

Metal Finishing Strategic Goals Worksheet

Welcome to the metal finishing industry's Strategic Goals Program (SGP). The SGP establishes a set of voluntary National Performance Goals for the metal finishing industry that represent "better than compliance" environmental performance for individual facilities. This worksheet is intended to help you track your annual progress toward these goals:

- 50% water reduction
- 25% energy reduction
- 50% reduction in land disposal of hazardous sludges and an overall reduction in sludge generation
- 50% reduction in metals emissions to water
- 98% metals utilization
- 90% reduction in organic TRI emissions
- Reduction in human exposure to toxic materials in the facility and the surrounding community

Basic Instructions:

1. For detailed instructions on completing this form, refer to your SGP Welcome Aboard Kit. To receive a kit, contact Bob McDowell at 716-425-7500 or send e-mail to rmcdowell@strategicgoals.org.
2. If you have recently joined the SGP and are submitting your initial worksheet, complete this form for your baseline year and the most recent complete year (1999). If you have previously submitted SGP data, this worksheet is preprinted with data from your baseline year and for 1998. Use this form to submit 1999 data and to make any corrections or additions to previously submitted data.
3. This form is for use by both job and captive metal finishing facilities. Captives are those, which in a calendar year own more than 50% (area basis) of the materials undergoing metal finishing. Job shops are those, which in a calendar year do not own more than 50% of the materials undergoing metal finishing.
4. This form is for use by metal finishing facilities that perform the following operations defined under 40 CFR 413/433: electroplating, electroless plating, anodizing, coating (chromating, phosphating, and coloring), chemical etching and milling, and printed circuit board manufacturing.
5. Part II requests information regarding your production. Provide data for each relevant factor. Be certain to provide both baseline and current year data, otherwise progress toward meeting the Goals cannot be calculated.
6. **Important change this year:** The 98% metals utilization goal may be met using one of two measurements. These are explained in the detailed instructions. If you select to use the "less than 2% of metals being land disposed" method, complete all parts of the worksheet. If you select to use the 50% overall sludge reduction method, it is not necessary to complete Parts V and IX.
7. If you have any questions concerning this form, contact George Cushnie at 703-264-0039 or send e-mail to geoc@nmfrc.org.
8. Return the completed form to:
National Metal Finishing Resource Center
Technical Offices
3433 Valewood Drive
Oakton, VA 22124

I. Contact and Company Information

Your Name:		e-mail	
Company Name:		Phone:	
Company Address:		Fax:	
Company Address:			
City, State Zip:			
Type of Facility	() Job Shop () Captive Shop		

II. Accounting for Changes in Production

Normalizing Factor	Baseline Year: _____	1998	1999
Metal finishing sales:	\$	\$	\$
Surface square feet processed:	ssf	ssf	ssf
Total number of labor hours for all people working in the metal finishing shop:	hrs.	hrs.	hrs.
Pounds of product or parts manufactured or processed:	lbs.	lbs.	lbs.
313 Production Index			
Other*:	Type: _____ Units: _____ Value: _____	Type: _____ Units: _____ Value: _____	Type: _____ Units: _____ Value: _____

*If you do not track the any of the above factors, select an alternative factor and enter type, units, and value.

III. Water and Wastewater

	Baseline Year: _____	1998	1999
Does your facility discharge any metal finishing process wastewater? If no, go to Part IV.	() Yes () No	() Yes () No	() Yes () No
Volume of raw water purchased:	gal.	gal.	gal.
Volume of metal finishing process wastewater discharged:	gal.	gal.	gal.
Average concentration of metals in wastewater for year indicated:			
Cadmium	mg/l	mg/l	mg/l
Chromium	mg/l	mg/l	mg/l
Copper	mg/l	mg/l	mg/l
Cyanide	mg/l	mg/l	mg/l
Lead	mg/l	mg/l	mg/l
Nickel	mg/l	mg/l	mg/l
Silver	mg/l	mg/l	mg/l
Zinc	mg/l	mg/l	mg/l
Other: _____	mg/l	mg/l	mg/l

IV. Wastewater Treatment Sludge

	Baseline Year: _____	1998	1999
Total amount of wastewater treatment sludge generated:	lbs.	lbs.	lbs.
Total amount of wastewater treatment sludge that is shipped off-site for land disposal:	lbs.	lbs.	lbs.
Average solids content of wastewater treatment sludge:	%	%	%
Sludge dewatering technology used (filter press, sludge dryer, etc.):			

V. Wastes Disposed of in Landfills

This part of the worksheet is optional. Complete this part if you want the SGP to use the "less than 2% of metals being land disposed" method for calculating progress on the 98% utilization goal. If you do not complete this part, the "50% overall sludge reduction method" will be applied. See detailed instructions for a complete explanation.

