

# **STATE OF MISSOURI**

## **METAL FINISHING STRATEGIC GOALS PROGRAM**

**FOR THE ST. LOUIS METROPOLITAN AREA**

### **Program Description**

**Version 4.8  
October 1, 2002**

<b><u>COMMITMENT</u></b> .....	3
<b><u>BACKGROUND: THE NATIONAL STRATEGIC GOALS PROGRAM</u></b> .....	4
<b><u>OVERVIEW: THE MISSOURI (ST. LOUIS) STRATEGIC GOALS PROGRAM</u></b> .....	5
<b><u>HOW THE PROGRAM WORKS</u></b> .....	5
<b><u>THE MO (St. Louis) SGP PERFORMANCE LADDER</u></b> .....	5
TABLE 1.....	6
<b><u>MISSOURI (ST. LOUIS) STRATEGIC GOALS PROGRAM</u></b> .....	6
<b><u>PROGRAM SYSTEM AND ADMINISTRATION</u></b> .....	9
<b><u>THE PERFORMANCE LADDER</u></b> .....	9
Environmental Performance.....	9
Compliance.....	9
<b><u>THE MSL SGP OVERSIGHT COMMITTEE</u></b> .....	10
<b><u>THE SIGN-UP PROCESS</u></b> .....	12
<b><u>WHAT HAPPENS WHEN A METAL FINISHING FACILITY SIGNS UP?</u></b> .....	12
<b><u>WHAT HAPPENS WHEN A POTW/CONTROL AUTHORITY (CA) SIGNS UP?</u></b> .....	13
<b><u>PLACEMENT ON THE LADDER</u></b> .....	13
<b><u>DATA VERIFICATION</u></b> .....	14
<b><u>AWARDING BENEFITS</u></b> .....	14
<b><u>CONCLUSION</u></b> .....	14
<b><u>APPENDIX 1: DEFINITIONS OF THE GOALS</u></b> .....	15
<b><u>50% Water Reduction</u></b> .....	15
<b><u>25% Energy Reduction</u></b> .....	15
<b><u>50% Reduction in Land Disposal of Hazardous Sludges and an Overall Reduction in Sludge Generation</u></b> .....	15
<b><u>50% Reduction in Metals Emissions to Water and Air</u></b> .....	16
<b><u>98% Metals Utilization</u></b> .....	16
<b><u>90% Reduction in Organic TRI Emissions</u></b> .....	17
<b><u>Reduction in Human Exposure to Toxic Materials in the Facility and the Surrounding Community</u></b> .....	17
<b><u>APPENDIX 2: CALCULATING FACILITY PERFORMANCE AND PLACEMENT ON THE LADDER EXAMPLES OF EACH</u></b> .....	18

## COMMITMENT

The following persons have jointly developed this Program Description and are committed to a program consistent to this approach. We recognize that the nature of this program is a dynamic one and that its content evolves day-by-day and month-by-month. All of us embrace the values contained herein and will only look to improve this Program in the months ahead and through the life of the St. Louis SGP.

Jim Alderman  
Watlow

Richard D. Kuntz, PE  
MDNR  
Water Pollution Control Program

Thom Sorrell  
Perkin Elmer Fluid Sciences

Gary Bertram  
US EPA Region VII

Doug Mendoza  
MSD

Bill Stock  
Microfinish Company

Gary Buford  
MDC/Boeing

Nancy Morgan  
MDNR  
Environmental Assistance Office

Julianne Stone  
MDNR  
St Louis Urban Outreach Office

Tim Froeschner  
St. Louis County Dept. of Health

Gene Nickel  
MDNR  
Environmental Assistance Office

June Sullens  
MDNR  
Environmental Assistance Office

Mindy Gampel  
US EPA Headquarters

Michael W. Piel  
Commercial Plating Co.

Rob Theiss  
Theiss Plating

Pat Gleason  
IPC – St. Louis, Inc.

