



**2015 Annual Report  
For the Cooperative Environmental Agreement  
Between 3M -Menomonie  
And the Department of Natural Resources**

**March 8, 2016**

**Prepared For:**

**Wisconsin DNR**

**Prepared By:**

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## **Introduction**

This annual performance report is submitted in part to meet the requirements of Section XIII, Baseline and Periodic Performance Evaluations, of the October 2007 Extended Agreement. Included in the report is the following information concerning the environmental performance and commitment to superior environmental performance of 3M Company – Menomonie during 2015:

- Involvement and input from the Interested Person's Group to the Agreement
- Evaluation of the EMS (Environmental Management System), areas of success and areas for improvements beyond those specified, in addition to other objectives and targets set in the previous year's report
- 2015 3P (Pollution Prevention Pays) project summaries (goal of at least five approved projects during 2015)
- Status of reductions of hazardous waste levels per pound of good output
- Status of the goal of maintaining or reducing the emissions of VOC (volatile organic compounds) per pound of good output (semi-finished and finished goods) to a level equal or less than 4.11 pounds VOC / 1000 pounds good output through 2015 (2010 baseline)
- Status of progress toward the goal of a 10 % reduction in waste per pound of good output by the end of 2015 (2010 baseline)
- Status of progress toward the goal of reducing energy usage per pound of good output by 15% by the end of 2015 (2010 baseline)
- Status of progress made by the Wildlife Team to meet annual goals established by the team to maintain the Wildlife Habitat Council (WHC) site certification
- Water usage ratio indexed to production in the facility (2010-2015)
- General assessment of the success of the Agreement in reducing time and money spent by 3M and the DNR on paperwork and other activities that may not directly benefit the environment

## **Extension of the Cooperative Environmental Agreement (CEA) beyond October 1, 2012**

In September 2012 3M asked for an extension of the CEA which was set to expire on October 1, 2012. Knowing that the Agreement expired on this date, 3M Menomonie had previously submitted a Green Tier application as a Level 2 participant in 2009. On September 26, 2012 Secretary Stepp granted an extension of the Agreement while 3M and the DNR worked on the Green Tier Participation contract and a re-issuance of the current Title V Air Operating Permit (see Appendix A). All terms and conditions of the Agreement and the air permit, including its flexibility provisions, would remain in effect during this time.

## **Regarding Commitment to Superior Environmental Performance**

As stated in Section IX of the Extended Agreement, 3M Menomonie commits to pursue superior environmental performance while achieving a balance between economic, social, and environmental impacts for its efforts. The plant's commitment to reducing its environmental footprint continues to contribute to 3M's reputation in the community, the country, and the world and demonstrates that economic progress and environmental improvement can go hand-in-hand. The Environmental Targets 2015 (ET15) program is the corporate initiative that will serve as the basis for our commitment to superior environmental

performance for the next five year period beginning in 2011 and ending in 2015. These goals were designed to drive continued reductions in volatile organic compounds (VOCs), waste and energy efficiency, and continue the emphasis on the Pollution Prevention Pays (3P) program. Specific Menomonie goals for this program by the end of 2015 (2010 baseline) were:

- **Reduce Waste per pound of good output (semi-finished and finished goods only) by 10% by the end of 2015 (2010 baseline)**

Waste, as defined in the ET15 program, includes chemical waste sent for treatment, waste sent to waste to energy (W/E) facilities for disposal, and landfill. Plant recycle and reuse of raw materials, and the offsite recycle and reuse of materials sent to waste vendors are considered “neutral” in this program and serve as an incentive for 3P projects for cost reduction and pollution prevention.

- **Sustain or reduce Volatile Air Emissions (VOC) per 1000 pound of good output < 4.11 pounds VOC/1000 pound good output each year (2010 baseline)**
- **Improve Energy Efficiency per pound of good output by 15% by the end of 2015 (2010 baseline)**
- **Sustain wildlife management plan and certification to Wildlife Habitat Council (WHC) standards**
- **Submit at least five accepted 3P (Pollution Prevention Pays) projects each year**

These goals set the basis for superior environmental performance under the Extended Agreement.

### **Regarding the Interested Persons Group**

The 3M Company–Menomonie Interested Persons Group (IPG) is composed of representatives from business, government and academia in the Menomonie area who are interested in environmental stewardship and the impact of manufacturing on local communities. Group members include the following individuals:

- Barbara Thomas, Chippewa Valley (WI) Chapter of the Sierra Club
- Mike Beaupre, Director, Indianhead Enterprises
- Keith Bergeson, Dunn County Department of Public Health
- Sonny Zentner, Wisconsin Department of Natural Resources
- Paul Sterk, Superintendent, Menomonie Wastewater Utility
- Ed Smith, City of Menomonie Planning Commission Member

This group has not met on a regular basis since 2012. Meetings will be reestablished in 2016 as everyone on the mentioned list is willing to continue as a member of the stakeholders group.

## **Regarding an Evaluation of the EMS**

A third party auditor, BSI (British Standards Institute), conducted a surveillance audit of our EMS in October 2015. No new nonconformities were identified during the assessment. Corrective actions with respect to nonconformities raised at the last assessment were reviewed and found to be effectively implemented.

Internal assessments of the EMS were conducted in ten operational and service areas of the facility during the year. These audits resulted in five corrective being issued from the ten audits conducted. All corrective actions have been addressed. Regular management review is held at least quarterly with the EMS Core team and members of the plant management team to review progress towards the plant environmental goals and targets. Quarterly updates are communicated to all plant management to share with their departments at department team meetings. An annual review of all EMS elements was held with upper management during late September 2015.

A self –assessment audit called GEMSA (Global Environmental Management Self-Assessment) that reviews environmental regulatory and other requirements to which 3M subscribes was reviewed and approved by plant management in July 2015. Overall score was 98.7 %. Two regulatory audits were conducted in 2015 by the USEPA and Wisconsin DNR. In February a hazardous waste inspection was conducted by a USEPA Region V representative. In August the Wisconsin DNR conducted a full air compliance evaluation (FCE) of our Title V air permit.

