UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Feb 17, 2005

In Reply Refer To: WTR-7

Jim Scocca, Production Manager
Peninsula Metal Fabrication
2221 Ringwood Avenue
San Jose, California 95131

Dear Mr. Scocca:

Enclosed is the report for EPA's August 6, 2004 compliance evaluation inspection of Peninsula Metal Fabrication. We request that you submit a short response to each specific finding in the numbered items 2.0 - 5.0 of this report by March 30, 2005.

The main findings are summarized below:

1 The San Jose/Santa Clara permit did not apply the correct Federal standards for metal finishing. The permit correctly applied local limits. The Federal standards apply without adjustment to the discharges from iron phosphating but must be adjusted to account for dilution of the discharges from jet-milling.

2 Neither iron phosphating or jet-milling are expected to generate the regulated pollutants at the levels or in the dissolved form anticipated to require treatment equivalent in design to the best-available-technology models used in setting the Federal standards. There is also no evidence of any bypassing of the existing treatment on-site.

3 Coordination of sampling schedules would ensure that there are at least two samples for zinc for both sampling points in each of the months with sampling results. This makes it more likely that sampling shows compliance with the monthly-average zinc standard.

We thank you for your cooperation during our inspection. Please send copies of any submittal to the San Jose/Santa Clara as well as to us. If you have any questions, please feel free to contact me at (415) 972-3504 or by e-mail at arthur.greg@epa.gov.

Sincerely yours,

Original signed by:
Greg V. Arthur

Greg V. Arthur, Envr. Engr.
CWA Compliance Office

Enclosure

cc: Jim Komatsu, San Jose/Santa Clara
Mike Chee, RWQCB

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION 9

CLEAN WATER ACT COMPLIANCE OFFICE

NPDES COMPLIANCE EVALUATION INSPECTION REPORT

Industrial User:	Peninsula Metal Fabrication 2221 Ringwood Avenue, San Jose, California 95131 Metal Finishing (40 CFR 433)
Treatment Works:	San Jose/Santa Clara Water Pollution Control Plant (NPDES Permit CA0037842)
Dates of Inspection:	August 6, 2004

Inspection Participants:

US EPA:	Greg V. Arthur, CWA Compliance Office, (415) 972-3504 Meg Masquelier, CWA Compliance Office, (415) 972-3536
RWQCB:	No Representative
City of San Jose:	Jim Dickinson, Industrial Waste Inspector, (408) 945-5472 Jim Komatsu, Industrial Waste Inspector, (408) 945-5478
Peninsula Metal Fab:	Larry Quinnell, Program Manager, (408) 432-9570 Jim Scocca, Production Manager, (408) 432-9570

Report Prepared By:	Greg V. Arthur, Environmental Engineer January 30, 2005

Section 1

Introduction and Background

1.0 Scope and Purpose

On August 6, 2004, EPA conducted a compliance evaluation inspection of Peninsula Metal Fabrication in San Jose. The purpose was to ensure compliance with the Federal regulations covering the discharge of non-domestic wastewaters into the sewers, in particular to ensure:

- Classification in the proper Federal categories;
- Application of the correct standards at the correct points;
- Consistent compliance with the standards; and
- Fulfillment of Federal self-monitoring requirements.

Peninsula Metal Fabrication is one of 13 significant industrial users ("SIUs") in San Jose/Santa Clara Water Pollution Control Plant service area whose compliance was assessed as part of EPA's 2004 evaluation of the San Jose/Santa Clara pretreatment program. San Jose/Santa Clara received a report prepared by Tetra Tech, the State of California's contractor. The industrial users received or will receive individual reports from EPA. The inspection participants are listed on the title page. Masquelier conducted the inspection on August 6.

1.1 Process Description

Peninsula Metals Fabrication is a large parts metal fabrication shop operating at 2221 Ringwood Avenue in San Jose. Peninsula Metals Fabrication fabricates parts from stainless steel parts and rarely from aluminum. Peninsula Metal Fabrication performs jet-garnet sand milling, sheet metal machining, punch press, braking, welding, forming, and drilling, as well as dry-booth painting and iron phosphating preparation. The iron phosphating line, which consists of alkaline degreasing with a rinse, and iron phosphating with two rinses, was not in operation on the day of this inspection. Although the tanks were empty, Peninsula Metal Fabrication maintains them ready for future use.

According to the Program Manager, the operations began in 1979. The phosphating line was later moved and the dual jet-milling benches added in 1999 and 2004. Peninsula Metal Fabrication owns the parts it fabricates.

