



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

March 11, 2007

In Reply Refer To: WTR-7

Joe Belanger, General Manager
Aluminum Dip Brazing Industries
2537 North Ontario Street
Burbank, California 91504-25925

Re: September 5, 2006 Clean Water Act Inspection

Dear Mr. Belanger:

Enclosed is the March 11, 2007 report for our inspection of Aluminum Dip Brazing. Please submit a short response to the findings in Sections 2 through 5 of this report, to EPA, Burbank, and the Regional Water Quality Control Board, by **May 30, 2007**.

The main findings are summarized below:

- 1 Aluminum Dip Brazing does not qualify as job-shop because it owns more than half of the parts and fabrications brazed. As a result, the Federal standards for metal finishing in 40 CFR 433 apply instead of the abbreviated and less stringent standards for existing job-shop metal finishers discharging less than 10,000 gpd in 40 CFR 413.
- 2 Aluminum Dip Brazing provides no treatment for chromium. Dilution is the likely explanation of past compliance with Federal standards. Separate sampling points should be established for Federal standards, which prohibit dilution, and local limits, which do not.
- 3 Cooling water use determines rinsing rates. This violates the Federal prohibition against dilution as a substitute for treatment and renders sampling unusable to determine compliance with Federal standards. The rinses should be operated on-demand and excess cooling water should be diverted past the sampling point for Federal standards.

I certainly appreciate the helpfulness extended to me by yourself and your staff during this inspection. I remain available to you and Burbank to assist in any way. Please call (415) 972-3504 or e-mail at arthur.greg@epa.gov.

Sincerely,

Greg V. Arthur
CWA Compliance Office

Enclosure

cc: Kristy Laird, United Water, Burbank
Dan Radulescu, RWQCB-Los Angeles



U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION 9

CLEAN WATER ACT COMPLIANCE OFFICE

NPDES COMPLIANCE EVALUATION INSPECTION REPORT

Industrial User: Aluminum Dip Brazing Industries
2537 North Ontario Street, Burbank, California 91504-2592
40 CFR 433 – Existing Source Metal Finishing

Treatment Works: City of Burbank
Water Reclamation Plant
(NPDES Permit CA0055531)

Date of Inspection: September 5, 2006

Inspection Participants:

US EPA: Greg V. Arthur, Region 9, CWA Compliance Office, (415) 972-3504

RWQCB-Los Angeles: None

City of Burbank: Kristy Laird, United Water, Source Inspector, (818) 972-1115 ex23
Jeff Carter, United Water, Source Manager, (818) 972-1115 ex17

Aluminum Dip Brazing: Joe Belanger, General Manager, (818) 841-5927

Report Prepared By: Greg V. Arthur, Environmental Engineer
March 11, 2007



1.0 Scope and Purpose

On September 5, 2007, EPA, and the City of Burbank conducted a compliance evaluation inspection of Aluminum Dip Brazing in Burbank, California. The purpose was to ensure compliance with the Federal regulations covering the discharge of non-domestic wastewaters into the sewers. In particular, it was to ensure:

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

Aluminum Dip Brazing is a significant industrial user (“SIU”) within the Burbank sewer service area whose compliance was assessed as part of an on-going EPA evaluation of industrial users in EPA Region 9 by sector. The inspection participants are listed on the title page. Arthur conducted the inspection on September 5.

1.1 Process Description

Aluminum Dip Brazing is a metals fabrication shop that has the added capability to perform a form of aluminum welding in a molten salt bath known as dip brazing. The basis materials include aluminum, steel, stainless steel, and other steel alloys such as inconel. According to the General Manager, 70% of the dip brazed assemblies are fabricated on-site and thereby owned for sale by Aluminum Dip Brazing, with the remaining 30% of the work consisting of job-shop brazing of fabrications and parts it does not own.

The operations involve machining, welding, CNC drilling, grinding, machining, and sheet metal work in the Machining Bldg 2537. The operations in the Dip Braze Bldg 2523 comprise spot welding, pre-heating, salt bath dip brazing, air quench, spray water quench, desalt washing, and a chromium conversion coating line for aluminum. The conversional coating line consists of alkaline cleaning, alkaline degreasing, caustic etching, hydrofluoric/nitric-acid deoxidation, nitric-acid desmut, and chem film conversion coating. Pertinent support operations include chemical storage, mop water evaporation, and DI-water production.

