



Northern Engraving Corporation

Cooperative Environmental Agreement Annual Report 2011

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Northern Engraving Corporation

Introduction

On June 10, 2002, following a Public Comment Period and formal public hearing, the Wisconsin Department of Natural Resources (WDNR) and Northern Engraving Corporation (NEC) signed an Environmental Cooperative Agreement that included the NEC facilities in Sparta and Holmen, Wisconsin. This Agreement was amended on June 23, 2003, to allow the inclusion of the West Salem and Galesville, Wisconsin, facilities. It was established and is maintained pursuant to Section 299.80, Wis. Statutes, to evaluate innovative environmental regulatory methods including whole-facility regulation. In April, 2006, the Galesville facility was closed and, therefore, withdrawn from the Agreement.

On June 7, 2007 the WDNR and NEC signed a five year extension to the Environmental Cooperative Agreement. Due to time constraints this extension was issued without planned amendments. On September 4, 2007 an amendment to the extended Cooperative Agreement was signed by both parties. The amended agreement allowed NEC to discontinue the six month reporting requirement of actual facility wide VOC and HAP emissions and allowed more time for construction and initial operation for future construction permits.

Northern Engraving Corporation remains an active and dedicated steward of the environment. Internally, the environmental policy commits the company to reducing waste, continually improving processes, and doing no harm to the environment. The Cooperative Agreement manufacturing facilities are registered to the international environmental standard, ISO 14001. Corporate registration is maintained through successful annual audits from our third-party registrar QMI-SAI Global. The environmental management system gives the plants the tools needed to analyze environmental impacts, set objectives and targets, develop supporting programs, review results and redirect efforts. By using these tools and developing employee involvement, each facility has experienced ongoing success (See Appendices).

Collective Summary of 2011

Data from the baseline calendar year of 1996 and calendar year 2011 show that plant emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAP) from the three Cooperative Agreement facilities decreased 79% (242 tons/year) and 97% (113 tons/year), respectively. In comparing the three facilities' 2011 emissions to 2010, VOCs decreased 19% (15 tons/year) while HAPs increased 17% (0.6 tons/year).

In 2011, these facilities used 82% less water than in 1996.

During the 1996-2011 period, the three Cooperative Agreement facilities' generation of hazardous and solid wastes decreased 66% (38,843 gallons/year) and 82% (1,343 tons/year), respectively. Non-hazardous waste decreased by 29% compared to 1996. Reformulation of some solvent based materials to waterbased contributed significantly to the reduction in hazardous waste.

The environmental management system was instrumental to the success of the corporation's environmental initiatives. In 2011, the Cooperative Agreement facilities set a total of nine objectives with ten targets. Some of the significant environmental successes of 2011 were the following:

- Holmen • Eliminated a metallizing process which used significant water and energy, switched to existing process (screening).
- Sparta • Punch press lubricant was replaced with lower/or non-VOC containing lubricant on twenty jobs.
 - Installed electronics for timing air blowoffs on punch presses instead of compressed air on constantly.
- West Salem • Checking amperage draw on machinery in idle mode allowed for reprogramming of process equipment to reduce electricity use.

Cooperative Agreement Report

Interested Persons Group:

On July 14, 2011, the Northern Engraving Interested Persons Group, represented by Mark Harings, Scott Halbrucker, Cindy Struve, Darrell Zietlow and Mary Goodman met in Sparta. The meeting included a review of the results from the previous year's environmental efforts, business updates, environmental objective and targets for 2011. An electronic copy of the presentation was sent to the group members not in attendance at the meeting: Jordan Skiff, Scott Lindermann and Dr. Ronald Amel.

On December 22, 2011, the Northern Engraving Interested Persons Group, represented by Mark Harings, Scott Halbrucker, Cindy Struve, Lynn Jerome, Darrell Zietlow and Mary Goodman met in Sparta. Mark McDermid of the WI DNR was also in attendance. The meeting included 2011 updates regarding air permits, environmental projects and efforts toward the environmental objectives and targets for 2011. An electronic copy of the presentation was sent to Dr. Ronald Amel, not in attendance at the meeting.

Commitment to Superior Environmental Performance:

Internal audits of the environmental management system continue to be conducted at each facility. All elements of the environmental management system are audited at least once annually. These audits are conducted by trained and impartial auditors from corporate headquarters or another Northern Engraving facility.

During 2011, Northern Engraving successfully maintained a Corporate ISO14001 registration. At each facility a reassessment audit of the Environmental Management System was conducted by a third party auditor. There audits totaled eight and one-half man-days. There were no non-conformances found. The opportunities for improvement were:

Sparta

- Consider development or improvement of current methodology to ensure PM's associated with pollution control equipment (i.e., mist eliminators) are completed as scheduled (monthly inspections were not always completed as scheduled). Also consider evaluating the priority codes assigned to those inspections and ensure they are appropriate given their "legal compliance" importance.
- Consider alternative/additional secondary containment measures for the waste storage building. Also consider increasing the inspection frequency for SPCC to monthly (instead of annually) for all areas storing oil and oil-related products.
- Consider alternative methods of tracking the verification of manometers to satisfy the annual requirement as detailed in the air permit. This was improved during the audit as evidenced by F-2299, Annual Spraybooth Manometer Settings as completed 5-12-11 for all five booths.

Holmen

- Consider development of an inventory of equipment that contains refrigerant to track potential ozone depleting substances requirements (capacity, location, type of Freon, leak rates if any, dates of service, PM schedule, license contractor record, etc.). (Applicable for all NEC locations).

West Salem

- Consider increasing the inspection frequency for SPCC to monthly (instead of annually) for all areas/machines storing oil and oil-related products.

Compliance:

On June 1st Department of Commerce conducted a underground tank inspection at the Sparta facility. There were no violations found.

Operational Flexibility:

(For a brief explanation of acronyms and terms, see the glossary at Appendix 5)

Time saved in obtaining air permits:

One construction permit was submitted in 2011. The letter of authorization was received 14 days from submittal of the application. Time saved under the Agreement is estimated to be 45 days.

Time saved by the reduction in record keeping and administrative requirements:

These were established during the first year of the Agreement and are as follows:

<u>Requirement Eliminated:</u>	<u>Approximate Time Saved:</u>
Calculations for demonstrating RACT compliance	
West Salem	3.5 hours/day
Sparta	2.5 hours/day
Calculation of VOC and HAP emissions	0.75 hr/day per facility
Compiling formulas for demonstrating LACT compliance	
Sparta	10 hr/month
Holmen	10 hr/month
West Salem	20 hr/month
Discontinuation of reporting the above calculations as part of the annual monitoring summary.	10 hr/yr per facility

Energy savings from avoiding the use of the thermal oxidizer:

Prior to the Cooperative Agreement, West Salem was required to operate two thermal oxidizers and Sparta was required to operate one thermal oxidizer from May 1 through September 31 to meet permit requirements. It is estimated that West Salem and Sparta avoided the usage of over 2400 MCF and 2500 MCF/month respectively, of natural gas associated with thermal oxidation for RACT.

Overall Assessment of the Success of the Agreement:

For NEC the Cooperative Agreement continues to be a valuable tool for competing in an ever changing and highly competitive, global marketplace. The environmental management systems at Sparta, West Salem, and Holmen are now thirteen, twelve and nine years old, respectively. As mature, successful systems they must concentrate on retaining environmental improvements while searching even deeper in their processes for innovative pollution prevention and waste reduction measures. The time saved, as a result of this agreement, allows NEC personnel to devote more of its effort toward pollution prevention and waste reduction measures. Reducing waste not only benefits the environment, it also helps NEC to contain its costs.

A strong working relationship has been developed with the Wisconsin Department of Natural Resources (WDNR). NEC values this working relationship and looks forward to continuing it into the future ultimately through the Green Tier program.

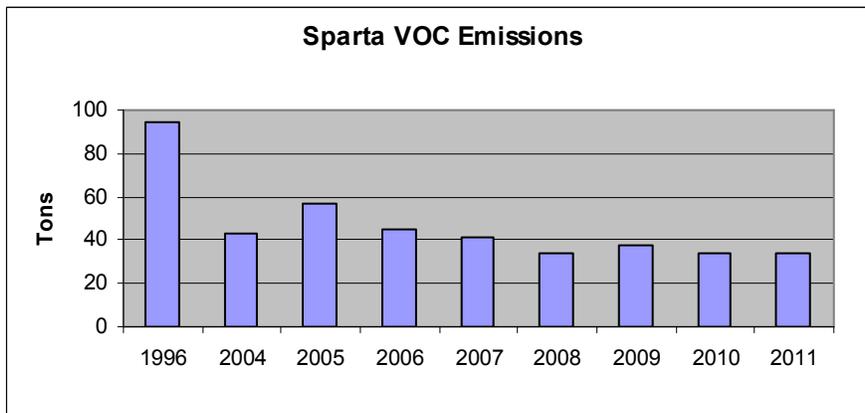
Appendix 1: Sparta

Air Emissions

	1996	2004	2005	2006	2007	2008	2009	2010	2011
VOCs (tons/year)	94.3	42.7	57.0	44.9	41.4	34.0	37.8	33.8	30.1
NOx	5.7	5.71	5.90	4.90	4.46	4.57	4.68	4.47	3.98
CO	1.2	2.52	2.61	2.47	2.22	3.71	3.88	3.69	3.30

