

The 2006 Amendment and Renewal of the Environmental Cooperative Agreement (ECA) provided the structural framework for Cook Composites and Polymers Co. (CCP) and Wisconsin Department of Natural Resources (DNR) to prioritize and focus their resources to pursue three Vision Elements leading to Sustainability.

There are three Vision Elements that CCP and DNR jointly developed for this Agreement.

Vision 1. Utilizing the framework of its integrated management system, CCP Saukville, reduces its environmental footprint and achieves continual improvement toward operations excellence, superior environmental performance, and sustainability.

Vision 2. CCP, DNR and others collaborate to foster sustainable communities in Saukville, Ozaukee County, southeastern Wisconsin and the entire state by creating environmental improvements that also result in business and governmental efficiencies.

Vision 3. Together, CCP and DNR drive market-based environmental solutions and improvement.

Facility Background Information

The CCP Saukville facility manufactures polyester and alkyd resins used in a variety of applications including the coatings, sanitary, automotive and marine industries. The facility, located approximately 25 miles north of Milwaukee, began resin production in 1949 and employs approximately 60 full-time staff in Wisconsin.

CCP acquired the Saukville facility and other assets in December 1990 from Freeman Chemical Corporation. CCP is a joint venture of TOTAL COMPOSITES INC., which is a subsidiary of the international energy company TOTAL S.A. (TOTAL) based in Paris, France and Curran Composites Inc. of Kansas City, MO. CCP operates in the Resins Division of the Chemical Branch of TOTAL.

The CCP Saukville current production is approximately 50 million pounds of resin per year, produced in up to 3000 batches or blends. Waste streams generated at the facility consist primarily of reaction water, spent azeotrope and rinse solvents, filter cleaning residues, and miscellaneous off-specification materials. Prior to the ECA, the facility historically disposed of two of the primary waste streams (reaction water and solvent) using an onsite RCRA-permitted hazardous waste incinerator.

Vision Element 1 - Utilizing the framework of its integrated management system, CCP Saukville, reduces its environmental footprint and achieves continual improvement toward operations excellence, superior environmental performance, and sustainability.

From 2002 through 2006, CCP implemented and maintained an integrated management system, known as AIMS, that includes environmental elements based on the standards for environmental management systems issued by the International Organization for Standardization (ISO), commonly referred to as ISO 14001.

CCP uses audit software entitled SUMMIT™ that was developed in partnership by TOTAL and Det Norske Veritas (DNV) to support auditing to this system. DNV is an internationally recognized registrar for ISO 9001 and ISO 14001 standards.

AIMS integrates Quality, Safety and Environmental (QSE) management systems, as well as Responsible Care™ Codes and OSHA Process Safety Management requirements into a comprehensive management system and auditing framework.

Registration Audit Plans – ISO 14001 / AIMS / ISRS

CCP completed an ISO 14001 Registrar Audit in December 2006. CCP retained its ISO 14001 Certification for the Saukville facility and received commendation for its ongoing community involvement activities.

Other Management System Activity

CCP continues application of management systems and best practices for Product Stewardship and Transportation Management in the context of the industry initiative of [Coatings Care™](#) of the National Paint and Coatings Association (NPCA).

Recovery of Xylene with Macro Porous Polymer Extraction (MPPE)

Through its waste minimization efforts CCP ceased the incineration of nearly seven million pounds of hazardous waste annually. Every post-MPPE wastewater batch since September 30, 2001, consistently met the criteria for non-hazardous wastewater for ignitability and corrosivity. Measured flash points have been greater than 200 F (the lower limit is 140 F) and the pH has been greater than 5 to 6 (the lower limit is 2).

CCP committed to and implemented the MPPE technology and ceased the burning of hazardous waste in its incinerator by September 30, 2001. This was more than two years before it would be required to do so under regulations promulgated by the US Environmental Protection Agency (US EPA). CCP received approval from WDNR for RCRA Closure of the CCP hazardous waste incinerator in June 2002.

The MPPE system attained xylene removal efficiency averaging approximately 94% in 2006, and higher than 99% in some sampling events during operating years 2001 through 2006. CCP continues efforts for improvement of MPPE operating consistency.

Xylene Reduction, Reuse, Recycling, By-Product Synergy, and Waste-to-Energy

In 2000, the CCP Saukville facility **generated approximately 1.8 million pounds of spent xylene solvent (F003) waste**. All this xylene waste was formerly treated and destroyed by the on-site incinerator. Since the solvent was used as supplemental fuel to incinerate reaction water, the alternative of recycling the solvent was historically not considered economically attractive or important.