Ron Rosner  
ERM

Tim Wiese  
Siegel/Robert, Inc.

Edmond Hickey  
GKN Aerospace Services, Inc.  
St. Louis

Phil Simpson  
Perkin Elmer Fluid Sciences

David Wilson  
St. Louis Earth Day

Produced by:

Adam R. Saslow  
President - Consensus Solutions, Inc.  
Facilitator

## **BACKGROUND: THE NATIONAL STRATEGIC GOALS PROGRAM**

The National Metal Finishing Strategic Goals Program (SGP) is a voluntary program for both job shop and captive metal finishers — companies within Standard Industrial Classification (SIC) codes 3471 and 3479, and/or regulated by Publicly Owned Treatment Works (POTWs) under 40 CFR 413 or 433. The national program was established in 1998 by a multi-stakeholder group that included state regulators; U.S. Environmental Protection Agency (USEPA); POTWs; metal finishers and their suppliers; and environmental, environmental justice, and labor groups. Its objective is to get metal finishers, government agencies, and other stakeholders working collaboratively to improve the metal finishing industry's environmental performance and reduce its environmental management costs.

To accomplish this, the program defines a set of environmental performance and cost reduction goals for individual metal finishing facilities and the industry as a whole. It also sets forth enabling actions that all stakeholders agree to undertake to help metal finishers achieve the goals. Finally, it establishes a forum in which participants — metal finishers, government agencies and others — can communicate directly and openly with one another about how to address environmental management and regulatory issues.

The environmental performance goals for individual metal finishing facilities are:

- A. 98% of metals ultimately utilized (i.e. less than 2% going to landfills)
- B. 50% reduction in water used\*
- C. 25% reduction in facility-wide energy use\*
- D. 90% reduction in organic TRI emissions\*
- E. 50% reduction of metal emissions to air and water\*
- F. 50% reduction in land disposal of hazardous sludges and a reduction in sludge generation\*
- G. A reduction in human exposure to toxic materials in the facility and the surrounding community

\* Reductions are measured from 1992 (or more recent) “baseline” levels, unless significant reductions were made earlier, in which case the target level should be modified to make it meaningful yet achievable.

Please see Appendix 1 for a more robust discussion of the goals.

The enabling actions cover a broad range of matters such as increasing research and development; developing strategies — including possible changes in regulatory requirements — for improving and reducing the cost of electroplating sludge management; reductions in regulatory requirements for top-performers; compliance, technical, and financial assistance; and enforcement against chronic non-compliers. A

complete list of the program goals and enabling actions, along with further explanation of each, can be obtained at the national program's web site: [www.strategicgoals.org](http://www.strategicgoals.org).

## **OVERVIEW: THE MISSOURI (ST. LOUIS) STRATEGIC GOALS PROGRAM**

The Missouri (St. Louis) SGP is a free, voluntary, multi-stakeholder program open to companies engaged in metal finishing and plating, and government agencies with responsibilities relating to metal finishing operations. It is also open to other entities — technical and financial assistance providers, and environmental and community groups — that can contribute to the achievement of the program's goals.

First and foremost, the program offers participants opportunities for improved communication with one another. Using existing resources, the program provides a more systematic means of disseminating information, identifying opportunities and tools, and addressing systemic issues relating to improved environmental performance within the metal finishing industry. Furthermore, it offers opportunities for metal finishers' environmental accomplishments to be recognized and, where possible, for consideration of how to relieve regulatory burdens on top-performing facilities.

This program was designed to complement the Missouri Environmental Management Partnership (MEMP) and rewards environmental stewardship in many of the same ways as the State of Missouri has already conceived.

### ***HOW THE PROGRAM WORKS***

Very simply, this voluntary program provides incremental benefits for incrementally superior environmental performance. A ladder structure exists to provide greater and more significant benefits to facilities that demonstrate strong environmental stewardship and a solid compliance record.

