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

July 27, 2007

In Reply Refer To: WTR-7

Bill Serrano, Plant Manager
American Faucet and Coatings Corporation
3280 Corporate View Drive
Vista, California 92081

Re: May 3, 2007 Clean Water Act Inspection

Dear Mr. Serrano:

Enclosed is the July 27, 2007 report for our May 3, 2007 inspection of American Faucet and Coatings in Vista, California. Please submit a short response to the findings in Sections 2 - 4 of this report, to EPA, the Encina Water Management Authority, and the Regional Water Quality Control Board, by **September 30, 2007**.

The main findings are summarized below:

1 American Faucet and Coatings qualifies as a "zero-discharging" existing source metal finisher since it generates but does not discharge regulated wastewaters to the sewers.

2 The Encina Wastewater Authority permit appropriately requires periodic "zero-discharge" self-certification since compliance is achieved by not discharging to the sewers. Waste manifests should accompany the self-certifications.

3 American Faucet and Coatings achieves compliance through the operation of a well designed "zero-discharging" wastewater reclaim and handling system that particularly benefits from excellent plating line layout, clear tank labeling, and well-placed equalization. The manifests also fully account for the wastes expected from your operations.

I appreciate your helpfulness extended to me during this inspection. I remain available to the Encina Wastewater Authority and to you to assist in any way. Please do not hesitate to call me at (415) 972-3504 or e-mail at arthur.greg@epa.gov.

Sincerely,

Original signed by:
Greg V. Arthur

Greg V. Arthur
CWA Compliance Office

Enclosure

cc: Lisa Urabe, Encina Wastewater Authority

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION 9

CLEAN WATER ACT COMPLIANCE OFFICE

NPDES COMPLIANCE EVALUATION INSPECTION REPORT

Industrial User:	American Faucet and Coatings Corporation 3280 Corporate View Drive, Vista, California 92081 Zero Discharging New Source Metal Finisher (40 CFR 433)
Treatment Works:	Encina Wastewater Authority Encina Water Pollution Control Facility - Encina Ocean Outfall (WDR No.R9-2005-0219 and NPDES Permit CA0107395)
Dates of Inspection:	May 3, 2007

Inspection Participants:

US EPA:	Greg V. Arthur, Region 9, CWA Compliance Office, (415) 972-3504
RWQCB-San Diego:	None
Encina WA:	Debbie Biggs, Director of Envr Compliance, (760) 438-3941 x3601 Lisa Gray Urabe, IW Control Inspector, (760) 438-3941 x3604
American Faucet:	Bill Serrano, Plant Manager, (760) 598-5895 Rita Fondren, Envr Health and Safety Manager, (760) 598-5895

Report Prepared By:	Greg V. Arthur, Environmental Engineer
	July 27, 2007

1.0 Scope and Purpose

On May 3, 2007, EPA and the Encina Wastewater Authority conducted a compliance evaluation inspection of American Faucet and Coatings in Vista, California. The purpose was to ensure compliance with the Federal, State and local regulations covering the discharge of non-domestic wastewaters into the sewers under the Clean Water Act. In particular, it was to ensure:

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

American Faucet and Coatings, located at 3280 Corporate View Drive, would qualify as a categorical industrial user under the Clean Water Act within the Vista sewer service area if it discharged process-related wastewaters to the sewers. The compliance of American Faucet and Coatings was assessed through this inspection as part of an on-going EPA evaluation of industrial users in EPA Region by industry sector. The inspection participants are listed on the title page. Arthur conducted the inspection on May 3, 2007.

1.1 Process Description

American Faucet and Coatings manufactures plumbing fixtures from castings and parts supplied by off-site facilities. The operations on-site involve metal finishing on steel and brass and fixture assembly. American Faucet and Coatings owns the parts it finishes. The operations by processing line (line designations A-E added for the purposes of this report) follows below. Also ***see*** the tank inventory on the next page.

Nickel on Steel Plating Line "A" - alkaline electrocleaning, hydrochloric-acid activation, satin nickel plating, bright nickel plating.

Nickel/Chrome on Brass Plating Line "B" - alkaline ultrasonic soap cleaning, alkaline soap cleaning, alkaline electrocleaning, sulfuric-acid activation, acid copper plating, satin Watts nickel plating, bright nickel plating, chromium plating.

