/1/2 | | 755 mm | | | Startup Time (AM or PM) | rtup, |
| utdown o | 7 | H | A. D. | E.B. | X .53. | N | | MO | V | FF | M.U. | 1374 | E.P. | 8 | A | | Initials | Shutd |
| ate and t | 7 | 7 | 5 | 7 | 1 | 7 | 7 | 1 | 7 | 1 | 5 | | 1 | 7 | 7 | Yes No | SSM Plan Properly Followed? | own, |
| ime colu | | | | | | | | | | \ | | | | | | Yes | | and N |
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| tdown da | | DA CA | 83 | R.B. | % ₩ | | 7 mc | Zm | B | N | MO | E.P. | 7 | B | 188 | JB | | Initials | |
| te and tim | | \ | | 1 | 7 | | | | | 1 | 7 | 7 | | | | | Yes No | SSM Plan Properly Followed? | |
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| | Date | 3 | Date | or PM) | Initials | Yes No | Yes No | Yes | Yes No | (gpm) at Startup. | |
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| e line sta | | 47 | S.C. II | 20 37 | Shutdown Time (AM or PM) |
| | | 2 | 1-21 | | E & |
| rtup/shu | | 8.A.3 | | 33 | Startup artup Time (AM bate or PM) |
| ldown da | | 7 6 6 | 1.19 | | រា <mark>វដ</mark> ង់នៃ |
| le and time | | 7 | 100 | | SSW Plan Property W Property Ves No Yes |
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| ecord the du | | 175 | | 7 | as Form B Was There A mpleted? Malfunction? |
| Use the startup/shutdown date and time columns to record the duration of the event | the second of the fact of the | the State of the same | Dean John Dean | Weepend Shutdown | identify the event as a and provide to a comments or Action(s) taken during SSM. Include scrubber water flowrate No |

Polyether Polyols Production LDAR Monitoring

RAD LDAR MONITORING

In Accordance with 40 CFR 63, Subpart PPP, Subpart H, and Permit Conditions 5.B.17 and 5C4(a)(7), Hercules Incorporated is providing the following required information:

- Report required by 40 CFR 63.182(d)(2);
- Summary report of actual monitoring data; and
- Recordkeeping and reporting of Startup, Shutdown, and Malfunctions per SSM Plan.
 - Form A: SSM Plan Conformance
 - Form B: Nonconformance to SSM Plan (no nonconformance incidents)

No problems or deviations from the permit were noted during the routine monthly LDAR monitoring.

On May 5, 2005, Polyether Polyol Production (40 CFR 63 Subpart PPP) was shutdown.

The Ethylene Oxide storage tank was properly cleaned by venting any residual material remaining in the empty tank after May 5,2005, to the scrubber. The EO Packed Bed Scrubber (AF-004) operation was shut down on July 6, 2005.

Deviations from Permit Requirements

DEVIATIONS FROM PERMIT REQUIREMENTS

January 1, 2005 through June 30, 2005

Hercules Incorporated Hattiesburg, Mississippi

1. As required by 5.A.4 of the Title V Operating Permit, deviations from permit requirements must be clearly identified and reported. Deviations from permit requirements are detailed below:

None

HURRICANE KATRINA- Contractor performing LDAR monitoring was unable to travel to plant both times scheduled before and after hurricane. Governor/MDEQ Emergency Order 5062 05 covers facilities rendered inoperable for monitoring required by permits.



Hercules Incorporated 613 West 7th Street Hattiesburg, MS 39401 (601) 545-3450 Fax: (601) 584-3226 www.herc.com

July 30, 2005

CERTIFIED MAIL # 7004 0750 0001 6606 7834

Mr. Rick Sumrall, Branch Chief Environmental Compliance & Enforcement Division Mississippi Department of Environmental Quality P.O. Box 10385 Jackson, MS 39289-0385



Re:

Hercules Incorporated
Facility No. 0800-00001
Title V Semi-Annual Report
1/01/05-6/30/05

Dear Mr. Sumrall:

As required by Title V Operating Permit Conditions 5.A.4. [ref.: APC-S-6, Section III.A.3.c.(1)], 5.C.1.(b) [40 CFR 63.182 (ref.: 40 CFR 63.528(b))], 5.C.4(b)(6), 5.C.4.(b)(7) [40CFR63.1439(e)(6) and 40CFR63.182(d)], 5.B.17, 5.C.3, 5.C.5, and 5.C.6, attached is the required summary data for the semi-annual reporting period ending June 30, 2005. Deviations from the Title V Permit requirements are identified and included in this report. The required summary data is included in the attached semi-annual report from January 1, 2005, to June 30, 2005.

In accordance with 40CFR63.1423(b), *Storage vessel*(2), for the regulated equipment, AF005(EO), Storage vessels do not include: pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

On May 5, 2005, Polyether Polyol Production (40 CFR 63 Subpart PPP) was shutdown. The production unit, consists of Emission Point AF-000(EO): The Rosin Amine Derivatives (RAD) process area that is in the Ethylene Oxide (EO) service. Equipment in the process area includes reactors, tanks, vents, piping, etc. Emissions occur from associated equipment and from fugitive losses. Emission Point AF-004(EO): The RAD process vents in EO service equipped with a packed bed sulfuric acid scrubber. Emission Point AF-005(EO): The RAD Process Area 18,550 gallon Ethylene Oxide (EO) Pressurized Storage Tank (Hercules Reference No. RA-50). (Pressurized in excess of 204.9 kilopascals).

There are currently no plans to operate this unit again in the future. Therefore, no permit requirements will be included in the next semi-annual reporting period. The HAP of concern, Ethylene Oxide, is no longer used by Hercules Incorporated.

Hercules Incorporated, does continue to facilitate receiving Tank Car shipments of Ethylene Oxide for Zeon Chemicals Mississippi Incorporated.

As Responsible Official for Hercules Incorporated, I certify that based on information and belief formed after reasonable inquiry, the statements and information in the attached document are true, accurate, and complete.

If you have any questions or need further information, please contact Mr. Charles Jordan at (601) 584-3360.

Walter D. Langhans

Plant Manager

Attachment(s)

Contents of Report

The Title V Operating Permit requires a semi-annual report by January 31 and July 31 of each year. This report, for the semi-annual reporting period of January 1, 2005 through June 30, 2005, contains the following sections:

- 1. Fuel Burning Equipment
- 2. Kymene Process Area
- 3. AKD Process Area
- 4. HRA Process Area
- 5. Poly-Pale Process Area
- 6. RAD Process Area
- 7. Neuphor Process Area
- 8. Kymene LDAR Monitoring
- 9. Polyether Polyols Production LDAR Monitoring
- 10. Deviations from Permit Requirements

Fuel Burning Equipment

FUEL BURNING REPORT SUMMARY

As required by 5.A.4, 5.B18, and 5.C.3, monthly records of the type and quantity of fuel combusted are provided in this section. Only natural gas was combusted during this semi-annual reporting period.

MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS 5.A.4

YEAR

2005

GAS USAGE - MCF

| DESCRIPTION JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC T Poly-pale nat. gas Dowtherm boiler 0 | FMISSION | | | | , | | | • | | | | | | | |
|---|----------|--------------------------------------|--------|--------|--------|-------|-------|-------|------|-----|------|-----|-----|-----|--------|
| 0 0 0 0 0 0 0 2,016 497 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10,763 8,820 10,181 8,796 6,483 5,898 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10,763 10,836 10,678 8,796 6,483 5,898 10 0 | POINT | DESCRIPTION | JAN | FEB | MAR | APR | MAY | | JULY | AUG | SEPT | 001 | NOV | DEC | Totals |
| RAD nat. gas Dowtherm boiler 0 2,016 497 0 | C001 | Poly-pale nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| HRA nat gas Dowtherm boiler 0< | F001 | RAD nat. gas Dowtherm boiler | 0 | 2,016 | 497 | 0 | 0 | 0 | | | | | | | 2.513 |
| Rosin dist. nat. gas Dowtherm boiler 0 | G001 | HRA nat. gas Dowtherm boiler | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
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| Carbon Reg.nat. gas Furnace 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | MOO3 | No. 7 package boiler | 10,763 | 8,820 | 10,181 | 8,796 | 6,483 | 5,898 | | | | | | | 50 941 |
| 10,763 10,836 10,678 8,796 6,483 5,898 | N001 | Carbon Reg.nat. gas Furnace | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 0 |
| | Sugas | | 10,763 | 10,836 | 10,678 | 8,796 | 6,483 | 5,898 | | | | | | | 53.454 |

Kymene Process Area

KYMENE PROCESS AREA REPORT SUMMARY

As required by 5.B.20, for the entire facility, calculations and records for the tons of individual hazardous air pollutant (HAP) emitted each month and the total individual HAP emissions for each consecutive 12-month period were performed. Calculations and records for the total combined HAP's emitted for each consecutive 12-month period were performed.