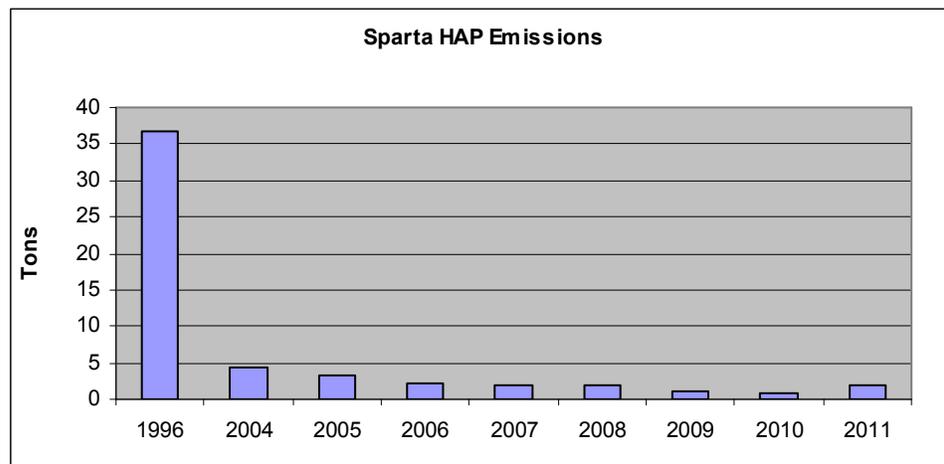
CLEAN AIR ACT CHEMICALS (lbs/yr)

CHEMICAL NAME	1996	2004	2005	2006	2007	2008	2009	2010	2011
Glycol Ethers	9,877	5,180		800	2,800	1,800	900	880	1000
Cumene	258						140	240	240
Dimethyl-,formamide	84								
Ethyl Benzene	3,210	400	600	400		400	140		380
Formaldehyde	8		16				20	20	
Hydrogen Fluoride	140								
2,2,4 Trimethyl- pentane		200	280	200	200				
Isophorone	1,085	880	1,300	400					
Methyl Alcohol	204						40		40
MEK	13,859	140	480						
MIBK	7,248	60	20						
Methylene Chloride	2,201	220	360	200			40	40	
Naphthalene	202	220	200	200	200	200	200	120	100
Toluene	21,636	200	640	600	400	400	440		240
Xylene	11,297	1,240	2,240	1,200		1,200	340		1340
Hydrogen Chloride							200	200	180
Perchloroethylene	2,152	140	200	200			20	20	
Total Tons	36.7	4.5	3.2	2.2	1.8	2.0	1.2	.8	1.8



11% decrease in VOC emissions due to lower production level in etch and coating processes

One solvent from a new supplier having a higher top of range for HAP content, and no HAPs credits taken for one waste shipment due to no analysis of waste contributed to the higher HAPs in 2011

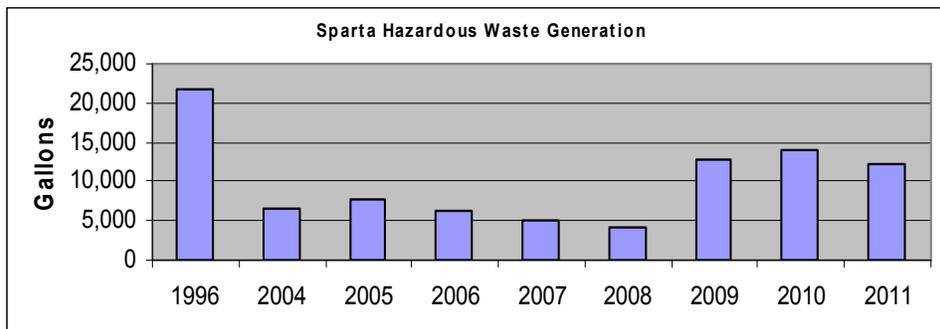


Appendix 1: Sparta

Hazardous Waste Generation

		1996	2004	2005	2006	2007	2008	2009	2010	2011
Solvent Waste	gals	9,374	1,210	1,540	1,210	935	880	2,805	3465	2365
Coating (Design)	gals	0	440	605	330	330	220	165	220	165
Liquid Coating	gals	8,470	990	1,375	880	770	605	495	605	990
Solid Coating	gals	1,650	770	935	770	660	550	825	440	550
Ink Waste	gals	1,540	550	550	550	440	275	275	330	385
Norlens Waste	gals	605	0	0	0	0	0	0	0	0
Alodine Sludge	gals	0	110	55	605	0	0	0	0	0
Still bottoms	gals	0	660	825	605	660	550	550	385	385
CWU	gals	0	2,200	2,475	1,760	1,650	1,320	1,650	880	1155
Acid Etch	gals							3,650	5005	3390
Alkaline Etch	gals							2,258	1650	1740
Haz. Waste Sludge	gals								385	220
Stainless Steel Cleaner	gals								660	870
Mis. Waste Obs. material	gals									225
Hydroxide Sludge	tons	53.8	0	0	0	0	0	0	0	0
Sparta Totals	gals	21,639	6,930	8,360	6,710	5,445	4,400	12,673	14,025	12,440

- Hazardous waste sent to a Treatment Storage Disposal facility is included in this table. Hazardous waste distilled internally by Northern Engraving is excluded.

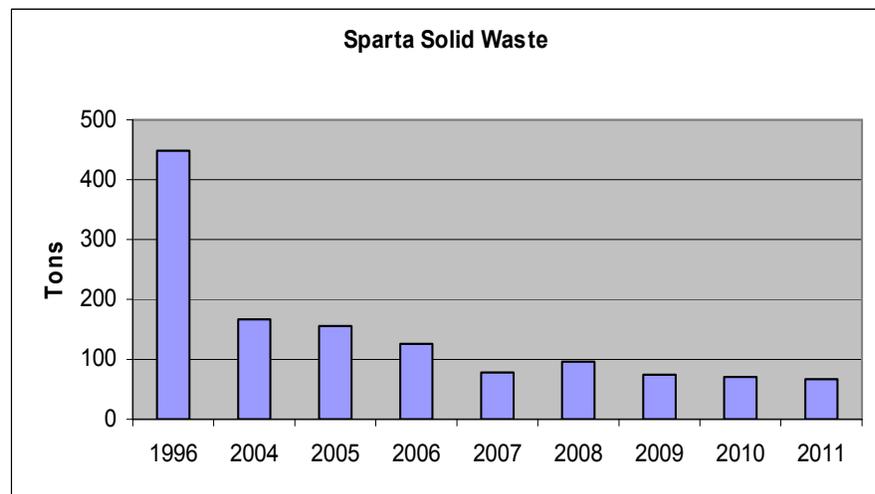


Hazardous Waste decreased due to lower production involving acid etch with associated waste sludge and solvent waste, while the coating production went up.

Solid Waste

	1996	2004	2005	2006	2007	2008	2009	2010	2011
Tons	448	166	154	125	79	96	73	69	66

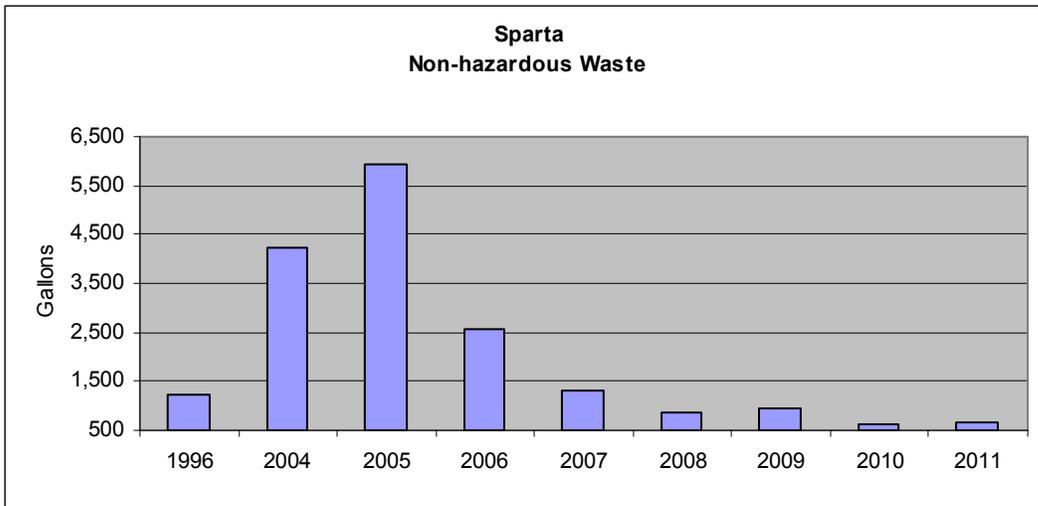
The 4% decrease was a result of continued waste separation and recycling.



