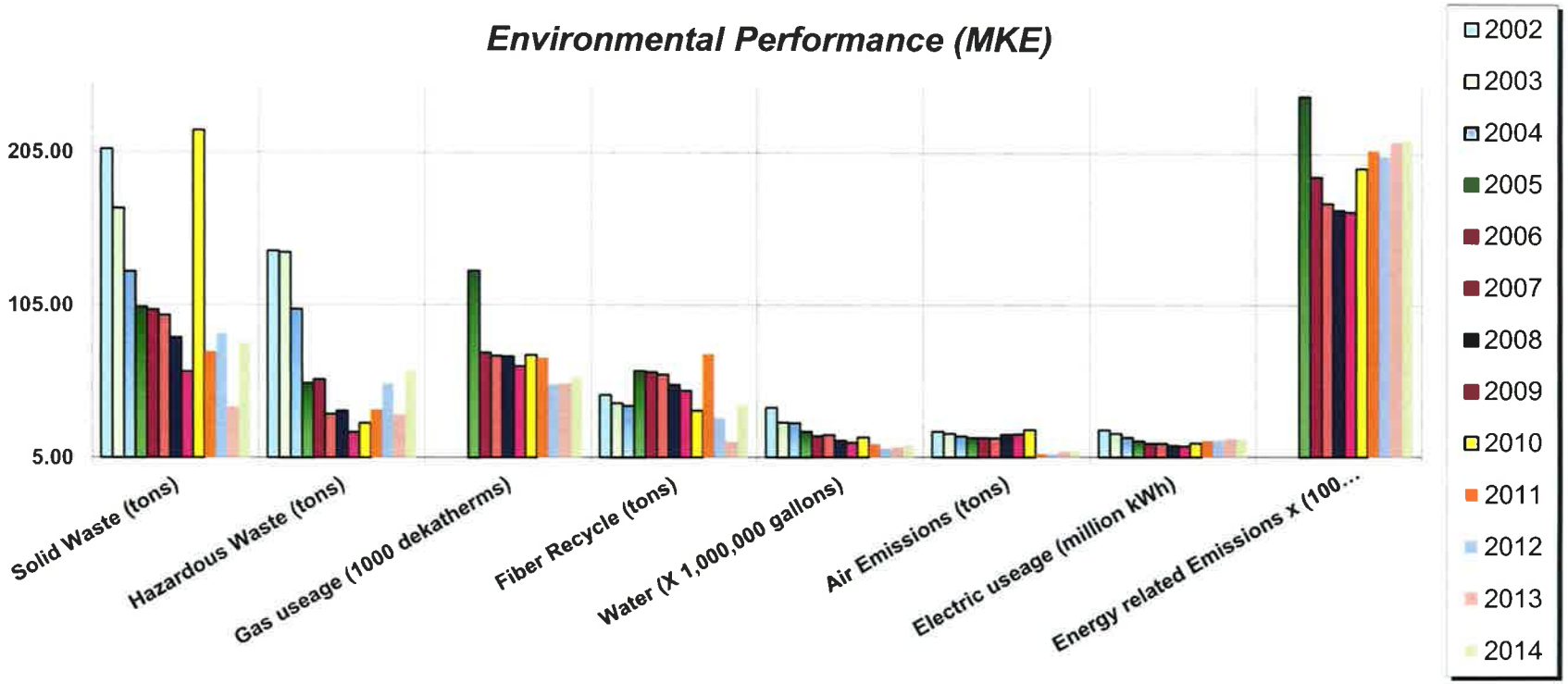
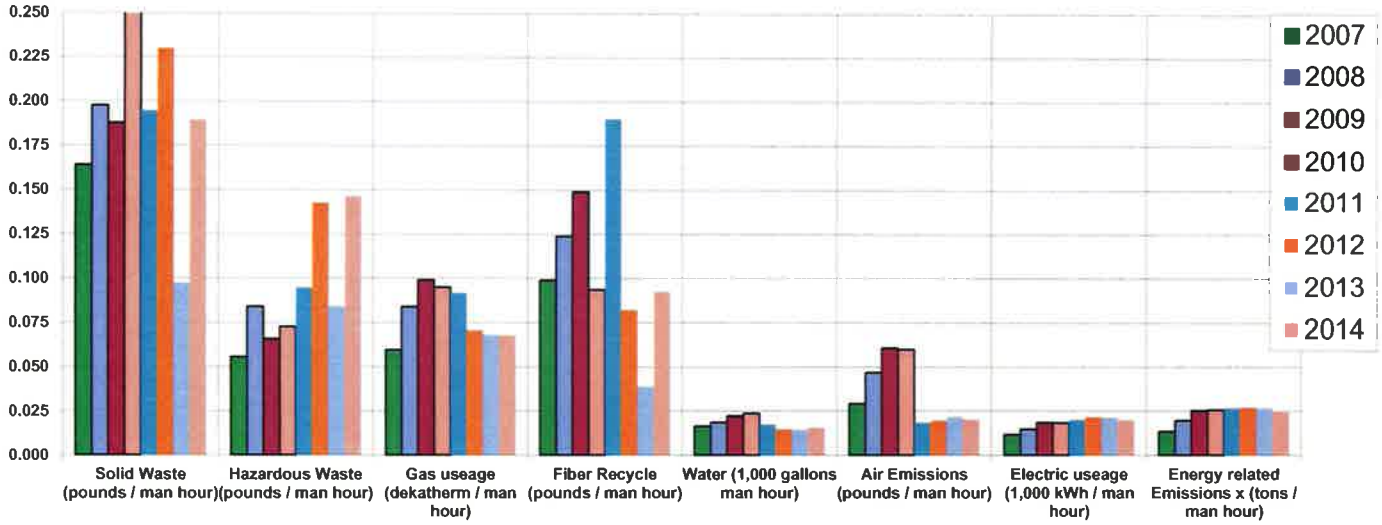
Appendix 2.0

