



THE ENVIRONMENTAL
SWAT TEAM

ENVIRONMENTAL COMPLIANCE IN THE
ELECTRO/METAL PLATING SECTOR

An inspection sweep by the
Environmental SWAT Team



Ensuring A High Level Of Environmental Protection

The Environmental SWAT Team's mission is to ensure compliance with Ontario's environmental laws and foster a level playing field for businesses through tough, effective and fair enforcement.

While strong enforcement is necessary to ensure compliance, we also encourage companies to share responsibility and proactively come into compliance with Ontario's environmental laws.

While the majority of individuals and companies comply with Ontario's environmental laws, some do not. That is why the government of Ontario has strengthened its environmental enforcement efforts through the Environmental SWAT Team.

The Environmental SWAT Team's mission is to ensure compliance with Ontario's environmental laws and foster a level playing field for businesses through tough, effective and fair enforcement. The work of the team complements the significant number of inspections conducted by the ministry's 22 area and district offices.

The Environmental SWAT Team focuses on sectors that have high non-compliance rates and/or may have a significant impact on public health and the environment due to the nature of their operations. The electro/metal plating sector was identified as a priority sector to inspect, since the sector's processes and waste products could have a significant impact on the environment.



About the electro/metal plating sector

There are approximately 450 registered electro/metal plating businesses in Ontario, employing about 15,000 people and producing \$2.5 billion in annual revenue. The Ontario electro/metal plating industry is mainly comprised of small independent businesses. Most companies have fewer than 50 employees, are privately owned and managed by the employer. A number of large companies also conduct electro/metal plating operations as part of their overall operations (for example, companies in the steel, auto parts and aerospace industries).

Electro/metal plating companies coat finished goods with metals, such as chrome, gold and zinc. Examples of metal plating products range from home furnishings and kitchen utensils to chrome-plated car parts and anodized aluminum.

Wastes generated from the electro/metal plating operations generally include: spent solutions containing metals, rinse waters (wastewater) and sludges. When present in sufficient concentration, nearly all of the wastes produced by metal-finishing operations are directly toxic to humans and when in discharges or spills will have negative impacts on the environment.

View of an electro/metal plating shop and dip tank line.

Where Did SWAT Conduct Inspections?

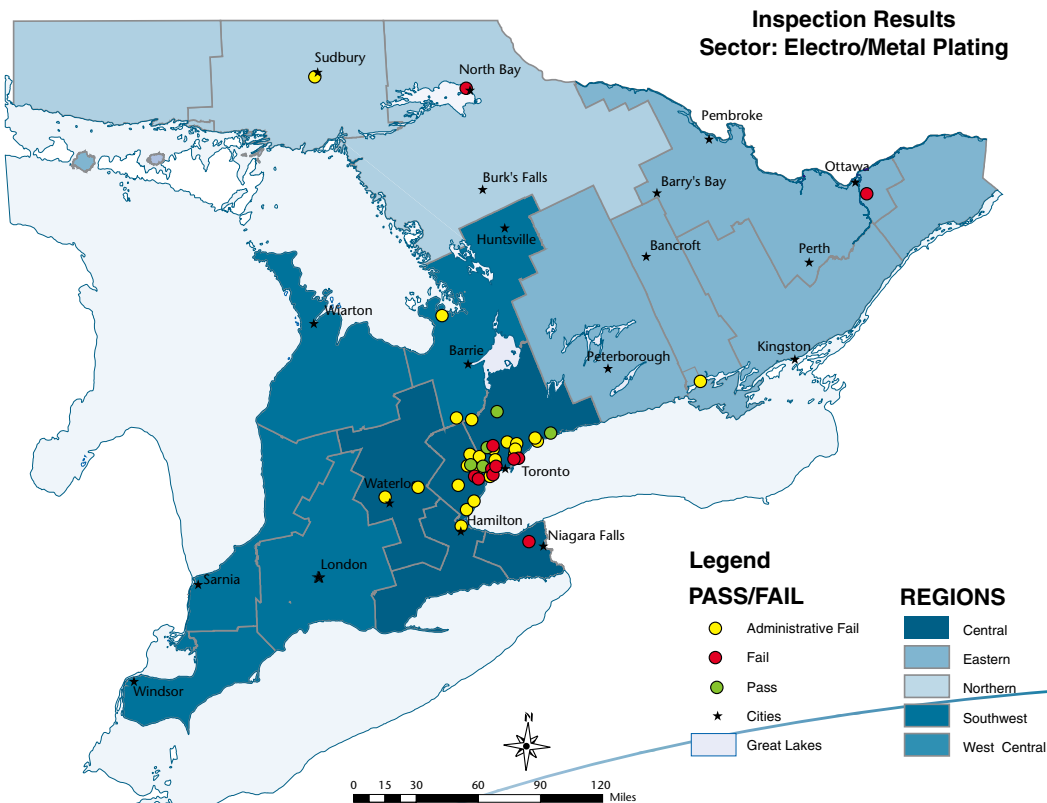
The Environmental SWAT Team conducted an inspection sweep of 71 electro/metal plating companies.