Appendix 1: Sparta

Non - Hazardous Waste Generation

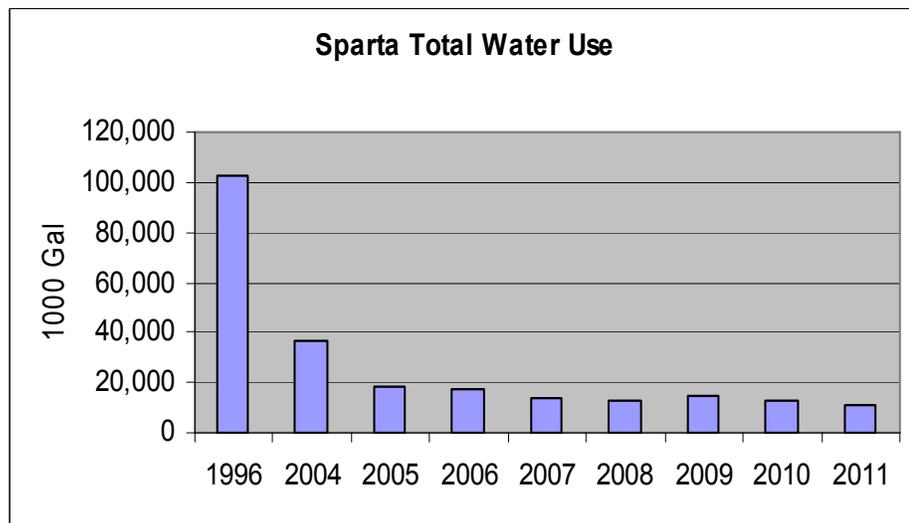
	Unit	1996	2004	2005	2006	2007	2008	2009	2010	2011
Damascene Sludge	gals.	1,100	660	1,100	935	1,100	660	330	275	275
Oil Absorbents	gals.	110	3,245	4,235	1,155	0	0	0	0	0
Norlens Waste	gals.	0	220	330	330	220	165	220	110	55
Waterbase Adhesive	gals.		110	275	165		55	385	220	330
Hydroxide Sludge/ Wastewater Treatment Sludge	cubic yds	0	12	12	0	0	0	0	0	0
Totalgals.		1,210	4,235	5,940	2,585	1,320	880	935	605	660



The 9% increase was the result of greater production with waterbase adhesive somewhat offset by less Norlens (plastic doming).

Water Use

Total Water	1996	2004	2005	2006	2007	2008	2009	2010	2011
1000 gal	102,783	36,953	18,145	17,096	13,890	13,158	15,010	12,413	10,900



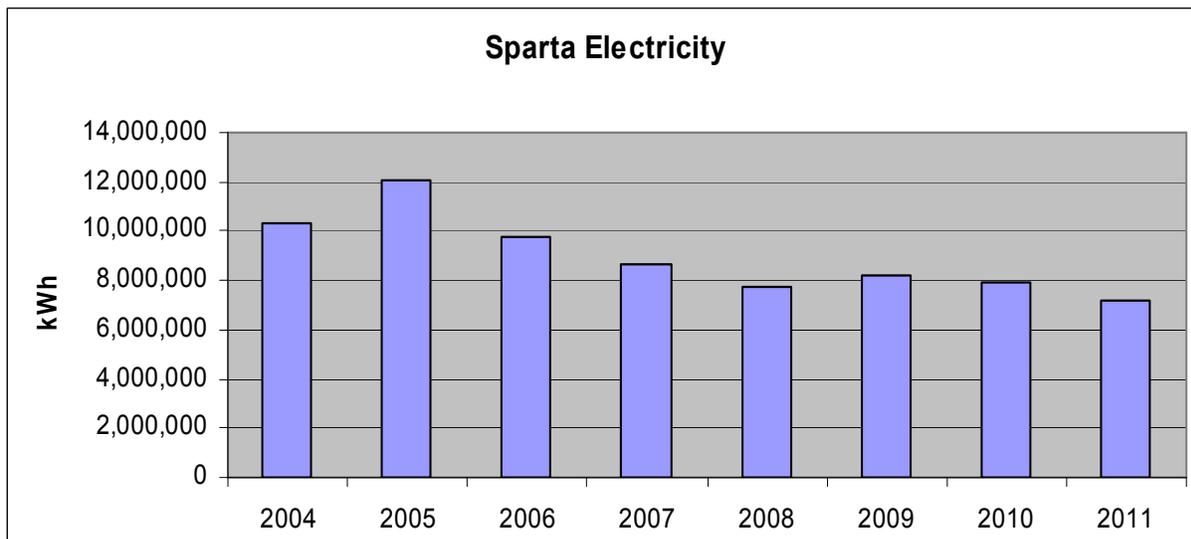
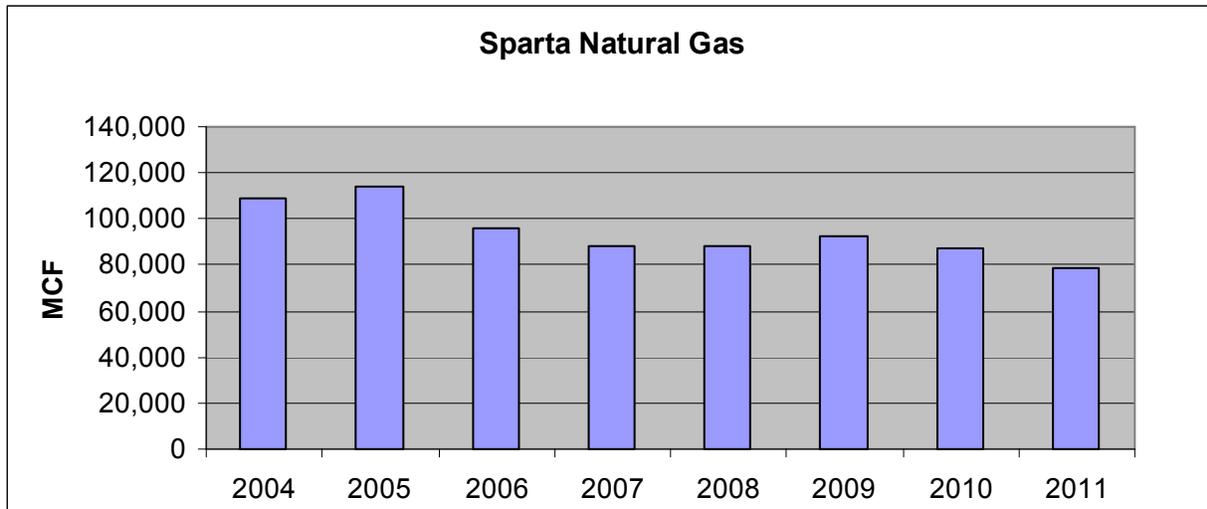
Lower water use resulted from water saving efforts put in place during the previous year.

Appendix 1: Sparta

Energy Use

	2004	2005	2006	2007	2008	2009	2010	2011
Natural Gas (MCF)	109,193	114,288	96,348	88,547	88,289	92,200	87,655	78,469
Electricity (kWh)	10,305,400	12,032,000	9,806,000	8,688,000	7,726,000	8,223,000	7,943,000	7,222,000

Natural gas use decreased 10% and electric use decreased 9%. Reducing washer exhaust airflow and changing compressed air blowoffs to align with press release helped save energy.



Appendix 1: Sparta's Objectives and Targets Program

Results for 2011

Objective 1: Reduce facility energy use.

Target: Implement two energy saving projects.

1. Install Timed Air Blow Offs on Punch Presses, - 10 continuous compressed air blow offs on punch presses were changed to align with the press release.
2. Reduce Washer Exhaust Air Flow, - Air flows from Hoods exhausting warm air from heated washer tanks were evaluated. Exhaust fans were shut off when not needed.

Objective 2: Improve plant product yield by achieving yield improvements as reflected in turnaround projects.

To improve yield, specific production jobs are assigned to a team. Close scrutiny of production runs; process evaluation; and process and equipment modification led to product yield improvement. Some changes made include material substitution, implementing a dehumidification system and rotation of screening direction.

Objective 3: Reduce facility VOC waste

Target: Where possible, switch jobs to use lower VOC containing lubricants.

A review of facility VOC emissions showed significant emissions occurring from using punch press lubricants. Substitute materials were investigated. Waterbase lubricants were trialed on various part types. Successful changes to waterbase lubricants were made to 20 jobs.

Sparta's Objectives and Targets for 2012:

Objective 1: Reduce Facility Energy Use. Evaluate results of energy assessment.

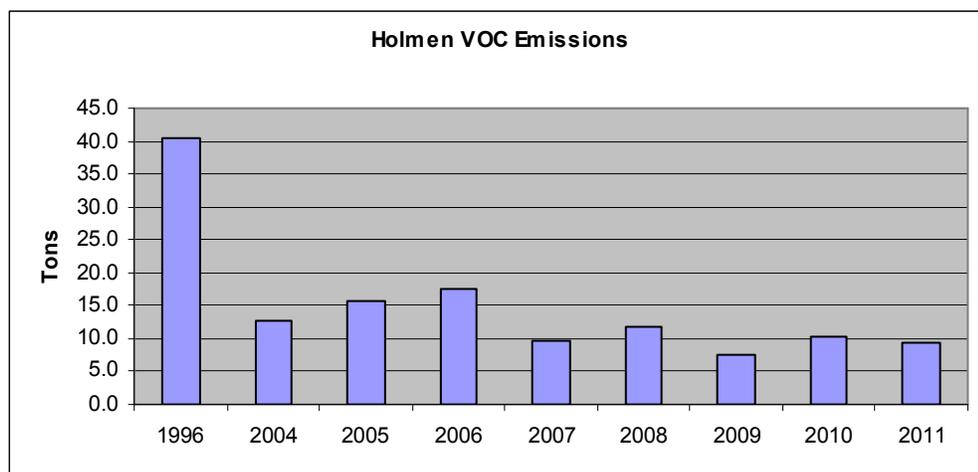
Objective 2: Improve plant product yield by achieving yields as reflected in the urgent turnaround projects.