1.2 Waste Streams

Abrasive Jet-Machining – The operations include two large abrasive jet-milling benches. Each employs a high-pressure jet of a garnet sand slurry to cut metal plate and sheet metal. The spent garnet slurry and the abraided metal flecks are caught in the underlying capture tanks, which overflow through treatment to the sewers. The water in the capture tanks also circulate through a holding tank which feeds back into the jet-mills. The benches do not circulate the spent garnet sand. The holding tank and the capture tanks build up solids made of spent garnet sand and metal flecks.

Phosphating Line Spents - The imparted contamination from the processing of parts and the progressive drop in solution strength usually results in the generation of spent solutions. At Peninsula Metal Fabrication, each metals processing step (alkaline degreasing in Tank 1, iron phosphating in Tank 4) generates a spent solution which is drained to the sewer. However, the iron phosphating line was not in operation on the date of this inspection.

Phosphating Line Rinses – At Peninsula Metal Fabrication, each metals processing step involves static rinses (Tank 2 following alkaline degreasing, Tanks 4 and 5 following iron phosphating). Spents from these static rinse tanks are drained to the sewer. However, the iron phosphating line as not in operation on the date of this inspection.

Other Operations – The machining steps generate a single water-based coolant spent. There is no wastewater generated by the dry-booth painting line.

Residuals – Peninsula Metal Finishing generates spent garnet and metal fleck solids, and spent cartridge filters from the abrasive jet-milling operations.

1.3 Wastewater and Waste Handling

Sewer Discharge – Process wastewaters discharge into the sewers through two identified sewer inlets designated in this report as IWD-1 and IWD-2. Wastewaters from the iron phosphating line discharge without treatment to the sewers through IWD-1.

Photo No.1 – Point IWD-1

All iron phosphating wastewaters discharge to a floor drain to the sewers through the small sampling box that serves as IWD-1.

Jet-milling capture tank overflows and reverse osmosis reject discharge to the sewers through IWD-2. The jet-milling capture tank overflows outlet through cartridge filters and a small settling tank prior to discharge to the sewers. Captured jet-milling solids, spent cartridge filters, and spent machining coolants are hauled off-site as non-hazardous. See Appendix 1 for a schematic of wastewater handling.

1.4 Wastewater Discharge Permitting

San Jose/Santa Clara issued permit No. SJ-438B to Peninsula Metal Finishing authorizing the discharge of process wastewaters to the sewers through two sewer inlets. The sample point for the iron phosphating line is the small sample box located behind the phosphating line next to the shop wall, referred to in this report as IWD-1. The sample point for the abrasive jet-milling benches is a pan immediately after filtration and settling, referred to in this report as IWD-2. The permit sets limits and self-monitoring requirements for both IWD-1 and IWD-2. The permit also specifies sampling protocols and includes the general provisions of the San Jose City Code (§15 et seq.) that apply to all non-domestic discharges to the San Jose sewers.

Section 2

Sewer Discharge Standards and Limits

Federal categorical pretreatment standards (where they exist), national prohibitions, and the local limits (where they exist) must be applied to the sewered discharges from industrial users. 40 CFR 403.5 and 403.6.

2.0 Summary

The Federal metal finishing standards, national prohibitions, and local limits apply to both IWD-1 and IWD-2. The San Jose/Santa Clara permit misapplied the Federal job-shop electroplating standards but appropriately applied the local limits. See Appendix 2 for the discharge requirements, and Appendix 4 for a list of the regulated toxic organics.

Requirements

- The permit must apply the Federal pretreatment new source standards for metal finishing to IWD-1 and IWD-2.
- The Federal standards either must be adjusted to account for dilution from RO reject at IWD-2 or must be applied without adjustment to only the treated jet-mill overflows.

Recommendations

- The RO reject should be replumbed downstream of IWD-2.

2.1 Classification by Federal Point Source Category

Peninsula Metal Fabrication qualifies as a metal finisher subject to the Federal standards in 40 CFR 433. The facility does not qualify as a job-shop electroplater subject to the Federal standards in 40 CFR 413 because metal finishing is performed as part of the on-site fabrication of metal parts and assemblies. Federal standards are self-implementing which means they apply to regulated waste streams even if they are not implemented in a permit.

2.2 Local Limits and National Prohibitions

Local limits and the national prohibitions are meant to express the limitations on non-domestic discharges necessary to protect the sewers, treatment plants and their receiving waters from adverse impacts. In particular, they prohibit discharges that can cause the pass-

through of pollutants into the receiving waters or into reuse, the operational interference of the sewage treatment works, the contamination of the sewage sludge, sewer worker health and safety risks, fire or explosive risks, and corrosive damage to the sewers. The national prohibitions apply nationwide to all non-domestic sewer discharges. The San Jose local limits apply to non-domestic discharges in the San Jose/Santa Clara service area.