As required by 5.C.5, for all hazardous air pollutant (HAP) emissions, monthly individual HAP emissions and the individual and combined HAP emissions for each consecutive 12-month period are included in this section.

Kymene Reactor Scrubber (AA-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Kymene Reactor Scrubber (AA-001).

The weekly maintenance check was not properly documented the weeks of 2/14 and 2/28 and is noted in the Deviation section. The historical electronic data base for the scrubber water flow rate is available.

Adipic Acid Dust Shaker (AA-002)

As required by 5.B.4, weekly operator and mechanic maintenance checks were performed on the Adipic Acid Dust Shaker (AA-002).

As required by 5.B.19, inspections for visible emissions (VE) were performed in accordance with 5.B.19.

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.

(MONTHLY) and (CONSECUTIVE 12-MONTH) HAP emissions, Individual and Conbined

| DATE | ETHYLE | NE OXIDE | EPICHLO | ROHYDRIN | TO | TAL | |
|---|---|----------|---------|----------|---------|----------|---|
| MY | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | |
| Apr-04 | 0.057 | 0.057 | 0.183 | 0.183 | 0.240 | 0.240 | |
| May-04 | 0.057 | 0.114 | 0.182 | 0.385 | 0.239 | 0.479 | |
| Jun-04 | 0.057 | 0.171 | 0.185 | 0.550 | 0.242 | 0.721 | |
| Jul-04 | 0.057 | 0.228 | 0.188 | 0.736 | 0.243 | 0.984 | |
| Aug-04 | 0.057 | 0.285 | 0.188 | 0.922 | 0.243 | 1.207 | |
| Sep-04 | 0.057 | 0.342 | 0.185 | 1.107 | 0.242 | 1.449 | |
| Oct-04 | 0.057 | 0.399 | 0.186 | 1,293 | 0.243 | 1.692 | |
| Nov-04 | 0.587 | 0.988 | 0.183 | 1.476 | 0.770 | 2.462 | |
| Dec-04 | 0.524 | 1.510 | 0.182 | 1.658 | 0.708 | 3.168 | |
| Jan-05 | 0.211 | 1.721 | 0.194 | 1.852 | 0.405 | 3.573 | |
| Feb-05 | 0.187 | 1.908 | 0.184 | 2.036 | 0.371 | 3.944 | |
| Mar-05 | 0.138 | 2.044 | 0.181 | 2.217 | 0.317 | 4.281 | |
| Apr-05 | 0.242 | 2.229 | 0,178 | 2.212 | 0.420 | 4.441 | |
| May-05 | 0.056 | 2.228 | 0.179 | 2.209 | 0.235 | 4.437 | |
| Jun-05 | 0.056 | 2.227 | 0.179 | 2.203 | 0.235 | 4.430 | |
| | | 2.170 | | 2.017 | 0.000 | 4.187 | |
| | manufacture and a state of the | 2.113 | | 1.831 | 0.000 | 3.944 | _ |
| | | 2.056 | | 1.646 | 0.000 | 3.702 | |
| | | 1.999 | | 1.460 | 0.000 | 3.459 | |
| | | 1.412 | | 1.277 | 0.000 | 2.689 | |
| | -, -,, -, -, -, -, -, -, -, -, -, -, -, | 0.888 | | 1.095 | 0.000 | 1.983 | |
| | | 0.677 | | 0.901 | 0.000 | 1.578 | |
| | | 0.490 | | 0.717 | 0.000 | 1.207 | |
| | | 0.354 | | 0.536 | 0.000 | 0.890 | |
| | | 0.112 | | 0.358 | 0.000 | 0.470 | |
| | | 0.058 | | 0.179 | 0.000 | 0.235 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
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| CONTRACTOR OF THE PARTY OF THE PARTY OF THE | , | 0.000 | | 0.000 | 0,000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | r word Mide | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | and market (1) and the same | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0,000 | | 0.000 | 0.000 | 0.000 | |

AKD Process Area

AKD PROCESS AREA REPORT SUMMARY

Paracol Water Scrubber (AB-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Paracol Water Scrubber (AB-001).

The scrubber weekly operator maintenance check was not properly documented the week of 2/28 and is noted in the Deviation section. The historical electronic data base for the scrubber water flow rate is available.

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.

HRA Process Area

HRA PROCESS AREA REPORT SUMMARY

HRA Water Scrubber (AG-003)

As required by 5.B.4, weekly operator maintenance checks were performed on the HRA Water Scrubber (AG-003). The operator visual inspections, were performed weekly (or more frequent) while the area was operating.

HRA Flaking Belt Dust Collector (AG-005)

As required by 5.B.4, weekly maintenance checks were performed on the HRA Flaking Belt Dust Collector (AG-005). The operator visual inspections, were performed weekly (or more frequent) while the area was operating.

Poly-Pale Process Area

POLY-PALE PROCESS AREA REPORT SUMMARY

Poly-Pale Process Melter (AC-004)

The Melter did not operate during this reporting period.

RAD Process Area

RAD PROCESS AREA REPORT SUMMARY

As required by 5.B.20, for the entire facility, calculations and records for the tons of individual hazardous air pollutant (HAP) emitted each month and the total individual HAP emissions for each consecutive 12-month period were performed. Calculations and records for the total combined HAP's emitted for each consecutive 12-month period were performed.

As required by 5.C.5, for all hazardous air pollutant (HAP) emissions, monthly individual HAP emissions and the individual and combined HAP emissions for each consecutive 12-month period are included in this section.

Ammonia Packed Bed Scrubber (AF-002)

As required by 5.B.4, weekly maintenance checks were performed on the Ammonia Packed Bed Scrubber (AF-002). The operator visual inspections, were performed weekly (or more frequent) while the area was operating.

EO Packed Bed Scrubber (AF-004(EO))

As required by 5.B.14, weekly maintenance checks were performed on the EO Packed Bed Scrubber (AF-004). The operator visual inspections, were performed weekly (or more frequent) while the area was operating.

As required by 5.B.7, 5.B.10, and 5.B.11, the scrubbing liquid flow rate and the scrubber effluent were monitored as required.

On May 5, 2005, Polyether Polyol Production (40 CFR 63 Subpart PPP) was shutdown.

There are currently no plans to operate this unit again in the future. Therefore, no permit requirements will be included in the next semi-annual reporting period. The HAP of concern, Ethylene Oxide, is no longer used by Hercules Incorporated.

Hercules Incorporated, does continue to facilitate receiving Tank Car shipments of Ethylene Oxide for Zeon Chemicals Mississippi Incorporated.

The Ethylene Oxide storage tank has been properly cleaned by venting any residual material remaining in the empty tank to the scrubber. The EO Packed Bed Scrubber (AF-004) operation was shut down on July 6, 2005.

(MONTHLY) and (CONSECUTIVE 12-MONTH) HAP emissions, Individual and Conbined

| M/Y Apr-04 | MONTHLY | | | ROHYDRIN | | ΓAL | |
|--|---------|----------|---------------------------|----------|---------|----------|--|
| Apr-04 | | 12-MONTH | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | |
| | 0.057 | 0.057 | 0.183 | 0.183 | 0.240 | 0.240 | |
| May-04 | 0.057 | 0.114 | 0.182 | 0.365 | 0.239 | 0.479 | |
| Jun-04 | 0.057 | 0.171 | 0.185 | 0.550 | 0.242 | 0.721 | |
| Jul-O4 | 0.057 | 0.228 | 0.186 | 0.738 | 0.243 | 0.964 | |
| Aug-04 | 0.057 | 0.285 | 0.186 | 0.922 | 0.243 | 1.207 | |
| Sep-04 | 0.057 | 0.342 | 0.185 | 1.107 | 0.242 | 1.449 | |
| Oct-04 | 0.057 | 0.399 | 0.186 | 1.293 | 0.243 | 1.692 | |
| Nov-04 | 0.587 | 0.986 | 0.183 | 1.476 | 0.770 | 2.482 | |
| Dec-04 | 0.524 | 1.510 | 0.182 | 1.658 | 0.706 | 3.168 | |
| Jan-05 | 0.211 | 1.721 | 0.194 | 1.852 | 0.405 | 3.573 | |
| Feb-05 | 0.187 | 1.908 | 0.184 | 2.038 | 0.371 | 3.944 | |
| Mar-O5 | 0.138 | 2.044 | 0.181 | 2.217 | 0.317 | 4.261 | |
| Apr-05 | 0.242 | 2.229 | 0.178 | 2.212 | 0.420 | 4.441 | |
| May-05 | 0.056 | 2.228 | 0.179 | 2.209 | 0.235 | 4.437 | |
| Jun-05 | 0.056 | 2.227 | 0.179 | 2.203 | 0.235 | 4.430 | |
| | | 2.170 | | 2.017 | 0.000 | 4.187 | |
| | | 2113 | | 1.831 | 0.000 | 3.944 | |
| | | 2.058 | | 1.646 | 0.000 | 3.702 | |
| | | 1.999 | | 1.460 | 0.000 | 3.459 | |
| 100000000000000000000000000000000000000 | | 1.412 | | 1.277 | 0.000 | 2.689 | |
| | | 0.888 | | 1.095 | 0.000 | 1.983 | |
| | | 0.677 | | 0.901 | 0.000 | 1.578 | |
| | | 0.490 | | 0.717 | 0.000 | 1.207 | |
| | | 0.354 | | 0.536 | 0.000 | 0.890 | |
| | | 0.112 | | 0.358 | 0.000 | 0.470 | |
| | | 0.058 | | 0.179 | 0.000 | 0.235 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
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| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
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| | | 0.000 | | 0.000 | 0.000 | 0.000 | |
| | | 0.000 | | 0.000 | 0.000 | 0.000 | |