Aluminum Dip Brazing began operations in 1972 with no significant changes in operational configuration since then. Aluminum Dip Brazing discharges non-domestic wastewaters to the Burbank domestic sewers through a single sewer connection designated in this report by permit number as IWD-1003. Domestic sewage discharges through separate connections downstream of the industrial wastewater connection.

1.2 Facility SIC Code

Aluminum Dip Brazing is assigned the SIC codes for aircraft parts (SIC 3728) and for electroplating, plating, polishing, anodizing, and coloring of metals (SIC 3471).



1.3 Facility Wastewater Sources

The dip brazing and chem film lines generate spents, rinses, and residuals. The support operations also generate washdowns and other wastewaters. The tanks are referenced in this report are by the shop designations. *See* Appendix 1.

Spent Solutions – The imparted contamination from the processing of parts and the progressive drop in solution strength results in the generation of spent solutions. Every quarter, Aluminum Dip Brazing hauls off-site for disposal the spents from the chem film line. Everything else is regenerated through additions. The list of spents follows below.

On-Site Batch Treatment	Hauled Off-site to Haz	Regenerated By Additions
none	T1 - alkaline cleaning T2 - HF/HNO ₃ -acid deox T3 - alkaline degreasing T4 - caustic etch T6 - HF/HNO ₃ -acid deox T9 - HNO ₃ -acid desmut T11 - chem film	Molten Salt Bath Dip
n/a	U.S. Filter	No Release

Rinses and Washwaters – Aluminum Dip Brazing generally employs first-stage static and second-stage continuously overflowing rinses dedicated to specific solution tanks. The continuously overflowing rinses discharge through a limited settling unit. Single-pass cooling water for spot welding and non-contact molten salt bath electrode are directed to other on-site uses prior to discharge. Mop waters and air compressor condensate are handled on-site through evaporation. The list of rinses follows below.

Continuous Overflows	Static Rinses	Other Wastewaters
T7 - 2° for T6 deox T12 - 2° for T11 chem film T13 - 1° desalt washing	T5 - 1° for T4/9 desmut/etch T8 - 1° for T6 deox T14 - 1° for T11 chem film	Salt spray quench to T13 Spot weld cooling to T12 Electrode cool to T7/12/13 Mop water ✓ Compressor condensate ✓ ✓ to on-site evaporation
Discharged to IWD-1006	U.S. Filter	On-site Reuse/Disposal

Residuals – Residuals such as evaporation slurry, spent machining coolant, and spent adsorbent for floor clean-up are hauled off-site as hazardous to U.S. Filter. Machine shop and sheet metal chips and scrap are hauled for off-site reclaim.

Reuse – Single-pass non-contact cooling water for the molten salt bath electrode is reused as the make-up water for the continuous overflowing rinses.



1.4 Facility Process Wastewater Composition

The process wastewaters listed in section 1.3 above would be expected to contain salts, aluminum, copper, chromium, lead, nickel, zinc, total cyanide, and acidity, as well as oil & grease, surfactants, iron, suspended solids, and other pollutants in the surface grime cleaned off of parts.

1.5 Facility Process Wastewater Treatment

Aluminum Dip Brazing provides only solids settling of the overflowing rinses that discharge to the sewers. There is no treatment for the removal of metals or complexed cyanide, or a final pH adjustment. Air compressor condensate and mop waters are filtered through a filter press prior to on-site evaporation. Otherwise, there are no other wastewater treatment steps provided on-site. *See* Appendix 1.

Operational Controls – Since no treatment is provided for the removal or cyanide or the adjustment of pH, there are no operational controls.

Sewer Discharge – The final discharge connection to the sewer is designated as the permitted compliance sampling point, IWD-1003.

1.6 POTW Legal Authorities

The City of Burbank – Burbank operates its own wastewater treatment plant, which discharges to the Los Angeles River. Burbank also operates an approved pretreatment program as required by the State of California in the Los Angeles RWQCB's Waste Discharge Requirements, No. R4-2006-0085, reissued to Burbank in 2006 and serving as NPDES Permit No. CA0055531. Burbank has established a sewer use ordinance that applies to all industrial users within its city limits. Under this authority, Burbank issued industrial user permit No.1003 covering the sewer discharge from Aluminum Dip Brazing.

