US ERA ARCHIVE DOCUMENT



GE Silicones WV, L.L.C. Sistersville Plant 3500 South State Route 2 Friendly, WV 26146 (304) 652-8000

7099 3220 0009 5748 3327, 3334, 3341 CERTIFIED MAIL RETURN RECEIPT REQUESTED

January 30, 2004

To: Distribution Below

# PROJECT XL SEMI-ANNUAL REPORT

We are pleased to submit the enclosed semi-annual report for the GE Silicones - OSi Specialties, Sistersville Plant's XL Project. Per our agreement with the US Environmental Protection Agency and the WV Department of Environmental Protection, this report is due on January 31.

Sincerely,	
	Fred E. Dailey
	Plant Manager

#### **DISTRIBUTION**

#### **Report Recipients Under the Federal Rule**

Mr. Tad Radzinski (3WC11)
U.S. EPA, Region III
Waste & Chemicals Management Division
3WC11
1650 Arch St.
Philadelphia PA 19103-2029

Ms. Kristina Heinemann U.S. Environmental Protection Agency Office of Environmental Policy Innovation 1200 Pennsylvania Avenue, NW Mail Code 1807 Washington, D.C. 20460

Mr. John Benedict WV Department of Environmental Protection Division of Air Quality 7012 MacCorkle Ave SE Charleston WV 25304-2943

### **Copies To:**

Mr. Anthony J. Vandenberg Environmental Protection Department GE Silicones-OSi Specialties, Sistersville Plant

Ms. Suganthi Simon U.S. Environmental Protection Agency Office of Environmental Policy Innovation 1200 Pennsylvania Avenue, NW Mail Code 1807 Washington, D.C. 20460

Mr. Jonathan McClung WV Division of Environmental Protection Office of Air Quality 1558 Washington Street East Charleston WV 25311-2599

Project XL Mailing List

Sistersville Public Library Project XL File

Project XL Agreements, Notices & Reports File

Federal Correspondence (letter only)

State Correspondence (letter only)

# SEMI-ANNUAL REPORT FOR THE PERIOD JULY 1 TO DECEMBER 31, 2003

### FOR PROJECT XL AGREEMENT

# Between GE Silicones- OSi Specialties,

### U.S. Environmental Protection Agency, and

### **West Virginia Department of Environmental Protection**

### STATUS OF THE XL PROJECT

On October 17, 1997, the Final Project Agreement (FPA) for the GE Silicones-OSi Specialties (formerly Crompton Corporation), XL Project was signed by all parties. On September 15, 1998, EPA published the final rule implementing the FPA from a federal perspective. That Federal Register notice (Volume 63, Number 178, Page 49384) includes a great deal of background on this XL project. As of July 1, 2001 the West Virginia Department of Environmental Protection has now incorporated by reference that federal rule at 40 CFR 264.1080 (f) and (g) and 40 CFR 265.1080 (f) and (g).

Methanol from the capper unit was first shipped for reuse on October 8, 1997. Methanol reuse under the XL agreement officially commenced on October 27, 1997.

The Waste Minimization / Pollution Prevention Study Team was formed December 16, 1997. The WM/PP Advisory Committee was formed on December 30, 1997. The study is complete and GE (then as Witco Corporation) issued the Final Report on December 11, 1998. Since then, the Plant has continued to implement opportunities and develop new ones.

The thermal oxidizer for the capper unit vents was started up on April 1, 1998. On July 15, 1998 the performance test for the oxidizer was completed. The oxidizer passed all of the performance requirements, and the results were reported to the EPA and DEP. The oxidizer is reducing total organics in the vent stream by 99.99%, versus the 98% minimum required by the Agreement. Total emissions reductions will be reported in the annual report in July.

On July 31, 2003, GE Silicones WV L.L.C. ("GE") purchased OSi Specialities. This XL Project was transferred to GE on that date.