Neuphor Process Area

NEUPHOR PROCESS AREA REPORT SUMMARY

Adduct Reactor Scrubber (AD-001)

Operator and mechanic maintenance checks were performed on the Aduct reactor scrubber

Kymene LDAR Monitoring

KYMENE LDAR MONITORING

In Accordance with 40 CFR 63, Subpart W, Subpart H, and Permit Conditions 5.B.1, 5.B.2, 5.B.3, and 5.C.1, Hercules Incorporated is providing the following required information:

- Report required by 40 CFR 63.182(d)(2);
- Summary report of actual monitoring data; and
- Recordkeeping and reporting of Startup, Shutdown, and Malfunctions per SSM Plan.
 - Form A: SSM Plan Conformance
 - Form B: Nonconformance to SSM Plan (no nonconformance incidents)

No problems or deviations from the permit were noted during the routine monthly LDAR monitoring.

PERIODIC LEAK MONITORING REPORT

January 1, 2005 through June 30, 2005

Hercules Incorporated Hattiesburg, Mississippi

KYMENE PROCESS AREA (AA-000)

- 1. Number of affected valves in HAP service for which leaks were detected as described in § 63.168(b), the percent leakers, and the total number monitored:
 - No affected valve was discovered leaking (V_L=0) during the referenced reporting period (>500 ppm);
 - $[V_L/V_T]$ * 100 = 0.00% of total valves monitored were leaking; and
 - 99 total valves (V_T=99) were monitored.
- 2. Number of valves for which leaks were not repaired per § 63.168(f), identifying the number of those that are determined non-repairable:
 - None.
- 3. Number of affected pumps in HAP service for which leaks were detected as described in § 63.163(b), the percent leakers, and the total number monitored:
 - No affected pumps were discovered leaking (P_L=0) during the required monthly monitoring (>1,000 ppm);
 - $[P_L/P_T]$ * 100 = 0.00% of total pumps monitored on a monthly basis were leaking as determined by § 63.163(d)(4); and
 - 3 affected pumps monitored 6 times for a total of 18 pumps (P_T=18) monitored.
- 4. Number of pumps for which leaks were not repaired per § 63.163(c):
 - None.
- 5. Number of affected agitators in HAP service for which leaks were detected as described in § 63.173(a) & (b):
 - The affected agitator did not leak during the referenced reporting period (>10,000 ppm);
- 6. Number of agitators for which leaks were not repaired per § 63.173(c):
 - None.

- 7. Number of affected *connectors* in HAP service for which leaks were detected as described in § 63.174(a), the percent leaking, and the total number monitored:
 - No affected connectors were measured at or above 500 ppm (C_L=0) during the referenced reporting period;
 - $[C_1/C_T]$ * 100 = 0.00% of total connectors monitored were leaking; and
 - 168 total connectors (C_T=168) were monitored.
- 8. Number of *connectors* for which leaks were not repaired per § 63.174(d), identifying the number of those that are determined non-repairable:
 - None.
- 9. Explain any delay of repairs:
 - All applicable repairs were made in a timely fashion.
- 10. Results of all monitoring within semi-annual reporting period to show compliance with § 63.165(a), pressure relief device releases:
 - None.
- 11. Notification of a change in *connector monitoring alternatives* as described in §63.174(c)(1):
 - As allowed in §63.174(c)(1)(ii), Hercules Incorporated changed connector monitoring alternatives during the July 1 December 31, 2000, semi-annual reporting period. Instead of monitoring opened or broken connectors for leaks within three (3) months of being returned to organic HAP service, Hercules chooses not to monitor connectors that have been opened or had the seal broken. It is realized that nonrepairable connectors can not be counted while complying with this alternative; therefore, in the percent leaking calculations C_{AN} will be set to zero.
- 12. Monitoring results and component summary report during the semi-annual reporting period:
 - Summary information from the referenced semi-annual reporting period is attached.

| | | | | | | | | Jan-Jun |
|--------|---------------------------|--------|-------|------|-----|-------|-------|---------|
| | | JAN | FEB | MAR | APR | MAY | JUN | Total |
| Valves | Monitored: | | | | | | | |
| | KYMENE | 49 | 0 | 1 | 0 | 0 | 49 | 99 |
| | RAD | 0 | 0 | 95 | 0 | 0 | 0 | 85 |
| | | A115.5 | | 1967 | | | 4.0 | 4.04 |
| | Total Leaking: | 49 | 0 | 86 | O | 0 | 49 | 184 |
| | Total Leaking: | 49 | 0 | 86 | 10 | 0 | 149 | 184 |
| | Leaking: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Leaking: | 0 0 | 0 0 | 0 0 | 0 | 0 | 0 0 | 0 |
| | Leaking: | 0 0 | 0 0 0 | 0 0 | 000 | 0 0 | 0 0 | 0 0 |
| | Leaking: KYMENE RAD | 0 0 | 0 0 0 | 0 0 | 0 | 0 0 0 | 0 0 0 | 0 |

| | | | | | | | | Jan-Jun |
|--------------------|------------------|-------|-------|-------|-------|-------|-------|---------|
| | | JAN | FEB | MAR | APR | MAY | JUN | Total |
| Pumps Mo | onitored: | | | | | | | |
| K | YMENE | 3 | 3 | 3 | 3 | 3 | 3 | 18 |
| R | AD | 3 | 3 | 3 | 3 | 3 | 0 | 15 |
| T | otal | 6 | 6 | 6 | 6 | 6 | 3 | 33 |
| Pumps Le = K | eaking: YMENE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | AD | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 0 | 0 | | 0 | 0 | |
| T | otal | | U | | | s | | 0 |
| Pumps Leal | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |

| | | | | | | | Jan-Jun |
|----------------------------------|-----|---------|-----|-----|-------|-------|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| Connectors Monitored: | | | | | | | |
| KYMENE | 168 | 0 | 0 | 0 | 0 | 0 | 168 |
| RAD | 440 | 0 | 0 | 0 | 0 | 0 | 440 |
| | | - 67000 | | 180 | ^ | 0 | 608 |
| Total | 608 | 0 | 0 | 0 | 91 | 0 | |
| Connectors Leaking: | 608 | | 0 | 0 | ٥١ | ol | 000 |
| Connectors Leaking: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Connectors Leaking: KYMENE RAD | 0 0 | | 0 0 | 0 0 | 0 0 | 0 0 | 0 |
| Connectors Leaking: | 0 | 0 | 0 0 | 0 | 0 0 0 | 0 0 0 | 0 |

SEMI-APYUAL REPORT MONITORING RESULTS

| | | | | | | | Jan-Jun | | |
|-------|----------------------|-----|-----|-----|-----|-----|---------|-------------|--|
| | | JAN | FEB | MAR | APR | MAY | JUN | Total | |
| rewe | d Connectors | | | | - | | | | |
| 1 | KYMENE | -1 | 0 | 0 | Ö | 0 | (0) | 1 | |
| | Total | 1 | 0 | 0 | 0 | 0 | 0 | 1 | |
| : | | | 1 | | | | | | |
| rewed | d Connectors KYMENE | 0 | 0 | 0 | o | 0 | 0 | 0 | |
| rewed | d Connectors | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | |

| | | | | | | | Jan-Jun | |
|----------------------|-----|-----|------|-----|-----|-----------|---------|--|
| | JAN | FEB | MAR | APR | MAY | JUN | Total | |
| tator Monitored: | | | | | | | | |
| KYMENE | 1 | 1 | 1 | 1 | 1 | 1 | 6 | |
| | | 1 | (10) | 1 | 1 | 21 | 6 | |
| Total | | +1 | * | | 131 | 10 | | |
| Total tator Leaking: | 0 | 0 | 0 | 0 | 0 | ō | 0 | |
| tator Leaking: | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | |

| | | | | | | | Jan-Jun |
|------------------------------------|-----|-----|-----|---------|-------|-----|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| ressure Relief Device | | | | | | | |
| KYMENE | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| RAD | 10 | 0 | 0 | 0 | 0 | 0 | 10 |
| Total | 12 | 0 | 0 | 0 | 0 | 0 | 12 |
| | 12 | | | | | | |
| ressure Relief Device | 12 | | | | | | |
| ressure Relief Device | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ressure Relief Device KYMENE RAD | 0 0 | 0 | 0 0 | 0 | 0 | 0 0 | 0 |
| ressure Relief Device | 0 | 0 | 0 0 | <u></u> | 0 0 | 0 0 | 0 |
| ressure Relief Device KYMENE RAD | 0 | 0 | 0 0 | <u></u> | 0 0 0 | 0 0 | 0 |