1.7 Photo Documentation

No photographs were taken during this inspection.

1.8 Sampling Record

All compliance samples are collected by Burbank from the final settling tank within the facility at IWD-1003. *See* Appendix 3 for a summary of the 2003-2006 sampling.



2.0 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).

Summary

The Federal standards in 40 CFR 433 for existing source metal finishers apply to all process wastewater discharges from Aluminum Dip Brazing through IWD-1003. The Burbank permit incorrectly applied the abbreviated and less stringent Federal standards in 40 CFR 413 for job-shop metal finishers discharging under 10,000 gallons per day. The Burbank permit correctly applies local limits. The application of Federal standards, national prohibitions, and local limits was determined through visual inspection. *See* Appendix 2.

Requirements

- The Federal standards in 40 CFR 433 for existing source metal finishers must be applied to the discharges from Aluminum Dip Brazing.

Recommendations

- Aluminum Dip Brazing should submit a report detailing the construction involved in the installation of secondary containment in the mid-1980s, and the installation of any new lines since then.

2.1 Classification by Federal Point Source Category

Aluminum Dip Brazing qualifies as an existing source metal finisher subject to the Federal metal finishing standards in 40 CFR 433. Burbank incorrectly classified Aluminum Dip Brazing as an existing source job-shop metal finisher subject to the Federal electroplating standards in 40 CFR 413 for dischargers of less than 10,000 gpd. The metal finishing standards are more stringent and cover an expanded set of pollutants. Federal standards are self-implementing which means they apply to regulated waste streams whether or not they are implemented in a local permit. The Federal rules in 40 CFR 403.6 define domestic sewage and non-contact wastewaters to be dilution waters.

New or Existing Sources – Aluminum Dip Brazing continues to be subject solely to the Federal standards for existing sources. Under the definitions in 40 CFR 403.3(k), a process constructed at an existing source job-shop metal finisher 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 means new source standards apply to the original installation of the metal finishing lines, rebuilt or moved lines, or existing lines converted to do new operations. This also means that the new source standards generally do not apply to the piecemeal replacement of tanks for maintenance in otherwise intact metal finishing lines, nor do they apply to treatment upgrades



without altering production. The preamble to the final 1988 Federal rule states that new source standards apply when “an existing source undertakes major construction that legitimately provides it with the opportunity to install the best and most efficient production process and wastewater treatment technologies” (*Fed Register, Vol.53, No.200, October 17, 1988, p.40601*).

According to the General Manager, there have been no configuration changes at Aluminum Dip Brazing since start-up in the 1970's. As a result, nothing qualifies for regulation under new source standards. The construction of new lines, or the physical relocation and re-installation of entire lines, even if part of the installation of secondary containment, would qualify as construction that "legitimately provides it with the opportunity to install the best and most efficient production process and wastewater treatment technologies".

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 Burbank local limits apply to non-domestic discharges within the Burbank city limits.

2.3 Federal Categorical Pretreatment Standards Existing Source Metal Finishing - 40 CFR 433.15

40 CFR 433.15	Cd	Cr	Cu	Pb	Ni	Ag	Zn	CNt	CNa	TTO
daily-maximum (mg/l)	0.69	2.77	3.38	0.69	3.98	0.43	2.61	1.20	0.86	2.13
month-average (mg/l)	0.26	1.71	2.07	0.43	2.38	0.24	1.48	0.65	0.32	-

Applicability - Under 40 CFR 433.10(a), the metal finishing standards apply to Aluminum Dip Brazing because the facility’s operations involve chemical coating, and etching. 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, machining, grinding, heat treating, welding, brazing, and soldering, associated with metal finishing and specifically listed in 40 CFR 433.10(a). If any of the core operations are performed, the metal finishing standards apply to discharges from any of the core or associated operations. Under 40 CFR 433.10(c), the metal finishing standards do not apply to existing source job-shops covered by 40 CFR 413. However, the definitions in 40 CFR 433.11(c) define "job-shop" to mean "a facility (that) owns not more than 50% (annual area basis) of the materials undergoing metal finishing. As a result, Aluminum Dip Brazing does not qualify as a job-shop. Instead, the metal finishing standards apply to all of the process wastewater discharges to IWD-1003.