The 2015 Environmental Targets and Objectives and the EMP (Environmental Management Program) to achieve these objectives are attached in Appendix B.

## **Regarding a Summary of 2015 Approved 3P (Pollution Prevention Pays) Projects**

A standing EMS goal for the facility is to generate at least 5 approved 3P projects each year. In 2015 there were eleven approved projects submitted that:

- Prevented the potential of 1032 tons of pollution
- Saved 5500 KWH of energy
- Reduced GHG Emissions by 1488 metric tons of CO<sub>2</sub> equivalent
- Saved \$ 2,085,000 in first year savings

A summary of these projects is shown in Table 1:

**Table 1: 3P (Pollution Prevention Pays) Project Summary**

	<b>Project Description</b>	<b>Pollution Prevented/Energy Saved</b>	<b>\$ Saved (first year)</b>
Zephyr process: Material Reclaim	Reusing 10% of processed material offset purchasing 67,800 pounds of resin pellets per year	Avoidance of purchasing 31 tons of new material	\$ 63,000
Personal Care Recloseable Fastener Regrind Optimization	Off spec output jumbos are recycled back into the line to improve material utilization by increased level of regrinding and reuse in the process.	456 tons diverted from recycling and avoided purchasing new raw materials; 989 Metric Tons CO2-e avoided	\$ 521,000
Personal Care Recloseable Fastener HV Series Hook	This project developed a new product family with comparable performance with reduction of 40% of the raw materials needed to make the product.	Avoided purchasing 154 tons of new raw materials; 334 Metric Tons CO2-e emissions prevented	\$ 335,000
Personal Care Recloseable Fastener Weed Reclaim	Excessive cross web uniformity variation necessitated that the edge trim was no longer used in the process but sent to an outside recycler. A team was formed to identify key variables that contributed to the variability so that the trim could be recycled into the extruder	74 tons of weed trim reused into the process 161 Metric Tons CO2-e emissions prevented	\$140,000
Klimp Crate Elimination Project	Replace wooden shipping crates for finished product with corrugated packaging. The packaging does not have to be disposed at the customer and the corrugated packaging can be recycled	291 tons of wood material that does not to be disposed	\$ 460,000 in raw material savings from packaging costs. Disposal cost savings at the customer of \$ 218,000

	<b>Project Description</b>	<b>Pollution Prevented/Energy Saved</b>	<b>\$ Saved (first year)</b>
VII Recycle Program	The VII Recycle program reuses packaging and cores. This program initiated the reusing of the D-Film in the process for more cycles thus extending its reuse and avoiding purchasing new raw materials as frequently.	Avoided purchasing 3 tons of new raw material	\$ 147,000
Thin BEF (TBEF2-GT) Jumbo Optimization	Increase roll size to reduce jumbo core / packaging usage and subsequent disposal of the packaging by half.	Avoided purchasing 3.6 tons of new raw material/packaging	\$ 24,000
SBR - KRST Skin Care Product - Liner and Backing Waste Reduction	A procedure was modified to allow for splicing of liner jumbos to eliminate liner that was being scrapped. Process improvements to remove “nibs” have resulted in backing materials being processed instead of being scrapped.	Avoided purchasing 10 tons of new raw material and reduced disposal costs of scrapped material	\$ 41,000
LCF Base Block Start Up	3M Japan has a large amount of startup waste when they set up their process. The material used for setting up the process does not need to be of exceptional quality. Menomonie now sends them our initial startup waste plus any other waste. 3M Japan uses this material for setting up and do not use good material. Menomonie saves on scrap costs, Japan saves on new material costs	Avoided purchasing 4 tons of new raw material and reduced disposal costs of scrapped material at Menomonie	\$ 114,000
SF&C LED Tower lighting project	Replace existing halogen lights with LED light fixtures on 22 towers. LED lights use 60 % less energy and provide better work lighting/lumen	5500 KWH saved 4 Metric Tons CO2-e emissions prevented	\$ 4,000

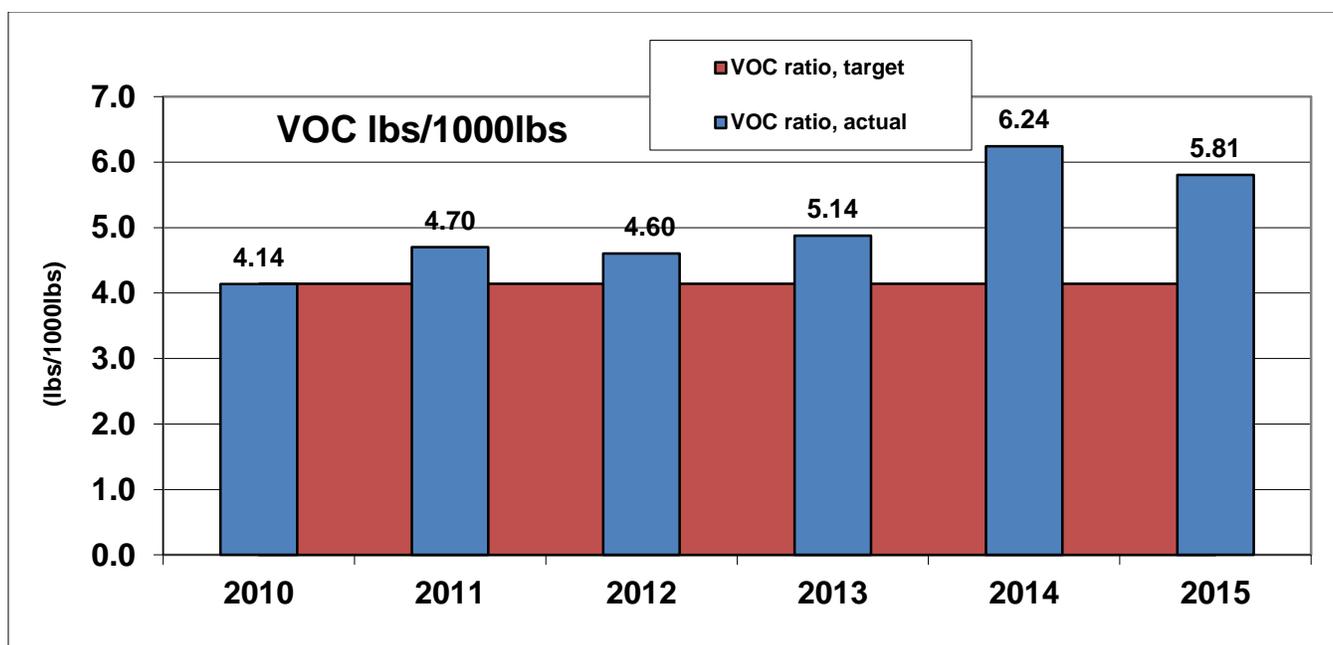
	Project Description	Pollution Prevented/Energy Saved	\$ Saved (first year)
Reuse C5 Tape Log Roll End Plugs	End plugs are reused from a customer by shipping them back to 3M Menomonie. Raw material and landfill costs are avoided by not having to buy new end plugs and the customer avoids landfill costs by disposing of the end plugs at their facility.	Avoiding purchasing 5 tons of new end plugs and disposal costs of used end plugs	\$ 18,000