In 2006, CCP generated approximately 1.16 million pounds of spent xylene, all of which was recycled (760,000 lbs.), reused through a by-product synergy partnership (200,000 lbs.), or managed through beneficial reuse through waste-to-energy (200,000 lbs.). Since 2000, CCP estimates it saved approximately \$900,000 in raw material purchasing and waste disposal cost through recycling xylene.

Source reduction and waste minimization resulted in a substantial decline in xylene use as shown in Table 2. Efforts included reducing rinse volumes, segregation and reuse and recycling of rinse or azeotrope xylene, establishing a by-product synergy use for xylene with another company, and shifting production toward water-based polymer dispersions.

CCP **recycled for reuse** approximately 760,000 pounds of spent xylene rinse solvent in 2006 using off-site distillation and return.

CCP also **recycled for reuse** approximately 215,000 pounds of spent glycol generated from its scrubber system and reactor cleaning in 2006. CCP used off-site vendors for this recycling. CCP recycled 380,000 in 2005 and 550,000 pounds in 2004. Source reduction efforts have consistently and substantially reduced the amount used and recycled from 2004 to 2006.

Eco-efficiency Performance Summary (See Attachment 1)

CCP has commenced the systematic tracking and reporting of key performance indicators for eco-efficiency. These key indicators currently include:

- ✓ Hazardous waste recycled
- ✓ Water, natural gas, and electricity consumption
- ✓ Priority pollutant emissions (NO_x, SO_x, Particulate Matter, Carbon Monoxide)
- ✓ Greenhouse gas emissions (CO₂, N₂O, Methane)
- ✓ Volatile Organic Compound (VOC) Emissions
- ✓ MPPE Efficiency for Xylene Recovery

As CCP continually improves its data collection systems, additional key performance indicators will be added.

Vision Element 2 - CCP, DNR and others collaborate to foster sustainable communities in Saukville, Ozaukee County, southeastern Wisconsin and the entire state by creating environmental improvements that also result in business and governmental efficiencies.

Community Advisory Committee

As the foundation for Vision Element 2, CCP continues its activity with the Community Advisory Committee (CAC) to involve stakeholders within the community, including:

- Neighbors,
- CCP Employees,
- Area businesses,
- Local elected and appointed officials,
- Environmental groups
- School officials and parents
- University faculty
- DNR staff,
- Local Emergency Planning Committee,
- Public Works Department,
- Fire Department,
- Citizen groups,
- Neighborhood associations,
- Others in the greater Saukville area who may be affected by or interested in the CCP facility and its activities.

The CCP CAC met quarterly at CCP from January 2001 through the end of 2003. In 2004, the CAC agreed to revise its schedule and meet on a semi-annual basis (e.g. April and October), unless specific issues require more frequent meetings. In 2006, the CAC met in April, June and October. CCP also participated in a Public Information Meeting on August 16, 2006 to review the proposed 2006 ECA Renewal with the community. Meetings are open to the public, and public comment is accommodated at a set time on each agenda.

CCP maintains an updated list of the individuals participating on the Community Advisory Committee (CAC). CCP provides an updated committee membership list and other information including agendas and meeting summaries to members of the CAC, the DNR, and the Saukville Public Library.

CCP completed a **Community Survey** in 2006. CCP conducts this Community Survey *biennially*, a change from the original ECA based on community feedback. The survey is used to gauge public perception of CCP environmental performance changes. The Community Survey was conducted in 2000, 2002, 2004 and 2006. A summary of the results of the survey was completed by Steven Skavroneck, the CAC facilitator and community involvement consultant. The results of the 2006 Community Survey were shared with the CAC meeting and mailed to other Stakeholders. The summary of the survey is included as Attachment 2.

CCP revised and updated its **Community Outreach Plan** based on feedback from the 2006 Community Survey. The revised plan is included as Attachment 3.

CCP participated in a panel for the 2006 US EPA / Environmental Council of the States (ECOS) Innovation Symposium. The scope of the panel was to share business drivers for environmental improvement and sustainable development.

CCP presented at the 2006 Advanced Environmental Risk Management Strategies Forum sponsored by the University of Wisconsin Business School and the Environmental Risk Resources Association. The presentation entitled "Conflict Risk Management through Stakeholder Relationship Management" highlighted the business case for community involvement and stakeholder dialogue.