When inspecting relatively large sectors such as electro/metal plating, the Environmental SWAT Team works closely with ministry district staff and looks at data from various ministry sources to select which companies to inspect. Decisions are based on a variety of criteria, including records of non-compliance and the need to collect additional information.

The Environmental SWAT Team conducted an initial inspection sweep of 71 electro/metal plating companies, from December 2000 to July 2001. Since July 2001, the officers have continued to work in this sector to ensure non-compliant companies have taken the required corrective action. In addition, inspectors from the ministry's

district offices continue with inspections of other electro/metal platers to ensure environmental compliance.

Of the 71 companies inspected by the Environmental SWAT Team, 61 were in operation and 10 were no longer in business (the officers conducted inspections of these 10 companies to confirm that they were no longer operating in the metal-plating business). The team completed 49 inspections of electro/metal platers in the Greater Toronto Area (GTA) including York/Durham, and Halton/Peel regions. The team completed a further 12 inspections of electro/metal platers in the following areas: Barrie (includes Midland and Tottenham), Belleville, Guelph (includes Waterloo), Hamilton, Niagara (includes Thorold), North Bay, Ottawa and Sudbury.



Metal Plating Companies Ordered To Take Corrective Action

Of the 61 inspections conducted from December 2000 to July 2001, 52 companies (approximately 85 per cent) required some enforcement action to increase compliance.

As of November 2002, the companies inspected have complied with 95 per cent of the orders issued by the Environmental SWAT Team.

When encountering an environmental violation, inspectors have the discretion to use several abatement tools:

- Issue Provincial Officer Orders. Provincial Officer Orders list the corrective action the companies/individuals must take in order to comply with Ontario's environmental laws. While orders do not carry a monetary fine they do often require an investment of both time and money for the companies to comply.
- Issue *Provincial Offences Act* (POA) tickets and summonses. Tickets carry a fine of up to \$500 and are issued when companies/individuals have violated

Ontario's environmental laws (for example, failure to obtain a Certificate of Approval for Air).

- Refer companies to the Ministry of the Environment's Investigations and Enforcement Branch (IEB). Potentially serious cases are referred to IEB for further review, which could lead to the laying of charges.

The abatement tools issued to the companies as a result of SWAT's inspections are summarized in Table 1.

Table 1: Inspection Results

District or Area Office	Inspections	Provincial Officer Orders	<i>Provincial Offences Act</i> Notices/Summonses/Tickets
Barrie	2	8	
Belleville	3	3	
Guelph	2 (1)	2	
Halton/Peel	10 (2)	8	2
Hamilton	1	0	
Niagara	1	1	
North Bay	1	1	
Ottawa	1	1	2
Sudbury	1	0	1
Toronto	29 (5)	37	4
York/Durham	10 (2)	9	
Totals	61 (10)	70	9