2.3 Federal Categorical Pretreatment Standards
Metal Finishing - 40 CFR 433

Applicability - Under 40 CFR 433.10(a), the metal finishing standards apply to the process wastewaters from all of the metal finishing lines and from the powder coating operations because they involve chemical coating (phosphating). The metal finishing standards "... apply to plants that perform ..." the core operations of electroplating, electroless plating, etching, anodizing, chemical coating, or printed circuit board manufacturing and they extend to other on-site operations, such as cleaning (alkaline degreasing), abrasive jet maching (jet-milling) and painting (powder coating), associated with metal finishing and specifically listed in 40 CFR 433.10(a). If any of the core operations are performed, the standards apply to discharges from any of the core or associated operations. As a result, the metal finishing standards apply to all process-related discharges to the sewers from Peninsula Fabrication through IWD-1 and IWD-2.

The Federal job-shop electroplating standards in 40 CFR 413 do not apply. They apply only to existing source job-shop metal finishers, which are those that own less than 50% of the parts finished and were in operation in their present configuration before the August 31, 1982 promulgation date of the proposed Federal metal finishing rule. Peninsula Metal Fabrication is a custom fabrication shop in which customers supply specifications for the fabrication and metal finishing of parts on-site. At job-shops as defined in the Federal rules, customers supply the parts to be metal finished. In addition, under the definitions in 40 CFR 403.3(k), a new process constructed at an existing source after August 31, 1982 is a new source (1) if it entirely replaces a process which caused a discharge from an existing source or (2) if it is substantially independent of the existing sources on-site. This definition means the new source standards apply to new lines, rebuilt or moved lines, or existing lines converted to do new operations. In every case, the change in configuration provides the opportunity to install the best-available-technology (“BAT”) treatment for new sources.

Standards - The standards for new sources in 40 CFR 433.17 for the metal finishing waste-water discharges at Penisula Metal Fabrication to the sewers follow below.

New Source (“psns”) Standards from 40 CFR 433.17

(in mg/l)	Cd	Cr	Cu	Pb	Ni	Ag	Zn	CN(t)	CN(a)	TTO
Daily-Max	0.11	2.77	3.38	0.69	3.98	0.43	2.61	1.20	0.86	2.13
Month-Avg	0.07	1.71	2.07	0.43	2.38	0.24	1.48	0.65	0.32	-

Basis of the Standards - The new source metal finishing standards were based on a model pretreatment unit that comprises metals precipitation, settling, sludge removal, source control of toxic organics, no discharge of cadmium-bearing wastewaters, and if necessary, cyanide destruction and chromium reduction. The BAT standards were set where metal finishers with model treatment operated at a long-term average and variability that achieved a compliance rate of 99% (1 in 100 chance of violation).

Adjustments – The Federal standards at IWD-1 do not have to be adjusted to account for dilution or multiple Federal categories because all of the wastewaters through this point qualify as regulated under the metal finishing rule. The Federal standards at IWD-2 do have to be proportionally adjusted downward to account for dilution from RO reject using a flow-weighted average in accordance with 40 CFR 403.6(d). Demineralizer brines like RO reject are classified as dilution waters in 40 CFR 403.6. For cyanide, under 40 CFR 433.12(c), the standards must be adjusted to account for dilution from non-cyanide bearing waste streams (regulated and unregulated). However unadjusted standards apply by default because there are no cyanide-bearing waste streams discharged through either IWD-1 or IWD-2.

Compliance Deadline - New sources were required to comply on the first day of discharge. The jet-cutting benches were installed and the iron phosphating line was relocated after 1984.

2.5 Point(s) of Compliance

Federal categorical standards apply end-of-process-after-treatment to all Federally-regulated flows at IWD-1 and IWD-2. Local limits and national prohibitions apply end-of-pipe to all non-domestic flows from Peninsula Metal Fabrication at IWD-1 and IWD-2.

2.6 Compliance Sampling

Federal standards are daily-maximums and are comparable to 24-hour composite samples collected either manually or automatically to be representative of the sampling day's operations. At IWD-1 and IWD-2, the Federal standards are not comparable to grab samples because the wastewaters are not discharged from fully-mixed batch discharge tanks. Local limits and the national prohibitions are instantaneous-maximums and are comparable to samples of any length including single grab samples.