### ***THE MO (St. Louis) SGP PERFORMANCE LADDER***

Participants in the development of this program have recognized that the benefits that might be given to exemplary facilities under today's laws may be different than those that may be provided under tomorrow's laws. Thus, the list of benefits includes items that can be given to industry today as well as benefits that might be provided as time goes on. These latter benefits are listed in Appendix 3.

The MSL SGP program as of the date of this document is captured in Table 1 below:

**TABLE 1**  
**MISSOURI (ST. LOUIS) STRATEGIC GOALS PROGRAM**

Level	Ladder Requirements		Menu of Benefits
	Environmental Performance	Compliance	
<b>Initial Sign-up – Industry</b>	Completion of the SGP form And submission of the baseline and current year data	<b>None</b>	<p>Certificate of membership</p> <p>Welcome aboard kit</p> <p>MDNR EAO provides assistance:                      Help to facilities in filling out forms                      On-site multimedia compliance assessments for solid waste, hazardous waste, air and wastewater compliance                      TRI Form R assistance                      Pollution prevention site visits, EMS Audits</p> <p>Access to workshops and technical training supported by EPA, MSD and MDNR EAO's staff. These workshops may focus on pollution prevention, regulatory compliance and process improvements (related to environmental gains).</p> <p>St. Louis SGP Handbook including list of applicable policies, websites, training opportunities and grant/loan information</p> <p>Use of the SGP Logo on Corporate Letterhead</p> <p>MSD provides compliance assistance</p>
<b>Bronze</b>	25% Completion of SGP Goals	Zero Tolerance for MOST Severe Violations for One Year  <b>AND</b>	<p>Bronze level recognition</p> <p>At the local limit regulatory point, reduced wastewater monitoring requirements for pollutants not at the facility.</p> <p>Minimum allowable enforcement response for infrequent minor violations for</p>

Level	Ladder Requirements		Menu of Benefits
	Environmental Performance	Compliance	
		No More Than Four Lesser Violations for Previous One Year OR No more than 10.0% Lesser Violations in Sampling	wastewater excursions  Initial/Sign Up Level Benefits and Recognition
<b>Silver</b>	60% Completion of SGP Goals or 50% of Goals and Achiever Status EMS	Zero Tolerance for MOST Severe Violations for One Year AND No More Than Two Lesser Violations for Previous One Year OR No more than 7.5% Lesser Violations in Sampling	Silver level recognition  Reduce wastewater inspections to Federal Minimums  At the federal (e.g., metal finishing) regulatory point, reduced wastewater monitoring frequency to regulatory minimums for pollutants not at the facility  Technology Startup Agreements through MSD  Bronze and Initial/Sign Up Levels of Recognition and Benefits
<b>Gold</b>	95% Completion of SGP Goals or 85% Completion of the Goals and MOPSEP Achiever Plus Status EMS	Zero Tolerance for MOST Severe Violations for One Year AND No More Than One Lesser Violation for Previous One Year OR No more than 5.0% Lesser Violations in Sampling	Gold level recognition  Assistance by MDNR EAO in applying for National Pollution Prevention Roundtable Award, PBT Cup, MVP2 Award and the Governor's Award  Recognition ceremonies including awards, luncheons, etc... as coordinated by the St. Louis SGP Oversight Committee  At the local level regulatory point, reduced wastewater monitoring frequency to Federal Minimums for all present parameters.  Silver, Bronze and Sign Up Levels of Recognition and Benefits

Level	Ladder Requirements		Menu of Benefits
	Environmental Performance	Compliance	
<b>Platinum</b>	100% Completion of SGP Goals or three years at the gold level or 90% of SGP Goals and Achiever Plus Status	Zero Tolerance for MOST Severe Violations for One Year  <b>AND</b>  Zero Tolerance for Lesser Violations for One Year	Platinum Level Recognition  Gold, Silver, Bronze and Sign Up Levels of Recognition and Benefits

## **PROGRAM SYSTEM AND ADMINISTRATION**

### ***THE PERFORMANCE LADDER***

Placement on the ladder is a function of progress along the goals and compliance with environmental laws.