Closed and open files are included in the table. Numbers in brackets reflect

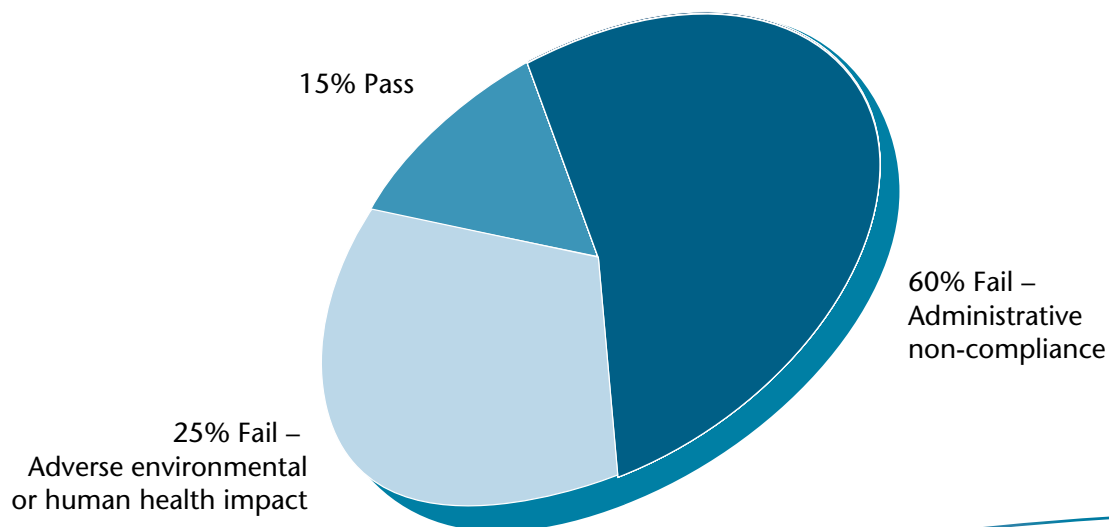
Of the 61 inspections conducted, 52 companies (approximately 85 per cent) required some enforcement action to increase compliance. 51 companies (approximately 84 per cent) received at least one Provincial Officer Order, and nine companies (approximately 15 per cent) received tickets for infractions under the *Provincial Offences Act*.

Seven of the companies that received Provincial Officer Orders to take corrective action were also referred to the ministry's Investigations and Enforcement Branch because of the potential scope of violations found; these cases did not, however, present an immediate environmental/health threat to the communities.

As the cases are currently under investigation, no further details are being released. Nine companies (15 per cent) were deemed fully compliant and did not require any enforcement action.

Of the 52 companies that failed the inspection, 15 companies (25 per cent) failed the inspection due to anticipated or potential risk to public health or the environment. 37 companies (60 per cent) failed to meet one or more administrative requirement of the regulation. See Figure 1.

**Figure 1: Electro/metal Plating Compliance Summary
(percentages based on 61 companies inspected)**



Checking For Environmental Compliance

During the on-site inspections, the inspectors focused on three areas:

- Discharge of air contaminants
- Spill management, and
- Waste management.

During the on-site inspections of electro/metal platers, the inspectors typically focused on:

- **Discharge of air contaminants.** The inspectors checked that companies had ministry-issued Certificates of Approval for the levels of exhausted materials. For example, they inspected plating baths to verify that the emissions from these operations to the outside were in accordance with the companies' Certificates of Approval for air exhausts from stacks at the facilities;
- **Spill management.** Since there are hazardous materials on site, the inspectors verified that the companies employed proper spill management practices and had spill contingency plans in place;

- **Waste management.** The team ensured that wastes generated by the companies were registered with the ministry. They also inspected how waste was stored and transferred from the sites. If waste material was treated on site, the inspectors reviewed the waste treatment facilities to ensure that the operations were in compliance with the companies' Certificates of Approval.

The inspectors also reviewed company records and conducted a visual inspection of the buildings and property for any evidence of air emissions and environmental impacts to the property, such as staining around air vents or storm sewers and catch basins and evidence of spills.



Plating bath showing electrodes in an electrolytic metal plating solution. The object to be plated is immersed in the solution. An electrical current is then passed through the conducting solution, reducing metal ions and depositing them onto the object to be plated.