## Regarding Status of the Goal of Maintaining or Reducing VOC Emissions

### Results:

Actual VOC emissions decreased 17,000 lbs. or 6% in 2015 compared to 2014. The actual ratio from the goal of 4.11 pounds VOC/ 1000 pounds good output decreased in 2015 to a final result of 5.81 pounds for the five year goal. The ratio decreased slightly from the previous year. A VOC reduction project to convert to solventless tape coatings began in 2015. The ultimate goal is to reformulate solvent based formulations to water based formulations. This is in alignment with the corporate policy to reduce VOC emissions from a single uncontrolled source that emits over 100 tons of VOC emissions. In 2015 the C5 Tape line released 109 tons of emissions. The complete reformulation of two high volume tapes that this line runs should reduce emissions by at least 50 tons. Results of this goal are shown in Figure 1 and Table 2. Actual emissions by area (2010-2015) are shown in Figure 2.

**Figure 1: VOC lb./1000 lb. Good Output**



**Table 2: VOC/1000 lb. Good Output**

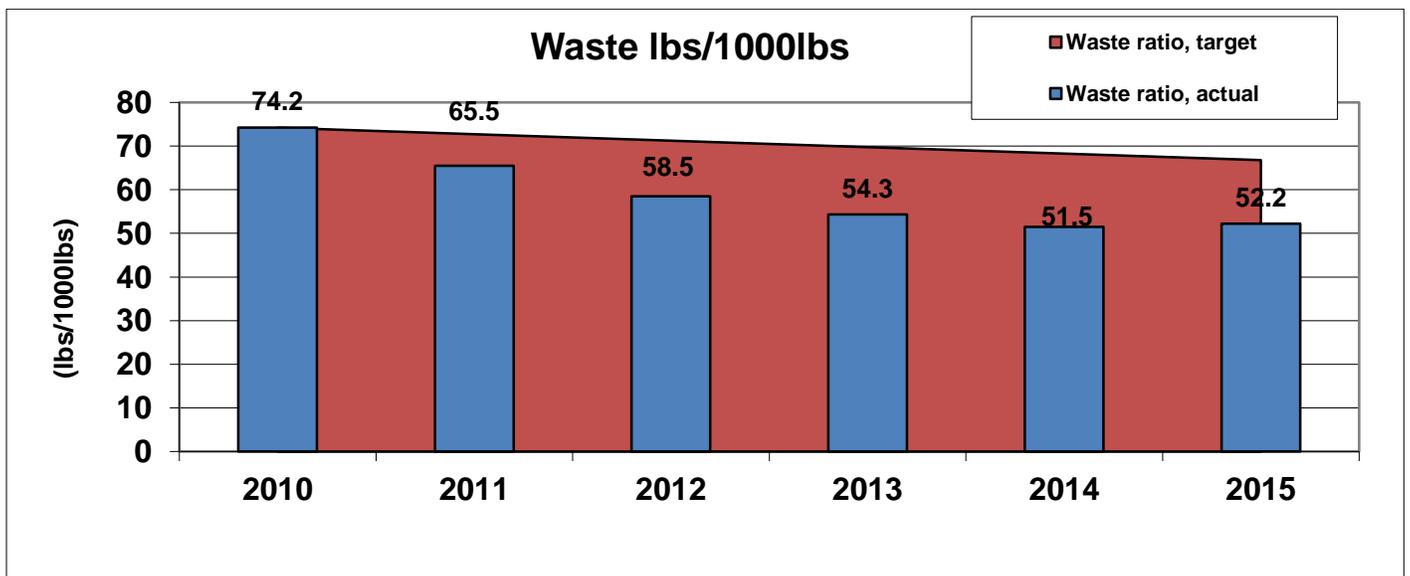
Metric	Baseline Year	Baseline	2010	2011	2012	2013	2014	2015
Total good output (1000 lbs.)			40,496	39,766	47,014	51,551	49,132	49,869
VOC (1000 lbs.)	2010	168	168	187	216	251	307	290
VOC ratio, actual (lbs./1000 lbs.)		4.14	4.14	4.70	4.60	4.88	6.24	5.81
VOC ratio, target (lbs./1000 lbs.)		4.14	4.14	4.14	4.14	4.14	4.14	4.14

**Status of Progress toward Reduction in Waste per Pound of Good Output**

**Results:**

The actual ratio for 2015 was 52.2 pounds waste/ 1000 pounds good output. This was a decrease of 44% from the baseline 2010 levels. There was a concerted effort to identify waste streams that were being sent for W/E (waste to energy) treatment to recycle, thus reducing our waste ratio. Another impact on the waste reduction ratio has been the recycling of the hot melt adhesive from two areas of the plant : C5 Tape and Personal Care Division. Results of this goal are shown in Figure 3 and Table 3. As shown in Figure 4, about 74% of the non-product output produced in 2015 was either recycled or reused. Refer to Figure 5 showing the raw material utilization by waste type for the period 2010-2015. Approximately 82 % of our raw materials went into a finished or semi-finished product in 2015.

