

## ATTACHMENT II

### HISTORY:

Magnesium injection molding (MAG) employs a thixotropic molding process, which combines the best of plastic injection molding processing Parameters with die-casting. This innovative environmentally friendly process produces components with attributes including superb quality, high repeatability, dimensional precision, and design flexibility.

As one of the oldest MAG operations in North America with a dedicated facility occupying over 55,000 square feet, Phillips Plastics' team of committed experts ensures customers receive the expertise and it has come to be known for the design through development of the most complex programs.

Current and past events have successfully established our commitment to ISO 14001 equivalent environmental management system. Our efforts begin by educating all employees. Using the acronym "**FACE**"; this helped align the ideas of a corporation to support the efforts of employees by, **F**ollowing laws, **A**voiding pollution, **C**ontinually improve and to have **R**espect for our environmental. We refresh our peoples basic understanding of ISO 14001 requirements on an annual basis

Magnesium Injection Molding places great emphasis on employee involvement in improvement of our environmental performance. Many of our energy projects came from our people's ideas. Energy brainstorming spreadsheets are posted in our break rooms so that everyone has a say on how we can improve our environment.

Our efforts have also reduced non-renewable resources of solid waste through measurable processes of recycling. We continue to reduce the generation of waste streams at MAG and we remain actively involved in the reduction of our dependence on energy required to operate this facility.

### OBJECTIVES / TARGETS:

Magnesium Molding currently has an ISO 14001 equivalent system under a corporate certification. Our current corporate objectives center on the following primary topics: (1) Waste Reduction, (2) Energy Reduction, (3) Involvement (4) WI Green Tier Participation. These topics are addressed with the following objectives:

TOPIC	OBJECTIVE
Waste Reduction (Landfill, Hazardous, Regulated)	Minimize pollution impact through proper waste disposal/recycling
Energy Reduction	Reduce energy consumption via energy reduction projects
Involvement	Increase overall awareness of recycling efforts and energy reduction to solicit new ideas
Wisconsin Green Tier	Evaluate and attempt to achieve Green Tier status
Metals	Seek methods to reduce magnesium rejects through CDPE efforts

## **FACILITY SUPPORTING RESULTS:**

### ***Waste Reduction:***

At MAG we continuously strive to minimize the waste going to landfill by putting a lot of effort into collecting, sorting, and recycling of our wastes. As part of our commitment to environmental stewardship and continuous improvement, we monitor magnesium scrap recycling, ensure recycling of electronic wastes (computers and related equipment), use recycled copy machine paper, and recycle printer cartridges and batteries. We also recycle all oils, anti-freeze, spent lamps, cardboard and other forms of universal wastes.

Recycling Products	YTD
Oils	1045 Gallons
Recycled Paper and Cardboard	72 yds of Cardboard and Plastic
Anti-Freeze	8533 Pounds
Magnesium	585,192 Pounds
Metal Halide fixtures	117
T-12 Light Bulbs	280
Scrap Steel	7514 Pounds

### ***Energy Reduction:***

In cooperation with Wisconsin Focus on Energy the Magnesium Injection facility has implemented or is in the process of implementing a number of energy reduction projects. Energy saving projects have included the installation of LED exit lights and the replacement of metal halide T-12 lights with energy efficient T-8 fluorescent fixtures; these new fixtures provide us much more illumination with substantially less energy consumption.

## **Magnesium Injection Molding Lighting Project – Greenhouse Gas Reduction Table**

EPA Web Page (Conversion of kWh to CO2 Reduction) <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

<b>kWh Reduction</b>	<b>398,771</b>	kWh
<b>C02 Reduction</b>	<b>310</b>	tons

**Equates to:**

<b>57</b>	Passenger cars not driven for one year
<b>35,188</b>	Gallons of gasoline consumed
<b>721</b>	Barrels of oil consumed
<b>4.1</b>	Tanker trucks filled with gasoline
<b>7949</b>	# of tree seedlings grown for 10 years
<b>71</b>	Acres of pine forest storing carbon for one ye
<b>2.2</b>	Acres of forest preserved from deforestation
<b>12917</b>	Propane cylinders used for home barbeques
<b>1.6</b>	Railcars of coal burned
<b>127</b>	Tons of waste recycled in lieu of land filled.

We also conducted a comprehensive air study of our compressed air usage and needs. This project was very inexpensive with high paybacks of close to \$21,777 in annual savings. The study allowed us to reduce our compressed air energy use, which in turn had a positive impact on the environment and added substantial savings to the bottom line.

Furthermore, to reduce our energy use, we exchanged all of our vending machines to Energy Star vending machines. This project resulted in a payback of \$605 on an annual basis. This may seem like a small value but it shows our commitment to doing anything to reduce our impact on the environment and help the bottom line. This project is also an example of a successfully implemented idea that came from employee brainstorming

***Involvement:***

We encourage our employees to participate in MAG's environmental improvement efforts through a multiple of initiatives. We also educate our employees on how to be environmentally friendly not only at work but also in their personal homes. Examples of such efforts include offering free home energy audits to our employees and distributing "60 Simple Ways to Save Money On Your Energy Bill" pamphlets to help the cost savings at each employee's home. Also, in cooperation with WI Focus on Energy, we set up an Energy Stand that provides information for all of our employees on ways to reduce their home energy bills.

Other efforts to expand the emphasis on environmental stewardship involve our annual tree & shrub seedlings give away to our employees to be planted at their homes.

<b>Year</b>	<b># of Plantings</b>
2008	<b>82</b>
2007	<b>69</b>
2006	<b>20</b>

We are also in the process of adopting a highway through the Eau Claire County “Adopt a Highway” program. This program gives us a chance to help out as a corporation and do the right thing for the environment and the community we operate in. This spring we were involved in the “Amazing Eau Claire Clean Up”. Volunteers from the company offered help to clean up Eau Claire parks.

### ***Wisconsin Green Tier:***

We are in the process of preparing an application into the Green Tier program for Phillips Plastics Magnesium Injection Molding. Achievement of Green Tier status will be an important accomplishment for MAG facility and will publicly recognize our dedication to exceptional environmental performance. We have been educating our employees about the benefits of the program for the facilities and the significance of this achievement to our people.

### ***Metals:***

Our project engineers work closely with our production team to minimize magnesium scrap through scrap reduction projects. Phillips Plastics Corporation developed CDPE (Customer Driven Pursuit to Excellence) to lean out all waste in order to have a beneficial outcome for the facility. This drive has cut down several wasteful activities and also has had a big impact on our EMS not only at Magnesium Injection Molding but throughout the corporation.

### **CONCLUSION:**

Going forward, the PPC Magnesium Injection Molding Facility will continue to achieve superior performance through continuous improvement processes that will focus our efforts of reduction of waste generation, reductions of energy use, continued exploration of new recycling options and implementing best practices for the environment, our employees, community, and customers.

For additional detail, please contact Neal Waldhart at (715)-831-3139