| r flowrate | * | 8 | - Agos | N | TC X1 - 17 | | | | | | 14,000 | | .15 | | | 11.03 |
|--|-------------------|---|--------------------------------------|-------|------------------------|----------------|-------|--|----------------|------------------|---------------|---------|---------------------------------|-------|-------------------|-------------------------|
| Identify the event as a startup, shutdown, or malfuction and provide comments or Action(s) taken during SSM. Include scrubber water flowrate (gpm) at Startup. | 4 10 4 11 8 11 40 | D.C. A.L. J. J. L. C. | Shot as 8 miller who the this it, Co | | Rolling Shall mater to | May Shit dayla | | | Mynden William | Plan Stud oberum | Less A Lander | 1 | STARTUD SLUDER "LOCATORISTED !! | | weekend struttern | 51ABLO10 WHERPOURHER 11 |
| Was There A Malfunction? | δ 8 | 7 | 7 | \ | 7 | 7 | | | 7 | 7 | 7 | 7 | 7 | | 7 | 7 |
| | Xes Xes | +, | | 1 | | | | | | \ | \ | 7 | | | | _ |
| Was Form B Completed? | Yes No | 1 | 7 | 1/2 | 7 | 7 | | | - | 7 | 7 | 7 | -7 | | 7 | 7 |
| SSM Plan Properly Followed? | Yes No | | Z | 103 | | 7 | | | | 7 | | 7 | 7 | | | 7 |
| Initials | 0 1 | | N | S | 1/2 | J. | | | 3 | A9 A | HS | | 200 | | , | 7/2 |
| Startup Time (AM or PM) | Malete Trans | 1 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | 1 0 | | | | 960 | | 11:4 | | 625 | | < | FE. 8.1 |
| Startup Date | nistra | 13 CO 161 | 13/05 | | 1/c4cs | | | | 1/16 | | Bylos | | 1/3405 | | | 2/2/65 |
| Shutdown Time (AM or PM) | | 4,57Am | | 76Con | | 4:co.4m | 38 | The state of the s | | 12:12Am | | 1:15 Am | | | 10.54 | > |
| Shutdown Date, | | 11/05 | | 16565 | 166 | 15/05 | 17/05 | 17/25 | \ | 30/26 | | 124/65 | The | 1 red | 14/05 | _ |

For a malfunction, use the startup/shutdown date and time columns to record the duration of the event.

| | | Sta | Startup, Shutdown, | Shutd | | nd N | lalfun | ction Pl | and Malfunction Plan (SSM) Checklist Form A |
|-----------|-------------------------|-----------|---------------------|----------------|----------------------|-------|------------|-------------|--|
| Shutdown | Shutdown Time (AM or | 00 | Startup Time (AM | | SSM Plan Properly | | Was Form B | Was There A | Identify the event as a startup, shutdown, or malfuction and provide comments or Action(s) taken during SSM. Include scrubber water flowrate |
| Date | E S | Date | or PM) | initials | Yes No | | Yes No | Yes No | Wes No Startup. |
| 3/1/05 | 16:3cpm | | | ابر م | 2 | | 7 | 7 | Tolen Shut cleuse. |
| * | 24+45 2/14/15 | 2/14/5 | 9:201111 0.b | 931 | 7 | | 7 | 7 | granded START WD SCHENGE OPA |
| Solph | 5 41 | | | The The | 7 | | 7 | 7 | |
| | | 2/21/05 | 13.5.8MCL | 00 00 00 | 7 | | 7 | 7 | STARTUR SCRUBBORY 13. 45 6 PM |
| 2/25/65 | 65 9:00 DW | | | αH | 7 | | 7 | 1 | Topon that shown |
| | | 2/28/05 | 1001 | 50 | <u></u> | | 1 | 1 | Startes sometien 14,21 |
| 3/5/05 | 3 30 m | | | 15.C | 7 | | 1 | 7 | Please I what decord |
| | | 3/7/8 | 3/7/25 8:00 | 45 | 7 | | 7 | , d | 1 00 |
| 03/12/65 | 5:15# | | | all | 7 | | 7 | 7 | PLANNED SHUT DOWN |
| 3/14/95 | (C) | | July 6.3 3 A | 00 | 7 | | 7 |) | 57AATUP 16.45 |
| 2/19/5 | 330 300 | | | 13 | Z | | 7. | 7 | Planned Shutelan |
| 18 | , | Spiles | 16:10 Am | R.13 | 2 | | 7 | 7 | PEALVED START UP |
| 3/11/05 | 3.8M | | | ath | / | | 7 | 7 | - De De Shutteren |
| | | POSCA | 8DS/04 STOONE | 000 | Z | | 7 | 7 | Tolan start up |
| calastis | 5,30.911 (00/25) | Contact | ** | 2.8 | 7 | | 7 | 7 | PLAN SHUT DOWN |
| , | 20/10/10 mines 24/15 | - syloyoz | 11:05 AM | R.B. | 7 | | 7 | 7 | 5 TALL WP 19.87 |
| For a mal | function, u | se the s | tartup/shu | ntdown | date and tin | me co | lumns to | record the | For a malfunction, use the startup/shutdown date and time columns to record the duration of the event. |

For a malfunction, use the startup/shutdown date and time columns to record the duration of the event.

| Startup, Shutdown Startup, Shutdown, and Malfunction Plan (SSM) Checklist Form A Date or Path Physics Startup, Shutdown or malfunction and provide Date or Path Physics Startup Times (AM or Path) Date or Path Inflates Found Physics Startup Times (AM or Path) Date or Path Inflates Found Physics Startup Times (AM or Path) Date or Path Inflates Found Physics Startup Times (AM or Path) Date or Path Inflates Found Physics Startup Times (AM or Path) Date or Path Inflates Found Physics Startup Times (AM or Path) Date or Path Inflates Found Physics Startup Times (AM or Path) Date or Path Inflates Found Physics Startup Times (AM or Path) Date or Path Inflates Found Physics Startup Physics Startup Times (AM or Path) Date or Path Inflates Times Physics Startup Physics Physics Physics Startup Physics Physics Physics Startup Physics Phys |
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For a maifunction, use the startup/shutdown date and time columns to record the duration of the event.

| and Malfunction Plan (SSM) Checklist Form A | Identify the event as a startup, shutdown, or malfuction and provide Was There A comments or Action(s) taken during SSM. Include scrubber water flowrate Malfunction? (gpm) at Startup. | | Plant shuthoun | DIANT STAMT-UP 14.85:00 | Plent shad down | DIANT STARTUP | PARMIN SHUT DOWN | Shat Ote & Las 122 | PLANT SHUT DOLLAN | Plant short up 14.80 GFM | Plannie I hut aloun | Renned stort up 110.34 CFM | Hanned that down | Plant starten, 1689 610 | | | the about the fact of the columns to record the direction of the event |
|---|---|------|----------------|-------------------------|-----------------|---------------|------------------|--------------------|-------------------|--------------------------|---------------------|----------------------------|------------------|-------------------------|---|---|--|
| Plan | le refor? ((| શ | 7 | 1 | / | 7 | 7 | 1 | 7 | 1 | 7 | 7 | 1 | 1 | | | tho di |
| ction | Was There A Malfunction? | Yes | 1 | | | | | | | | , | | _ | | | | 2000 |
| alfun | Was Form B | 8 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | 7 0000 |
| nd M | | Yes | | | | | | | | | | | | | | | 100 |
| | SSM Plan Properly Followed? | s No | | \ | | | | \ | | \ | | _ | 1 | 1 | | | the contract |
| dow | | Yes | 7 | 7 | 2 | 7 | 7 | 7 | 7 | 7 | 7 | حـ | 7 | 7 | _ | _ | - doing |
| Shut | Initials | | 190 | 03 | 11 | | A/- | 197 | 8 | 17 | 15 | | N | 1 | | | 1004 |
| Startup, Shutdown, | Startup Time (AM or PM) | | | MOLHIN | | All SPOR | | 67.3 | | 122 | _ | 8:3/4 0.00 | | 167 | | | 40/41.40 |
| Stai | Startup Date | | | 4/1/05 | | 5/6/2 | | £/(3/5 | | (0/20bs | | dolos | | 1/4/s | | | 1000 |
| | Shutdown Time (AM or PM) | | 7.3 / RM | | 1329 | | 220 | | 5:3CAM | | 4. Hom | | 12:47m | | | | |
| | Shutdown Date | | 24/05 | | chiles | | rd: 14/05 | , , | US/18/as | 1 | 19/15 | , | 1/01/15 | | | | |

For a malfunction, use the startup/shutdown date and time columns to record the duration of the event.