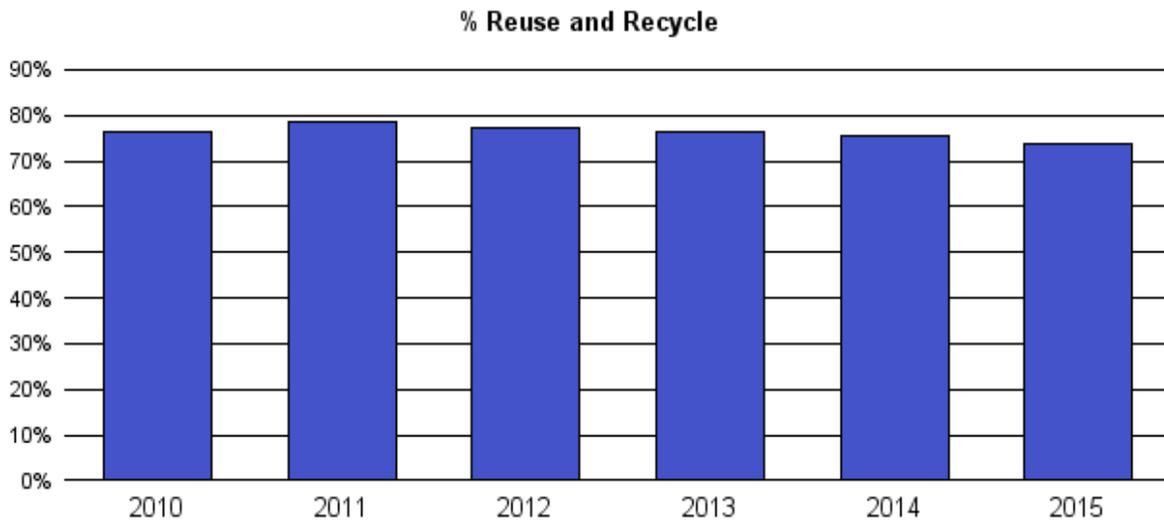
**Figure 2: Waste lbs. / 1000 lb. Good Output**



**Table 3: Waste / 1000 lb. Good Output**

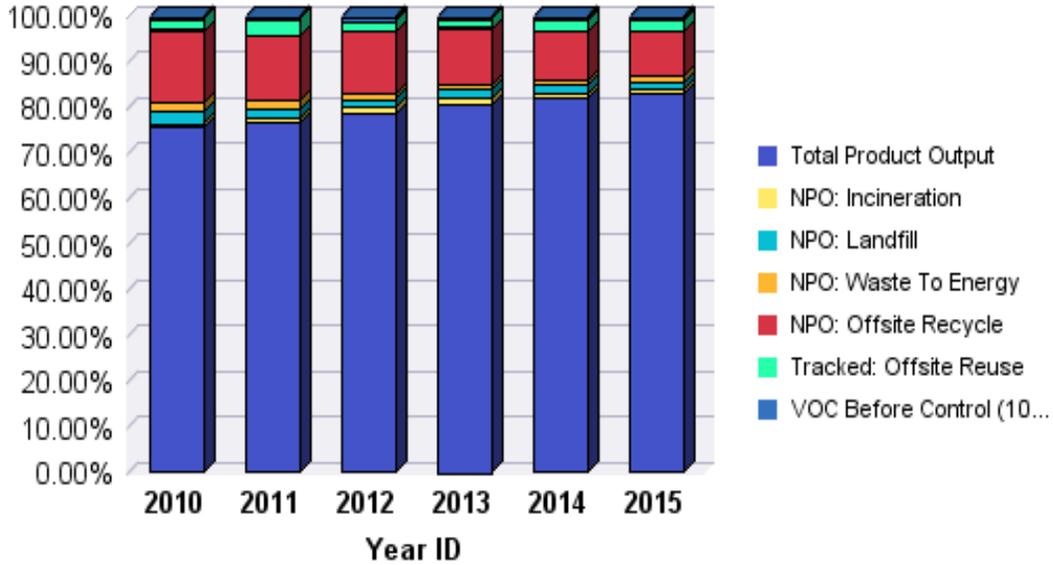
Metric	Baseline Year	Goal (%)	Baseline	2010	2011	2012	2013	2014	2015
Total good output (1000 lbs.)				40,496	39,766	47,014	51,551	49,132	49,869
Waste (1000 lbs.)	2010	10	3,005	3,005	2,603	2,749	2,800	2,530	2,602
Waste ratio, actual (lbs./1000 lbs.)			74.20	74.2	65.5	58.5	54.3	51.5	52.2
Waste ratio, target (lbs./1000 lbs.)			74.20	74.2	72.7	71.2	69.7	68.3	66.8

**Figure 3: Percent Recycle & Reuse**



Metric	2010	2011	2012	2013	2014	2015
% Reuse and Recycle	76.5%	78.8%	77.5%	76.4%	75.5%	73.7%