Basis of the Standards - The metal finishing standards were based on a model pretreatment unit that comprises metals precipitation, settling, sludge removal, source control of toxic organics, and if necessary, cyanide destruction and chromium reduction. The best-available-technology standards were statistically 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-1003 do not need to be adjusted to account for dual Federal categories or for dilution, even though there is dilution from the continuous feed of single-pass cooling water through the rinses. This is addressed by the narrative prohibition against dilution as a substitute for treatment and not through adjustment of the standards. Under 40 CFR 433.12(c), the cyanide standards as applied to metal finishing wastewater discharges must be adjusted to account for dilution from non-cyanide bearing waste streams (Federally-regulated and unregulated). For Aluminum Dip Brazing, cyanide-bearing wastewaters are generated only by chem film. EPA estimates dilution at IWD-1003 to be ~2:1 based on the number of cyanide-bearing and non-cyanide-bearing overflow rinses. As a result, at IWD-1003, the metal finishing standards adjust downward to 0.40 mg/l daily-maximum and 0.22 mg/l monthly-average for total cyanide, and to 0.29 mg/l daily-maximum and 0.11 monthly-average for amenable cyanide.

Compliance Deadline - Under 40 CFR 433.15(f), existing source metal finishers were required to comply by the final compliance deadline of February 15, 1986.

2.4 Point(s) of Compliance

The permit designates the final settling tank inside the facility as the compliance point (designated in this report as IWD-1003).

Federal Standards - Federal categorical pretreatment standards apply end-of-process-after-treatment to all Federally-regulated discharges to the sewers. The sample point IWD-1003 is a suitable end-of-process-after-treatment sample point representative of the day-to-day discharge of Federally-regulated wastewaters. However, dilution issues support establishment of a separate sample point for Federal standards.

Local Limits - Local limits and the national prohibitions apply end-of-pipe to all non-domestic flows. The sample point designated as IWD-1003 is a suitable end-of-pipe sample point representative of the day-to-day non-domestic wastewater discharges.

2.6 Compliance Sampling

The national prohibitions are instantaneous-maximums and are comparable to samples of any length including single grab samples. Federal categorical pretreatment standards are daily-maximums comparable to 24-hour composite samples. The 24-hour composite samples can be replaced with single grabs or manually-composited grabs that are representative of the sampling day's discharge.



3.0 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).

Summary

Aluminum Dip Brazing does not employ wastewater treatment equivalent to the models used in originally setting the Federal standards. Nevertheless, there were no violations of the Federal standards in the sample record because the wrong Federal standards were applied, and dilution causes the sampling results to be biased in favor of compliance. The Federal rules prohibit dilution as a substitute for treatment. The sampling results do indicate levels of chromium expected from a chem film line. On-demand rinsing and the diversion of excess single-pass cooling waters directly to the sewer connection would reduce the flow of process-related Federally-regulated wastewaters and proportionally increase pollutant concentrations. It is likely that best-available-technology treatment would be needed in order to comply with the Federal standards once the practice of dilution is ended. *See* Appendix 3.

Requirements

- Dilution from excess single-pass cooling water reused through the running rinses is prohibited by the Federal rule against dilution as a substitute for treatment.

Recommendations

- The running rinses should be operated on-demand when there are parts undergoing processing or the rinses should be retrofitted to be conductivity-controlled.
- The single-pass cooling water line should be outfitted with a diversion for excess cooling waters to the final compliance sampling point, around the running rinses, and past the limited treatment in place.

3.1 Sampling Results

The 2003-2006 sample records consist of samples collected quarterly by Burbank and semi-annually by Aluminum Dip Brazing from the last of eight settling basins inside of the facility. All metals samples were 24-hour composites. All cyanide samples were grabs. All sample results are provisionally usable for determining compliance with the Federal standards because they account for all rinses and spents discharged. However, they are only



provisionally usable because they are diluted by rinses running continuously without parts undergoing processing. Aluminum Dip Brazing is exempted from total toxic organics sampling under an approved toxic organics management plan, as set forth in 40 CFR 433. *See* item 5.0 of this report.