Polyether Polyols Production LDAR Monitoring

RAD LDAR MONITORING

In Accordance with 40 CFR 63, Subpart PPP, Subpart H, and Permit Conditions 5.B.17 and 5C4(a)(7), Hercules Incorporated is providing the following required information:

- Report required by 40 CFR 63.182(d)(2);
- Summary report of actual monitoring data; and
- Recordkeeping and reporting of Startup, Shutdown, and Malfunctions per SSM Plan.
 - Form A: SSM Plan Conformance
 - Form B: Nonconformance to SSM Plan (no nonconformance incidents)

No problems or deviations from the permit were noted during the routine monthly LDAR monitoring.

On 3/31/05, a LDAR leak on the Rx feed pump packing, (tag #5612 suction flange, tag #5609 discharge flange), was detected. The pump was shut down and the packing tightened on 3/31/05. The 1st attempt repair was successfully completed with monitoring on 4/5/05.

On 5/4/05, a LDAR leak on the Rx feed pump packing, (tag #5612 suction flange, tag #5609 discharge flange), was detected. The pump was shut down and the packing tightened on 5/4/05. The 1st attempt repair was successfully completed with monitoring on 5/9/05.

PERIODIC LEAK MONITORING REPORT

January 1, 2005 through June 30, 2005

Hercules Incorporated Hattiesburg, Mississippi

POLYRAD PROCESS AREA (AF-000)

- 1. Number of affected valves in HAP service for which leaks were detected as described in § 63.168(b), the percent leakers, and the total number monitored:
 - No affected valves were discovered leaking (V_L=0) during the referenced reporting period (>500 ppm);
 - $[V_1/V_T]$ * 100 = 0.00% of total valves monitored were leaking; and
 - 85 total valves (V_T=85) were monitored.
- 2. Number of valves for which leaks were not repaired per § 63.168(f), identifying the number of those that are determined non-repairable:
 - None.
- 3. Number of affected pumps in HAP service for which leaks were detected as described in § 63.163(b), the percent leakers, and the total number monitored:
 - No affected pumps were discovered leaking (P_L=0) during the referenced reporting period (>5,000 ppm);
 - $[P_L/P_T]$ * 100 = 0.00% of total pumps monitored were leaking; and
 - 3 affected pumps monitored 5 times for a total of 15 pumps (P_T=15 were monitored.
- 4. Number of pumps for which leaks were not repaired per § 63.163(c):
 - None.
- 5. Number of affected connectors in HAP service for which leaks were detected as described in § 63.174(a), the percent leaking, and the total number monitored:
 - No affected connectors were discovered leaking (C_L=0) during the referenced reporting period (>500 ppm);
 - $[C_L/C_T]$ * 100 = 0.00% of total connectors were leaking; and
 - 440 connectors (C_T=440) were monitored.

- 6. Number of *connectors* for which leaks were not repaired per § 63.174(d), identifying the number of those that are determined non-repairable:
 - None.
- 7. Explain any delay of repairs:
 - None.
- 8. Results of all monitoring within semi-annual reporting period to show compliance with § 63.165(a), pressure relief devices:
 - No releases during the semi-annual reporting period.
- 9. Notification of a change in *connector monitoring alternatives* as described in §63.174(c)(1):
 - As allowed in §63.174(c)(1)(ii), Hercules Incorporated changed connector monitoring alternatives during the July 1 December 31, 2000, semi-annual reporting period. Instead of monitoring opened or broken connectors for leaks within three (3) months of being returned to organic HAP service, Hercules chooses not to monitor connectors that have been opened or had the seal broken. It is realized that nonrepairable connectors can not be counted while complying with this alternative; therefore, in the percent leaking calculations C_{AN} will be set to zero.
- 10. Monitoring results and component summary report during the semi-annual reporting period:
 - Summary information from the referenced semi-annual reporting period is attached.

SEMI-ADDUAL REPORT MONITORING PESULTS

| | F2.37 F2.37 | | | | | | Jan- Ju n |
|-----------------------|-------------|-----|-----|-----|-------|-------|------------------|
| | JAN | FEB | MAR | APR | MAY | NUL | Total |
| alves Monitored: | | | | | | | |
| KYMENE | 49 | 0 | 1 | 0 | 0 | 49 | 99 |
| RAD | 0 | 0 | 95 | 0 | 0 | Ū . | 85 |
| | | 0 | 86 | 0.1 | 0 | 49 | 184 |
| Total | 49 | 0 | | | | | |
| Total Yalves Leaking: | 49 | 0 | 00 | | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| alves Leaking: | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Yalves Leaking: | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | |
| KYMENE RAD | 0.00% | 0 | 0 | | 0.008 | 0 0 0 | 0 |

| | | | | | | | Jan-Jun |
|------------------------|-------|-------|-------|-----|-------------|-------|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| Pumps Monitored: | | | | | | | |
| KYMENE | 3 | 3 | 3 | 3 | 3 | 3 | 18 |
| RAD | 3 | 3 | 3 | 3 | 3 | 0 | 15 |
| Total | 6 | 6 | 6 | 6 | 6 | 3 | 33 |
| Puma Leaking: | | | | | | | |
| Pumps Leaking: | | | | | | | |
| Pumps Leaking: KYMENE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 0 | 0 0 | 0 | 187 | 0 0 0 | 0 0 0 | 0 |
| KYMENE RAD | 0.00% | 0 0 0 | 0 0 0 | 0 | 0 0 0 | 0.00% | 0 |

| | | | | | | | Jan-Jun |
|---------------------|-----|-----|----------|-----|-----|-----|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| nnectors Monitored: | | | | | | | |
| KYMENE | 168 | 0 | 0 | 0 | 0 | 0 | 168 |
| RAD | 440 | 0 | 0 | 0 | 0 | 0 | 440 |
| | | - | 0 | 0 | 0 | 0 | 608 |
| Total | 608 | U | <u> </u> | | | | |
| nnectors Leaking: | 608 | 0] | 0 | 0 | 0 | 0 | 0 |
| nectors Leaking: | 608 | 0 | 0 | 0 | 0 | 0 | 0 |
| nnectors Leaking: | 0 | | 0 0 | 0 0 | 0 0 | 0 0 | 0 |

| | | | | | | | Jan-Jun |
|--------------------------------|-----|-----|-----|-----|-----|-----|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| crewed Connectors | | | | | | | |
| KYMENE | 1 | 0 | 0 | 0 | Ö. | | 1 |
| | | | 0 | 0 | 0 | U | 1 |
| Total | 1 | | | | | | |
| Total crewed Connectors KYMENE | 0 | 0 | 0 | 0 | 0 | C. | o |
| crewed Connectors | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | Jan-Jun |
|------------------------|-----|-----|-----|-----|-----|-----|---------|
| | JAN | FEB | MAR | APR | MAY | JUN | Total |
| itator Monitored: | | | | | | | |
| KYMENE | 1 | 1 | 1 | 1 | 1 | 1 | 6 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 6 |
| Total | i | | | | | | |
| Total gitator Leaking: | | | | | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| gitator Leaking: | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | Jan-Jun |
|---------------|--------|-------|----------|----------|-----|-----|-----|---------|
| | | JAN | FEB | MAR | APR | MAY | אטע | Total |
| essure Relief | Device | | | | | | | |
| KYMENE | | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| RAD | | 10 | 0 | 0 | 0 | 0 | 0 | 10 |
| | | | 0 | 0. | 0 | 0 | 0 | 12 |
| Total | Device | 12 | | × | | , | | |
| Total | Device | 12 | <u> </u> | <u> </u> | | 0 | | 0 |
| essure Relief | Device | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| essure Relief | Device | 0 0 | 0 0 | 0 | 0 | 0 0 | 0 | 0 |
| essure Relief | Device | 0 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 |

| | | Sta | artub. Sh | utdov | Vn. an | | | | Startub, Shutdown, and Malitunction Plan (Solm) Checklist - 1 Chin S |
|------------------------------|--|---------------------------------------|---|----------|-----------------------------------|------------|-------|--------------------------|---|
| | | ; | | | + | olyR | AD/S | PolyRAD/Surfactant Unit- | rt Unit |
| Startup or Malf. Start | Startup er Malf. Start Time (AM or | Shutdown or Malf. | Shutdown or Malf. End Time (AM or | | SSM Plan Properly Followed? | Was Form B | orm B | Was There A | Identify the event as a startup, shutdown, or malfuction and provide comments or action(s) taken during the startup, shutdown or malfunction. (See Sections 6.2, 6.3, and 6.4 of the SSM Plan.) |
| Date | | a a a a a a a a a a a a a a a a a a a | : | 1 | Yes No | Yes | å | Yes No | |
| | | | | - | | | | | never shut down or went out of control limits. |
| 11001 | 4 2:450m | | | 草 | | | | > | E. O. Serubber Was shut down to replace of probe. |
| | | | | | | | | | (Read out was below zero.) of probe was replaced fank |
| | | | | | | | | | level solmoid switch was repaired and tank to stack |
| | | | | | | | | | anketing was reinforced. |
| | | 119.14 | 5:30m | ANA PURP | 5 | | > | | E.O. Scrubber back on line within control limit. |
| | | | | | 7 | | 7 | 7 | LAST DE CONTRA |
| 4 | | | 9 | 100 | 1 | | 7 | 7 | Forum came Luken |
| è | | 12/12/ | 1/ S. A. | | 7 | | 7 | 7 | That It was 15 |
| | | | | ~4 | | | 1 | | |
| A | | 12/16/04 | 10:00 AM | 186 | 7 | | | > | The prince of the second |
| 12-15-04 | M900:11 100 | - | | £20.4 | > | | | > | At reading below zero. Surfactant Unit had not started up. |
| 12-16-12 | NA 10:06AM | | | PW4 | > | | > | > | Restorted E.O. Srubber. |
| | | 10-17 | 11:00AM | FMK | > | | | | Shut down E.D. Srubber. Surfacture Unit already down. |
| | | | | 1 | 1 | | 7 | | |