Objective 3: Investigate Elimination of Chromium Containing Powders and report to Management by May 31, 2012

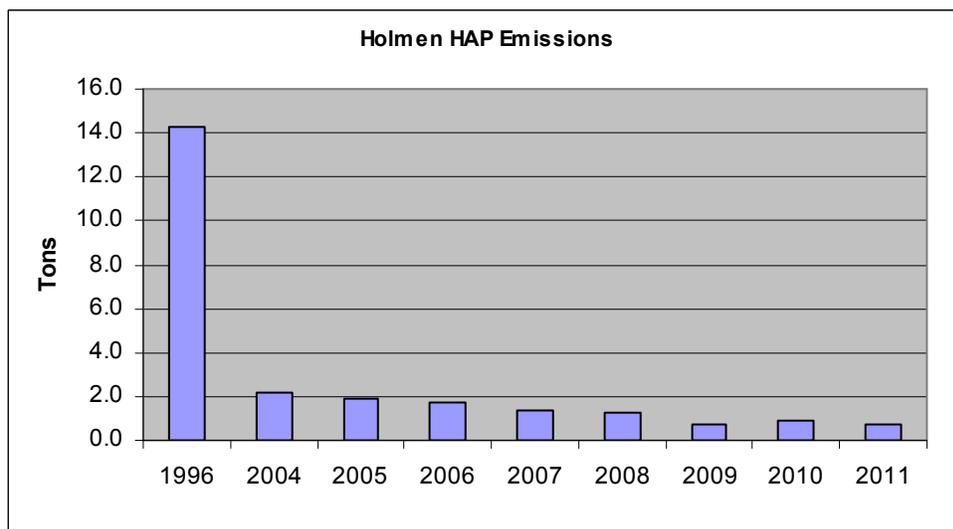
Appendix 2: Holmen

Air Emissions

	1996	2004	2005	2006	2007	2008	2009	2010	2011
VOCs (tons/yr)	40.5	12.7	15.6	17.4	9.7	11.9	7.4	10.2	9.5
NOx	1.0	0.4	.54	0.62	0.74	.68	.53	.60	.58
CO	0.2	0.1	.11	0.12	0.14	.13	.10	.12	.11
CLEAN AIR ACT CHEMICALS (lbs/yr)									
CHEMICAL NAME	1996	2004	2005	2006	2007	2008	2009	2010	2011
Glycol Ethers	9,792	3,980	3,420	3,200	2,600	2,400	1,040	1280	840
Cumene	351								
Ethyl Benzene		40							
Isophorone	1,291								
MEK	3,104	240	200						
MIBK	58								
Methanol								80	
Naphthalene	49	20	80	200	200	200	220	260	300
Toluene	13,491		20				40	100	160
Xylene	507								
TOTAL (tons)	14.3	2.2	1.9	1.7	1.4	1.3	.7	.9	.7



VOC emissions decreased by 7% in 2011. Continued efforts to minimize solvent usage helped lower VOC emissions.



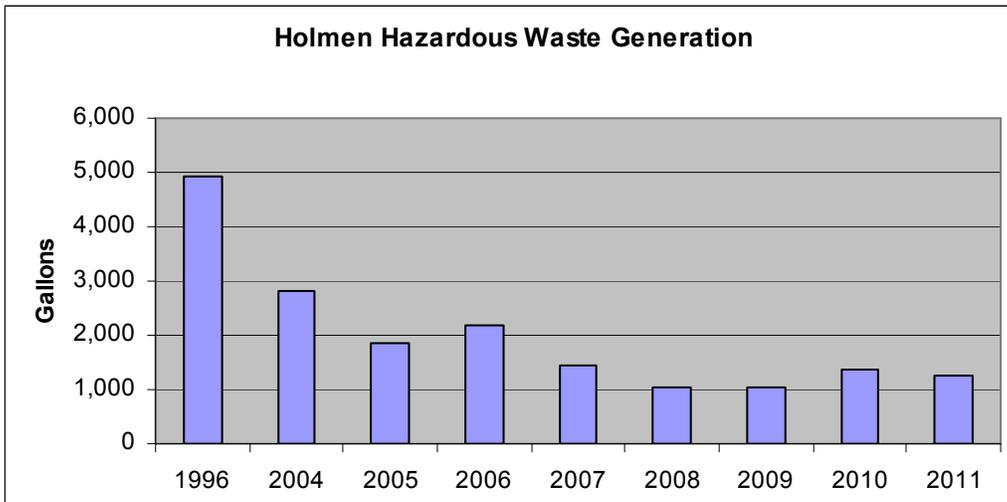
HAP emissions decreased by 22% to return to historic low.

Appendix 2: Holmen

Hazardous Waste Generation

		1996	2004	2005	2006	2007	2008	2009	2010	2011
Solvent Waste	gal	3,224	1,540	935	935	1,100	275	220	385	330
Ink Waste	gal	1,705	1,265	880	1,265	1,760	1,155	825	990	935
Flexlens	gal			55						
Total	gal	4,929	2,805	1,870	2,200	2,860	1,430	1,045	1,375	1,265

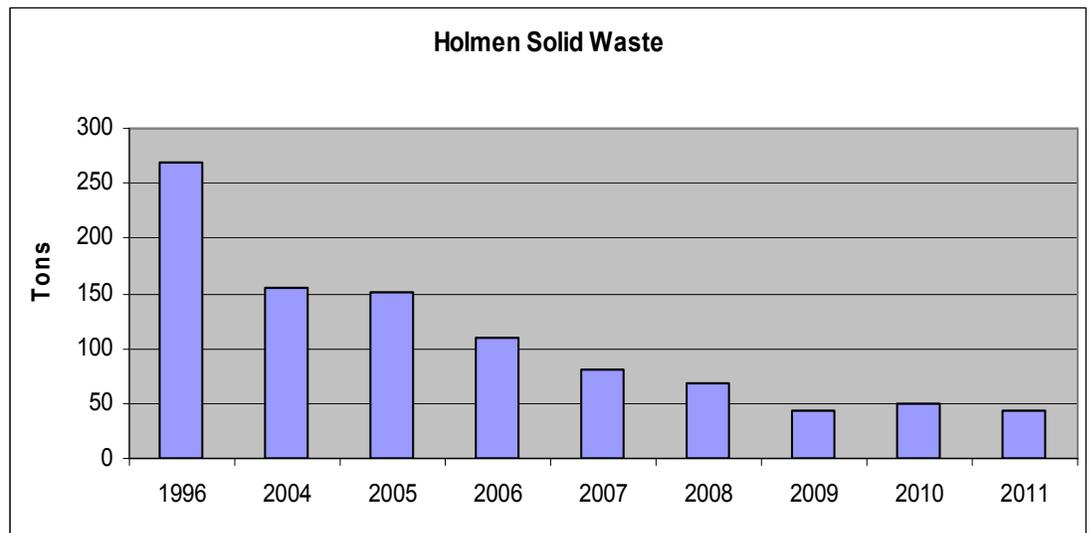
Hazardous waste sent to a Treatment Storage Disposal facility is included in this table. Hazardous waste distilled internally by Northern Engraving is excluded.



Hazardous Waste decreased 8% in 2011. Sound material management helped control waste levels.

Solid Waste

	1996	2004	2005	2006	2007	2008	2009	2010	2011
tons	269	154	151	110	80	69	43	50	44

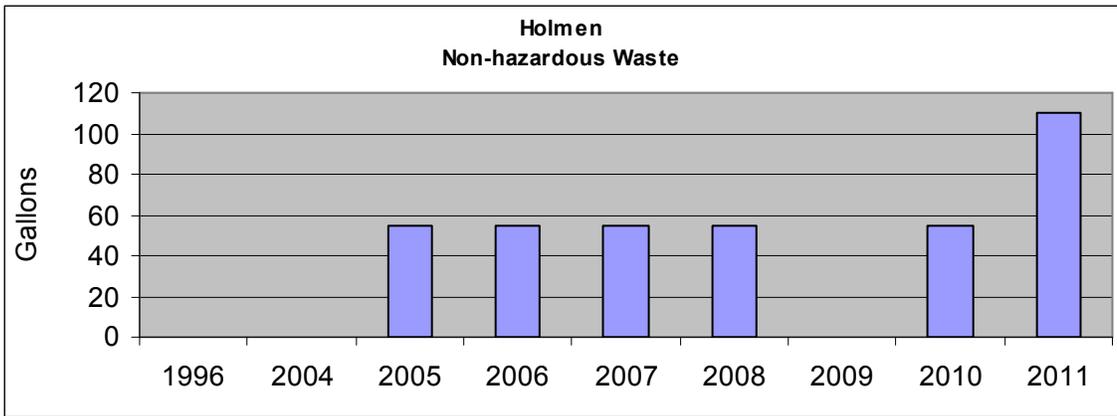


The 12% decrease is reflective of ongoing recycling efforts.