**Figure 4: Waste Output by Type (2010-2015)**



**Table 4: Raw Material Utilization**

Metric	2010	2011	2012	2013	2014	2015
<b>RM Utilization %</b>	<b>75.8%</b>	<b>76.6%</b>	<b>78.7%</b>	<b>80.9%</b>	<b>82.0%</b>	<b>82.9%</b>
Total Product Output	40,496	39,766	47,014	51,551	49,132	49,869
NPO: Incineration	507	580	821	804	634	731
NPO: Landfill	1,438	1,063	1,179	1,356	1,187	1,014
NPO: Waste To Energy	1,060	961	749	640	710	857
NPO: Offsite Recycle	8,384	7,364	8,141	7,783	6,476	5,881
Tracked: Offsite Reuse	1,405	1,914	1,325	1,269	1,338	1,400
VOC Before Control (1000 lbs.)	168	235	509	298	428	380

**Status of Progress toward the Goal of Reducing Energy Usage per Pound of Good Output**

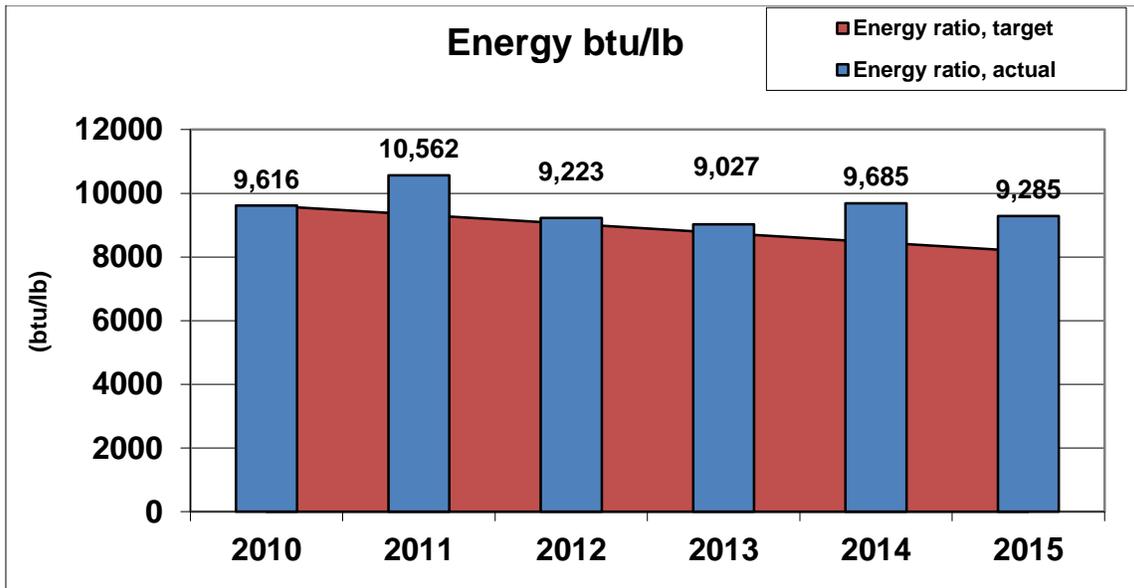
**Results:**

The energy usage ratio decreased over the previous year to 9,285 Btus/ pound good output vs. a 2015 goal of 8,174. However the final goal of achieving a 15% ratio reduction fell short. The actual reduction over the five year program was only 3.45 %. A few small utility improvement projects were delivered during the year:

- Replaced existing halogen lights with LED light fixtures on 22 towers. LED lights use 60 % less energy and provide better work lighting/lumen. 5500 KWH were saved and 4 Metric Tons CO2-e emissions were prevented in the first year of implementation. This was also a 3P project for energy savings.
- Added sheet metal ducts to pull combustion air from ceiling of boiler rooms where air temperature is roughly 10F to 20F degrees warmer saved an estimated \$2500 annually in fuel savings

Refer to Figure 5 and Table 5 to review the energy usage results for 2015.

**Figure 5: Energy Use/ Lb. Good Output**



**Table 5: Energy Use/Lb. Good Output**

Metric	Baseline Year	Goal (%)	Baseline	2010	2011	2012	2013	2014	2015
Total good output (1000 lbs.)				40,496	39,766	47,014	51,551	49,132	49,869
Energy Usage (mmbtu)	2010	15	389,432	389,432	420,011	433,594	465,334	475,839	463,021
Energy ratio, actual (btu/lb.)			9,616	9,616	10,562	9,223	9,027	9,685	9,285
Energy ratio, target (btu/lb.)			9,616	9,616	9,328	9,039	8,751	8,462	8,174

**Status of Progress Made by the Wildlife Team**

**Results:**

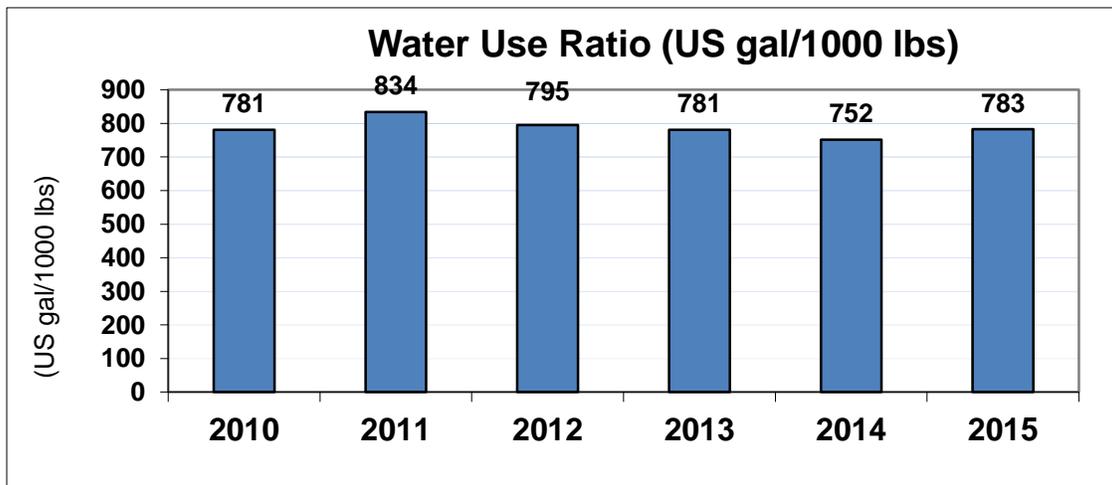
For the tenth straight year the team conducted nest box monitoring for bluebirds and wood ducks. The blue bird project was again quite successful with many confirmed bluebirds and tree swallows raised from the 19 nest boxes. For the eight straight year the plant provided funding for the Menomonie Public Schools for their annual Earth day activities and provided volunteers for the event. The wildlife team undertook various other projects during the year including a birdwatch activity, planning and building two bat houses, continued study and

maintenance of the prairie restoration areas. For the first time in over 40 years the plant farm lease was changed from row crops (corn and beans) to hay crops. This change will improve soil health, provide habitat, decrease water and wind erosion, and indirectly reduce phosphorus run off into the storm water system and the red Clear River watershed, an impaired water.

