Crompton Corporation
OSi Specialties Group
Sistersville Plant
3500 South State Route 2
Friendly, WV 26146
(304) 652-8000

7000 0600 0021 7045 5553, 5546, 5560
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January 28, 2003

To: Distribution Below

PROJECT XL

SEMI-ANNUAL REPORT

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

Sincerely,

Dennis R. Heintzman
Group Director EH&S

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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

Ms. Stephanie R. Timmermeyer
WV Division of Environmental Protection
Office of Air Quality
7012 MacCorkle Ave SE
Charleston WV 25304-2943

Copies To:

Mr. Anthony J. Vandenberg
Environmental Protection Department
Crompton Corporation, 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

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SEMI-ANNUAL REPORT
FOR THE PERIOD JULY 1 TO DECEMBER 31, 2002

FOR PROJECT XL AGREEMENT

Between
Crompton Corporation OSi Specialties Business,

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 Crompton Corporation (formerly Witco Corporation), OSi Specialties Business, 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 Crompton 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.

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, 2002	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, 2002	36 hours
July 1 to December 31, 2002	21 hours
Total for 2002	57 hours
Maximum Allowed by Rule During Maintenance or Malfunction	240 hours

(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, 2002	36 hours
July 1 to December 31, 2002	21 hours
Total for 2002	57 hours
Maximum Allowed by Rule During Maintenance or Malfunction	240 hours

(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 2002	26,610
February	45,423
March	34,043
April	49,861
May	26,666
June	26,354
July	31,401
August	20,057
September	49,214
October	47,713
November	37,902
December 2002	34,756
Total for 2002	**430,000**
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 2002	40,460	0	0
February	40,340	0	0
March	39,080	0	0
April	40,220	0	0
May	36,520	0	0
June		0	0
July	117,260	0	0
August	39,520	0	0
September	38,500	0	0
October	0	0	0
November	0	0	0
December 2002	38,180	0	0
[January – December 2002	430,000	0	0
Total Since Commencement of Reuse	**2,077,494**	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 2002	39,000
February	66,000
March	49,000
April	72,000
May	39,000
June	38,000
July	46,000
August	29,000
September	71,000
October	69,000
November	55,000
December 2002	51,000
Total for 2002	**624,000**

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 Crompton 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 2001	2	905,006	$11,000
1997	9	376,000	$228,000
1998	10	111,000	$25,000
1999	34	1,643,000	$,1,151,000
2000	21	492,000	$1,215,000
2001	18	4,105,000	$1,718,000
2002	17	2,868,200	1,214,000
Total	94	10,500,206	$5,562,000

* 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.

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. Crompton carefully considers the potential for such concerns before implementing any facility or operational changes.

CONCLUSION

Crompton'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 Crompton Sistersville Plant (304-652-8812) for further information.