Appendix 2: Holmen

Non-Hazardous Waste Generation

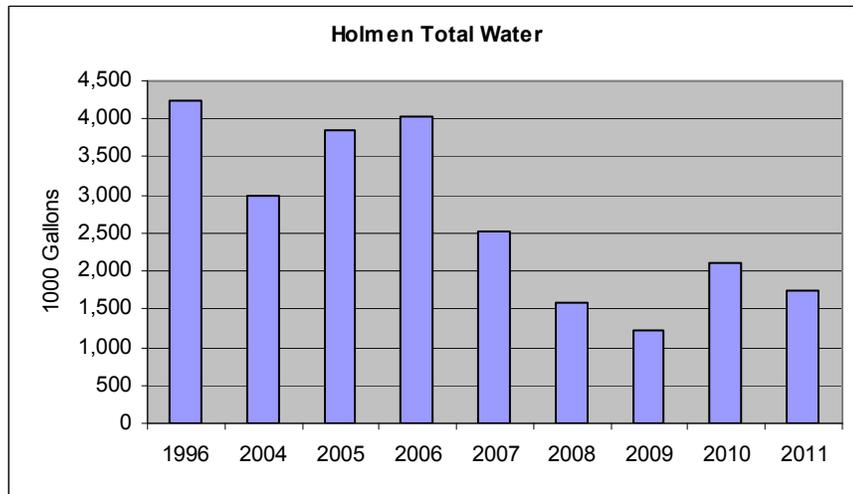
	Unit	1996	2004	2005	2006	2007	2008	2009	2010	2011
Oil Absorbents	gals.	0	0	0	0	0	0	0	0	110
Digital Ink Waste	gals.	0	0	55	55	55	55	0	55	0
Holmen Total	gals.	0	0	55	55	55	55	0	55	110



Non-hazardous waste oil absorbent resulted from an oil leak cleanup.

Water Use

	1996	2004	2005	2006	2007	2008	2009	2010	2011
1000 Gallons	4,242	2,989	3,861	4,019	2,517	1,597	1,235	2,104	1,745

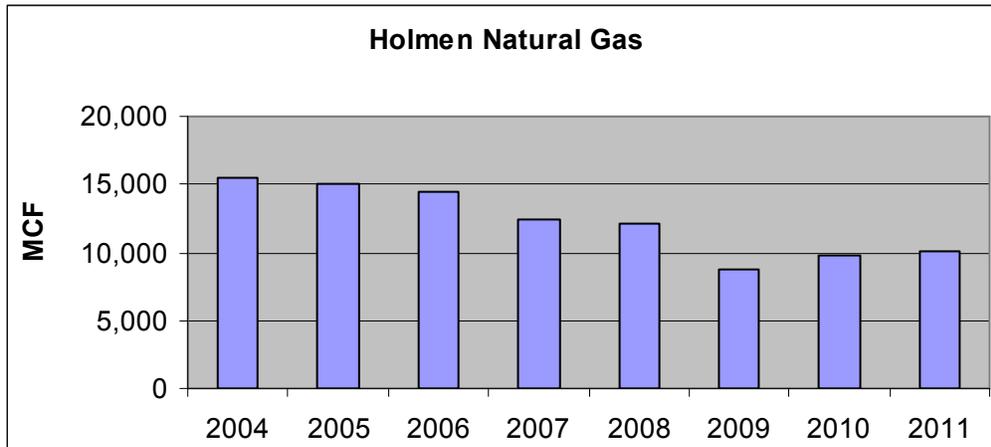


Water use decreased 17% in 2011. Discontinuing the metallizing process, a significant user of cooling water, was the primary reason for the reduction.

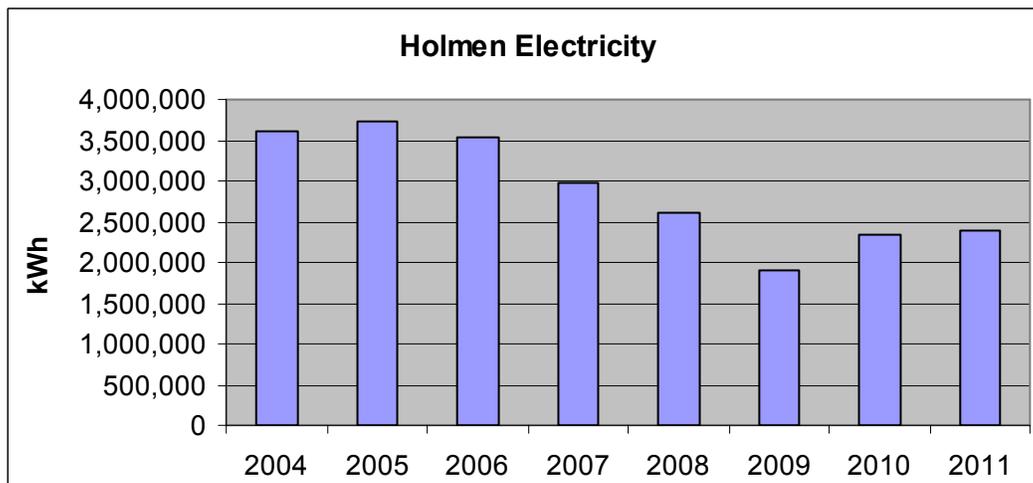
Appendix 2: Holmen

Energy Use

	2004	2005	2006	2007	2008	2009	2010	2011
Natural Gas (MCF)	15,419	15,059	14,436	12,419	12,180	8,749	9,721	10,030
Electricity (kWh)	3,609,900	3,735,600	3,542,000	2,978,000	2,620,000	1,899,000	2,348,000	2,380,000



The 3% increase in Natural gas usage was due to a change in product mix requiring additional hours of oven operation.



Electricity use increased by 1% in 2011. A change in product mix contributed to higher electric use. Lighting was adjusted during the year.

Appendix 2: Holmen's Objectives and Targets Program

Results for 2011

Objective 1: Investigate Reduction of Metallizing Process

Target: Eliminate metallizing process by 7-31-11

Metallizing jobs were reviewed for possible switch to other processes. Customers were contacted. Samples were sent and approved. The metallizing process was discontinued. Equipment was removed.

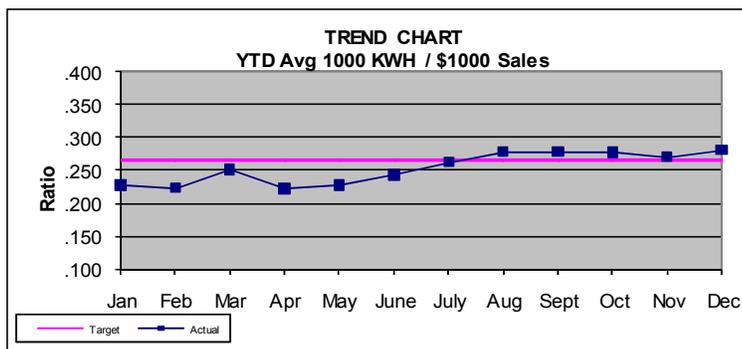
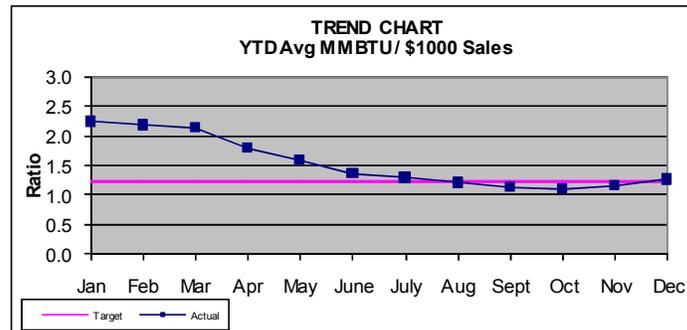
Objective 2: Improve plant product yield by achieving yield improvements as reflected in turnaround projects.

Holmen management identified priority jobs on which to focus efforts for yield improvement. Process modifications which resulted in higher yield included changes in screening mesh size, replacement equipment and material substitution.

Objective 3: Reduce Facility Energy Use

Target: Achieve a natural gas/LPG ratio of 1.23 MMBTU / \$1000 Sales for CY2011
 Actual year end the ratio was 1.26. The target was not achieved. Although doors were sealed and weather stripped and a more efficient heater was installed, flat sales and a different product mix hindered overall success.

Target: Achieve an electricity use ratio of .267 KWH / \$1000 Sales for CY2011
 The electricity use ratio was .276 1000 KWH / \$1000 Sales for 2011. Eliminating the metallizing process, painting additional roof area with reflective paint and installing occupancy sensors saved on electricity. Determined beneficial, lighting in some plant areas was reinstated. The target ratio was not achieved primarily due to flat sales and a different product mix.