	Baseline Year: _____	1998	1999
Does your facility ship wastes (F006, tank bottoms, strip solutions) off-site for disposal in landfills? If no, go to Part VI.	() Yes () No	() Yes () No	() Yes () No
Quantity of metals and cyanide disposed of in landfills for year indicated:			
Cadmium	lbs.	lbs.	lbs.
Chromium	lbs.	lbs.	lbs.
Copper	lbs.	lbs.	lbs.
Cyanide	lbs.	lbs.	lbs.
Lead	lbs.	lbs.	lbs.
Nickel	lbs.	lbs.	lbs.
Silver	lbs.	lbs.	lbs.
Zinc	lbs.	lbs.	lbs.
Other TRI metal: _____	lbs.	lbs.	lbs.

VI. Inorganic Emissions to Air

	Baseline Year: _____	1998	1999
Does your facility monitor air emissions of metals or cyanide or can emissions be accurately estimated? If no, go to Part VII.	() Yes () No	() Yes () No	() Yes () No
Quantity of metals and cyanide in air emissions for year indicated:			
Cadmium	lbs.	lbs.	lbs.
Chromium	lbs.	lbs.	lbs.
Copper	lbs.	lbs.	lbs.
Cyanide	lbs.	lbs.	lbs.
Lead	lbs.	lbs.	lbs.
Nickel	lbs.	lbs.	lbs.
Silver	lbs.	lbs.	lbs.
Zinc	lbs.	lbs.	lbs.
Other TRI metal: _____	lbs.	lbs.	lbs.

VII. Organic Emissions to Air and Water

Chemical Name	Quantity of Chemical Released to Air + Water		
	Baseline Year: _____	1998	1999
	lbs.	lbs.	lbs.
	lbs.	lbs.	lbs.
	lbs.	lbs.	lbs.
	lbs.	lbs.	lbs.
	lbs.	lbs.	lbs.

VIII. Energy Use

Energy Source	Baseline Year: _____	1998	1999
Electricity use:	kWh	kWh	kWh
Natural gas use:	therms	therms	therms
Fuel oil use:	gals.	gals.	gals.
Other: _____			

Above energy use data covers (check one): () metal finishing operations only or () entire facility.¹

¹ Captive metal finishing facilities may choose to track progress on the 25% reduction in energy use goal on a facility-wide basis or just for the metal finishing portion of their plant.

IX. Chemical Use

This part of the worksheet is optional. Complete this part if you want the SGP to use the “less than 2% of metals being land disposed” method for calculating progress on the 98% utilization goal. If you do not complete this part, the “50% overall sludge reduction method” will be applied. See detailed instructions for a complete explanation.

	Baseline Year: _____	1998	1999
Can you accurately estimate the quantity of metals used for processing parts? If no, go to Part X.	() Yes () No	() Yes () No	() Yes () No
Average quantity of metals used for year indicated:			
Cadmium	lbs.	lbs.	lbs.
Chromium	lbs.	lbs.	lbs.
Copper	lbs.	lbs.	lbs.
Cyanide	lbs.	lbs.	lbs.
Lead	lbs.	lbs.	lbs.
Nickel	lbs.	lbs.	lbs.
Silver	lbs.	lbs.	lbs.
Zinc	lbs.	lbs.	lbs.
Other TRI metal: _____	lbs.	lbs.	lbs.

X. Reduction in Human Exposure to Toxic Materials

Have your decisions about how to make progress toward the other Goals had a positive impact on exposure levels (i.e., a reduction in exposure) in the facility and the surrounding community? () yes () no

Have you reduced exposures through actions in the areas listed below during the reporting year? () yes () no

If yes, please check all applicable actions in the following tables.

Pollution Prevention	Check if performed or updated during the year indicated		
	Baseline Year: _____	1998	1999
Conducted a facility-wide environmental audit, including:			
Prepared a process map of the facility operations	() Yes () No	() Yes () No	() Yes () No
For each process step, identified raw material and energy inputs	() Yes () No	() Yes () No	() Yes () No
For each process step, identified all outputs (e.g., air emissions, wastewater, hazardous waste, product)	() Yes () No	() Yes () No	() Yes () No
Included auxiliary operations in the process map (e.g., shipping, waste treatment)	() Yes () No	() Yes () No	() Yes () No
Prioritized the waste streams by significance of their environmental impact	() Yes () No	() Yes () No	() Yes () No
Other P2 Actions:			
Wrote a company environmental policy statement which includes pollution prevention	() Yes () No	() Yes () No	() Yes () No
Established a system where all employees can generate, propose, and implement pollution prevention ideas	() Yes () No	() Yes () No	() Yes () No
Investigated opportunities to substitute hazardous chemicals with non-hazardous or less hazardous chemicals	() Yes () No	() Yes () No	() Yes () No
Implemented projects to substitute hazardous chemicals with non-hazardous or less hazardous chemicals	() Yes () No	() Yes () No	() Yes () No
Other (specify):	() Yes () No	() Yes () No	() Yes () No