2.7 Pollutants of Concern

The permit appropriately advances local limits and self-monitoring requirements for cadmium, chromium, copper, lead, nickel, silver, zinc, toxic organics and total cyanide, since these pollutants are either Federally-regulated or the wastewater discharges include them and San Jose/Santa Clara is regulated for them by its NPDES permit and the Federal sludge standards. The permit also appropriately advances local limits for pH since the discharges through IWD-1 include alkaline, and acidic wastewaters. The permit advances local limits without self-monitoring for antimony, arsenic, beryllium, manganese, mercury, oil & grease,

phenol & derivatives, selenium, and xylene. Oil & grease could be a pollutant of concern since it could be present in the discharge from alkaline degreasing through IWD-1.

Compliance with Federal Standards

Industrial users must comply with the Federal categorical pretreatment standards that apply to their process wastewater discharges. 40 CFR 403.6(b).

Categorical industrial users must comply with the prohibition against dilution of the Federally-regulated waste streams as a substitute for treatment. 40 CFR 403.6(d).

Industrial users must comply with the provision restricting the bypass of treatment necessary to comply with any pretreatment standard or requirement. 40 CFR 403.17(d).

3.0 Summary

The treatment in-place does not equal in design the BAT model used in setting Federal standards, however, neither iron phosphating or abrasive jet-machining would be expected to generate the pollutants of concern at the levels or in the dissolved form anticipated for BAT treatment. As a result, all samples were in compliance, although there is a slight statistical chance that single samples for zinc from IWD-1 and IWD-2 could violate the monthly-average standards. There is no evidence of dilution as a substitute for treatment. There is also no potential to bypass treatment at IWD-2 and no treatment in-place necessary to comply at IWD-1. See Appendix 3 for a sampling summary for IWD-1.

Requirements

- None.

Recommendations

- There should be at least two samples for zinc in each of the months with sample results for both IWD-1 and IWD-2.

3.1 Sampling Records

IWD-1 – The 2002-2004 sample record for Peninsula Metal Fabrication consists of representative sampling from IWD-1 for all of the Federally-regulated pollutants. The permit requires semiannual self-monitoring for metals and cyanide with semiannual self-certifications for toxic organics. The self-monitoring for metals covers just the two metals (*cadmium, lead*) misregulated under the Federal job-shop electroplating standards for small dischargers in 40 CFR 413 instead all of the metals (*cadmium, chromium, copper, lead, nickel, silver, zinc*) regulated under the Federal metal finishing standards in 40 CFR 433. San Jose/Santa Clara monitors twice per year for all of these pollutants as well as for toxic organics. All

samples from IWD-1 appear to be usable for determining compliance with the Federal standards. Monthly averages were based on single samples since there was never more than one sample (self-monitoring and San Jose/Santa Clara) collected in any one month. See sections 2.5, 2.6 and 5.0 regarding the use of sample results for IWD-1.

IWD-2 – The 2002-2004 sample record for Peninsula Metal Fabrication also consists of representative sampling from IWD-2 for all of the Federal-regulated pollutants. The sample record for IWD-2 is identical to IWD-1, covering the same pollutants collected at the same frequencies.

3.2 Compliance at IWD-1

Consistent compliance with the Federal standards at IWD-1 would be expected because the iron phosphating line is not expected to generate the Federally-regulated pollutants at the levels requiring BAT treatment. Iron phosphaters rarely need BAT treatment. All samples collected from IWD-1 complied with the unadjusted Federal standards for metals, cyanide, and toxic organics. The averages and calculated 99th% peaks for the regulated metals, cyanide, and toxic organics are all low enough to result in a negligible <1% chance of exceeding the daily-maximum and monthly-average standards, with one exception. There is a slight statistical probability (<5%) that single samples collected in any one month could violate the monthly-average standard for zinc. The statistical chance of two samples exceeding the monthly-average zinc standard would be a negligible <1%.

3.3 Compliance at IWD-2

Consistent compliance with the Federal standards at IWD-2 would be expected because the jet-milling benches also are not expected to generate the Federally-regulated pollutants at the levels requiring BAT treatment. Moreover, jet-milling pollutants consist of spent garnet sand and solid metal flecks abraided from the work pieces. The existing wastewater treatment involving gravity settling and cartridge filtration can effectively remove solid (non-colloidal) particles. As a result, full BAT treatment is not needed. All samples complied with Federal standards for metals, cyanide, and toxic organics. The averages and calculated 99th% peaks for the regulated metals, cyanide, and toxic organics are all low enough to result in a negligible <1% chance of exceeding their daily-maximum and monthly-average standards, again with one exception. Just as with IWD-1, there is a slight statistical probability (<5%) that single samples collected in any one month could violate the monthly-average standard for zinc. See sections 2.0 and 2.4 regarding the establishment of Federal metal finishing standards for IWD-2.