For a maffunction, use the startup/shutdown date and time columns to record the duration of the event.

| | | | | | - | OIN | のころ | Jan L | ומשו | PolykAD/Surfactant Onit |
|------------------------------|--|----------------------|---|-----------|-----------------------------------|---------------|------------|-------------|--------|--|
| Startup or Malf. Start | Startup or Malf. Start Time (AM or | Shutdown or Malf. | Shutdown or Malf. End Time (AM or | oi Sei | SSM Plan Properly Followed? | Was F Comp | Was Form B | Was There A | re A S | Identify the event as a startup, shutdown, or malfuction and provide comments or action(s) taken during the startup, Was There A shutdown or malfunction. (See Sections 6.2, 6.3, and 6.4 of Malfunction? the SSM Plan.) |
| Dake | È . | n n | | | Yes No | Yes | No | Yes | 2 | |
| | | | 2.00 | 1 | 1 | | `\ | | 1 | |
| | 4 34 2 | | | | | | | | | |
| | | Q 7 | 11.30 | 373 | | | 1 | | | M. Comment of the second of th |
| 1. 18.00 | | | | | 1 | | | | 7 | X/2.1.1.1. |
| | | * | 10 K | 38 | | | 1 | · | | |
| 0,1 | 19. 6.15 | | | | | | , | | 8. | |
| | | | | 21.1 | 1 | | * *** | Ŋ, | **** | |
| The state of | | | | | 9 | | W 2 | | 5 | |
| | | | - | | | | | | | |
| 71. 5-10 | | | | | | | | | | |
| | | 5-19-05 | 3: E | JE 9 | | | > | | > | Shutdown E.O. Scrubber |
| 5 2005 | 05. 8: 30 AM | | | Pm4 | > | | 7 | | 1 | Started up E.O. Skribber |
| | | 5-20-05 | 1:45 PM | PmA | > | | > | | > | Shut down E.O. Sowbrer |
| -25-05 | 5 10: EAM | 5 23-05 | | 2004 | > | | > | | > | Started up E.O. Stubber |
| | | 21.6 | 11.00 | 1.3 | Š. | | | | 1 | |

| | | Ste | Startup, Shutdown, | nutdo | wn, | | Mali | Innc | tion | Plan | and Malfunction Plan (SSM) Checklist Form A |
|------------------------------|--|-------------------------------------|--|---------|-----------------------------------|---|--------------------------|----------|-----------------------------|---------|---|
| | | | | | | | JyR4 | AD/S | urfa | ctan | PolyRAD/Surfactant Unit |
| Startup or Malf. Start | Startup or Malf. Start Time (AM or | Shutdown or Malf. Ending Date | Shutdown or Malf. End Time (AM or PM) | nitiais | SSM Plan Properly Followed? | | Was Form B Completed? | | Was There A Malfunction? | ition? | Identify the event as a startup, shutdown, or malfuction and provide comments or action(s) taken during the startup, shutdown or malfunction. (See Sections 6.2, 6.3, and 6.4 of the SSM Plan.) |
| 2 | | 0 | _ | | Yes | ٩ | Yes | \vdash | Yes | શ | |
| | | | | | | | | | - | | |
| | | | | | | | | Z | | X | |
| | 10 % 10 | | | | 4.5 | | | | | Α. | |
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| 16/0 | 10.AM | | | | Z | | | 7 | | 7 | SAN DOWN SOLVEBER |
| 2 | | | | | | | | | | | KASO-ED STORMETH SOME |
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| | | _ | | | | | | | | | \$ 400,00 TO BE < 1.000 MED |
| | | | | | | | | | | | 10N 7/5/05 GR |
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| | | o odt oou | pae eteb mwohinda/anthata odt oon | op aven | to and | | column | is to re | Scord t | he dura | time columns to record the duration of the event. |

Deviations from Permit Requirements

DEVIATIONS FROM PERMIT REQUIREMENTS

January 1, 2005 through June 30, 2005

Hercules Incorporated Hattiesburg, Mississippi

1. As required by 5.A.4 of the Title V Operating Permit, deviations from permit requirements must be clearly identified and reported. Deviations from permit requirements are detailed below:

On the weeks of 2/14 and 2/28, as required by 5.B.4, for scrubber (AA001), The weekly maintenance check was not properly documented and is noted in the Deviation section. The historical electronic data base for the scrubber water flow rate is available.

On the week of 2/28, as required by 5.B.4, for scrubber (AB001), The weekly operator maintenance check was not properly documented and is noted in the Deviation section. The historical electronic data base for the scrubber water flow rate is available.





January 21, 2005

7/01/04-12/31/04

Hercules Incorporated 613 West 7th Street Hattiesburg, MS 39401 (601) 545-3450 Fax: (601) 584-3226 www.herc.com

DF(

CERTIFIED MAIL # 7004 0750 0001 6606 7650

Mr. Rick Sumrall, Branch Chief Environmental Compliance & Enforcement Division Mississippi Department of Environmental Quality P.O. Box 10385 Jackson, MS 39289-0385

Hercules Incorporated
Facility No. 0800-00001
Title V Semi-Annual Report

Dear Mr. Sumrall:

As required by Title V Operating Permit Conditions 5.A.4. [ref.: APC-S-6, Section III.A.3.c.(1)], 5.C.1.(b) [40 CFR 63.182 (ref.: 40 CFR 63.528(b))], 5.C.4(a)(6), 5.C.4.(a)(7) [40CFR63.1439(e)(6) and 40CFR63.182(d)], 5.B.17, 5.C.3, 5.C.5, and 5.C.6, attached is the required summary data for the semi-annual reporting period ending December 31, 2004. Deviations from the Title V Permit requirements are identified and included in this report. The required summary data is included in the attached semi-annual report from July 1, 2004, to December 31, 2004.

Re:

On August 03, 2004, a modified Title V permit was issued. The modified permit conditions contained some changes and this semi-annual report period addresses both the old permit reporting and the modified permit reporting accordingly.

In accordance with 40CFR63.1423(b), *Storage vessel*(2), for the regulated equipment, AF005(EO), Storage vessels do not include: pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

As Responsible Official for Hercules Incorporated, I certify that based on information and belief formed after reasonable inquiry, the statements and information in the attached document are true, accurate, and complete.

If you have any questions or need further information, please contact Mr. Charles Jordan at (601) 584-3360.

Sincerely,

Walter D. Langhans

Plant Manager

Attachment(s)

Contents of Report

The Title V Operating Permit requires a semi-annual report by January 31 and July 31 of each year. This report, for the semi-annual reporting period of July 1, 2004 through December 31, 2004, contains the following sections:

- 1. Fuel Burning Equipment
- 2. Kymene Process Area
- 3. AKD Process Area
- 4. HRA Process Area
- 5. Poly-Pale Process Area
- 6. RAD Process Area
- 7. Neuphor Process Area
- 8. Kymene LDAR Monitoring
- 9. Polyether Polyols Production LDAR Monitoring
- 10. Deviations from Permit Requirements

Fuel Burning Equipment

FUEL BURNING REPORT SUMMARY

As required by 5.A.4, 5.B.18, and 5.C.3, monthly records of the type and quantity of fuel combusted are provided in this section. Only natural gas was combusted during this semi-annual reporting period.

MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS 5.A.4

GAS USAGE - MCF

2004 YEAR

JULY JUNE MAY APR MAR JAN DESCRIPTION EMISSION POINT

| NO | DESCRIPTION | JAN | F. 60 | MAR | APR | MAX | JUNE | JULY | AUG | SEPT | 0CT | NOV | DEC | Totals |
|--------------|------------------------------------|--------|--------|--------|----------|-------|-------|----------|-------|---------|-------|-------|--------|---------|
| AC001 | Poly-bale nat das Dowtherm holler | C | 0 | - | ľ | | | | | | | | | |
| | | 0 | 0 | 0 | 5 | 0 | 0 | С | C | <u></u> | C | C | • | ٦ |
| AF001 | RAD nat. gas Dowtherm boiler | 3.986 | 1777 | C | C | C | C | | | | | | 2 | |
| AC004 | LDA not not Distance Later | | | 2 | 7 | | 0 | O | 0 | 0 | 0 | 0 | 1.272 | 7.035 |
| | TITLE DAY DOWNER DOILE | 0 | 0 | 0 | 0 | C | _ | C | C | C | c | C | • | |
| 2 004 | Rosin dist not des Dowtherm boller | C | C | • | • | | | 7 | 2 | 2 | 2 | 0 | 0 | 0 |
| 1000 | | | 0 | O | 0 | 0 | 0 | 0 | 0 | C | C | 0 | C | • |
| AMOUT | No. 5 package boiler | 33.631 | 2.108 | C | C | C | C | C | • | | | 2 | > | 2 |
| AM002 | No S package boiler | | 107 | l | | 2 | 0 | 5 | D | Þ | 0 | 0 | 0 | 35,739 |
| | TO SECRETE DOILE | O | 18,425 | 13,900 | 8,300 | 3.050 | 0 | <u> </u> | C | C | C | C | C | 10.01 |
| AMOO3 | No. 7 package boiler | N/A | D/N | VIV | VIV | 0 000 | | | 5 | 7 | 2 | 2 | 2 | 43,0/3 |
| A NOOA | | | | Z/NI | V | 2,973 | 8,440 | 4,875 | 7,913 | 7.543 | 8.508 | 9 892 | 12 4ns | 85 840 |
| 00010 | Carbon Reg.nat. gas Furnace | 0 | 0 | 0 | C | _ | C | C | C | • | | | 1 | 2 |
| TSnggg | | 27 047 | Ш | | | | 1 | > | > | 0 | 5 | 0 | 0 | 0 |
| | | 10'/2 | ULC,22 | 13,800 | 8,300 | 6,023 | 8.440 | 7.975 | 7.913 | 7 543 | A SOR | COR O | 12 879 | 450 000 |
| | | | | | | | | | | | | | | |

Kymene Process Area

KYMENE PROCESS AREA REPORT SUMMARY

As required by 5.B.20, for the entire facility, calculations and records for the tons of individual hazardous air pollutant (HAP) emitted each month and the total individual HAP emissions for each consecutive 12-month period were performed. Calculations and records for the total combined HAP's emitted for each consecutive 12-month period were performed.

As required by 5.C.5, for all hazardous air pollutant (HAP) emissions, monthly individual HAP emissions and the individual and combined HAP emissions for each consecutive 12-month period are included in this section.

Kymene Reactor Scrubber (AA-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Kymene Reactor Scrubber (AA-001).

The weekly maintenance check was not documented the week of 12/6 on the maintenance log sheet. The historical electronic data base for the scrubber water flow rate during this week was retrieved and put in the log sheet records. An example is included in this section.

Adipic Acid Dust Shaker (AA-002)

As required by 5.B.14, weekly operator and mechanic maintenance checks were performed on the Adipic Acid Dust Shaker (AA-002).

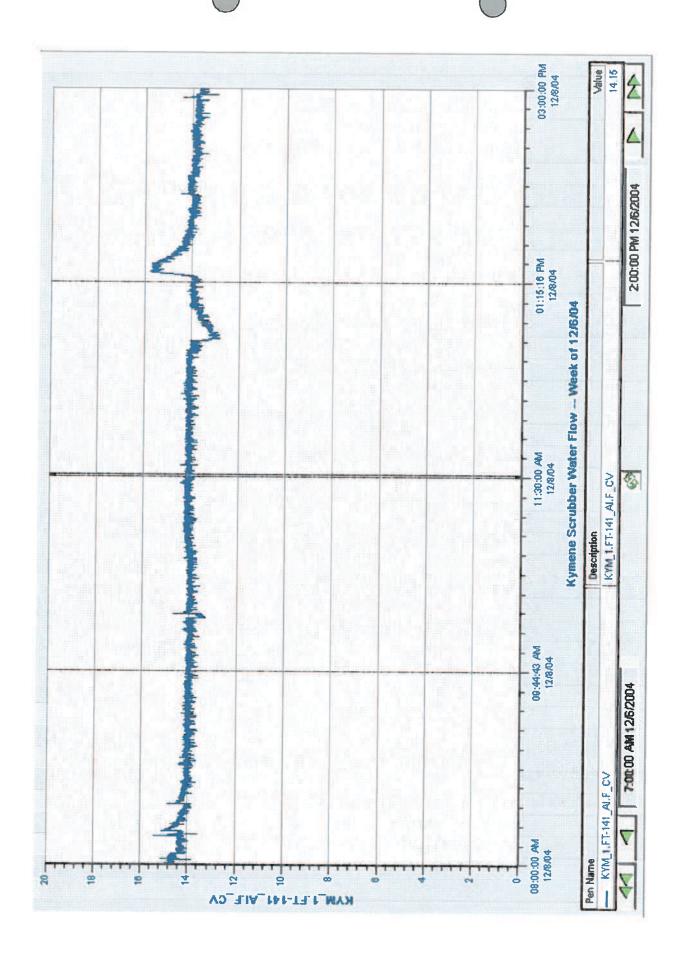
As required by 5.B.19, inspections for visible emissions (VE) were performed in accordance with 5.B.19 protocol.

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.

(MONTHLY) and (CONSECUTIVE 12-MONTH) HAP emissions, Individual and Conbined

TONS

| DATE | ETHYLENE OXIDE | | EPICHLOROHYDRIN | | TOTAL | |
|--------|----------------|----------|-----------------|----------|---------|----------|
| M/Y | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH |
| Apr-04 | 0.057 | 0.057 | 0.183 | 0.183 | 0.240 | 0.240 |
| May-04 | 0.057 | 0.114 | 0.182 | 0.365 | 0.239 | 0.479 |
| Jun-04 | 0.057 | 0.171 | 0.185 | 0.550 | 0.242 | 0.721 |
| Jul-04 | 0.057 | 0.228 | 0.186 | 0.736 | 0.243 | 0.964 |
| Aug-04 | 0.057 | 0.285 | 0.186 | 0.922 | 0.243 | 1.207 |
| Sep-04 | 0.057 | 0.342 | 0.185 | 1.107 | 0.242 | 1.449 |
| Oct-04 | 0.057 | 0.399 | 0.186 | 1.293 | 0.242 | 1.692 |
| Nov-04 | 0.587 | 0.986 | 0.183 | 1.476 | 0.770 | 2.462 |
| Dec-04 | 0.524 | 1.510 | 0.182 | 1.658 | 0.706 | 3.168 |