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Solid Waste (tons)	207.26	168.69	127.39	103.90	102.00	98.54	83.87	61.44	219.82	74.74	86.61	38.5	80.99
Hazardous Waste (tons)	140.96	140.03	102.55	53.82	56.28	33.41	35.66	21.53	27.67	36.39	53.81	33.32	62.55
Gas useage (1000 dekatherms)				128.00	73.81	71.70	71.36	64.90	72.39	70.52	53.27	53.94	57.94
Fiber Recycle (tons)	45.89	40.60	38.82	61.94	61.00	59.40	52.56	48.78	35.64	73.06	31.00	15.45	39.54
Water (X 1,000,000 gallons)	37.63	27.98	27.62	21.82	18.80	19.67	15.86	14.57	18.04	13.62	11.14	11.64	13.40
Air Emissions (tons)	21.72	20.50	18.80	17.75	17.69	17.52	19.87	19.88	22.86	7.22	7.44	8.73	9.07
Electric useage (million kWh)	22.76	20.54	17.90	15.62	13.84	13.98	12.57	12.14	14.06	15.69	16.31	17.15	17.10
Energy related Emissions x (100 tons)				242.88	189.74	172.24	167.88	166.58	195.43	207.39	203.88	213.15	214.80



	2007 totals	work hours 1,201,009	2008 totals	work hours 848,820	2009 totals	work hours 654,226	2010 totals	work hours 761,294	2011 totals	work hours 766,959	2012 totals	work hours 752,236	2013 totals	work hours 789,318	2014 totals	work hours 852,944
Solid Waste (pounds / man hour)	197,093	0.164	167,740	0.198	122,880	0.188	439,640	0.577	149,480	0.195	173,220	0.230	77,000	0.098	161,980	0.190
Hazardous Waste (pounds / man hour)	66,820	0.056	71,320	0.084	43,060	0.066	55,340	0.073	72,780	0.095	107,620	0.143	66,640	0.084	125,100	0.147
Gas useage (dekatherm / man hour)	71,710	0.060	71,360	0.084	64,902	0.099	72,390	0.095	70,520	0.092	53,270	0.071	53,940	0.068	57,940	0.068
Fiber Recycle (pounds / man hour)	118,800	0.099	105,120	0.124	97,560	0.149	71,280	0.094	146,120	0.191	62,000	0.082	30,900	0.039	79,080	0.093
Water (1,000 gallons man hour)	19,670	0.016	15,860	0.019	14,570	0.022	18,040	0.024	13,620	0.018	11,140	0.015	11,641	0.015	13,399	0.016
Air Emissions (pounds / man hour)	35,040	0.029	39,740	0.047	39,760	0.061	45,720	0.060	14,440	0.019	14,880	0.020	17,460	0.022	17,460	0.020
Electric useage (1,000 kWh / man hour)	13,980	0.012	12,570	0.015	12,140	0.019	14,060	0.018	15,690	0.020	16,310	0.022	17,150	0.022	17,100	0.020
Energy related Emissions x (tons / man hour)	16,224	0.014	16,788	0.020	16,658	0.025	19,543	0.026	20,739	0.027	20,388	0.027	21,315	0.027	21,480	0.025

Environmental Performance / Work Hour (MKE)



Completed EMS OBJECTIVES & TARGETS

Completed

DEPARTMENT(S): Environmental Management System-Milw
PREPARED BY: S. Taylor
DATE: 8/26/2014

