

# Source Reduction/Waste Minimization (SR/WM) Plan

Rev. 11/3/04

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Yellow highlights identify specific SR/WM plan elements required by Texas State Law, ref. 30TAC§335.474

Facility Description	
Name of facility	
Mailing and physical address	
Point of contact	Name: Phone: email:
General description of the facility	
Applicable ID numbers and codes	TCEQ SWRN: EPA ID: TRI ID: Primary SIC: NAICS:
Time period the five-year plan is in effect	

Prepared by: \_\_\_\_\_  
Supv. Environmental Services

Required Certification:  
This plan is complete and correct. \_\_\_\_\_  
Plant Manager

Yellow highlights identify specific SRWM plan elements required by Texas State Law, ref. 30TAC§335.474

**Prioritized List of Economically and Technologically Feasible Source Reduction and Waste Minimization Projects**

Priority Key:

- 1 Already begun
- 2 Not yet begun, but project and funding (if necessary) are approved. Will begin soon.
- 3 Project seems feasible, but funding is not worked out yet.
- 4 Being evaluated for feasibility.

Status only, neither good nor bad.
Good Progress.
Measurable Results.
Did not work out as planned.

Priority	Project	Explanation of Source Reduction or Waste Minimization Projects	Environmental or Human Health Risks or Benefits	Technical and Economic Considerations	Incremental Implementation Schedule	Status 1/18/05 (data for end of year 2004):	Awareness and/or Training Efforts
1	Lead-Free conversion & De-classification (*)	Paint Shop converted to Lead- Free E-Coat in 2001. Environmental tested the bath and sludge after conversion, and the lead was low enough to de-classify them to non-haz waste. Lead continues to be found in the filters, however. Environmental evaluates E-Coat filters for lead at every cleanout. After 2 consecutive filter results <5mg/kg Lead by TCLP method, filters can be de-classified to non-hazardous waste.	Reduced toxicity of E-Coat process, finished vehicles, and associated process wastes. Reduces haz waste increases non-haz. This material will continue to be landfilled, but in a non-haz fill	It worked, and getting rid of lead was worth the added expense to switch at the time (though current cost is below the old prices at the time)	Lead-free pour-over conversion: 2001	Completed in 2001.	E-Coat employees were notified of the change in product.  Barrel Yard employee (Waste Handler) is continually informed of changes to waste characterizations, labeling, and storage locations by Resource Manager.
					Bath and Sludge de-classified: 2002	Completed in 2002.	
					Filters de-classified: 2005	One test analyzed <5ppm lead in July 2004. Next test probably late January, pending generation of filters.	
					Will continue to lower annual pollution totals through 2006.	Pending analytical.	
1	Block Painting	Paint Shop implemented Block Painting in May 2003. This resulted in fewer color changes, less wasted paint, and less wasted purge.	Reduced material usage and associated waste.	Necessitated programming and scheduling changes, but the savings was worth the effort.	Implemented May 2003	Completed in May 2003.	This was a scheduling change and Paint Shop operators were notified accordingly.
1	Use Recycled Purge	Paint Shop began buying back its own recycled material in 2003. This conserves natural resources by reducing the need for virgin solvent.	Conserves natural resources by substituting recycled solvents for raw material.	It worked, and saved money.	Implemented June 2003	Completed in 2003.	This was a product change and Paint Shop operators were notified accordingly.
1	New De-Watering System	Paint Shop installed a new paint sludge de-watering system in Summer 2003	Reduced sludge volume and frequency of hauls	Mfg Project expense, expected to pay for itself in reduced waste costs and manpower.	Implemented December 2003	Completed in 2003.	This was an equipment upgrade. Labor Maintenance sludge handlers were trained on the new equipment by Premier contract personnel.
1	Guns-to-Bells	Paint Shop is converting 16 paint guns to bells (14 done as of 8/19/04). Bells enable better transfer efficiency, wasting less paint. This reduces solvent emissions, reduces cleanup activity in the booths, and should reduce the amount of paint sludge as well.	Reduced material usage, emissions, booth air toxicity, both cleaning, and associated waste.	Paint Engineering Project expense, expected to pay for itself in reduced material and waste costs.	Began in 2003, continuing through 2004	Completed in Sept, 2004.	This is an equipment upgrade, and Paint Shop operators are notified accordingly.