X. Reduction in Human Exposure to Toxic Materials (continued)

Material Storage and Utilization	Check if performed or updated during the year indicated		
	Baseline Year:_____	1998	1999
All containers are closed	() Yes () No	() Yes () No	() Yes () No
All containers are closed and labeled	() Yes () No	() Yes () No	() Yes () No
On-site storage minimized	() Yes () No	() Yes () No	() Yes () No
Solvent tanks are covered when not in use	() Yes () No	() Yes () No	() Yes () No
Implemented projects to reuse/recover chemicals	() Yes () No	() Yes () No	() Yes () No
Implemented projects to increase material use efficiency	() Yes () No	() Yes () No	() Yes () No
Storage areas are kept clean so spilled materials can be collected and used	() Yes () No	() Yes () No	() Yes () No
Other (specify):	() Yes () No	() Yes () No	() Yes () No

Personal Protective Equipment (PPE)	Check if performed or updated during the year indicated		
	Baseline Year:_____	1998	1999
For applicable processes, proper PPE is always worn	() Yes () No	() Yes () No	() Yes () No
Annual training for proper PPE is conducted	() Yes () No	() Yes () No	() Yes () No
Other (specify):	() Yes () No	() Yes () No	() Yes () No

Industrial Hygiene Practice	Check if performed or updated during the year indicated		
	Baseline Year:_____	1998	1999
Sampling is done when complaints are received and corrective action is taken when result is over the permissible exposure limit (PEL)	() Yes () No	() Yes () No	() Yes () No
Workplace sampling is done regularly; corrective action taken when result is near PEL	() Yes () No	() Yes () No	() Yes () No
Proper ventilation rates are maintained on ventilated processes	() Yes () No	() Yes () No	() Yes () No
Implemented medical surveillance, if warranted	() Yes () No	() Yes () No	() Yes () No
Other (specify):	() Yes () No	() Yes () No	() Yes () No

Employee Training in Environmental Hazards	Check if performed or updated during the year indicated		
	Baseline Year:_____	1998	1999
Spill management system is in place to track causes and implement corrective action for ALL spills and accidents	() Yes () No	() Yes () No	() Yes () No
Trained personnel in container handling and spill response	() Yes () No	() Yes () No	() Yes () No
Trained personnel in proper mixing and monitoring techniques for baths	() Yes () No	() Yes () No	() Yes () No
Implemented SPCC Plan with annual review	() Yes () No	() Yes () No	() Yes () No
Other (specify):	() Yes () No	() Yes () No	() Yes () No

X. Reduction in Human Exposure to Toxic Materials (continued)

Local Emergency Planning Committee (LEPC)	Check if performed or updated during the year indicated		
	Baseline Year: _____	1998	1999
Contingency plan is in place for the LEPC	() Yes () No	() Yes () No	() Yes () No
Regular communication maintained with LEPC	() Yes () No	() Yes () No	() Yes () No
Contingency plans are reviewed during current reporting year	() Yes () No	() Yes () No	() Yes () No
Other (specify):	() Yes () No	() Yes () No	() Yes () No

Other Activities	Check if performed or updated during the year indicated		
	Baseline Year: _____	1998	1999
Specify:	() Yes () No	() Yes () No	() Yes () No
Specify:	() Yes () No	() Yes () No	() Yes () No
Specify:	() Yes () No	() Yes () No	() Yes () No
Specify:	() Yes () No	() Yes () No	() Yes () No

XI. Compliance with Environmental Performance Standards

	Baseline Year: _____	1998	1999
Have you had any environmental inspections in this reporting period?	() Yes () No	() Yes () No	() Yes () No
Have you had any environmental regulatory violations in this reporting period?*	() Yes () No	() Yes () No	() Yes () No

*If yes, please specify the nature of the violation(s) that occurred in the current reporting year:

XII. Resource Utilization & Compliance-related Unit Costs

The following information, provided in this and subsequent years' worksheets, will be used to track trends in certain operating costs, as well as reporting burden for facilities participating in the Strategic Goals Program.

In 1999 , how much did you pay for -
• one thousand gallons of water: _____ \$/1000 gal. (include water and sewer charges)
• one unit of electricity/gas/oil: _____ \$/kwh, therms, or gal. (please circle unit of measure used).
• one pound of sludge sent to a hazardous waste landfill: _____ \$/lb. (include transportation, disposal/recycle)
In 1999 , how much did you pay for -
• laboratory analysis of wastewater and sludge samples: _____ \$/year
In 1999 , how long did it take you to fill out -
• all Form Rs (Toxics Release Inventory): _____ hrs.
• all Self-monitoring Reports (SMR): _____ hrs.
• all Hazardous Waste Manifests: _____ hrs.
• all other environmental reports (name): _____, _____ hrs.

XIII. Data Availability

Data from the worksheets will be made publicly available in the form of aggregate reports (broad summaries of environmental results - by Goal) and individual facility results. However, in order to preserve facility confidentiality, each worksheet sent to the NMFRC is stripped of its facility name and address and replaced with a unique record number before individual facility results are publicly displayed.

Given these precautions, if your company still has unique proprietary concerns about the anonymous display of your facility's results, you may check the "no" box below:

Anonymously include this data in the public release: () Yes () No*

*If you check "No", your Worksheet data will still be aggregated with data from other participating facilities.