#### **Environmental Performance**

Facilities must submit their data to the National Metal Finishing Resource Center (NMFRC) for the previous year each March. The NMFRC will provide a "report card" no later than May of the same year.

The data and performance will be "normalized" against any one of a number of legitimate factors including possibly (but not limited to): square footage of parts (or work) processed, labor hours and revenues. All normalization data must be verifiable and supported.

Facilities will report their progress to the MSL SGP Oversight Committee (OC) when they elect to be placed on the performance ladder and annually thereafter. The OC will evaluate performance across each of the seven goals based upon the percent of the goal achieved. See Example 1 in Attachment B.

The OC will use the NMFRC report card and its calculations of the percentage achievement relative to each and every goal listed above. NMFRC will assign each facility a percentage number BETWEEN zero and 100%. A facility cannot be penalized for backsliding relative to its 1992 baseline, nor can it receive extra credit for over-achieving relative to the goals. The percentages will be summed and then an average will be taken. This will yield a percentage achievement number or "placement score" which will be used (in concert with compliance data) to place a facility on the ladder. Please see Appendix 2 for a sample calculation.

#### **Compliance**

Philosophically, the group agreed that "leniency" decrease as a company rises on the performance ladder. The group also recognized that paperwork violations were generally less egregious than other breaches of compliance. Compliance is not a requirement for joining the SGP and ALL platers and finishers can join the SGP regardless of their compliance record (they just may not be able to climb the ladder beyond the sign up level).

The regulatory terminology is complex with the severity of violations expressed differently across government entity AND across air, water and waste media.

The MOST severe violations use the following terms:

- Significant Noncompliance (SNC) – in the POTW community
- Class I – hazardous waste violations
- Notice Of Violations (NOVs) – for air violations

Violations of LESSER severity go by the following terms:

- Notice of Violations – in the POTW community
- Class II – hazardous waste violations
- Notice of Excess Emissions (NOEE) – in the air community

The participants agreed that even though paperwork violations are occasionally viewed (in the regulatory sense) as MOST severe, that for purposes of placement on the ladder, they should be grouped along with the LESSER violations (even if such a violation caused an SNC).

The participants agreed on the ladder rungs represented in Table I earlier presented.

It is important to note that the participants believed that the benefits associated with New Technology Start Up Agreements through MSD should apply within this framework. Further, if full wastewater compliance were not achieved during the test phases of a new technology, even though the regulatory agencies could undertake the range of enforcement actions allowed, such transgressions should NOT impact a facility's standing on the performance ladder.

At any and all times, a facility has the right to disengage from the program and/or appeal to the OC for additional consideration.

## ***THE ST. LOUIS SGP OVERSIGHT COMMITTEE***

The St. Louis SGP is designed to require some administration at BOTH the national level AND the regional/state level. In the early stages, the administrative “burden” is national. The sign-up process is centralized and worksheet submittal activities are managed by the National Metal Finishing Resource Center (NMFRC).

Throughout the life of the program, all participants should meet at least annually to monitor the success of the program and improve upon it. These activities should not be confused by the true management of the St. Louis SGP which falls largely to the OC. The OC is responsible for the overall well being of the program, and for review and placement of facilities on the ladder. The full range of OC tasks and responsibilities include:

1. Evolution of the program
2. Development of bylaws
3. Placement of participants on ladder
4. Movement of participants on ladder
5. Ensuring the distribution of benefits
6. Removal of barriers to success
7. Convening subcommittees where necessary
8. Convening annual meetings of all participants (It was suggested that the participants all meet twice for the first year.)