Section 3 – Compliance with Federal Standards

3.3 Dilution as a Substitute for Treatment

The Federal standards in 40 CFR 403.6(d) prohibit "dilution as a substitute for treatment" in order to prevent compromising the BAT model treatment with dilute waste streams. In particular, this prohibition applies when samples of a diluted waste stream are found to be below the Federal standards and the apparent compliance is used to justify a discharge without treatment. There are two conditions that need to be established in order to make a determination of non-compliance with the prohibition against dilution as a substitute for treatment. First, some or all of the Federally-regulated wastewaters must discharge without undergoing BAT model treatment or its equivalent. Second, there must be some form of excess water usage within a Federally-regulated process.

There is no evidence of “dilution as a substitute for treatment” because there was no excess water usage apparent in either the phosphating line or the jet-milling benches.

3.4 Bypass Provision

The Federal standards in 40 CFR 403.17 prohibit the bypassing of any on-site treatment necessary to comply with standards unless the bypass was unavoidable to prevent the loss of life, injury, or property damage, and there were no feasible alternatives. This provision explicitly prohibits bypasses that are the result of a short-sighted lack of back-up equipment for normal downtimes or preventive maintenance. It also explicitly prohibits bypasses that could be prevented through wastewater retention or the procurement of auxiliary equipment. It specifically allows bypasses that do not result in violations of the standards as long as there is prior notice and approval from the sewerage agency or State.

For IWD-1, there is no possibility of bypassing treatment necessary to comply since the wastewaters discharge untreated. For IWD-2, there is no evidence of bypassing treatment necessary to comply since all process-related waterwaters discharge through the cartridge filter and settling tank.

Section 4

Compliance with Local Limits and National Prohibitions

All non-domestic wastewater discharges to the sewers must comply with local limits and the national prohibitions. 40 CFR 403.5(a,b,d).

Industrial users must comply with the provision restricting the bypass of treatment necessary to comply with any pretreatment standard or requirement. 40 CFR 403.17(d).

4.0 Summary

The discharges always comply with the local limits for the pollutants that are monitored. The use of just iron phosphating and jet-milling should continue to result in consistent compli-ance. Flammability is not expected to be a risk because of the lack of organic solvents in the waste streams. Discharges also are not expected to pose a risk of causing corrosive structural damage to the San Jose/Santa Clara sewers. See Appendix 3 for a sampling summary for IWD-1.

Requirements

- None.

Recommendations

- None.

4.1 National Objectives

The general pretreatment regulations were promulgated in order to fulfill the national objectives to prevent the introduction of pollutants that:

(1) cause operational interference with sewage treatment or sludge disposal,
(2) pass-through sewage treatment into the receiving waters or sludge,
(3) are in any way incompatible with the sewerage works, or
(4) do not improve the opportunities to recycle municipal wastewaters and sludge.

This evaluation did not include an evaluation of whether achievement of the national objec-tives in 40 CFR 403.2 have been demonstrated by consistent compliance with the sludge and discharge limits at the San Jose/Santa Clara wastewater treatment plant.

Section 5

Compliance with Federal Monitoring Requirements

Significant industrial users must self-monitor for all regulated parameters at least twice per year unless the sewerage agency monitors in place of self-monitoring. 40 CFR 403.12(e) & 403.12(g).

Each sample must be representative of the sampling day's operations. Sampling must be representative of the conditions occurring during the reporting period. 40 CFR 403.12(g) & 403.12(h).

5.0 Summary

The 2002-2004 sample records for IWD-1 and IWD-2 are incomplete but usable to determine compliance with the Federal metal finishing standards and local limits. The sample records do not satisfy the Federal minimum requirement for Peninsula Metal Fabrication to self-monitor twice per year. Not only were there only single self-monitoring results per year, but also they covered only the abbreviated list of metals from the Federal job-shop electroplating standards. The sample records satisfy the minimum requirement for San Jose/Santa Clara to sample at least once per year. The sample record for IWD-2 also satisfies the requirement for sampling to be representative over the reporting period since there were no intermittent operations not captured by the compliance sampling on any particular day. However, the sample record for IWD-1 does not satisfy the requirement for representativeness because spents are intermittently drained to the sewers.