CCP continues its newsletter (**CCP EnviroNews**) that is used to regularly communicate with the advisory committee, and stakeholder residences, Saukville businesses, employees, and others who indicate an interest in CCP and its environmental performance. CCP has renamed this newsletter "**CCP Sustainable**" to reflect the triple-bottom line Sustainability vision of the renewed ECA.

CCP conducted a **Plant Tour** for the CAC and any interested members of the general public as part of the April 2006 meeting.

Vision Element 3 - Together, CCP and DNR drive market-based environmental solutions and improvement.

CCP led the commercial development of low-styrene (low HAP) composite resins and gel coat. CCP low-VOC resins (LOVOCOR™) and low-HAP (Styrene) and MACT-compliant gel coats (MC™ Series) are industry technology leaders.

CCP helped customers meet MACT requirements over one year before regulatory deadlines using pollution prevention by low-HAP product substitution, rather than pollution control. Implementing the thermal oxidizer pollution control method defined as MACT by US EPA would have resulted in an extraordinary increase in greenhouse gas and priority pollutant emissions.

Use of CCP low-HAP resin and gel coat results in an estimated reduction of over 110,000 pounds (55 tons) per year of hazardous air pollutant (HAP) emission from open molding composites and boat manufacturing in Wisconsin. The HAPs in these applications are styrene and methyl methacrylate.

CCP developed water-based acrylic-modified alkyd dispersions used in water-based coatings and wood stains. CCP has launched an advertising campaign to promote and expand the use of these low VOC dispersions. (See Attachment 4).

CCP began research and development work on traffic marking applications using its water-borne alkyd dispersion technology with a major customer in 2006. CCP developed an alkyd dispersion with low VOC and an exceptionally high molecular weight, which CCP believes has the toughness and durability required for a traffic marking application. The alkyd dispersion contains about 55-60% renewable resource and 35-40% soybean oil based on polymer solids. All formulations will be applied at less than 100 grams/liter VOC.

Initial tests in our lab showed it was effective as a replacement for the coalescing solvents used with the acrylic latex products. CCP observed encouraging results on traffic marking and striping applied on its headquarters parking lot.

CCP partnered with a major manufacturer of traffic marking materials and equipment to develop both a white and yellow marking system that was subsequently applied to a Wisconsin test deck in April 2007. The systems formulated for the Wisconsin test deck, were based on a blend of acrylic to alkyd dispersion. Formulations were adjusted to be freeze/thaw stable. CCP funded 50% of this effort with its customer and is awaiting results and feedback from Wisconsin DOT.

TABULATED RESULTS OF POLLUTION PREVENTION PROGRESS

TABLE 1 - XYLENE WASTE MINIMIZATION (Source Reduction & Recycling)

Year	Production (lbs / year)	Spent Xylene (lbs / year)	XyleneCost Savings from Recycling (\$ / year)	Solvent Incinerated (lbs / year)	Solvent Recycled (lbs / year)	Secondary Reuse By-Product Synergy (lbs/year)	Beneficial Reuse - Fuel (lbs / year)
2000	51,200,000	1,774,000	-	1,774,000	0	-	0
2001	53,100,000	1,730,500	-	1,300,000	80,500	-	350,000
2002	53,000,000	1,570,000	\$90,000	-	230,000	-	1,340,000
2003	53,700,000	1,730,000	\$145,000	-	370,000	-	1,360,000
2004	60,000,000	1,900,000	\$175,000	-	450,000	-	1,400,000
2005	52,700,000	1,670,000	\$185,000	-	510,000	-	1,160,000
2006	51,800,000	1,160,000	\$275,000	-	760,000	200,000	200,000

Xylene Cost Savings from Recycling = (lbs. Recycled x \$/lb. Purchase) - (lbs. Recycled x \$/lb. Recycled)
 + (Disposal Cost Eliminated: gal x \$/gal)

TABLE 2 - XYLENE USE (2000 through 2006)

Manufacturing Year	Production (lbs)	Xylene Used (lbs)
2000	51,200,000	4,080,000
2001	53,100,000	3,200,000
2002	53,000,000	2,940,000
2003	53,700,000	2,530,000
2004	60,000,000	2,611,000
2005	52,700,000	2,597,000
2006	51,800,000	2,639,000

Xylene numbers include recycled solvent. Reduced use also reflects the continued production shift by CCP to water-borne polymer dispersions.

ATTACHMENT LIST

Attachment 1 – 2006 Eco-Efficiency Summary

Attachment 2 – 2006 Community Survey Summary

Attachment 3 – 2006 Community Outreach Plan (Revised)

Attachment 4 – Low VOC Alkyd Dispersion Marketing Campaign