### Regarding Actual Water Usage Ratio

Although water usage is not part of the Agreement environmental commitments, water usage is tracked as part of the overall corporate ET15 reporting. Water usage, although essential and important to our environmental impact, is not a significant resource consumed in the facility. The majority of the water used by the plant is for makeup water evaporated by the plant chilled water cooling towers. Over the five year period there was only a slight increase in the water use ratio (baseline 2010). Refer to Figure 7 for water use ratio in gallons for every 1,000 pounds of good output in 2010 -2015.

**Figure 6: Plant Water Use Ratio**



## Regarding Actual Waste Reductions

A summary of 2014/2015 3M-Menomonie actual wastes and air emissions are shown in Table 6:

**Table 6: 2014/2015 Waste & Air Emissions**  
(Lb.)

Type of Waste	2014	2015	% Change	Comment
Regulated Hazardous Waste	462,347	668,707	+ 45 %	Increased waste water volumes from the new vertical plating tanks account for most of the increased volume
Non-regulated chemical waste	171,653	62,533	- 64 %	Several waste streams were reclassified to hazardous that accounts for the decrease in nonhazardous chemical waste
Landfill waste	1,186,600	1,113,920	- 6 %	A slight decrease in total landfill waste in 2015.
3M waste to energy	709,600	857,150	+ 21%	An increase in 2015 as some waste streams were required to be diverted to a more secure disposal location based on audits and heightened security of 3M proprietary films. Also most factory experimental materials are disposed by this method.
VOC emissions	306,560	289,140	- 6 %	A slight decrease in overall emissions compared to 2014. VOC content in tapes produced by C5 Tape and larger volumes of solvent based tapes were still a factor in the majority of the emissions. Ceramic Fiber lines were not fully loaded most of the year.
Reportable TRI (toxic release inventory) chemicals releases	156,290 (RY2013)	201,800 (RY2014)	+ 29 %	Offsite releases of toluene and Dimethylformamide account for these releases with the bulk of the releases being toluene air emissions from C5 Tape

## **Regarding Operational Flexibility:**

There were several exempt processes and modifications that were added during 2015. A flexible permit notification was submitted to Sonny Zentner (WDNR) on October 14, 2015 for modifications to one of the optical film coating lines (MRC9 Dual Side Coating).

## **Regarding Additional Time Requirements for Fulfilling this Agreement include:**

<u>Requirements Added:</u>	<u>Additional Time</u>
Compiling this Performance Report	30 hours/year

## **Regarding Overall Assessment of the Success of the Agreement:**

3M Menomonie regards the operational flexibility provided in this Agreement to be a business advantage. The Agreement showcases the business advantage with the ability to proceed with pre-approved projects such as the project on one of the optical film coaters mentioned above and the flexibility to expand product manufacturing capability in such a short time frame.

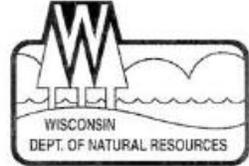
Questions and requests for additional information should be directed to Michael Wendt, EHS Department, at the address below:

3M Company – Menomonie Plant  
1425 Stokke Parkway  
Menomonie, WI 54751  
Phone: 715/235-5541  
E-mail: [mrwendt@mmm.com](mailto:mrwendt@mmm.com)

## Appendix A: Extension of CEA

**State of Wisconsin**  
DEPARTMENT OF NATURAL RESOURCES  
101 S. Webster Street  
Box 7921  
Madison WI 53707-7921

**Scott Walker, Governor**  
**Cathy Stepp, Secretary**  
Telephone 608-266-2621  
Toll Free 1-888-936-7463  
TTY Access via relay - 711



September 26, 2012

Mr. Mark Manninen  
3M Environmental, Health and Safety Operations  
P.O. Box 33331  
St. Paul MN 53133-3331

Subject: Environmental Cooperative Agreement

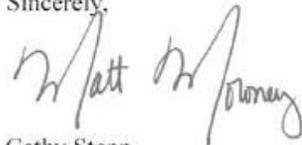
Dear Mr. Manninen:

Thank you for your letter requesting our continued operation under the terms of the flexible permit created for the Environmental Cooperative Agreement. We are mutually agreed that we will continue with the terms of that permit and we will continue to use the flexibility afforded in the Cooperative Agreement to continue our existing working relationship until such time as the Tier 2 contract and accompanying permit between 3M and the Wisconsin Department of Natural Resources is signed.

The Department places high value on our working relationship that has developed over the last 10 years. We are eager to get the Tier 2 contract in place and we will be working with you and with other 3M staff to complete that work once we have figured out the best approach based on the work that we are doing with the 3M Prairie du Chien permit and contract. Once we have worked through the USEPA issues, I would expect that we would proceed quickly with the permit drafting, contract development, public notice and ultimately to the signing of the participation contract.

Please do not hesitate to contact me if there is more that we can do, not only with Green Tier but also with needs to grow your business units here in Wisconsin. Please feel free to also contact Mark McDermid (608.267.3125 or mark.mcdermid@wisconsin.gov) if there is anything that we can do. I very much look forward to seeing you again when we celebrate 3M's new participation contract.