Common Issues Of Non-Compliance

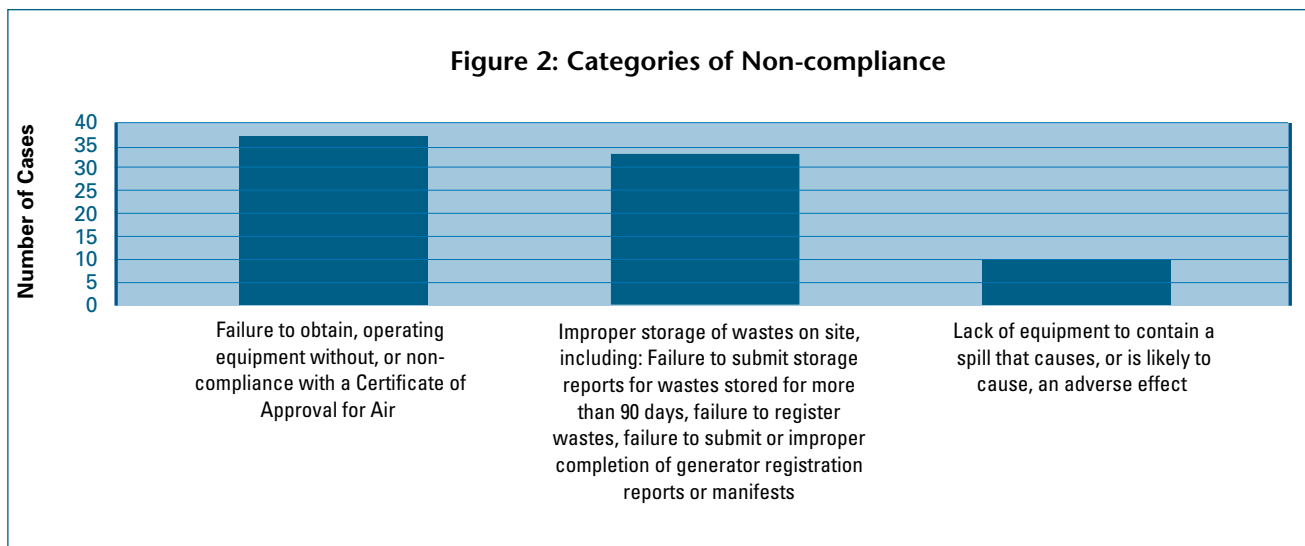
The most common problems found included:

- Failure to obtain, operating equipment without, or non compliance with a Certificate of Approval for Air;
- Improper storage of wastes on site;
- Lack of equipment to contain a spill that causes, or is likely to cause, an adverse effect.

Among the companies inspected, the Environmental SWAT Team found non-compliance issues that ranged from administrative problems, such as failure to keep records of disposed waste, to more serious concerns, such as improper venting of air emissions, improper storage of waste on site and in at least one case, possible illegal discharge of waste. The most common problems reported in the plating sector included:

- 37 cases – Failure to obtain, operating equipment without, or non-compliance with a Certificate of Approval for Air (*Environmental Protection Act (EPA) section 9*)

- 33 cases – Improper storage of wastes on site, including: Failure to submit storage reports for wastes stored for more than 90 days, failure to register wastes, failure to submit generator registration reports or manifests, or improper completion of generator registration reports or manifests (*Ontario Regulation 347 section 18*)
- 10 cases – Lack of equipment to contain a spill that causes, or is likely to cause, an adverse effect (*EPA section 157.1(4)*).



Improving Environmental Performance

The Ministry of the Environment and the industry association, Canadian Association of Metal Finishers, have developed a compliance assistance project to help electro/metal platers improve their environmental performance.

As of November 2002, the companies inspected by the Environmental SWAT Team have complied with 95 per cent of the Provincial Officer Orders issued. The team continues to confirm that companies who were issued orders have taken the required corrective action: The inspectors either pay another visit to the facilities or receive proof from the facilities that they have complied with Ontario's environmental laws.

The ministry also continues to work closely with the sector to communicate its findings and encourage proactive compliance. The team has provided information about compliance issues within the electro/metal plating sector (see Figure 2) to the ministry's New Program Development Branch. This branch has collaborated with the industry association, Canadian Association of Metal Finishers (CAMF), to develop a compliance assistance project to help electro/metal platers improve their environmental performance. As part of the project, CAMF provides

specialized assistance to its member companies, such as, training, on-site support and 1-800 number help lines. For more information on this project, visit the CAMF website at: www.camf-acfm.com.

The Ministry of the Environment also continues with its strong enforcement efforts: The district offices will continue to inspect electro/metal platers within their areas and SWAT may also conduct a follow up inspection sweep of this sector.

You can find out more about the Environmental SWAT Team by visiting our website at: www.ene.gov.on.ca/envision/swat/, or call the Environmental SWAT Team office at 416-314-4278. You can also phone the ministry's toll-free, 24-hour public hotline to report acts of pollution: 1-866-MOE-TIPS (1-866-663-8477).

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