AKD Process Area

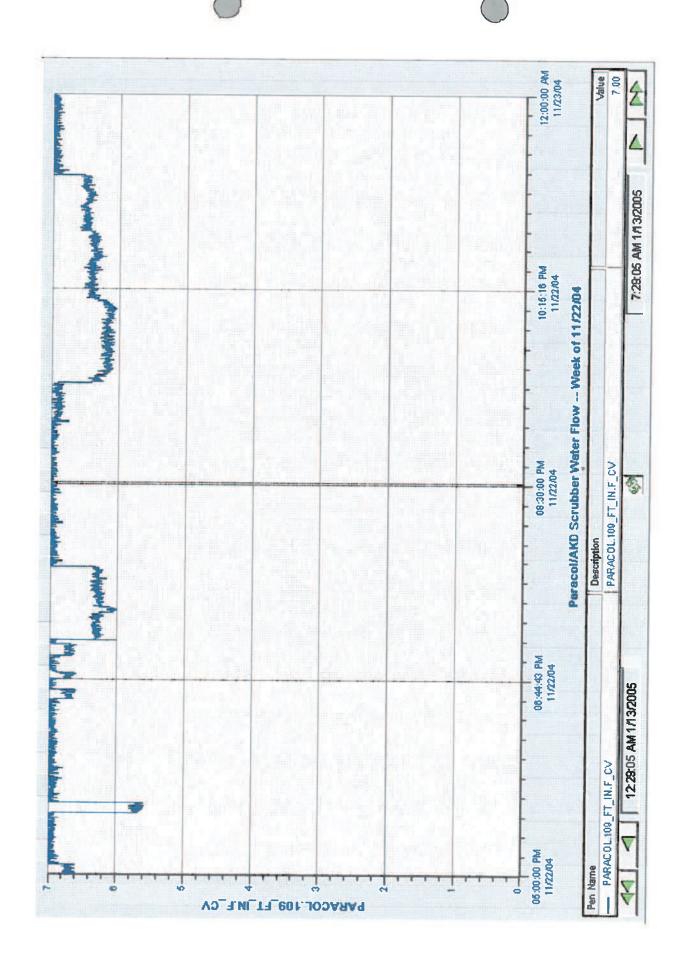
AKD PROCESS AREA REPORT SUMMARY

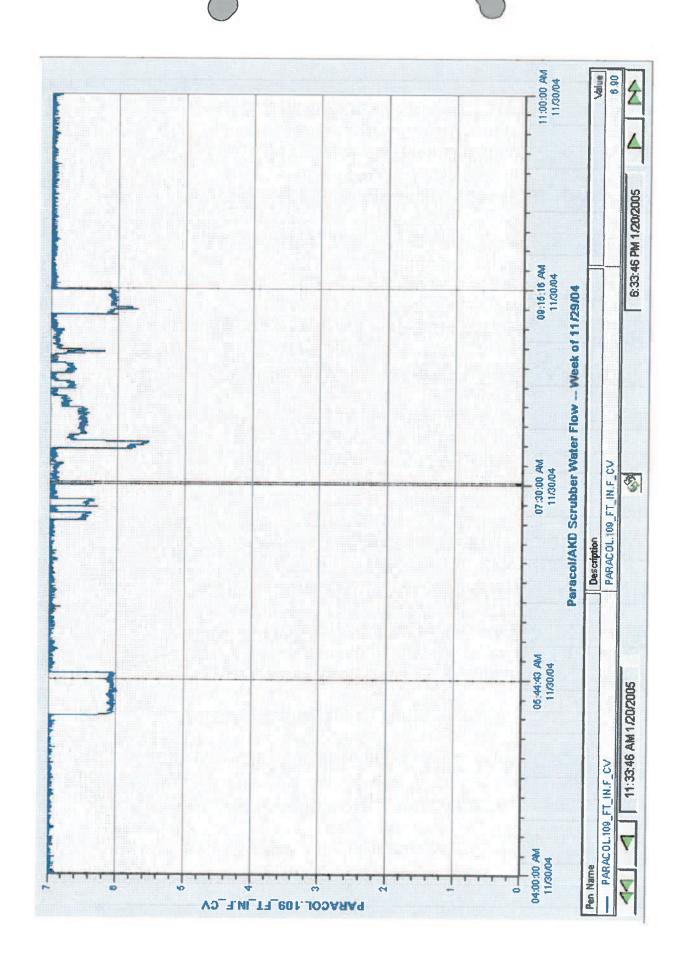
Paracol Water Scrubber (AB-001)

As required by 5.B.4, weekly operator maintenance checks were performed on the Paracol Water Scrubber (AB-001).

The weekly maintenance check was not documented the weeks of 11/22 and 11/29 on the maintenance log sheet. The historical electronic data base for the scrubber water flow rate during this week was retrieved and put in the log sheet records. An example is included in this section.

As required by 5.C.6 (and 5.A.4 data reporting), there were no abnormal visible emissions recorded during this reporting period.





HRA Process Area

HRA PROCESS AREA REPORT SUMMARY

HRA Water Scrubber (AG-003)

As required by 5 B.4, weekly operator maintenance checks were performed on the HRA Water Scrubber (AG-003). The operator visual inspections, were performed weekly (or more frequent) while the area was operating

HRA Flaking Belt Dust Collector (AG-005)

As required by 5.B.4, weekly maintenance checks were performed on the HRA Flaking Belt Dust Collector (AG-005). The operator visual inspections, were performed weekly (or more frequent) while the area was operating.

Poly-Pale Process Area

POLY-PALE PROCESS AREA REPORT SUMMARY

Poly-Pale Process Melter (AC-004)

The Melter did not operate during this reporting period.

RAD Process Area

RAD PROCESS AREA REPORT SUMMARY

As required by 5.B.20, for the entire facility, calculations and records for the tons of individual hazardous air pollutant (HAP) emitted each month and the total individual HAP emissions for each consecutive 12-month period were performed. Calculations and records for the total combined HAP's emitted for each consecutive 12-month period were performed.

As required by 5.C.5, for all hazardous air pollutant (HAP) emissions, monthly individual HAP emissions and the individual and combined HAP emissions for each consecutive 12-month period are included in this section.

Ammonia Packed Bed Scrubber (AF-002)

As required by 5.B.4, weekly maintenance checks were performed on the Ammonia Packed Bed Scrubber (AF-002). The operator visual inspections, were performed weekly (or more frequent) while the area was operating. The Scrubber did not operate during this reporting period.

EO Packed Bed Scrubber (AF-004(EO))

As required by 5.B.4, weekly maintenance checks were performed on the EO Packed Bed Scrubber (AF-004). The operator visual inspections, were performed weekly (or more frequent) while the area was operating.

On 9/23/04, an oral notification was reported as an upset that occurred on 9/22/04 and was also reported by letter to MDEQ on 9/28/04.

As required by 5.B.7, 5.B.10, and 5.B11, the scrubbing liquid flow rate and the scrubber effluent pH were monitored as required.

(MONTHLY) and (CONSECUTIVE 12-MONTH) HAP emissions, Individual and Conbined

TONS

| DATE | ETHYLENE OXIDE | | EPICHLOROHYDRIN | | TOTAL | |
|--------|----------------|----------|-----------------|----------|---------|----------|
| M/Y | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH | MONTHLY | 12-MONTH |
| Apr-04 | 0.057 | 0.057 | 0.183 | 0.183 | 0.240 | 0.240 |
| May-04 | 0.057 | 0.114 | 0.182 | 0.365 | 0.239 | 0.479 |
| Jun-04 | 0.057 | 0.171 | 0.185 | 0.550 | 0.242 | 0.721 |
| Jul-04 | 0.057 | 0.228 | 0.186 | 0.736 | 0.243 | 0.964 |
| Aug-04 | 0.057 | 0.285 | 0.186 | 0.922 | 0.243 | 1.207 |
| Sep-04 | 0.057 | 0.342 | 0.185 | 1.107 | 0 242 | 1 449 |
| Oct-04 | 0.057 | 0 399 | 0.186 | 1.293 | 0 243 | 1.692 |
| Nov-04 | 0 587 | 0.986 | 0.183 | 1 476 | 0 770 | 2.462 |
| Dec-04 | 0.524 | 1.510 | 0.182 | 1.658 | 0.708 | 3.168 |
| | | | | | | |

Neuphor Process Area

NEUPHOR PROCESS AREA REPORT SUMMARY

Adduct Reactor Scrubber

Operator and mechanic maintenance checks were performed on the Adduct Reactor Scrubber.

Kymene LDAR Monitoring

KYMENE LDAR MONITORING

In Accordance with 40 CFR 63, Subpart W, Subpart H, and Permit Conditions 5.B.1, 5.B.2, 5.B.3, and 5.C.1, Hercules Incorporated is providing the following required information:

- Report required by 40 CFR 63.182(d)(2);
- Summary report of actual monitoring data; and
- Recordkeeping and reporting of Startup, Shutdown, and Malfunctions per SSM Plan.
 - Form A: SSM Plan Conformance
 - Form B: Nonconformance to SSM Plan (no nonconformance incidents)

No problems or deviations from the permit were noted during the routine monthly LDAR monitoring.

On 11/06/04, a leak on Rx 401 pump, tag # 6183, was detected and repaired by replacing the pump seal. This seal replacement, as compaired to a LDAR "repair" attempt, does not require a 1st attempt repair(resampling) within 5 days.

On 12/09/04, a sensory emission, during routine LDAR monitoring, was detected on the Epichlorohydrin storage tank PVR devise. The brief emission, by design, had stopped upon recheck.

PERIODIC LEAK MONITORING REPORT

July 1, 2004 through December 31, 2004

Hercules Incorporated Hattiesburg, Mississippi

KYMENE PROCESS AREA (AA-000)

- 1. Number of affected valves in HAP service for which leaks were detected as described in § 63.168(b), the percent leakers, and the total number monitored:
 - No affected valve was discovered leaking (V_L=0) during the referenced reporting period (>500 ppm);
 - $[V_L/V_T]$ * 100 = 0.00% of total valves monitored were leaking; and
 - 105 total valves (V_T=105) were monitored.
- 2. Number of valves for which leaks were not repaired per § 63.168(f), identifying the number of those that are determined non-repairable:
 - None.
- 3. Number of affected pumps in HAP service for which leaks were detected as described in § 63.163(b), the percent leakers, and the total number monitored:
 - No affected pumps were discovered leaking (P_L=0) during the required monthly monitoring (>1,000 ppm);
 - $[P_L/P_T]$ * 100 = 0.00% of total pumps monitored on a monthly basis were leaking as determined by § 63.163(d)(4); and
 - 3 affected pumps monitored 6 times for a total of 18 pumps (P_T=18) monitored.
- 4. Number of pumps for which leaks were not repaired per § 63.163(c):
 - None.
- 5. Number of affected agitators in HAP service for which leaks were detected as described in § 63.173(a) & (b):
 - The affected agitator did not leak during the referenced reporting period (>10,000 ppm);
- 6. Number of agitators for which leaks were not repaired per § 63.173(c):
 - None.

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