ACTIVITY	ASPECT	OBJECTIVE	TARGET	MEASURE	TIME FRAME	REPORTING
Wastewater Treatment	Batch Acid	Waste treatment improvements: Oxidize/Reduced hexavalent chrome, neutralize and remove heavy metals	<2.63 mg/l max, <1.62 mg/l avg, pH 8 - 9	lab analysis	12/1/2001- comple	T.Drews
	Batch Alkaline/Cyanide	Waste treatment improvements: Oxidize cyanide, reduce / neutralize heavy metals	<1.20 mm/l daily, <0.65 mg/l monthly	lab analysis	12/1/2001- comple	T.Drews
Cyclemaster Plater	Copper Strike/Cyanide	Eliminate copper cyanide chemistry	remove cyclemaster, outsource decorative chrome	eliminate chemistry	6/30/2003- comple	T.Drews, S. Taylor
Conv D/C Machines	Zinc Die Release	Reduce die lube overspray	Study application techniques	Not applicable	7/1/2003-complete	G. Minue
Barrel Zinc Plating Line	Cyanide and Caustic	Eliminate Zinc Cyanide chemistry	Replace w/Chloride Zinc	eliminate chemistry	7/1/2003-complete	T.Drews, S. Taylor
Die Cast and Zinc plated parts	Hexavalent Chrome	Develop hex-free process for die cast & zinc plated parts	Hexavalent Chrome elimination	419K developed	11/01/2004- comp	T. Yatso, T. Drews
Buildings and Grounds energy consumption	Electrical consumption	Install effcient lighting	1 miilion kW annual reduction	electric consumption	12/1/2004-comple	S. Taylor, J. Valenti
		Investigate use of HVLS fans	improved HVAC efficiency & comfort	observation	12/1/2004-comple	S. Taylor
Barrel Copper Cyanide plating	Copper cyanide plating	Eliminate copper cyanide chemistry	Outsourced work	eliminate chemistry	2/05/2005 - compl	T. Drews, T. Yatso
Oil Spinner Line	Solvent / Oil	Reduce VOC emissions	replace with aqueous wax topcoat on die cast cases	419K developed	04/10/2005-compl	T. Drews, S. Taylor
Conventional die heat up system	Energy consumption (electric & gas)	Develop and implement a more effcient system	$60,000 annual savings	utility reductions	3/4/2005-complete	J. Valenti, S. Taylor
Compressed air system	Electrical Consumption	Compressed air conservation	develop air leak detection and repair program	PM implentation	10/5/2005 - compl	M. Kendall
Conventional die cooling	water waste	Develop / implement die maintenance program	eliminate water leaks	water reduction	12/1/2005 - compl	S. Pollnow
TCE remediation	Groundwater contamination	Develop / implement an impervious cap	reduce surface water infiltration	cap installation	10/13/2006 -comp	S. Taylor
Water use	water waste	Investigate water use on weekends / shut down	develop program for water reductions	water bill	12/01/06 -complete	S. Taylor
Building water use	Plating rinse waters	Investigate water reduction and re-use opportunities in Plating	Reduce water use	water bill	12/01/06 -complete	S. Taylor
Energy consumption	HVAC utility consumption	Investigate HVAC efficiency improvements	direct fire gas heat / boiler improvements	natural gas bill	12/01/06 -complete	S. Taylor

Completed EMS OBJECTIVES & TARGETS

Completed

DEPARTMENT(S): Environmental Management System-Milw
PREPARED BY: S. Taylor
DATE: 8/26/2014

ACTIVITY	ASPECT	OBJECTIVE	TARGET	MEASURE	TIME FRAME	REPORTING
Reduce oily wastewater generation 20%	Waste water	Install oil filters on washers to reduce wash solution dump frequency	20,000 gallon reduction	MMSD hauled WW report	6/8/08-complete	S. Taylor
Reduce Buildings and Grounds electric consumption, 6.5%	Electrical consumption	Implement variable frequency drives on rotoclones, sensor lighting installed in office areas & restrooms	1,119,981 kWh monthly average for 2007, 1% reduction obtained.	QOS kWh tracker	6/8/08-complete	J. Valenti
Maintenance parts washing.	Air emissions	Switched to water based cleaners and parts washers in Dept 058, eliminated small parts washers in other depts.	Eliminate naphtha tanks	Annual Air Emission Inventory (DNR)	4/9/10-complete	S. Taylor
Plating water use	Plating rinse waters	Design / install a water recirculation and re-use system in Plating.	Reduce water use	water bill	1/02/11 -complete	S. Taylor
HVAC	Building energy use.	Install new plant heating, boilers, and office air conditioning system.	Reduce gas and electric use.	QOS trackers	4/20/12-complete	S. Taylor
Oily water recycle system	Floor cleaning water	Install a recycling system to reuse floor cleaning water.	Reduce water use and disposal costs	oily wastewater disposal volume	4/5/12-complete	S. Taylor
Product shipping	Energy consumption (fuel), cost.	Increase intermodal (truck & train) shipping.	Target =5 shipments weekly - implemented 3x week shipments.	Freight records	6/30/12 - partial completion	B. Arneman
Operations	Electrical consumption	Maintain target average consumption	1,392,413 kWh monthly average	QOS trackers	Goal met 6/1/2013	J. Valenti
Operations	Paper use	Implement electronic method sheets & SPC charts. *CSS, Audit, and EPC complete.*	New Process	Implementation	Process created and implemented 7/1/2013	M. Maio, S. Tolfa
Operations	Paper use	Implement electronic method sheets & SPC charts.	New Process	Implementation	CSS, Audit, and EPC complete. 6/30/2014	M. Maio, S. Tolfa
Conventional Die Cast	Air emissions	Implement water soluble die lube on applicable new programs.	Installed and in use on 3 conventional machines	Implementation	Complete 6/1/2014	M. Maio, S. Tolfa
Heat Recovery Investigation	Investigate feasibility of heat recovery on Die Cast furnace and chillers.		Develop project and payback analysis	Project	Jun-15	M. Maio, A. Chouinard