1	Daily Cover	Some event-related non-hazardous sand and dirt wastes can be re-used for daily cover at the City of Arlington's landfill. This reduces the need for the City to haul in new (extra) dirt from somewhere else to fulfill its daily cover requirement. This also qualifies as beneficial re-use, substituting for raw material.	Increases useful life of Arlington City Landfill and saves landfill space for regulated waste landfills.	The City needs it, and it saves money for both Corp and the City.	Began in 2003, continuing through 2004.	Completed for 2004.	These are disposal decisions, worked out between Corp Environmental and the City.
1	WWT Caustic Conversion	Utilities is converting the Wastewater Treatment process from Lime to Sodium Hydroxide (Caustic) in 2004. This is expected to decrease sludge generation rate through improved chemistry.	Reduces sludge volume and dust in WWT. Chemical burn hazard already exists with Sulfuric Acid being present in WWT.	Corp Utilities WWT Refurb Project expense, justified by reduced sludge and dust.	Began in 2004, continuing through 2005.	Completed in 2004.	This is a long-term equipment upgrade, and WWT operators are notified accordingly as progress is made
1	F019 De-Listing (*)	Corp is petitioning EPA for de-listing for permanent F019 non-applicability. This makes the mandatory F019 haz waste determination go away forever, and Corp will be able to stop filling up haz waste landfill with non-toxic WWT sludge.	Reduces haz waste, increases non-haz. This waste will continue to be landfilled, but in a non-haz fill. No negative environmental impact will take place, as the waste already meets land disposal criteria as is and requires no further treatment.	Corp Environmental Services F019 DeListing Program Expense. Justified by getting rid of the unnecessary effort and expense associated with F019 applicability.	Began in 2004, continuing through 2005, official de-listing expected in 2006.	Began in 2004, continuing through 2005, official de-listing expected in 2006.	WWT Operators will be notified of changes to waste classification, handling, and storage as the changes are made.
2	Aluminum-Steel-Aluminum (*)	Corp is temporarily removing aluminum liftgates from product in Jan 2005. This makes the mandatory F019 hazardous waste determination go away temporarily, so the WWT sludge can be de-classified to non-haz.	Temporarily reduces haz waste, increases non-haz. This waste will continue to be landfilled, but in a non-haz fill	Will temporarily increase handling costs due to heavier pieces	Estimated January 2005, temporary benefit through 2006 until F019 delisting is complete.	1/18/05: Did not work out as planned. Aluminum heatshields must stay on the product, mandating F019 classification till de-listing is complete. Remove this item at next plan revision.	WWT Operators will be notified of changes to waste classification, handling, and storage as the changes are made.
4	Rag and Absorbent Recycling	Corp is evaluating a joint opportunity with Waste Mgt, Bruckner Supply, and Circle Environmental to recycle and re-use absorbents and rags. This should reduce landfilled waste.	Conserves natural resources by substituting recycled absorbent for raw materials.	Appears to be cheaper than the current method of buying new absorbents and paying to dispose of them after use.	Still being evaluated as of 8/17/04.	1/18/05: Temporarily on hold due to indirect supplier change (Bruckner to Hagemeyer). Will resume feasibility study after June 2005.	Affected operators will be notified and trained if necessary, pending the outcome of this consideration.

Foot Notes:

(\*) indicates cases where the implementation of a source reduction or waste minimization activity designed to reduce risk to human health or the environment may result in the release of a different pollutant or contaminant or may shift the release to another medium. Risks/Benefits column discusses the change in characteristic of the normal waste stream or release and how it will be managed in the affected medium.