3.2 Best-Available-Technology Treatment

The treatment in-place is not equivalent in design and performance to the best-available-treatment ("BAT") technology models used in originally setting the Federal standards. Nevertheless, there were no violations of the Federal standards in the sample record. This can be explained in two ways. First, the less stringent and abbreviated Federal standards were incorrectly applied. Second, the results are biased in favor of compliance because the overflowing rinses run without parts undergoing processing. Excessive rinsing produces samples that are diluted by excess make-up water, a practice which is often prohibited by the Federal rule against dilution as a substitute for treatment.

The sampling results do indicate significant levels of chromium in the rinse waters as would be expected from a chem film line. On-demand rinsing and the diversion of excess single-pass cooling waters directly to the sewer connection would reduce the flow of process-related Federally-regulated wastewaters and proportionally increase pollutant concentrations. If excess cooling water constitutes more than 60% of the wastewater discharged to the sewers, the sample record for Aluminum Dip Brazing would have included at least one violation of the Federal standards for chromium.

The on-demand rinsing and diversion of excess cooling waters to the sewer connection would allow establishment of a compliance sampling point specifically for the Federal standards. This proposed sample point is designated in this report and depicted on the schematic of wastewater control in Appendix 1 as IWD-FED. *See* sections 3.3 and 5.0 and Appendix 1.

BAT treatment or its equivalent is nearly always necessary to consistently comply with Federal standards. BAT treatment would necessarily incorporate the following:

- chromium reduction, metals precipitation, and settling
- reaction end-point metering,
- the segregated batch treatment of high-strength spent solutions,
- diversion of non-compatible and low-strength wastewaters around treatment, and
- well controlled delivery methods.

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 BAT model treatment with dilute waste streams. In particular, this prohibition applies when sample results for a diluted waste stream are below the Federal standards and the apparent compliance is used to justify discharge without treat-



ment. There are two conditions that need to be established in order to make a determination of non-compliance with this prohibition. 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.

Aluminum Dip Brazing does not meet the first condition since all running rinses discharge without any treatment to remove any of the Federally-regulated pollutants. Aluminum Dip Brazing also does not meet the second condition since the reuse of non-contact single-pass cooling water as make-up for the overflowing rinsing determines the rinsing rates. This means the continuous overflow rinses do not operate on-demand only when there are parts undergoing processing.

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.

There is no possibility of unauthorized bypassing at Aluminum Dip Brazing since there is no treatment on-site to bypass.



4.0 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).

Summary

The local limits apply end-of-pipe and not end-of-process-after-treatment. The local limits do not prohibit dilution. Therefore, the sample record is useable to determine compliance and that Aluminum Dip Brazing has and would be expected to consistently comply with local limits at IWD-1003. Aluminum Dip Brazing would be expected to continue to generate wastewaters containing acids, caustics, hexavalent chromium and complexed cyanide from chromium conversion coating, and copper, nickel, chromium, and zinc from the etching of aluminum and steel alloys. Aluminum Dip Brazing does not provide treatment beyond settling but does provide continuous pH monitoring. *See* Appendix 3. Also *see* Sections 3.0 and 5.0 of this report.

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 inspection did not include an evaluation of whether achievement of the national objectives in 40 CFR 403.2 have been demonstrated by the Burbank wastewater treatment plant through consistent compliance with their sludge and discharge limits.



5.0 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) and 403.12(h).

Summary

The sample record for Aluminum Dip Brazing involves semi-annual self-monitoring and quarterly Burbank monitoring for toxics, salts, and conventional pollutants. All of the monitoring results are representative of the overall discharge of treated and untreated wastewater over the sampling day and over the six-month reporting period. The Federal prohibition against dilution as a substitute for treatment makes it necessary to establish two sampling points, one end-of-process-after-treatment for Federal standards, and the other end-of-pipe for local limits. The monitoring frequency and scope are for the most part appropriate for the discharge from Aluminum Dip Brazing. Aluminum Dip Brazing also appropriately conducts continuous self-monitoring for pH, flow, and salts content (as measured by total dissolved solids). A recommended monitoring schedule that only differs slightly from the permit requirements is included as part of Appendix 2.