Antiquing Line "C" - brass black acid antiquing, copper black acid antiquing, zinc brown acid antiquing.

Stripping Line "D" - hydrochloric-acid chrome strip, hydrochloric-acid vacuum deposition strip, nickel strip, hydrochloric-acid chrome rack strip, nitric-acid rack strip.

Black Oxide Line "E" - caustic hot black oxide coating.

Miscellaneous Operations "F" - physical vapor deposition of brass and nickel finishes, powder coating, buffing, stoddard solvent cleaning, solvent vapor degreasing, solvent paint stripping, sand blasting.

Tank Inventory and Volume (*rinses tanks in italics*)					
~gals	**Nickel on Steel Line "A"**		~gals	**Antiquing Line "C"**	
225	A1	alkaline electroclean	85	C1	brass chem oxidation
225	A2	alkaline electroclean	85	C2	copper chem oxidation
225	A3	alkaline soak for A1/2	85	C3	*static rinse for C1/2*
500	A4/5	*countercurrent for A1/2*	40	C4	*static rinse for C3*
250	A6	HCl-activation	85	C5	*static rinse for C4*
250	A7	*static drag-out for A6*	85	C6	zinc chem oxidation
500	A8/9	*countercurrent for A7*	40	C7	*static rinse for C6*
420	A10	satin nickel plating	85	C8	*static rinse for C7*
420	A11	bright nickel plating	85	C9	*static hot rinse for C8*
250	A12	*static drag-out for A10/11*	45	C10	*static final rinse for C4/9*
~gals	**Nickel/Chrome on Brass Line "B"**		~gals	**Stripping Line "D"**	
250	B201	alk ultrasonic cleaning	45	D1	HCl-chrome strip
250	B202	alk soap cleaning	85	D2	HCl-vacuum dep strip
250	B203	alkaline electroclean	280	D3	nickel strip
500	B204/5	*countercurrent for B201-203*	250	D4	*static drag-out for D1-3*
250	B206	HCl -activation	250	D5	HCl-chrome rack strip
250	B207	*static drag-out for B206*	100	D6	*static drag-out for D5*
500	B208	acid copper plating	250	D7	HNO_3-rack strip
250	B209	*static drag-out for B208*	250	D8	*static rinse for D7*
500	B210	*countercurrent for B209*	280	D9	HNO3-nickel strip
250	B211	satin nickel plating	100	D10	*static drag-out for D9*
500	B212	bright nickel plating	~gals	**Black Oxide Coating Line "E"**	
250	B213	*static drag-out for B211/212*	200	E1	hot black oxide coating
500	B214/5/6	*countercurrent for B213*	85	E2	*static drag-out for E1*
250	B217	chromium plating	85	E3	*static rinse for E2*
250	B218	*static drag-out for B217-220*	~gals	**Other Operations**	
250	B219	chromium plating	-	F1	stoddard solvent cleaning
250	B220	chromium plating	-	F2	solvent paint stripping
250	B221/2/3	*countercurrent for B218*	-	F3/4	vapor degreasing
250	B224	*static hot water rinse*			

1.2 Facility SIC Code

American Faucet and Coating is assigned the SIC code for plating, polishing, anodizing, and coloring (SIC 3471) and metals coating (SIC 3479).

1.3 Facility Wastewater Sources

There were no observed process-related wastewater discharges from American Faucet and Coating into the Vista sewers. The facility does generates numerous wastewaters, with the low-strength wastewaters treated for on-site reclaim, and the high-strength wastewaters and residuals hauled off-site for disposal as hazardous.

Spent Metal Finishing Solutions – The imparted contamination from the processing of parts and the progressive drop in solution strength results in the generation of spent solutions. The generation rate depends on metal finishing bath usage, effectiveness of bath contamination control, and the amount of drag-out lost into the rinses. The plating steps do not generate spent solutions but rather are regenerated through additions and in-tank removal of residuals through filtering and settling. Nearly everything else is regenerated through the off-hauling of spent solutions as hazardous. The list of spent solutions follows below.