Appendix 2: Holmen's Objectives and Targets Program

Holmen's 2012 Objectives and Targets:

Objective 1: Improve plant product yield by achieving yields as reflected in the urgent turnaround projects.

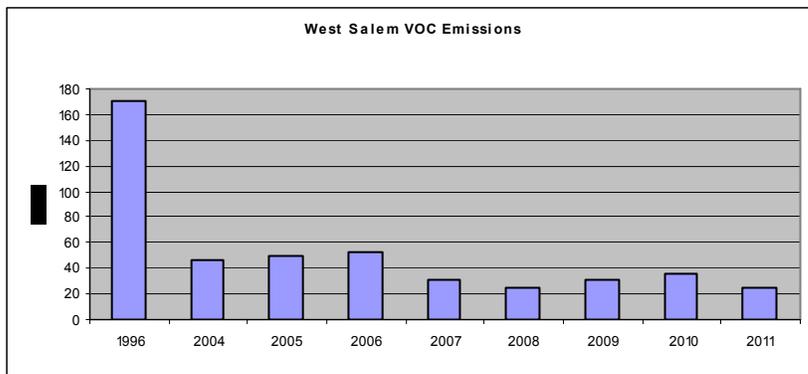
Objective 2: Reduce Facility Energy Use.

Target: Achieve a natural gas/LPG ratio of 1.23 MMBTU / \$1000 Sales for CY 2012

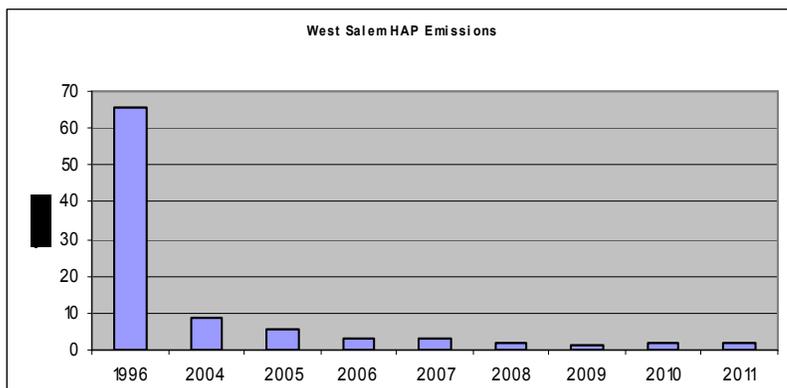
Target: Achieve an electricity use ratio of .270 kWh / \$1000 Sales for CY2012
note: the target ratios reflect a 2% reduction from the CY 2011 energy ratios

Appendix 3: West Salem Air Emissions

	1996	2004	2005	2006	2007	2008	2009	2010	2011
VOCs (tons/year)	171.33	47.0	50.1	52.3	31.7	24.3	30.5	35.1	24.3
NOx	1.50	2.09	1.95	1.80	1.89	2.21	2.42	2.52	2.92
CO	0.34	1.07	1.01	0.90	0.99	1.06	1.13	1.11	1.23
CLEAN AIR ACT CHEMICALS (lb/yr)									
CHEMICAL NAME	1996	2004	2005	2006	2007	2008	2009	2010	2011
Glycol Ethers	7,964	9,400	4,740	3,400	4,800	3,000	2,540	2800	2440
MEK	30,969	2,320	1,680						
Methanol	6,381	140	200		200				
Triethylamine		300	80						
2,2,4 Trimethyl-pentane		240	260	200					
Toluene	37,071	3,340	3,680	2,200	1,400	800	120		600
Xylene	21,423	620	260	600	200	200			140
Ethyl Benzene	3,601	80		200					
P-Xylene								40	
O-Xylene								20	
MIBK	23,717		60						
M-Xylene								80	
Naphthalene	10	40	80	200	200	200	320	400	120
Cumene									20
TOTAL	65.6	8.4	5.5	3.4	3.4	2.1	1.5	1.7	1.6



VOC emissions numbers show a near 11 ton decrease from 2010. A waste shipment early in Jan 2011 yielded a VOC credit over 3 tons. The remaining decrease was the result of successful material substitution implemented in 2010, lower spray production and less process cleanup solvent use.

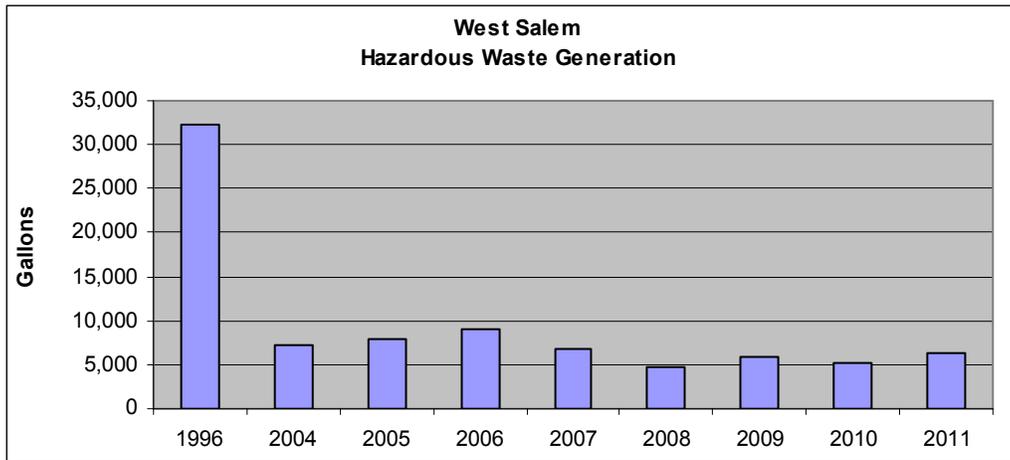


HAP emissions continue to be near historical low.

Appendix 3: West Salem

Hazardous Waste Generation

		1996	2004	2005	2006	2007	2008	2009	2010	2011
Solvent Waste	gal	30,470	2,475	2,750	2,475	1,815	1,100	1,430	1320	825
Solvent Waste Dis- tilled Off –site for Reuse	gal	NA	2,384	2,772	4,188	3,371	2,700	3,009	2600	4160
Liquid Coating Waste	gal	880	1,870	1,870	1,925	1,320	715	1,100	1210	1100
Solid Coating Waste	gal	770	550	385	385	330	220	385	165	165
Waste Absorbents	gal	110	0	55	55	0	0	0	0	0
Total	gal	32,230	7,279	7,832	9,028	6,836	4,735	5,924	5,295	6,250

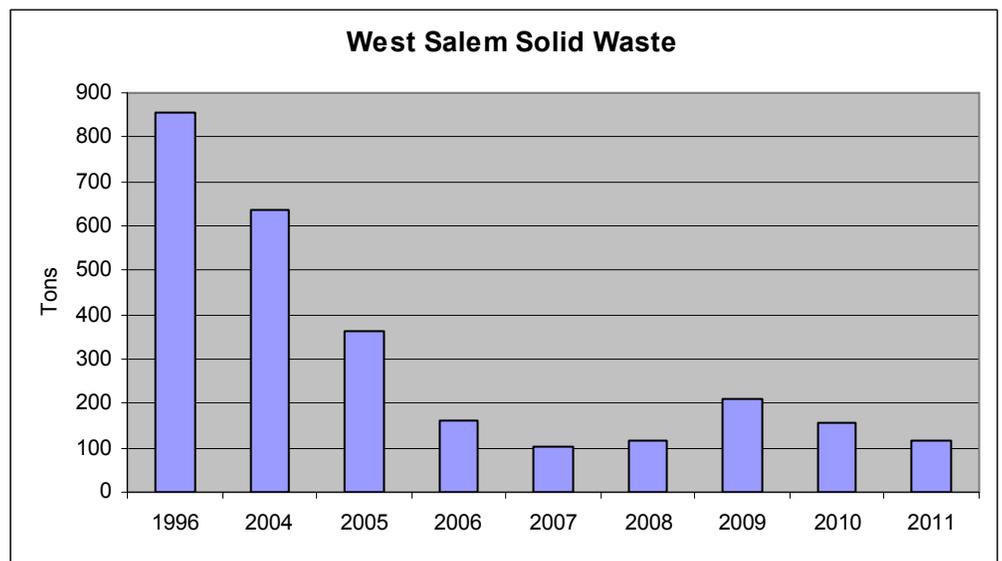


Adjusting for a Jan 2011 waste shipment and less solvent generation in 2011 accounts for the difference in 2010 and 2011 waste totals .