Requirements

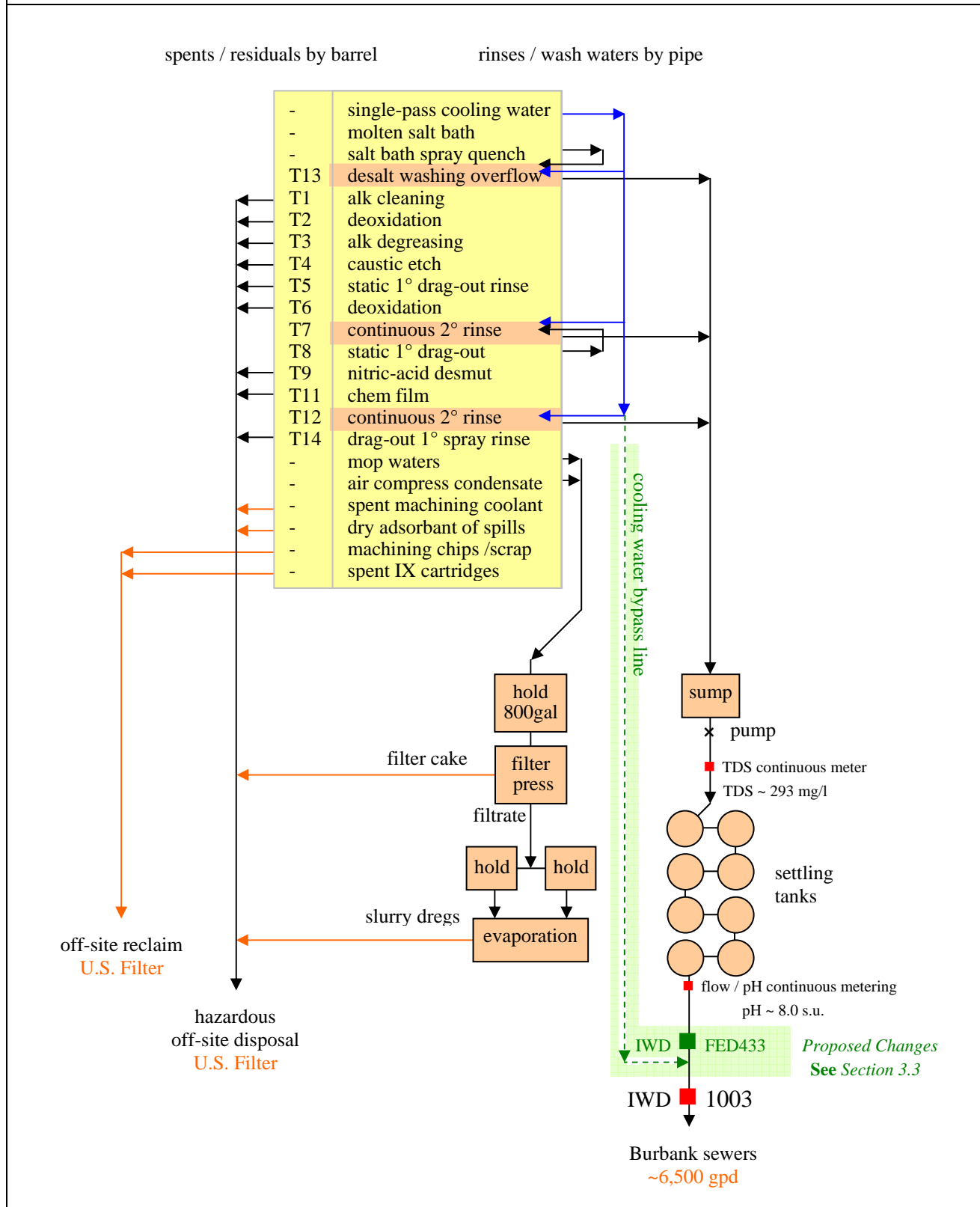
- Upon the elimination of dilution as a substitute for treatment, the wastewater discharges must be sampled at separate sampling points for Federal standards and for local limits.

Recommendations

- Self-monitoring results for continuous pH and flow should be summarized and reported each month. The pH each day should be summarized by the number of minutes below 2.0, between 2.5 and 5.5, between 5.5 and 9.5, between 9.5 and 12.0, and above 12.5.