Baths Generating Spents	Baths Not Generating Spents	
A1 - alk electroclean A2 - alk electroclean A3 - alk soaking B201 - alk ultrasonic clean B202 - alk soap clean B203 - alk electroclean B206 - H_2SO_4 activation D1 - HCl-chrome strip D2 - HCl-vacuum dep strip D3 - nickel strip D5 - HCl-chrome rack strip D7 - HNO_3-rack strip D9 - HNO3-nickel strip E1 - black oxide coating F1 - stoddard solvent clean F3/4- vapor degrease F2 - solvent paint stripping	A6 - HCl-acid activation C1 - brass chem oxidation C2 - copper chem oxidation C6 - zinc chem oxidation	A10 - satin-Ni plating ② A11 - bright-Ni plating ② B208 - acid-Cu plating ① B211 - satin-Ni plating ② B212 - bright-Ni plating ② B217 - chrome plating ② B219 - chrome plating ② B220 - chrome plating ② ① tank bottoms to haz ② recirc through cartridge filters - spent filters to haz
Off-Hauled as Hazardous	Additions Only	Residuals to Haz Only

Metal Finishing Rinses - American Faucet and Coatings primarily employs first-stage static drag-out rinses and first- and second-stage countercurrent overflows. All rinses are directed to the on-site industrial rinse water reclaim unit. The list of rinses follows below.

Overflows Not Discharged	Spent Static Rinses Not Discharged	
A4/5 - 1°c/c for A1/2 A8/9 - 2°c/c for A7 B204/5 - 1°c/c for B201/2/3 B210 - 2°c/c for B209 B214/5/6 - 2°c/c for B213 B221/2/3 - 2°c/c for B218 c/c - countercurrent rinse	A7 - 1°drag-out for A6 A12 - 1°drag-out for A10/11 B207 - 1°drag-out for B206 B209 - 1°drag-out for B208 B213 - 1°drag-out B211/2 B218 - 1°drag-out B217-20 B224 - 3°static hot water C3 - 1°static rinse for C1/2 C4 - 2°static rinse for C3 C5 - 3°static rinse for C4	C7 - 1°static rinse for C6 C8 - 2°static rinse for C7 C9 - 3°static hot rinse for C8 C10 - 4°static rinse for C4/9 D4 - 1°drag-out for D1/2/3 D6 - 1°drag-out for D5 D8 - 1°static rinse for D7 D10 - 1°drag-out for D9 E2 - 1°drag-out for E1 E3 - 2°static rinse for E2
Treated for On-site Reclaim		

Powder Coating - The powder coating operations do not generate wastewaters since it is done in a dry-booth without floor drains.

Vapor Deposition - Vapor deposition involves the circulation of non-contact cooling water through a roof-top chiller which was not identified as generating a bleed. The vapor deposition operations also take place in an area without floor drains.

Assembly and Hydrotesting - These operations take place in an area without floor drains. However, hydrotesting does generate spents which are pumped to totes for off-hauling.

Sand Blasting and Polishing - Two vapor degreasers (using n-propyl bromide), parts cleaning with stoddard solutions, and solvent paint stripping are serviced by the vendors, Safety-Kleen and Philips. These operations and sand blasting take place in areas without floor drains.

1.4 Facility Process Wastewater Handling

Composition - The process wastewaters listed in section 1.3 above would be expected to contain aluminum, chromium, copper, nickel, zinc, chlorides, nitrates, borates, and caustic/acidic conditions, as well as oils, salts, surfactants, and other pollutants in the surface grime and machining residue cleaned off parts.

Treatment - The metal finishing rinses undergo treatment through ion exchange for reclaim back into the metal finishing lines as process water make-up. Six ion exchange columns are preceded by a 3000 gallon holding tank and 500 gallon overflow tank for influent flow equalization, and two activated carbon columns and a sand filter column for preconditioning. The ion exchange columns are followed by ultraviolet disinfection and two 5,000 gallon process water storage tanks and a 500 gallon overflow tank. The ion exchange regenerant backwash is batch treated through metals hydroxide precipitation and coagulation using calcium chloride, a filter press, and an evaporator. The batch treatment of the IX backwash produces filter press cake and evaporator slurry, both of which are off-hauled as hazardous.