At all times, participants are welcome to get involved in the operations and oversight of the program. The group holds open meetings at which it sets program policy. Membership is chosen by the constituency-based vote of participant groups. In this inaugural year (2001) in which the program is based in St. Louis, the following structure and membership was decided:

<b>Seat</b>	<b>Initial Member</b>
Federal	Gary Bertram
State	Gene Nickel
Local POTW	Doug Mendoza
Industry #1	Rob Theiss
Industry #2	Pat Gleason

The “term of office” will be two years. In an effort to ensure all knowledge is not lost every two years, the terms are to be staggered. Membership and representation can and should be modified during the life of the program.

## ***THE SIGN-UP PROCESS***

### **WHAT HAPPENS WHEN A METAL FINISHING FACILITY SIGNS UP?**

#### **Industry**

1. Sends in Statement of Commitment to Environmental Assistance Office (EAO).
2. Begins working on baseline worksheets;
3. Works toward meeting goals and implementation of Pollution Prevention (P2) practices;
4. On a yearly basis, turns in worksheets to measure progress toward goals; sends worksheets to National Metal Finishing Resource Center (NMFRC)
5. Determines when to request placement on the SGP ladder and notifies the OC accordingly; and,
6. Receives benefits in accordance with their standing on the ladder.

#### **MDNR Environmental Assistance Office (EAO)**

1. Receives notification of Sign Up and sends New SGP Participant information to appropriate government (MSD, EPA) representatives;
2. Sends out Welcome Aboard Kit and Handbook to New SGP Participant. (Welcome Aboard Kit includes: baseline worksheets and baseline worksheet instructions;)
3. Reminds members of missed baseline/annual worksheets.
4. Contacts new participants to offer on-site technical assistance; and,
5. Offers benefits as listed on Performance Level worksheet as applicable for each participant and the Level they have reached.

#### **National Metal Finishing Resource Center (NMFRC)**

1. Upon receiving baseline worksheets, enters data for Participant into database and monitors percentage of goals achieved; and,
2. On a yearly basis, enters data from worksheets for Participant and sends out a progress report to the participant.

#### **Metropolitan St. Louis Sewer District (MSD)**

1. Offers benefits as listed on Performance Level worksheet as applicable for each participant and the Level they have reached.

## **WHAT HAPPENS WHEN A PUBLICLY OWNED TREATMENT WORKS (POTW)/CONTROL AUTHORITY (CA) SIGNS UP?**

### **POTW/CA**

1. Mails or faxes in Statement of Commitment sheets to National Program Manager at EPA HQ;
2. Reviews Welcome Aboard Kit Implementation Guidance Material for ideas of where to begin and solicit help from other participating POTWs/CAs if desired;
3. Evaluate goals and Performance Levels, select current benefits and/or add new benefits to offer SGP Industry Participants;
4. Hold Metal Finisher Recruitment meeting for facilities within area or contact individual metal finishers to acquaint them with SGP and encourage sign-up;
5. Contact participating metal finishers in area; and,
6. Offer benefits chosen to participating facilities as they move to new Performance Levels annually.

### **EPA HQ**

1. Upon receiving Statement of Commitment, sign-up POTW/CA
2. Notify EPA Region representatives and M DNR of new participating POTW/CA
3. Send POTW/CA Welcome Aboard Kit containing Program Description

### **EPA Region 7**

4. Send welcome E-mail, phone or letter to new POTW/CA, offer any suggestions and give numbers of other participating POTWs/CAs who may be able to offer suggestions; and,
5. Add any additional benefits to the performance ladder that new participant offers.

## ***PLACEMENT ON THE LADDER***

Placement on the ladder is a function of both environmental performance and recent compliance status. A company wishing to be placed on the ladder will:

- Write a short letter to the chair of the OC requesting placement on the ladder at a specific level;
- Include the most recent "Report Card" from the NMFRC; and,
- Provide assurance (through self-certification or other means) of recent compliance history across all regulated media.