The Federal standards allow self-certifications twice per year instead of self-monitoring at

Requirements

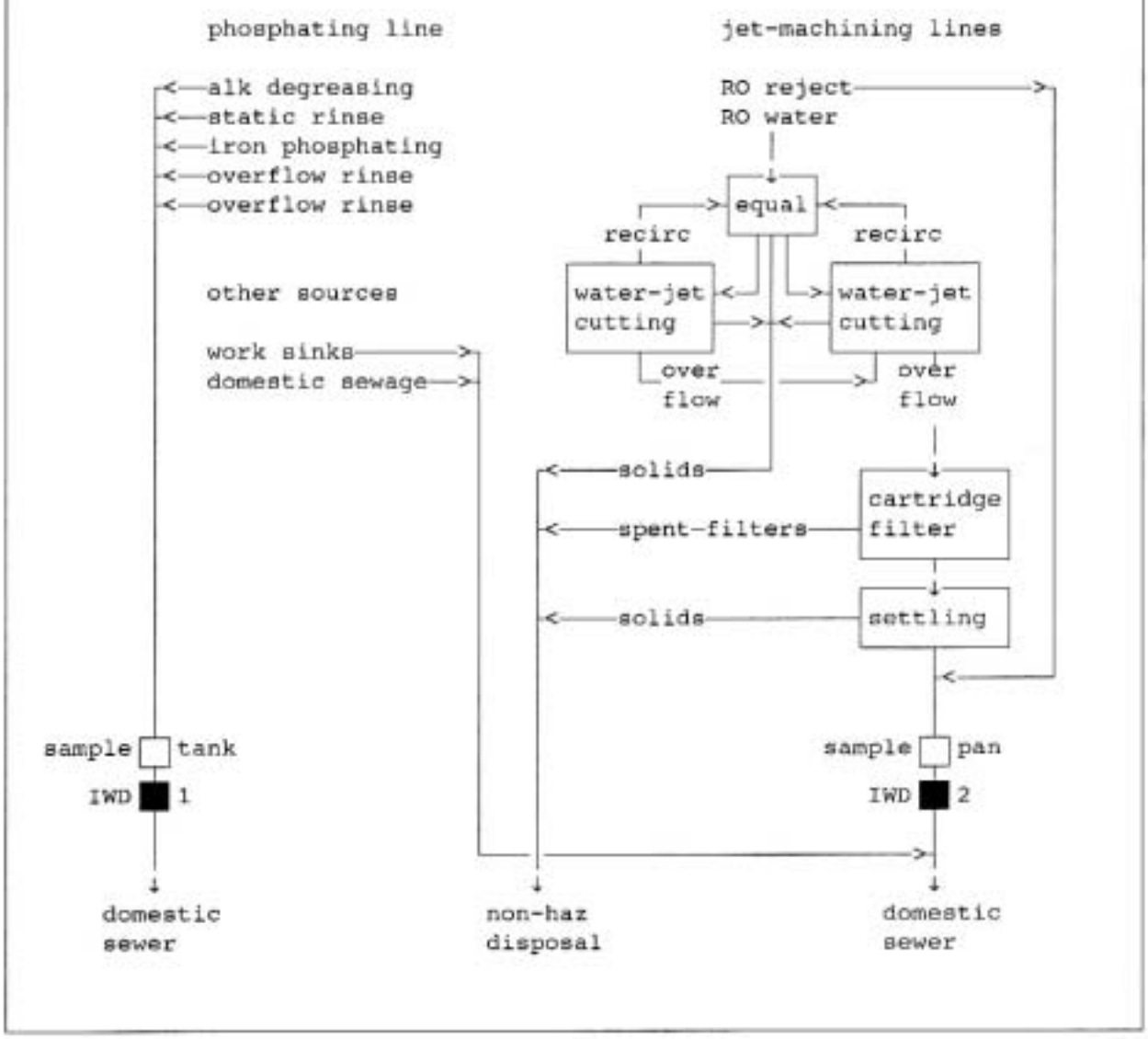
- There must be at least two self-monitoring results per year for IWD-1 and IWD-2 for cyanide and for all of the metals regulated under the Federal metal finishing standards.

Recommendations

- San Jose/Santa Clara should be notified before spent solutions are discharged through IWD-1 in order to either collect samples or require self-monitoring.

Appendix 1

Peninsula Metal Fabrication, San Jose, California
Schematic of the Wastewater Collection and Treatment



Appendix 2

Clean Water Act Requirements - Peninsula Metal Fabrication, San Jose
Iron Phosphating Line, Sampling Station Tank @ IWD-1