Photo: Ion Exchange Behind Nickel Plating Line
Taken By: Greg V. Arthur
Date: 05/03/07

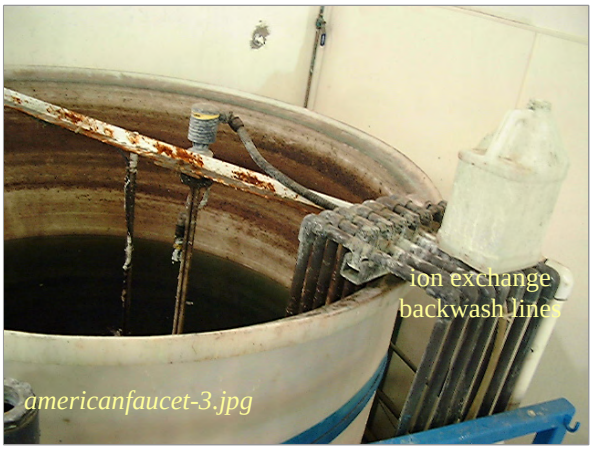

Photo: Batch Treatment Tank for IX Backwash
Taken By: Greg V. Arthur
Date: 05/03/07

Delivery - The metal finishing rinses are delivered by hard pipe to sumps for pumping through the industrial rinse water reclaim unit. Spent solutions and residuals are delivered by portable pump and hosing to totes for off-hauling.

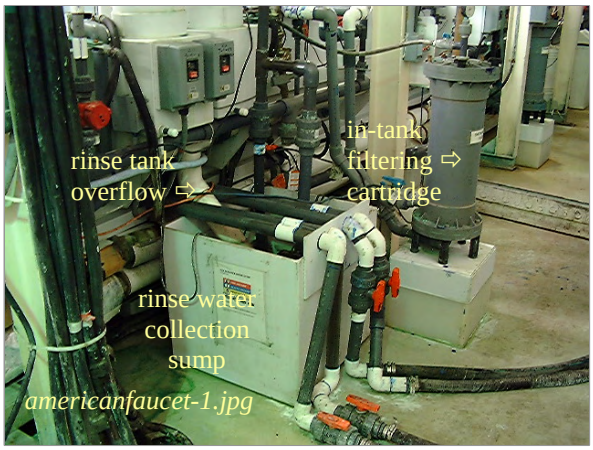

Photo: Rinse Water Collection and Filter Cartridge
Taken By: Greg V. Arthur
Date: 05/03/07

Photo: Portable Pump and Hosing
Taken By: Greg V. Arthur
Date: 05/03/07

Residuals - American Faucet and Coatings generates a number of residuals all of which are off-hauled as hazardous. These residuals include tank bottoms from the acid-copper plating tank, spent filter cartridges from the in-tank filtering of the nickel and chrome plating baths, and the evaporator slurries and filter press cake from the industrial rinse water reclaim unit.

Photo: Filter Press and EvaporatorRoom
Taken By: Greg V. Arthur
Date: 05/03/07

Photo: Totes for Off-Site Hauling
Taken By: Greg V. Arthur
Date: 05/03/07

1.5 Sampling Record

There are no compliance samples since American Faucet and Coatings is not authorized to discharge under the Encina Wastewater Authority industrial user permit No. 6120.

1.6 Photo Documentation

Six of seven photographs taken during this inspection are depicted here and saved as *americanfaucet-1.jpg, -3.jpg, -5.jpg, -6.jpg, -7.jpg,* and *-8.jpg*. The other picture is a duplicate.

1.7 POTW Legal Authorities

Encina Wastewater Authority - The Encina Wastewater Authority owns and operates the Encina Water Pollution Control Facility and Ocean Outfall, which discharges to the Pacific Ocean, and an approved pretreatment program, as required by the State of California in the San Diego RWQCB's Waste Discharge Requirements, No. R9-2005-0219, reissued in 2005, and serving as NPDES Permit No. CA0107395. The Encina Wastewater Authority comprises six member agencies including the City of Vista. The Encina Wastewater Authority has established a sewer use ordinance that applies to all industrial users within the sewer service areas of the member agencies. Under this authority, the Encina Wastewater Authority issued general Class III permit No.6120 prohibiting discharge of Federally regulated wastewater from American Faucet and Coatings to the sewers.