These activities are expected to:

*Reduce Hazardous Waste by 46%*  
*Reduce TRI Releases + Transfers by 14%*



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 Green highlights assist the reader in finding expected improvements expected from SR/WM projects

## Toxic Release Inventory (TRI) Detail Page

2003 TRI (Toxic Release Inventory) Chemicals		Type and Amount of Measurable Reduction Anticipated(**)					Year Prior to Year One			5-year Projection -- Tons TRI Rel + Transfers				
Chemical	Activities that Result in a Release of TRI Chemicals	Incremental Improvement Options (Targets)	Expected Source Reduction Tons TRI Releases	Expected Waste Min Tons TRI Transfers	Expected Waste Min Tons TRI Rel+Transf	Implementation Schedule	2003 Releases	2003 Transfers	2003 Rel+Transf	Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008
1,2,4 TMB (Trimethylbenzene)	Paint, Purge	Guns-to-Bells, Block Painting	3.9	14.6	18.5	2003-2005	27.0	100.0	127.0	120.9	114.8	108.5	108.5	108.5
Glycol Ethers	Brake Fill, E-Coat	n/a	0.0	0.0	0.0	n/a	5.5	33.2	38.7	38.7	38.7	38.7	38.7	38.7
Methanol	Windshield Wash Fill, Purge	Block Painting	0.3	5.7	6.0	2003-2004	2.4	39.0	41.4	38.3	35.3	35.3	35.3	35.3
n-Butanol	Paint	Guns-to-Bells, Block Painting	6.8	1.3	8.1	2003-2005	46.5	8.7	55.2	52.6	49.9	47.2	47.2	47.2
Formaldehyde	Paint	Guns-to-Bells, Block Painting	0.5	0.0	0.5	2003-2005	3.5	0.0	3.5	3.3	3.1	2.9	2.9	2.9
Ethylene Glycol	Antifreeze Fill	n/a	0.0	0.0	0.0	n/a	0.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9
MIBK	Paint	Guns-to-Bells, Block Painting	0.8	0.0	0.8	2003-2005	5.5	0.1	5.6	5.3	5.0	4.8	4.8	4.8
Toluene	Gasoline Fill, Glass Install	n/a	0.0	0.0	0.0	n/a	2.9	0.1	3.0	3.0	3.0	3.0	3.0	3.0
Xylene	Purge	Block Painting	7.3	109.5	116.8	2003-2004	50.0	750.2	800.2	741.7	683.3	683.3	683.3	683.3
Manganese Compunds	Phosphate	n/a	0.0	0.0	0.0	n/a	1.6	0.0	1.6	1.6	1.6	1.6	1.6	1.6
Benzene	Gasoline Fill	n/a	0.0	0.0	0.0	n/a	0.6	0.0	0.6	0.6	0.6	0.6	0.6	0.6
Ethylbenzene	Gasoline Fill, Paint	Guns-to-Bells, Block Painting	1.0	0.1	1.2	2003-2005	7.0	0.9	7.9	7.5	7.2	6.8	6.8	6.8
Zinc Compounds	Sealer, Phosphate	n/a	0.0	0.0	0.0	n/a	1.1	0.0	1.1	1.1	1.1	1.1	1.1	1.1
PACs (Polycyclic Aromatic Compounds)	Gasoline Fill	n/a	0.0	0.0	0.0	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Benzo (g,h,i) pyrolene	Engine start, roll test	n/a	0.0	0.0	0.0	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nickel Compunds	Phosphate	n/a	0.0	0.0	0.0	n/a	2.7	0.0	2.7	2.7	2.7	2.7	2.7	2.7
Sodium Nitrite	Phosphate	n/a	0.0	0.0	0.0	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Column Totals >>>>>>>			20.7	131.2	151.9	2003-2005	156.2	934.1	1,090.3	1,040.1	990.0	938.3	938.3	938.3
			Planned SR Tons	Planned WM Tons	Planned SR+WM Tons					Tons Rel+Transf 2003	Est. Tons 2004	Est. Tons 2005	Est. Tons 2006	Est. Tons 2007

14% TRI Reduction Expected

(\*\*) Other factors like consumer demand, unplanned events, and corporate projects can cause actual TRI numbers to vary considerably from these projections. For purposes of planning, this SR/WM must assume constant production levels from the 2003 calendar year, and no unplanned events or further projects. In reality however this is not realistic. TRI numbers will likely vary greatly in the 5 years of this plan, but the SR/WM efforts are still expected to lessen the amount of these TRI releases and transfers produced from these processes by approximately these amounts.