Specific Numeric Limits (mg/l)	**Fed Cat Stds** d-max	mo-avg	**Nat'l Prohib** inst	a/ **Local Limits** inst	d-max	yr-avg
antimony	-	-	-	5.0	-	-
arsenic	-	-	-	1.0	-	-
beryllium	-	-	-	0.75	-	-
cadmium	0.11	0.07	-	0.7	-	-
chromium	2.77	1.71	-	1.0	-	-
copper	3.38	2.07	-	2.7	1.0	0.4
lead	0.69	0.43	-	0.4	-	-
manganese	-	-	-	35.0	-	-
mercury	-	-	-	0.010	-	-
nickel	3.98	2.38	-	2.6	1.1	0.5
selenium	-	-	-	2.0	-	-
silver	0.43	0.24	-	0.7	-	-
zinc	2.61	1.48	-	2.6	-	-
cyanide-total	1.20b/	0.65b/	-	1.0	-	-
cyanide-amenable	0.86b/	0.32b/	-	0.5	-	-
oil+grease	-	-	-	150.	-	-
phenol & derivatives	-	-	-	30.0	-	-
xylene	-	-	-	1.5	-	-
total toxic organics	2.13c/		-	2.13	-	-
pH min (s.u.)	-	-	5.0	6.0	-	-
pH max (s.u.)	-	-	-	12.5	-	-
closed cup flashpoint	-	-	≥140°F	-	-	-
Regulatory Citation	40 CFR 433.17 unadjusted		40 CFR 403.5	Santa Clara City Code Chapter 23.1 et.seq.		

a/ National prohibitions and Santa Clara local limits also include narrative prohibitions against pass-through, interference, obstruction, sludge contamination, toxic gases/fumes, fire/explosion hazard, or causing heat >104°F at the municipal wastewater treatment plant

b/ These apply unadjusted by default because there are no cyanide bearing waste streams.

c/ See Appendix 4 for the list of toxic organic from 40 CFR 433.11(e).

Appendix 2 (continued)

Clean Water Act Requirements - Peninsula Metal Fabrication, San Jose
Jet-Milling Sample Station Pan @ IWD-2

Specific Numeric Limits (mg/l)	a/ Fed Cat Stds d-max	mo-avg	Nat'l Prohib inst	b/ Local Limits inst	d-max	yr-avg
antimony	-	-	-	5.0	-	-
arsenic	-	-	-	1.0	-	-
beryllium	-	-	-	0.75	-	-
cadmium	0.07	0.04	-	0.7	-	-
chromium	1.72	1.06	-	1.0	-	-
copper	2.10	1.29	-	2.7	1.0	0.4
lead	0.43	0.27	-	0.4	-	-
manganese	-	-	-	35.0	-	-
mercury	-	-	-	0.010	-	-
nickel	2.48	1.48	-	2.6	1.1	0.5
selenium	-	-	-	2.0	-	-
silver	0.27	0.15	-	0.7	-	-
zinc	1.63	0.92	-	2.6	-	-
cyanide-total	0.75c/	0.40c/	-	1.0	-	-
cyanide-amenable	0.53c/	0.20c/	-	0.5	-	-
oil+grease	-	-	-	150.	-	-
phenol & derivatives	-	-	-	30.0	-	-
xylene	-	-	-	1.5	-	-
total toxic organics	1.23d/		-	2.13	-	-
pH min (s.u.)	-	-	5.0	6.0	-	-
pH max (s.u.)	-	-	-	12.5	-	-
closed cup flashpoint	-	-	≥140°F	-	-	-
Regulatory Citation	40 CFR 433.17 as adjusted a/		40 CFR 403.5	San Jose City Code Chapter 15 et.seq.		

a/ Federal standards adjusted to account for dilution from RO reject using the combined wastestream formula in 40 CFR 403.6(e).

$$Ctotal = C433 \left[\frac{Qtotal - QROreject}{Qtotal} \right]$$

$C433$ = CFR Fed stds
$Qtotal$ = 265 gpd
$QROreject$ = 100 gpd

b/ National prohibitions and Santa Clara local limits also include narrative prohibitions against pass-through, interference, obstruction, sludge contamination, toxic gases/fumes, fire/explosion hazard, or causing heat >104°F at the municipal wastewater treatment plant

c/ These apply without further adjustment since there are no cyanide bearing waste streams.

d/ See Appendix 4 for the list of toxic organic from 40 CFR 433.11(e).

Appendix 3

Discharge Quality at IWD-1
Peninsula Metal Fabrication, San Jose

@ IWD-1 Pollutants (µg/l) b/	Jan-2002 to Jun-2004 Mean	99th%	Max	Fed Viols a/ DMax	MoAv	Local Viols Inst	DMax	YrAv	Sample Count
cadmium	<5	<5	<10	0/5	0/5	0/5			5
chromium	3	15	9	0/3	0/3	0/3			3
copper	72	219	128	0/3	0/3	0/3	0/3	0/2	3
cyanide-t	<40	<40	<50	0/4	0/4	0/4			4
lead	<25	<25	<50	0/5	0/5	0/5			5
nickel	6	14	10	0/3	0/3	0/3	0/3	0/2	3
silver	<5	<5	<5	0/3	0/3	0/3			3
tox organics	132	652	390	0/3		0/3			3
zinc	550	1783	1100	0/3	0/3	0/3			3
(s.u.)	Median	Min	Max						
pH	7.6	6.6	8.8			0/6			6