### **SEMI-ANNUAL REPORT REQUIREMENTS**

This semi-annual report must contain information as specified by the Federal Rule [40 CFR 264.1080(f)(2)(viii)(B)] implementing this project (as well as the Final Project

Agreement, and the corresponding sections of the State Consent Order). Beginning in 1999, on January 31 of each year, the Sistersville Plant shall submit a semiannual written report to the EPA and WVDEP, with respect to the preceding six month period ending on December 31. The following information is listed in the order prescribed in paragraphs (f)(2)(viii)(B)(1) through (f)(2)(viii)(B)(10) of this rule.

(1) Instances of operating below the minimum operating temperature established for the thermal incinerator under paragraph (f)(2)(ii)(A)(1) of this section which were not corrected within 24 hours of onset.

July 1 to December 31, 2003	None
-----------------------------	------

(2) Any periods during which the capper unit was being operated to manufacture product while the flow indicator for the vent streams to the thermal incinerator showed no flow.

January 1 to June 30, 2003	16 hours
July 1 to December 31, 2003	127 hours
Total for 2003	143 hours
Maximum Allowed by Rule	240 hours
<b>During Maintenance or Malfunction</b>	

(3) Any periods during which the capper unit was being operated to manufacture product while the flow indicator for any bypass device on the closed vent system to the thermal incinerator showed flow.

January 1 to June 30, 2003	16 hours
July 1 to December 31, 2003	127 hours
Total for 2003	143 hours
Maximum Allowed by Rule	240 hours
<b>During Maintenance or Malfunction</b>	

(4) Information required to be reported during that six month period under the preconstruction permit issued under the state permitting program approved under subpart XX of 40 CFR Part 52 Approval and Promulgation of Implementation Plans for West Virginia. [WV Office of Air Quality Regulation 13 Permit]

There is no such information to be reported under the permit.

(5) Any periods during which the capper unit was being operated to manufacture product while the condenser associated with the methanol recovery operation was not in operation.

None. The capper unit cannot operate to manufacture specification product while the condenser is not in operation. Should the condenser begin operating improperly, the operator will quickly correct the situation, so that specification product can again be made.

(6) The amount (in pounds and by month) of methanol collected by the methanol recovery operation during the six month period.

Month	Methanol Collected by the Methanol Recovery	
	Operation, Calculated, lbs	
January 2003	8,000	
February	26,000	
March	46,000	
April	21,000	
May	36,000	
June	30,000	
July	54,000	
August	37,000	
September	36,000	
October	52,000	
November	30,000	
December 2003	13,000	
Total for 2003	389,000	

The above values are calculated from the total methanol collected for the year times the portion of methanol generated (see Item 8, below) in each given month. The numbers for the first six months differ somewhat from those calculated and reported previously, because they have been calculated and apportioned over the twelve month period.

The above values are calculated from the total methanol collected for the year times the proportion of methanol generated (see Item 8, below) in each given month. (7) The amount (in pounds and by month) of collected methanol utilized for reuse, recovery, thermal recovery/treatment, or bio treatment, respectively, during the six month period.

	Collected Methanol Destination, Measured lbs		
Month	Reuse	Thermal Recovery / Treatment	Bio- treatment
October – December 1997	76,620	0	0
January – December 1998	424,254	0	0
January – December 1999	428,520	0	0
January – December 2000	440,060	0	0
January – December 2001	278,040		
January – December 2002	430,180		
January 2003	75,941	0	0
February	0	0	0
March	38,918	0	0
April	39,120	0	0
May	37,442	0	0
June	0	0	0
July	39,637	0	0
August	39,299	0	0
September	0	0	0
October	39,818	0	0
November	37,491	0	0
December 2003	40,935	0	0
[January – December 2003	389,051	0	0
Total Since Commencement of Reuse	2,466,725	0	0

We have thus met the Performance Standard that, "on an annual basis, the Sistersville Plant shall ensure that a minimum of 95% by weight of the methanol collected by the methanol recovery operation (also referred to as the "collected methanol") is utilized for reuse, recovery, or thermal recovery/treatment." [40 CFR 264.1080(f)(2)(v)(A)] In fact, 100% has been reused.

(8) The calculated amount (in pounds and by month) of methanol generated by operating the capper unit.