Yellow highlights identify specific SR/WM plan elements required by Texas State Law, ref. 30TAC§335.474

Green highlights assist the reader in finding expected improvements expected from SR/WM projects

Pink highlights show the increase in non-haz waste from de-classifying Haz wastes to non-haz.

## Non-Hazardous Waste Detail

NON-HAZ WASTE				Type and Amount of Measurable Reduction Anticipated				Prior Yr	Yr 1	Update				
Non-Haz Wastes	Activities that Generate Non-Haz Waste	TNRCC WASTE NUMBER	Current Waste Mgt Method	Improvement Options (Targets)	Source Reduction Tons	Waste Min Tons	SR+WM Tons Planned	2003 Tons Non-Haz Waste	2004 Est Tons	2004 Actual	2005 Est Tons	2006 Est Tons	2007 Est Tons	2008 Est Tons
Paint Sludge	Paint particulate abatement and subsequent detack	10095191	Landfill (WM East Oak, OKC, OK)	New De-watering System	0	36	36	729	673	647	670	670	670	670
				Guns-to-Bells	22	0	22							
Mixed Industrial Waste (non-hazardous sealers, rags, debris, and oil filters)	Housekeeping, cleaning, filter changes, unused product residue.	10294091	Landfill (WM East Oak, OKC, OK)	Evaluating rag and absorbent recycling	0	8	8	167	167	200	163	159	159	159
WWT Sandblast (non-routine)(1)	WWT Tanks Refurb	n/a	Daily Cover - City Landfill, Arlington TX	Daily Cover	0	375	375	0	0	0	0	0	0	0
900 Bodyshop Excavation (Non-Routine)(1)	Bodyshop expansion construction	n/a	Daily Cover - City Landfill, Arlington TX	Daily Cover	0	11,000	11,000	n/a	0	0	0	0	0	0
Used Oil	Fluid drips and changes	10062061	Recycle (SafetyKleen, East Chicago IN, 100% Reclaim)	Nothing Planned	0	0	0	42	42	27	42	42	42	42
Antifreeze	Fluid drips and unused product	10332961	Recycling (SafetyKleen, Denton TX and East Chicago IN)	Nothing Planned	0	0	0	3	3	1	3	3	3	3
Phosphate and Filters	Removing sediment from process tanks	10323101	Landfill (WM East Oak, OKC, OK)	Nothing Planned	0	0	0	83	83	85	83	83	83	83
Urethane Liners	Unused product residue	10124061	Landfill (WM East Oak, OKC, OK)	Nothing Planned	0	0	0	54	54	39	54	54	54	54
Crushed Empty Drums	Unused product residue	10133081	Landfill (WM East Oak, OKC, OK)	Nothing Planned	0	0	0	73	73	40	73	73	73	73
Paint Filters	Air filtration	10373101	Landfill (WM East Oak, OKC, OK)	Nothing Planned	0	0	0	169	169	166	169	169	169	169
De-Class'd E-Coat (*)	Getting the Lead out of E-Coat (goes from Haz to Non-haz)	none yet	Landfill (WM East Oak, OKC, OK)	being de-classified from hazardous		-21	-21	0	0	0	21	21	21	21
De-Class'd WWT Sludge (*)	Eliminating unnecessary F019 applicability (goes from Haz to Non-haz)	none yet	Landfill (WM East Oak, OKC, OK)	being de-classified from hazardous		-818	-818	0	0	0	818	818	818	818
<b>Column Totals</b>					22	10,581	10,603	1,320	1,264	1,205	2,096	2,092	2,092	2,092
					Planned SR Tons	Expected Net WM Tons	Net SR+WM Tons	Tons non-haz in 2003	Est. Tons for 2004	Actual Tons 2004	Est. Tons for 2005	Est. Tons for 2006	Est. Tons for 2007	Est. Tons for 2008
What 2003 and 2004 tonnage would be without the Daily Cover efforts:								1,385	12,640					
Difference made by Daily Cover in 2003 and 2004 (TONS):								66	11,375					

Foot Notes:

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(1)	There's no baseline for non-routine materials. These non-routine materials would have been waste, had we not worked with the City to enable their beneficial re-use at the City Landfill.