The OC will review the aforementioned materials and place the facility appropriately on the St. Louis SGP Performance Ladder.

The developers of this program believe strongly in the honor system. That said, there was broad agreement that each case of alleged falsified information should be presented to the Oversight Committee for evaluation. The purpose of this action is to give the benefit of doubt to facilities that may have completed the form in good faith. Where a facility DOES falsify information, it is agreed that they be removed from the program for one year's time at which time they could be reinstated if the OC so chose.

### ***DATA VERIFICATION***

The OC will randomly verify the compliance history of at least 10% of the facilities requesting placement in any given year at the Bronze or Silver Levels. Where a facility requests gold or platinum status, the Chair of the OC will always coordinate a review of compliance history across all media.

### ***AWARDING BENEFITS***

Benefits will be awarded from July 1 to June 30 of any given calendar year. Notification of placement on the ladder will be the responsibility of the OC and the distribution of awards will be ensured by that group.

### **CONCLUSION**

The multi-stakeholder group that has designed and is overseeing the St. Louis SGP will continually assess the success of the program in achieving its objectives; increasing the number of participating companies and POTWs and helping them make substantial progress towards the goals. Program elements will be evaluated on this basis, as will any proposed additional elements.

The group will pay particularly close attention to whether the current approach to incentives and rewards for progress towards the goals by participating companies is effective. The St. Louis SGP currently relies heavily on the inherent — and often hidden — economic advantages of achieving the environmental performance goals. The extent to which this will provide sufficient incentives for companies to participate and work to achieve the goals is unknown. The oversight committee is committed to evaluating this on an ongoing basis and making changes as needed to make the program a success.

At the same time, the group recognizes that both the program as a whole and its various elements are dynamic and stakeholder driven (as is the oversight committee itself); it will evolve in the direction deemed best by those involved at any given time.

## **APPENDIX 1: DEFINITIONS OF THE GOALS**

### ***50% Water Reduction***

This goal is met when a facility has an annual water usage that is 50% or less of its baseline (1992) water usage, adjusted for any changes in the facility's level of production. Companies with zero discharge for the current year automatically achieve this goal.

Companies may select to base progress on either the volume of water purchased or volume of metal finishing process wastewater discharged. Water purchased is a more accurate measurement because it is easily tracked using water bills and/or totaling water meters. However, many companies have a significant disparity between volume purchased and volume of process wastewater discharged. This is due to evaporative losses plus non-metal finishing process uses of water such as lavatories, cooling, and the presence of non-metal finishing industrial processes. In these cases, companies may submit calculated values for discharges based on total water purchased and subtracting out non-process water uses. In any event, the same methodology should be used for completing the baseline and current year worksheets. The company should retain supporting records or calculations.

### ***25% Energy Reduction***

This goal is achieved when a facility's total annual energy consumption is 25% less than its baseline (1992) total energy consumption. 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.

Progress on the 25% energy reduction goal is based on all sources of energy purchased by the facility, including electricity, natural gas, fuel oil, and propane. A reduction of each energy source is not necessary to achieve this goal. To calculate progress, the value of each energy source is converted to BTUs and summed. The goal is met if the sum of BTUs for the current year are 25% or less than the baseline year.

### ***50% Reduction in Land Disposal of Hazardous Sludges and an Overall Reduction in Sludge Generation***

This goal is achieved when a facility reduces its baseline (1992) annual quantity of hazardous wastewater treatment sludge (F006, F019) that is disposed of in landfills by 50% or more and achieves an overall reduction in the quantity of wastewater treatment sludge generated. Companies with zero wastewater sludge generation for the current year automatically achieve this goal.

Companies may achieve the 50% reduction goal by decreasing the quantity of sludge shipped to landfills, recycling sludge off-site, and/or de-listing their sludge. Sludge quantity is calculated on a dry weight basis.