Sincerely,



  
Cathy Stepp  
Secretary

**Appendix B: 2015 Target & Objectives  
2015 EMP**

<b>Aspect</b>	<b>Objective(s)</b>	<b>Target(s)</b>	<b>Results/Progress</b>
Waste from raw materials and processes	Reduce waste ratio by 20% from 2010 baseline by the end of 2015	Reduce waste (chemical, landfill, waste to energy) per pound of good output (finished & semi-finished goods) to 66.8 #/ 1000 # output by end of 2015	Q1 2015: 37.8 #/ 1000 # good output Q2 2015: 59.5 #/ 1000 # good output Q3 2015: 41.6 #/ 1000 # good output Q4 2015: 72.0 #/ 1000 # good output 2015 Final : 52.2 #/ 1000 # good output
VOC emissions	Sustain the ratio of VOCs/ pound of good output to 4.11 #/1000 # good output by the end of 2015 (2010 baseline)	Improve ratio down to 4.11 by the end of 2015	Q1 2015: 6.44 # VOC/ 1000# good output Q2 2015: 6.46 # VOC/ 1000# good output Q3 2015: 5.02 # VOC/ 1000 # good output Q4 2015: 5.24 # VOC/ 1000 # good output 2015 Final: 5.8 # VOC/ 1000# good output
Energy usage	Reduce energy usage per pound of good output by 15% by the end of 2015 (2010 baseline)	Reduce energy use per pound of good output to 8174 BTU/ # output by end of 2015	Q1 2015: 9,853 BTU/# good output Q2 2015: 8,770 BTU/# good output Q3 2015: 8,433 BTU/# good output Q4 2015: 10,069 BTU/# good output 2015 Final: 9,285 BTU/# good output
Waste and energy reduction	3P (Pollution Prevention Pays) Projects	Submit at least 5 3P (Pollution Prevention Pays) projects in 2015	Q1 2015: 1 submitted, 4 drafts Q2 2015: 4 released, 1 draft Q3 2015: 5 released, 2 drafts, 4 submitted Q4 2015: 11 released, 2 submitted, 1 draft 2015 Final: 11 released, 2 submitted, 1 draft
Legal Requirements Operational flexibility Sustainability	Renew T5 flexible Air Permit and enter as a WDNR Green Tier level 2 company by end of 2015	New operating permit and Tier 2 agreement in place by the end of 2015	See EMP (environmental management program) <ul style="list-style-type: none"> <li>• Met with WDNR on May 18 to discuss permit and specific conditions proposed for C5 Tape.</li> <li>• Discussion continues with DNR into August/Sept on how to proceed with draft permit, compliance plan, intent around NOV issuance</li> <li>• 3M 2+2 Compliance Plan implemented</li> <li>• WDNR in Madison reviewing NOV with issuance to 3M eminent (Nov 2015)</li> </ul>
Land conservation,	Sustain WHC (Wildlife Habitat	Wild life projects scheduled in	See EMP:

<p>habitat development, wildlife management, community involvement</p>	<p>Council Certification) programs through 2016 (recertification in 2016)</p>	<p>2015:</p> <ul style="list-style-type: none"> <li>• Nest box monitoring</li> <li>• Earth Day with public schools/Earth Day Fair</li> <li>• Bat houses</li> <li>• Land use (lease)</li> <li>• Prairie restoration</li> </ul>	<ul style="list-style-type: none"> <li>• Nest box monitoring on going for BB and wood ducks</li> <li>• Earth Day completed – April</li> <li>• lease for hay crops – hay and oats planted for 2015</li> <li>• 1<sup>st</sup> and 2<sup>nd</sup> crop hay harvested; oats combining in August; lease signed and returned by 5 Star Dairy</li> <li>• 2 bat houses erected spring 2015; bat monitoring discussion at July Wildlife meeting</li> <li>• Earth Day Fair for employees 2015 – internal fair was a success</li> <li>• Lunch &amp; learn Sessions for employees – Dunn County Recycling; Bee Keeping; Invasive Species, TMLIA, soil health</li> <li>• Prairie restoration survey &amp; inventory – July</li> <li>• Invasive removal of black locust trees – September - complete</li> </ul>
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## 2015 EMP

**Facility:**  
3M Menomonie

**Goal Statement:** Reduce waste ratio by 20% from 2010 baseline by the end of 2015

**Objective(s):** Reduce waste by 2% each year indexed to good output for the year 2010 – 2015 for an overall reduction of 10% by the end of 2015

**Strategy:** Reduce waste by applying source reduction, recycling, and administrative techniques

**Actions to Achieve Objectives and Target:**

- Partner with Lean Six Sigma and COPQ efforts to address intrinsic waste due to the product and process design and manufacturing
- Partner with Resource Recovery to implement/improve waste reduction programs (recycling, reuse and disposal costs)
- 3P (Pollution Prevention Pays) waste reduction or yield improvement projects
- Zero Landfill efforts – investigate cafeteria/compostable waste with Advanced Disposal
- Annealed Ceramic Fiber recycling

**Metrics:**

$$\text{Waste Target Ratio (Facility)} = \frac{\text{Treatment/Incineration + Landfill + Waste-to-Energy (not include off-site recycle)}}{\text{Good Output}}$$