Solid Waste

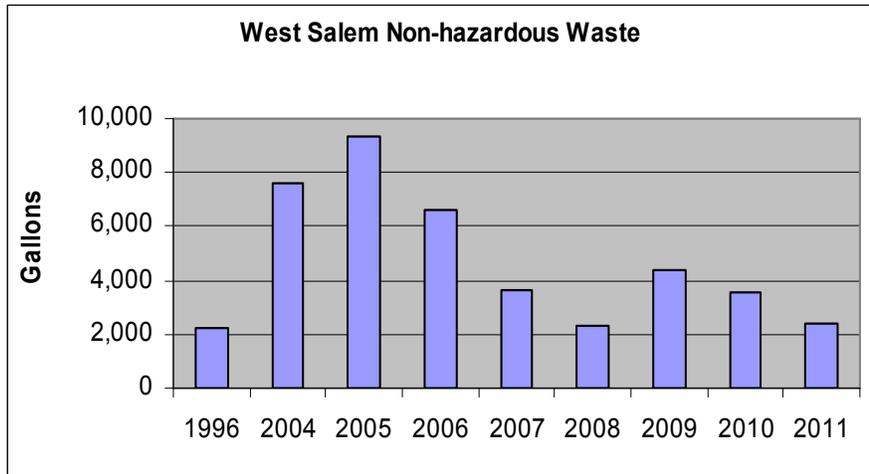
	1996	2004	2005	2006	2007	2008	2009	2010	2011
tons	854	636	363	163	101	118	211	156	118

Solid waste generation dropped 24% in 2011. This was the result of intensified recycling effort. The landfill dumpster was locked and waste was scrutinized to ensure only non-recyclable waste was landfilled.



Appendix 3: West Salem Non-Hazardous Waste Generation

	Unit	1996	2004	2005	2006	2007	2008	2009	2010	2011
Mask Washer Waste	gals.	2,236	990	1,870	0	0	0	0	0	0
Damascene Sludge	gals.	0	110	55	275	550	385	330	385	330
Waterbase Paint	gals.	0	4,840	5,610	5,170	3,080	1,925	4,015	3,142	2,035
Oil Absorbents	gals.	0	1,650	1,815	1,155	0	0	0	0	0
Total		2,236	7,590	9,350	6,600	3,630	2,310	4,345	3,527	2,365

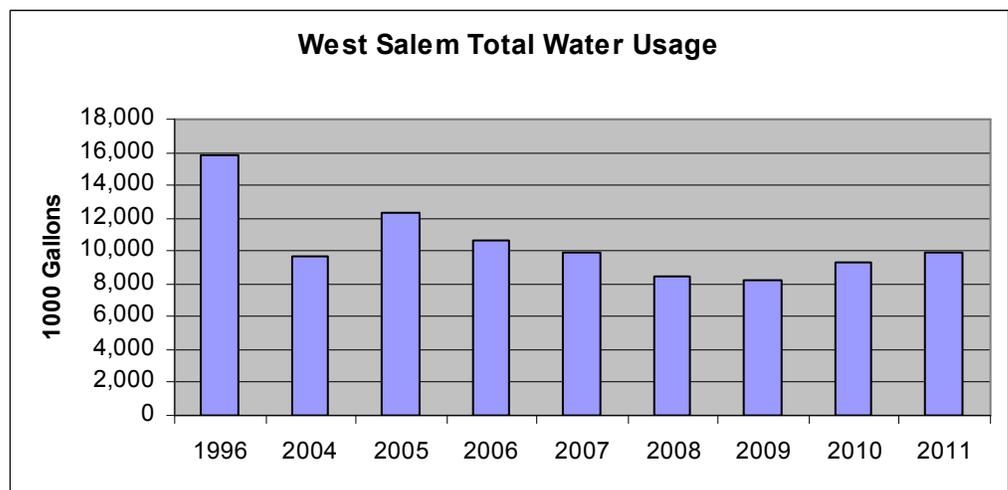


Less waterbase spray production in 2011 was the primary reason for the 33% decrease in non-hazardous waste.

Water Use

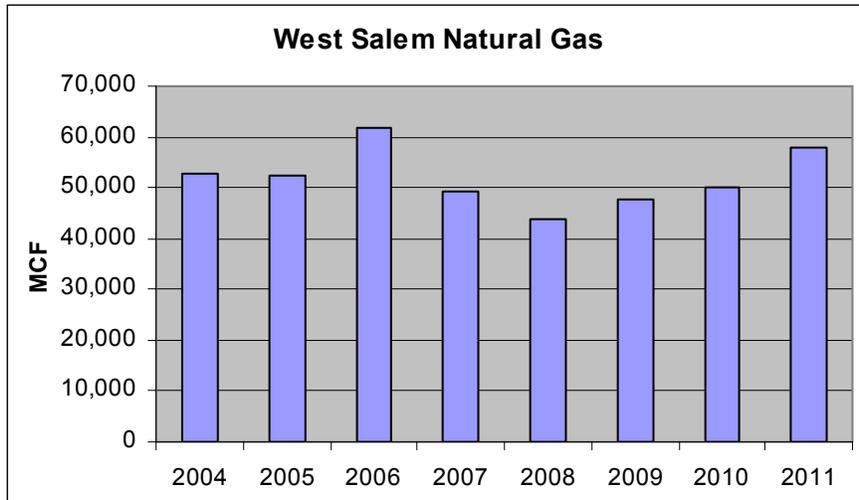
	1996	2004	2005	2006	2007	2008	2009	2010	2011
1000 Gal- lons	15,842	9,715	12,270	10,669	9,893	8,498	8,187	9,326	9,927

Water use rose 6% above the 2010 level. This increase was due to higher production including brushed and spun parts.



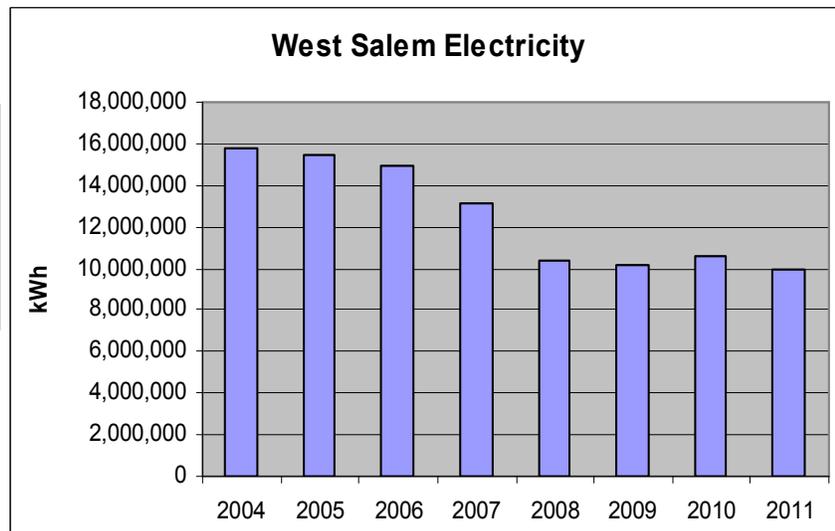
Appendix 3: West Salem Energy Use

	2004	2005	2006	2007	2008	2009	2010	2011
Natural Gas (MCF)	52,925	52,409	61,905	49,357	43,671	47,531	50,224	58,014
Electricity (kWh)	15,784,000	15,438,000	14,979,000	13,139,000	10,339,000	10,167,000	10,630,000	9,979,000



Natural gas usage increased 16% in 2011. The increase is attributable to higher production, an additional oven and more boiler hours. Further increase was tempered by adjusting washer exhaust air.

Electricity use decreased by 6% in 2011. Energy saving efforts included reprogramming idle mode on equipment to draw less amperage and modifying a process line to use less electricity.



Appendix 3: West Salem's Objectives and Targets Program

Results for 2011

Objective 1: Reduce facility VOC emissions by implementing two VOC emissions reduction projects.

1. Process steps were eliminated on some jobs involving coating process.
2. Lubricants containing less VOCs were able to be used on some jobs.

Objective 2: Improve plant product yield by achieving yield improvements as reflected in turnaround projects.

Changes to processes and equipment including eliminating mold gates to reduce scratching, labeling pins and molds to match and switching from screening to coating tints resulted in yield improvements.

Objective 3: Reduce facility energy use by implementing two energy saving projects.

1. Energy audit follow-up—Amperage draw was checked on equipment in idle mode and adjustments made.
2. Evaluated washer exhaust airflow.

West Salem's 2012 Objectives and Targets:

Objective 1: Improve plant product yield by achieving yields as reflected in the urgent turnaround projects.

Objective 2: Reduce Facility Energy Use by optimizing new brush washer efficiency.