### **50% Reduction in Metals Emissions to Water and Air**

This goal is achieved when the sum of annual emissions of TRI metals and cyanide to air and water from a facility are reduced by 50% from the baseline year (1992) quantity. Companies with zero emissions for the current year automatically achieve this goal.

To achieve this goal it is not necessary to reduce emissions for each individual metal or cyanide. The comparison of baseline and current year data is based on the sum of all TRI metals plus cyanide.

### **98% Metals Utilization**

This goal can be achieved in one of two ways: (1) a facility is land-disposing 2% or less of TRI metals used or (2) a facility reduces their overall wastewater treatment sludge generated by 50% or more from their baseline year (1992) quantity.

The optional sludge reduction measurement was recently implemented because many companies operate processes that do not lend themselves to the utilization calculation. For example, processes such as etching and electropolishing remove metal from the parts, which makes tracking utilization difficult or impossible. Companies are free to select either method of tracking progress toward the 98% utilization goal.

The “land-disposing of 2% or less” method does not require baseline data; the calculation is based on current year data only. The following rules help to define this goal:

- Land disposing includes discharging to a POTW and disposing of metals in landfills (includes disposal of hazardous or non-hazardous sludges, spent solutions, and other forms of wastes).
- Metals recycled off-site are considered as utilized.
- “Metals used” are defined as the quantity of TRI metal used for finishing purposes (i.e., added to a tank as anodes or chemical compounds). It does not include the base metal (i.e., part being plated).
- Cyanide is not considered in the utilization calculation; only TRI metals are considered.
- When chemical compounds are used, the quantity is expressed as “metal.” For example 100 lbs. of chromic acid flakes (CrO<sub>3</sub>) contains 52 lbs. of chromium as metal.
- 98% utilization of each TRI metal is not necessary to achieve this goal. The weights of all TRI metals are summed during the utilization calculation.

The overall 50% sludge reduction method is based on a comparison of baseline and current year data. Sludge quantity is determined on a dry weight basis. Companies with zero sludge generation for the current year automatically achieve this goal.

### ***90% Reduction in Organic TRI Emissions***

This goal is achieved when sum of the annual emissions of TRI organic compounds to air and water from a facility are reduced by 90% from the baseline year (1992) quantity. Companies with zero emissions for the current year automatically achieve this goal.

It is not necessary to achieve 90% reduction for each TRI organic compound used. The weights of all TRI organics are summed during the utilization calculation.

### ***Reduction in Human Exposure to Toxic Materials in the Facility and the Surrounding Community***

This goal is achieved when a company has performed or updated all actions identified in the "reduction in human exposure to toxic chemicals" section of the worksheet in the reporting year. Note that this goal does not compare the baseline and current year activities. If a particular action is not applicable (e.g., solvent tanks are covered when not in use") it is counted as achieved.

## APPENDIX 2: CALCULATING FACILITY PERFORMANCE AND PLACEMENT ON THE LADDER EXAMPLES OF EACH

### Example 1:

Facility X used 10,000,000 Kilowatt Hours (kwh) in 1992. The National Goal implies that once normalized, energy usage must be 7,500,000. In 1999, Facility X reports normalized energy use of 8,000,000 kwh – a 20% reduction and 80% of the achievement of the goal.

Facility X gets credit for 80% along this criterion.

### Example 2:

Placement on the ladder is based on an average achievement rate. Facilities “score” their progress as indicated above. They then add and average their performance across the seven goals.

<b>Goal</b>	<b>Score</b>
98% metals utilized on products	10.0%
50% reduction in water use	45.0%
25% reduction in energy use.	80.0%
90% reduction in organic Toxic Release Inventory emissions;	20.0%
50% reduction in metals emissions to air and water;	0.0%
50% reduction in land disposal of hazardous sludge and a reduction in sludge generation;	10.0%
Reduction in human exposure to toxic materials in the facility and the surrounding community	75.0%
<b>Average and “Placement Score”</b>	<b>30.0%</b>