Appendix 1
Aluminum Dip Brazing
Schematic of the Wastewater Collection and Treatment





Appendix 2

Sewer Discharge Standards and Limits
Aluminum Dip Brazing @ IWD-1003

pollutants of concern (mg/l)	Fed categorical stds		local limits	monitoring
	40 CFR 433 PSES (d-max)	(mo-av)	nat'l prohib (instant)	frequency IWD-1048
arsenic	-	-	3.0	③
cadmium	0.69	0.26	15.0	6 / year ⑤
total chromium	2.77	1.71	10.0	6 / year ⑤
hex chromium	-	-	3.0	③
copper	3.38	2.07	15.0	6 / year ⑤
lead	0.69	0.43	5.0	6 / year ⑤
mercury	-	-	0.005	③
nickel	3.98	2.38	12.0	6 / year ⑤
silver	0.43	0.24	3.0	6 / year ⑤
zinc	2.61	1.48	25.0	6 / year ⑤
total cyanide	0.40 ④	0.22 ④	10.0	③
amenable cyanide	0.29 ④	0.11 ④	2.0	6 / year ⑤
total toxic organics	2.13	-	5.0	1 / year ⑥
oil & grease-total	-	-	300.	6 / year ⑤
oil & grease-free	-	-	none visible	③
phenol	-	-	1.5	③
selenium	-	-	1.0	③
volatile organic compounds	-	-	4.0	③
biochem oxygen demand	-	-	1000.	③
chem oxygen demand	-	-	1000.	③
total suspended solids	-	-	1000.	③
total dissolved solids	-	-	-	6 / year ⑤
phosphates	-	-	50.0	③
sulfates	-	-	420.	6 / year ⑤
chlorides	-	-	275.	6 / year ⑤
dissolved sulfides	-	-	0.1	③
flow (gpd)	-	-	9500 d-max	continuous
pH min and max (s.u.)	-	-	5.5-9.5 s.u.	continuous
explosivity	-	-	① ②	③
temperature (°F)	-	-	104°F	③

- ① National-prohibitions – Closed-cup flash point <140°F and pH <5.0 su.
 ② Narrative prohibition against the introduction of flammable or explosive substances
 ③ As part of periodic priority pollutant scans in order to identify changes in discharge quality
 ④ Adjusted to account for dilution from non-cyanide bearing flows
 ⑤ Quarterly sampling by Burbank plus semi-annually self-monitoring
 ⑥ Certification following the approved toxics organics management plan in lieu of self-monitoring
 red – proposed increase black – unchanged green – proposed decrease



Appendix 3

Aluminum Dip Brazing Sampling Results @ IWD-1003

January 2003 – November 2006

pollutant (µg/l)	Jan03-Nov06			-			violation rates ① ②			sample count
	mean	99th%	max	mean	99th%	max	d-max	mo-av	local	
aluminum	-	-	-	-	-	-	-	-	-	0
arsenic	0.9	1.9	1.7	-	-	-	-	-	0/9	9
cadmium	1.5	13.8	19	-	-	-	0/23	0/21	0/23	23
chromium	92.4	408.0	657	-	-	-	0/22	0/20	0/22	22
copper	14.9	36.6	38.6	-	-	-	0/23	0/21	0/23	23
lead	0.3	1.1	1.3	-	-	-	0/23	0/21	0/23	23
mercury	-	-	<0.2	-	-	-	-	-	0/1	1
nickel	15.3	65.0	93	-	-	-	0/23	0/21	0/23	23
selenium	2.2	4.1	3.4	-	-	-	-	-	0/18	18
silver	6.5	53.9	71	-	-	-	0/21	0/20	0/21	21
zinc	39.1	130.8	182	-	-	-	0/22	0/21	0/22	22
cyanide-total	3.1	13.8	22	-	-	-	0/22	0/21	0/22	22
total toxic organics	23.9	59.6	49.7	-	-	-	0/10	-	0/6	6
TDS (mg/l)	486	803	858	-	-	-	-	-	0/21	21
TSS (mg/l)	5.5	18.4	17	-	-	-	-	-	0/21	21
chloride (mg/l)	88	246	253	-	-	-	-	-	0/20	20
sulfates (mg/l)	66	104	108	-	-	-	-	-	0/21	21
oil & grease (mg/l)	1.4	7.9	12.9	-	-	-	-	-	0/21	21
pH min (s.u.)			7.0							
pH max (s.u.)	7.5 ③	-	8.5	-	-	-	-	-	0/8	8

- ① Daily-maximums and monthly-averages comparable to Federal categorical standards. However dilution renders the sample results only provisionally useful for determining compliance.
- ② Monthly-average standards based on the calendar month.
- ③ pH median