Appendix 4: Greenhouse Gas Emissions

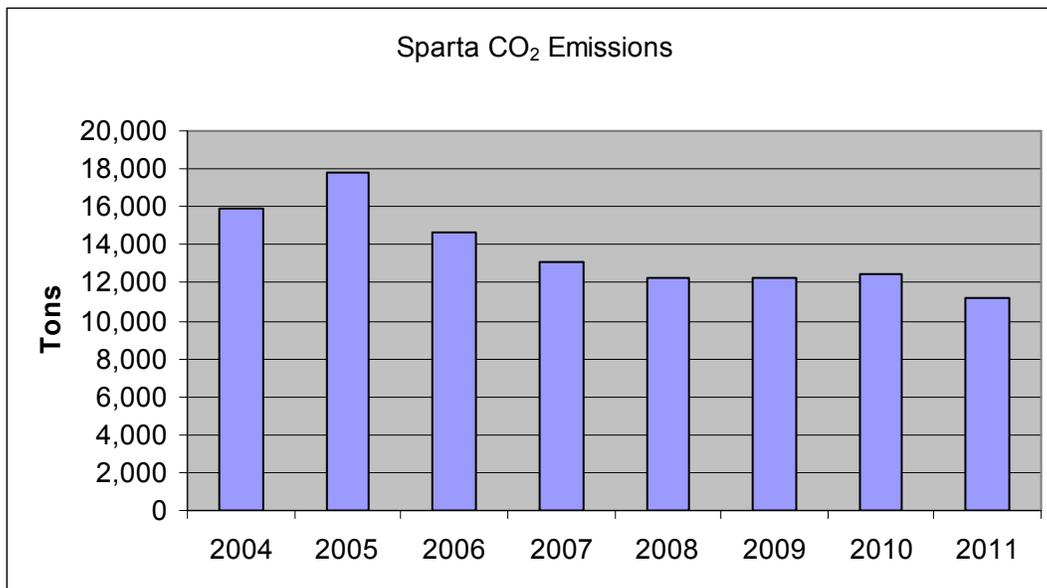
For Northern Engraving the primary source of greenhouse gas emissions is from the use of energy in its manufacturing facilities. Carbon dioxide (CO₂) is directly emitted by burning of natural gas and propane at NEC facilities. Use of electricity results in the emission of CO₂ at the generating facility, thus use of electricity results in indirect emissions of CO₂.

Carbon dioxide equivalent (CO₂-e) emission calculations for methane and nitrous oxide from natural gas, propane and electricity were reviewed. Because methane and nitrous oxide emissions are minor, contributing less than 1% to a combined total, they have not been included.

Changes in CO₂ emissions are associated with changes in the amount of energy used. Each facility had environmental targets relating to energy use. CO₂ emissions decreases/avoidances are proportional to the energy savings resulting from the environmental programs.

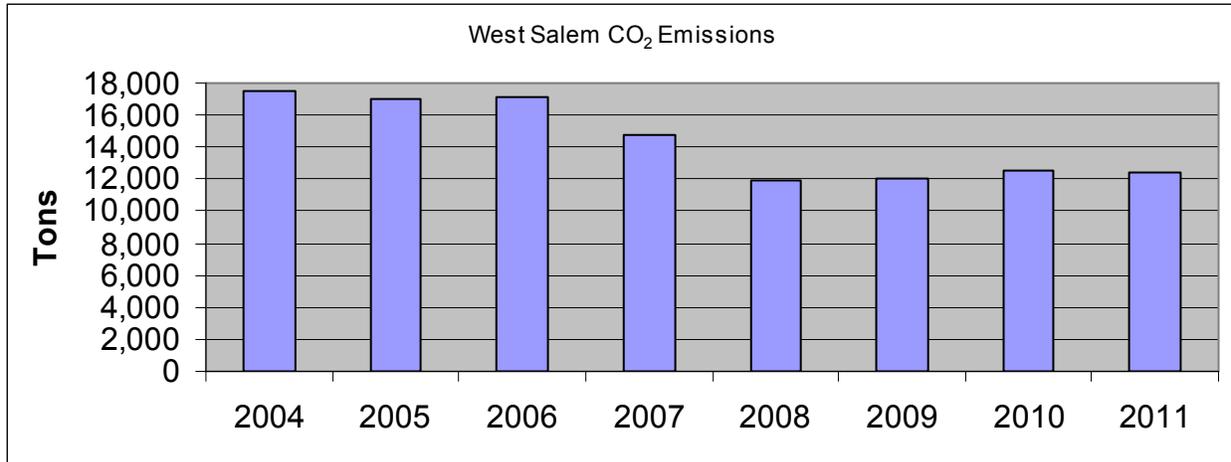
Sparta

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
MMBTU	111,589	116,095	97,162	88,755	88,774	92,890	88,499	79,067
tons CO ₂	6,718	6,982	5,838	5,327	5,331	5,580	5,310	4,749
1000 kWh	10,305	12,032	9,806	8,688	7,726	8,223	7,943	7,222
tons CO ₂	9,233	10,781	8,786	7,784	6,922	7,368	7,117	6,471
Total Tons CO₂	15,951	17,763	14,623	13,111	12,253	12,948	12,427	11,220
% Change		11%	-18%	-10%	-7%	6%	-4%	-10%

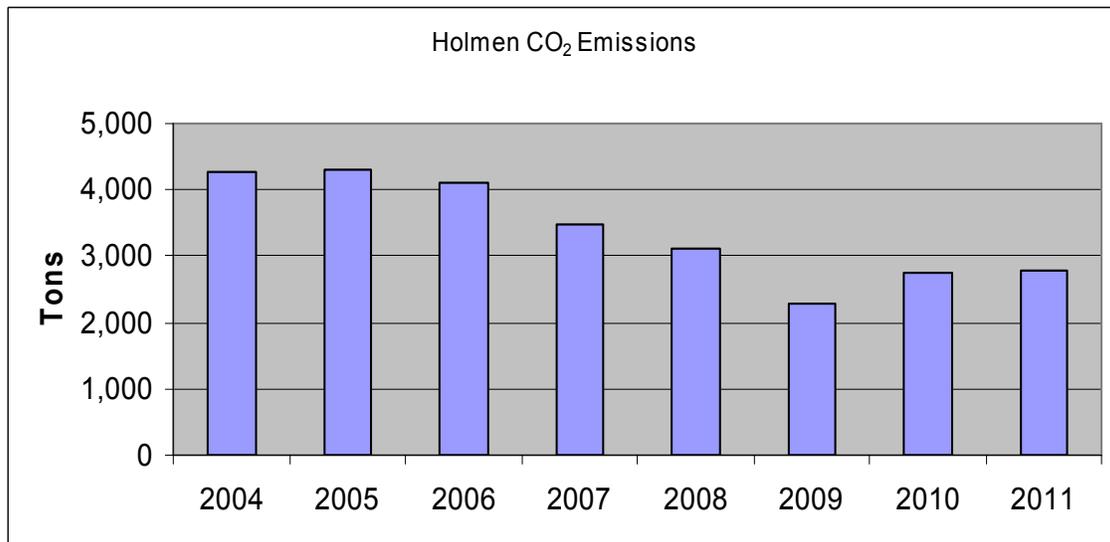


Appendix 4: Greenhouse Gas Emissions - Continued

West Salem	2004	2005	2006	2007	2008	2009	2010	2011
MMBTU	54,727	53,440	62,221	49,358	43,942	48,466	50,372	58,244
tons CO ₂	3,301	3,216	3,736	2,964	2,639	2,917	3,024	3,497
1000 kWh	15,786	15,438	14,979	13,140	10,339	10,167	10,630	9,979
tons CO ₂	14,144	13,832	13,421	11,773	9,264	9,110	9,524	8,941
Total Tons CO₂	17,445	17,048	17,160	14,737	11,903	12,027	12,548	12,438
% Change		-2%	1%	-14%	-19%	1%	4%	-1%



Holmen	2004	2005	2006	2007	2008	2009	2010	2011
MMBTU	17,103	16,055	15,402	13,551	12,870	9,627	10,825	10,840
tons CO ₂	1,042	973	933	823	779	586	660	658
1000 kWh	3,610	3,736	3,542	2,978	2,620	1,899	2,348	2,380
tons CO ₂	3,235	3,347	3,174	2,668	2,348	1,702	2,104	2,132
Total Tons CO₂	4,277	4,320	4,107	3,491	3,127	2,288	2,764	2,790
% Change		1%	-5%	-15%	-10%	-27%	21%	1%



Appendix 5: The Glossary

VOCs - Volatile organic compounds: Organic materials that evaporate into the air.
Examples: Solvents used for cleanup or present in coatings, inks and sprays.

HAPs - Hazardous air pollutants: A group of hazardous chemicals listed by the EPA. These chemicals are believed to carry a greater health risk.
Examples: toluene, xylene, glycol ethers, etc.

RACT – Reasonably available control technology: Application of RACT provisions provide the lowest emission rate that a particular source is capable of achieving by the application of control technology that is reasonably available considering technological and economic feasibility. Such technology may previously have been applied to similar, but not necessarily identical, source categories.

LACT – Latest available control technology: This is required when it is determined that a source is technologically infeasible of controlling 85% of its organic compounds. LACT control measures are determined by the permit writer taking into account the control techniques and operating practices used by similar facilities.

NOx – Nitrogen oxides (Emission amounts are determined by the WDNR from data provided by Northern Engraving Corporation.)

CO – Carbon monoxide (Emission amounts are determined by the WDNR from data provided by Northern Engraving Corporation.)

MCF - Thousand cubic feet: The standard measure of volume for natural gas used.

kWh - Kilowatt-hours: The standard measure for electricity used.

YTD – Year-to-Date

Hazardous Waste – Waste with a chemical composition or other properties that make it capable of causing harm to humans and other life forms when managed improperly or released to the environment. Hazardous wastes are characterized for ignitability, corrosivity, reactivity, and toxicity. The majority of Northern Engraving's hazardous waste is ignitable or corrosive.

Solid Waste – All waste sent to a landfill or the La Crosse County waste-to-energy incinerator.

Questions and requests for additional information should be directed to Mary Goodman at the address below:

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Submitted April 4, 2012
by Mary K. Goodman