2.0 Sewer Discharge Standards and Limits

Federal categorical pretreatment standards (where they exist), national prohibitions, State groundwater, 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

No Federal categorical pretreatment standards, national prohibitions, or local limits apply because there are no process-related wastewater discharges to the sewers. However, American Faucet and Coatings does generate wastewaters that would be regulated under the Federal metal finishing standards if they were discharged. The application of Federal standards, national prohibitions, and local limits was determined through visual inspection.

Requirements

- None.

Recommendations

- The Encina Wastewater Authority permit should prohibit all process-related wastewater discharges and not just those that would be regulated under a Federal standard.

- The permit should list the Federal standards that would apply to sewer discharges.

2.1 Classification by Federal Point Source Category

American Faucet and Coatings would qualify as a new source metal finisher subject to the Federal standards in 40 CFR 433 if its process-related wastewaters were discharged to the sewers. It would qualify as a new source because operations began in 1992 after the August 31, 1982 promulgation date of the metal finishing rule for new sources. Any discharge would not qualify under any other Federal rule in 40 CFR 407-471.

2.2 Local Limits and National Prohibitions

Local limits and national prohibitions would apply to any discharge of the process-related wastewaters generated on-site. Local limits and national prohibitions are meant to express the limitations on non-domestic discharges necessary to protect the sewers, treatment plants, treatment plant sludges, and their receiving waters from adverse impacts. Generally, technically-based numerical local limits supplant national prohibitions. The Encina Wastewater Authority local limits that apply are listed on the next page.

The Encina Wastewater Authority permit applies a "zero discharge" requirement, but not as the expression of the local limits, since the permit only prohibits the discharge of Federally-regulated wastewaters. Even though American Faucet and Coatings has a “zero discharge”

permit, technically it may discharge process and domestic wastewaters that (1) are not regulated by any Federal categorical standards and (2) are in compliance with the local limits. The permit does not recognize this potential for non-domestic discharge and thus does not establish a point of compliance or monitoring requirements.

Local Limits	Cd	Cr	Cu	Pb	Ni	Ag	Zn	O&G	pH	BOD	TSS	TTO
daily-max (mg/l)	0.43	3.50	4.40	1.80	1.80	4.20	6.20	400	-	-	-	2.00
instant (s.u.)	-	-	-	-	-	-	-	-	5.5-11.0	-	-	-
daily-load (lbs/d)	-	-	-	-	-	-	-	-	-	500	500	-

2.3 Federal Categorical Pretreatment Standards
New Source Metal Finishing - 40 CFR 433.17

40 CFR 433.17	Cd	Cr	Cu	Pb	Ni	Ag	Zn	CNt	CNa	TTO
daily-maximum (mg/l)	0.11	2.77	3.38	0.69	3.98	0.43	2.61	1.20	0.86	2.13
month-average (mg/l)	0.07	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 the process wastewaters from electroplating (*nickel, chromium, acid-copper*), chemical coating (*black oxide, chemical oxidation*), and etching (*acid activation, acid stripping*). 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, polishing, sand blasting, vapor deposition as a form of vapor plating, solvent degreasing, paint stripping, powder coating as a form of painting, hydrotesting, and assembly associated with metal finishing and specifically listed in 40 CFR 433.10(a). If any of the core operations are performed, the new source metal finishing standards apply to discharges from any of the core or associated operations.

As a result, the Federal metal finishing standards would apply to all process wastewaters from the metal finishing lines, parts preparation, parts coatings, and fixture hydrotesting, as well as from shop spills, mop waters, blasting residuals, and treatment unit residuals. The Federal standards would not apply to domestic wastewater from bathrooms and sinks.

2.4 Compliance Sampling

There are no identified process wastewater discharges to the sewers. As a result, there are no sampling points for the non-domestic wastewaters.

2.5 Pollutants of Concern

There are no pollutants of concern as long as American Faucet and Coatings does not discharge any non-domestic wastewaters.

3.0 Compliance with Federal Standards, National Prohibitions, and Local Limits

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).