@ IWD-2 Pollutants (µg/l) b/	Jan-2002 to Jun-2004 Mean	99th%	Max	Fed Viols a/ DMax	MoAv	Local Viols Inst	DMax	YrAv	Sample Count
cadmium	<5	<5	<10	0/5	0/5	0/5			5
chromium	48	195	120	0/3	0/3	0/3			3
copper	18	46	30	0/3	0/3	0/3	0/3	0/2	3
cyanide-t	<30	<30	<50	0/5	0/5	0/5			5
lead	<25	<25	<50	0/5	0/5	0/5			5
nickel	22	86	53	0/3	0/3	0/3	0/3	0/2	3
silver	<5	<5	<5	0/3	0/3	0/3			3
tox organics	19	62	40	0/4		0/4			4
zinc	273	1172	718	0/3	0/3	0/3			3
(s.u.)	Median	Min	Max						
pH	7.1	6.9	7.9			0/5			5

a/ Computed Statistical Probability of Violation

limits	mean	std dev	probability		percent
Fed-Zn mo-avg	μ = 550.3	σ = 528.9	α(1480)	= 0.0394	4%
Fed-Zn mo-avg	μ = 272.7	σ = 385.4	α(920)	= 0.0468	5%

b/ No sample results for oil & grease, TDS, arsenic, mercury, molybdenum, and selenium.

Appendix 4

Definition of Total Toxic Organics - 40 CFR 433.11(e)

Total toxic organics is the summation of all quantifiable values greater than 0.010 mg/l for the following toxic organics:

acenaphthene	4-chlorophenyl phenyl ether	chrysene
acrolein	4-bromophenyl phenyl ether	acenaphthylene
acrylonitrile	bis(2-chloroisopropyl) ether	anthracene
benzene	bis(2-chloroethoxy) methane	1,12-benzoperylene
benzidine	methylene chloride	fluorene
carbon tetrachloride	methyl chloride	phenanthrene
chlorobenzene	methyl bromide	1,2,5,6-dibenzanthracene
1,2,4-trichlorobenzene	bromoform	indeno(1,2,3-cd)pyrene
hexachlorobenzene	dichlorobromomethane	pyrene
1,2-dichloroethane	chlorodibromomethane	tetrachloroethylene
1,1,1-trichloroethane	hexachlorobutadiene	toluene
hexachloroethane	hexachlorocyclopentadiene	trichloroethylene
1,1-dichloroethane	isophorone	vinyl chloride
1,1,2-trichloroethane	naphthalene	aldrin
1,1,2,2-tetrachloroethane	nitrobenzene	dieldrin
chloroethane	2-nitrophenol	chlordane
bis(2-chloroethyl)ether	4-nitrophenol	4,4-DDT
2-chloroethyl vinyl ether	2,4-dinitrophenol	4,4-DDE
2-chloronaphthalene	4,6-dinitro-o-cresol	4,4-DDD
2,4,6-trichlorophenol	n-nitrosodimethylamine	alpha-endosulfan
parachlorometa cresol	n-nitrosodiphenylamine	beta-endosulfan
chloroform	n-nitrosodi-n-propylamine	endosulfan sulfate
2-chlorophenol	pentachlorophenol	endrin
1,2-dichlorobenzene	phenol	endrin aldehyde
1,3-dichlorobenzene	bis(2-ethylhexyl) phthalate	heptachlor
1,4-dichlorobenzene	butyl benzyl phthalate	heptachlor epoxide
3,3-dichlorobenzidine	di-n-butyl phthalate	alpha-BHC a/
1,1-dichloroethylene	di-n-octyl phthalate	beta-BHC
1,2-trans-dichloroethylene	diethyl phthalate	gamma-BHC
2,4-dichlorophenol	dimethyl phthalate	delta-BHC
1,2-dichloropropane	1,2-benzanthracene	PCB-1242 b/
1,3-dichloropropylene	benzo(a)pyrene	PCB-1254
2,4-dimethylphenol	3,4-benzofluoranthene	PCB-1221
2,4-dinitrotoluene	11,12-benzofluoranthene	PCB-1232
2,6-dinitrotoluene		PCB-1248
1,2-diphenylhydrazine		PCB-1260
ethylbenzene		PCB-1016
fluoranthene		Toxaphene
		2,3,7,8-tetrachlorodibenzo-p-dioxin

a/ hexachlorocyclohexane b/ polychlorinated biphenyls