Month	Methanol Generated		
	by the Capper Unit,		
	Calculated, lbs		
January 2003	9,000		
February	30,000		
March	52,000		
April	24,000		
May	42,000		
June	34,000		
July	63,000		
August	43,000		
September	42,000		
October	60,000		
November	34,000		
December 2003	15,000		
Total for 2003	448,000		

As discussed in the Final Project Agreement, a portion of the methanol generated in the capper unit cannot be economically collected, but rather goes to the onsite waste water treatment unit via a steam ejector, or to the thermal oxidizer. This is the difference between the methanol generated (Item 8) and collected (Item 6).

(9) The status of the WMPP Project, including the status of developing the WMPP Study Report.

The WMPP Study Report was issued to the US EPA and WV DEP by GE (then as Witco Corporation) on December 11, 1998. The report explains in great detail all the work done during the Study, and our plans for continuing the work.

(10) Beginning in the year after the Sistersville Plant submits the final WMPP Study Report required by paragraph (f)(2)(vi)(C) of this section, and continuing in each subsequent Semiannual Report required by paragraph (f)(2)(viii)(B) of this section, the Sistersville Plant shall report on the progress of the implementation of feasible WMPP opportunities identified in the WMPP Study Report. The Semiannual Report required by paragraph (f)(2)(viii)(B) of this section shall identify any cross media impacts or impacts to worker safety or community health issues that have occurred as a result of implementation of the feasible WMPP opportunities.

A group of Pollution Prevention ("P2") representatives from the various plant departments continues to communicate results and report new P2 ideas. Work has proceeded to implement many of the recommendations of the WM/PP Study, that were documented in the Final Report. The cost savings and waste reductions are summarized below. These are the latest figures, updated as needed. Consequently, figures for each year may vary from those in previous reports. Many of the opportunities show no dollar or waste quantity reductions, generally because it is difficult or impossible to determine them, even though such reductions clearly do exist.

Year Opportunity was Implemented	Number of New P2 Opportunities Implemented	Recurring Wastes Prevented, lbs/yr	Recurring Cost Savings*, \$/yr
1997-98 Capper Operations (discussed above) Air Emissions and Sludge Reduction plus Methanol Recycle (Excludes capital savings from XL project) Actual for Calendar Year 2002	2	1,320,746	\$16,000
1997	9	283,000	\$156,000
1998	10	111,000	\$25,000
1999	34	1,436,000	\$1,089,000
2000	21	492,000	\$1,215,000
2001	17	3,419,000	\$1,274,000
2002	24	8,039,000	\$3,041,000
2003	10	458,000	\$269,000
Total	127	15,559,000	\$7,085,000

<sup>\*</sup> Note that these savings do not consider the expense of implementing them. Hence net savings will be less. It is often difficult to assign that expense. For example, a totally new process unit may cost millions of dollars to construct. If that new process produces less waste, how much of the design and construction expense ought to be assigned to the p2 benefits? In the case of a process change being done explicitly for p2 reasons, the expense is more easily determined.

The Annual Project Report, issued last July 30, lists in detail the status of pollution prevention opportunities identified during and since the Study. The next annual report will do so as well.

In addition to the figures above, implemented opportunities have reduced wastewater by over 150,000,000 gallons per year, and air emissions from natural gas savings by nearly 15,000,000 lbs per year.

No cross media impacts or impacts to worker safety or community health issues have occurred, as a result of implementing these WMPP opportunities. By far the majority of the opportunities implemented prevent the generation of waste in the first place, and so no cross-media transfers occur. Further, no safety or health issues have been identified for any of the opportunities implemented. GE carefully considers the potential for such concerns before implementing any facility or operational changes.

### **CONCLUSION**

GE's XL Project has been very successful thus far. We have met all of our requirements, produced the intended superior environmental performance, and have received the temporary deferral from certain regulations. The Project is demonstrating an alternative to previously existing regulations and yielding cost savings to the company.

Please contact Tony Vandenberg of the GE Sistersville Plant (304-652-8812) for further information.