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

Summary

American Faucet and Coatings successfully achieves compliance with the Federal standards for new source metal finishers, the national prohibitions, and local limits by not discharging its process-related wastewaters to the sewers. American Faucet and Coatings achieves "zero-discharge" compliance through the ion exchange reclaim of low-strength wastewaters and through the thorough and orderly collection of the numerous high-strength wastewaters and residuals for off-site disposal. The overall wastewater management is excellent in design capacity and capability. The wastewater management appeared to be consistently well operated. The metal finishing processing tanks were also excellent in layout and labeling, two additional factors that contribute to operational consistency. A spot check of the waste manifest for two months showed that American Faucet and Coating reported the off-hauling for disposal of the various waste streams expected from its operations.

Requirements

- None.

Recommendations

- Installation of a second small batch treatment unit, also providing metals precipitation, press filtration, and evaporation could greatly lessen the volume of spent solutions off-hauled for disposal as hazardous.

3.1 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 Encina Wastewater Authority wastewater treatment plant through consistent compliance with their sludge and discharge limits.

3.2 Compliance with Standards and Limits

Compliance Status - American Faucet and Coatings is well designed and operated to successfully comply with the applicable Federal standards and local limits strictly through "zero-discharge" practices. The industrial rinse water reclaim unit relies on the removal of contamination through ion exchange. The operation of the ion exchange columns is optimized through a number built-in improvements and practices. These include (1) influent equalization, (2) initial pH neutralization through mixed composition wastewaters, (3) activated carbon and sand filtration preconditioning, (4) lead/lag operation of the ion exchange columns, (5) UV disinfection, and (6) final effluent equalization. ***See*** Appendix 1.

Secondary Containment - On the date of this inspection, the metal finishing lines were found to be successfully operated to prevent the accumulation of spills within the secondary containment berms. The entire flooring within the secondary containment was dry.

Discharge and Disposal - American Faucet and Coatings is configured and operated to maintain "zero-discharging" compliance. The records substantiate this finding since the expected losses of spent solutions and residuals were accounted for and recorded in the manifests. The batch treatment unit is well designed and operated to remove the salt content found in ion exchange regeneration brines through chemical precipitation, press filtration, and evaporation, thereby greatly reducing the disposal volume of wastes generated through the rinsing steps. A second batch treatment unit of similar design would further reduce disposal volumes of wastes related to spent solutions.

Pump and Hose Delivery - American Faucet and Coatings utilizes an extensive system of hard pipes to deliver most wastewaters to treatment and on-site reclaim. The spents are delivered through portable pump and hose to totes. Portable pumps can be stationed any where in the shop. The EPA inspector could not determine whether the hose is long enough that its outlet can be directed to unauthorized points such as bathroom sewer connections. Maintaining only short hose lengths prevents the delivery of spent solutions to improper disposal points.

3.3 Dilution and Bypassing

The Federal standards in 40 CFR 403.6(d) and 403.17(d) prohibit "dilution as a substitute for treatment" and "bypassing any treatment necessary to comply with standards. There is no

possibility to violate the prohibition against dilution as a substitute for treatment as long as American Faucet and Coatings does not discharge wastewaters to the sewers.

On the other hand, any inadvertent or unauthorized discharge to the sewers would violate the prohibition against bypassing treatment necessary to comply since compliance with Federal standards and local limits is achieved through the capture, evaporation, and off-hauling of all wastewaters. It is possible that American Faucet and Coatings can bypass to the sewers for the reasons laid out above, but unlikely in particular because the wastewater management is well designed and operated and the manifest indicate the off-hauling for disposal of the expected spents and residuals. ***See*** Section 3.2 above. ***Also*** see Section 2.0 above.

4.0 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

American Faucet and Coatings does not qualify as a significant industrial user since it is not authorized to discharge its Federally-regulated wastewaters to the sewers. As a result, it is not necessary to for the Encina Wastewater Authority to issue a permit with self-monitoring requirements. Since compliance is achieved through zero-discharge practices, it is appropriate that the Encina Wastewater Authority has issued a permit that substitutes a written certification of no discharge in lieu of semi-annual self-monitoring.

Requirements

- None.

Recommendations

- The semi-annual self-certification statements should include either copies or summaries of the hazardous waste manifests documenting the off-hauling of spents, spent static rinses, and residuals.

Appendix 1
American Faucet and Coatings
Schematic of the Wastewater Collection, Treatment, and Disposal