<b>Facility:</b> 3M Menomonie	<b>Responsible Person(s):</b> Mike Wendt; EMS Core Team; Jay Imsande	<b>Start Date:</b> 1/1/2015
<b>Goal Statement:</b> Maintain or reduce VOC emissions indexed to good output		
<b>Objective(s):</b> Obtain the ratio of VOCs/ pound of good output to 4.11 #/1000 # good output by the end of 2015 (2010 baseline)		<b>Target:</b> Obtain a VOC ratio of 4.11 by the end of 2015
<b>Strategy:</b> Sustain or reduce VOC emissions by product mix, solvent substitutions, or improved technologies		
<b>Actions to Achieve Objectives and Target:</b> <ul style="list-style-type: none"> <li>• Partner with division laboratories via CTOC "PSA solvent reduction" project and "green chemistry" programs to understand internal targets for divisions</li> <li>• Monitor AERP status in CF5 Tape (&lt; 100 tons VOC emissions/year)</li> <li>• Convert 27 and 79 tapes to water based LAB (project 50% reduction in VOC emissions)</li> <li>• New T5 permit may invoke specific Federal/state regulations on C5 Tape itself – MACT JJJJ, NSPS Subpart RR, etc..</li> <li>• 3P Emission reduction projects</li> </ul>		
<b>Metrics:</b> <p style="text-align: center;"> Volatile Air Emissions  -----  Finished and Semi-finished Goods </p>		

<b>Facility:</b> 3M Menomonie	<b>Responsible Person(s):</b> Mike Wendt; EMS Core Team	<b>Start Date:</b> 1/1/2015
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**Goal Statement:** Submit 3P (Pollution Prevention Pays) Projects

<b>Objective(s):</b> Submit at least 5 3P (Pollution Prevention Pays) Projects each year through the end of 2015	<b>Target:</b> Submit at least 5 3P (Pollution Prevention Pays) projects in 2015
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**Strategy:** Submit 3P projects that will reduce waste, energy, GHG, or emissions

**Actions to Achieve Objectives and Target:**

**Pollution Prevention Methods**

Method	Description
Product Reformulation	• Replace a part of entire product with less or no toxic chemical(s)
Process Modification	• Alter a manufacturing process to reduce pollution (air, water, waste)
Equipment Redesign	• Redesign of equipment with new concept to reduce pollution
Quality/Yield Improvement	• Improve efficiency with reduced defects or use fewer raw materials to reduce waste
Recovery and/or Reuse	• Develop/Improve system to recover or re-use waste stream
New Product	• Develop product with environmental attribute/benefit to assist customer with reducing pollution

**Metrics:**  
Number of approved projects submitted in the current year; 1<sup>st</sup> year savings( \$), pollution prevented (tons), energy saved (MMBTU)

<b>Facility:</b> 3M Menomonie	<b>Responsible Person(s):</b> Joe Kulzer; Energy Team	<b>Start Date:</b> 1/1/2015
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<b>Goal Statement:</b> Improve energy efficiency by 15% between 2010 and 2015		
<b>Objective(s):</b> Reduce energy usage per pound of good output by 15% by the end of 2015 (2010 baseline)	<b>Target:</b> Reduce energy use per pound of good output to 8,174 BTU/ # output in 2015	
<b>Strategy:</b> reduce energy usage or increase energy efficiency of processes and equipment through conservation or improved technologies		
<b>Actions to Achieve Objectives and Target:</b> <ul style="list-style-type: none"> <li>• Develop prioritized plans for projects and spend.</li> <li>• Continue internal commitment to energy management excellence.</li> <li>• Promote energy team to identify opportunities for conservation and optimizing processes and equipment</li> <li>• 3P Energy projects</li> </ul>		
<b>Metrics:</b> <p style="text-align: center;">BTUs</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Finished and Semi-finished Goods</p>		
<b>Facility:</b> 3M Menomonie	<b>Responsible Person(s):</b> Mike Wendt, Matt Kilpo	<b>Start Date:</b> 1/1/2015
<b>Goal Statement:</b> Renew Title V air permit with Part III Operational flexibility and Enter as a WDNR Level 2 Green Tier company		

<p><b>Objective(s):</b> Renew T5 flexible Air Permit and enter as a WDNR Green Tier level 2 company by end of 2015</p>	<p><b>Target:</b> Renew T5 flexible Air Permit and enter as a WDNR Green Tier level 2 company by end of 2015</p>
<p><b>Strategy:</b> Renew Title V air permit with Part III operational flexibility and model Green Tier Level 2 Agreement similar to PDC approved permit and agreement</p>	
<p><b>Actions to Achieve Objectives and Target:</b></p> <ul style="list-style-type: none"> <li>• Permit renewal completed in March 2012</li> <li>• Continue to work with EO (Andrew Willing &amp; Matt Kilpo ) and WDNR contact (Sonny Zetner) to expedite permitting approvals</li> <li>• Submit draft agreement to WDNR similar to agreement approved for PDC plant and approved by EPA and WDNR</li> </ul>	
<p><b>Metrics:</b> Reissued Title V permit and approved level 2 Green Tier contract/agreement</p>	

<b>Facility:</b> 3M Menomonie	<b>Responsible Person(s):</b> Debra Carty, Wild at Work wildlife team	<b>Start Date:</b> 1/1/2015
<b>Goal Statement:</b> Maintain status as a Wildlife Habitat Council (WHC) certified site		
<b>Objective(s)</b> Sustain WHC programs through 2016 (recertification in 2016)	<b>Target:</b> Wild life projects scheduled in 2015: <ul style="list-style-type: none"> <li>• Nest box monitoring</li> <li>• Earth Day with public schools</li> <li>• Land use (lease)- hay lease</li> <li>• Prairie restoration</li> <li>• Bat houses</li> </ul>	
<b>Strategy:</b> Use Wild at Work wildlife team to plan and implement projects in 2015		
<b>Actions to Achieve Objectives and Target:</b> <ul style="list-style-type: none"> <li>• Nest box monitoring of wood ducks - spring box check</li> <li>• Nest box monitoring of bluebirds – weekly in summer nesting season</li> <li>• Fund and provide volunteers with Earth Day – Menomonie Middle School – April 2015</li> <li>• Earth Day fair for 3M employees – April 2015</li> <li>• Investigate and recommend lease options for 2015 for cover crops</li> <li>• Monitor/maintain prairie plantings – summer , fall 2015</li> <li>• Construct and install 2 bat houses</li> </ul>		
<b>Metrics:</b> monitor activities of Wild at Work team – see team room in Lotus Notes		