



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

January 12, 2007

In Reply Refer To: WTR-7

Todd Carl, President
Bay Swiss Manufacturing Company, Inc.
5 Air Park Vista Blvd
Dayton, Nevada 89403

Re: July 19, 2006 Clean Water Act Inspection

Dear Mr. Carl:

Enclosed is the January 12, 2007 report for our July 19 inspection of Bay Swiss Manufacturing. Please submit a short response to the findings in Sections 2 through 5 of this report, to EPA, Lyon County, and the Nevada Department of Environmental Protection, by **March 30, 2007**.

The main findings are summarized below:

- 1 Bay Swiss is an industrial user of the Lyon County sewer system that does not qualify for regulation under any Federal categorical rule or as a significant industrial user.
- 2 The process-related discharges from two work sinks handling shop floor mop water and deburring/ultrasonic tail waters should be sampled at least once for the pollutants of concern. If the sampling reveals insignificant pollutant levels, it is likely that Lyon County will be able to issue a permit that establishes discharge requirements but does not assign periodic self-monitoring.
- 3 The good source control measures in-place and the lack of floor drains minimize the inadvertent introduction of pollutants into the sewers.

I certainly appreciate your helpfulness extended to me during this inspection. I remain available to Lyon County 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,

Greg V. Arthur
CWA Compliance Office

Enclosure

cc: Joe Maez, NDEP
Skeet Sellers, Lyon County



U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION 9

CLEAN WATER ACT COMPLIANCE OFFICE

NPDES COMPLIANCE EVALUATION INSPECTION REPORT

Industrial User: Bay Swiss Manufacturing Company, Inc.
5 Air Park Vista Blvd, Dayton, Nevada 89403
Non-Categorical Non-Significant Industrial User

Treatment Works: Lyon County Utilities Department
South Dayton Valley Wastewater Treatment Plant
(No NPDES Permit - Nevada Permit NEV10017)

Date of Inspection: July 19, 2006

Inspection Participants:

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

State of Nevada: Joe Maez, NDEP, Bureau of Water Pollution Control, (775) 687-9431
Steve McGoff, NDEP, Bureau of Water Poll Control

Lyon County: No Representative

Bay Swiss: Todd Carl, President, (775) 246-7100

Report Prepared By: Greg V. Arthur, Environmental Engineer

January 12, 2007



1.0 Scope and Purpose

On July 19, 2006 EPA, the Nevada Department of Environmental Protection (“NDEP”), and Lyon County conducted a compliance evaluation inspection of Bay Swiss Manufacturing Company in Dayton, Nevada. 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 and the Nevada Revised Statutes. 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.

Bay Swiss qualifies as an industrial user under the Clean Water Act within the Lyon County Utilities sewer service area. Lyon County operates the South Dayton Valley wastewater treatment plant under a State of Nevada ground water permit. It does not operate under an NPDES permit because the treatment plant discharges to ground waters and to a golf course for reclaim. Lyon County Utilities does qualify under the Clean Water Act as a publicly-owned treatment works ("POTW") subject to the Federal regulations for pretreatment and sludge in 40 CFR 403 and 503. The inspection participants are listed on the title page.

1.1 Process Description

Bay Swiss is an integrated machine shop that manufactures aerospace and avionic parts from aluminum, steel, stainless steel, brass, and copper. The operations involve CNC milling, lathe turning, drilling, screw turning, grinding, gearing, solvent degreasing, vibratory deburring, and ultrasonic cleaning. The operations do not involve forming steps such as rolling, casting, extrusion, or forging, nor metal finishing steps such as electroplating, conversion coating, pickling, anodizing, or dyeing. Bay Swiss owns the parts it makes. Operations at this facility began in 1990. Bay Swiss discharges non-domestic wastewaters to the Lyon County domestic sewers through two work sink connections. *See* photos on the next page.

1.2 Facility SIC Code

Bay Swiss is assigned the SIC code for the manufacturing of aircraft parts and auxiliary equipment (SIC 3728).

1.3 Wastewater Sources and Handling

The process wastewaters discharged to the sewers are tail waters from vibratory deburring and ultrasonic cleaning, and the shop floor mop waters. These wastewaters would be expected to contain iron, chromium, copper, lead, nickel, zinc, oil and grease, suspended solids, salts, surfactants, and other pollutants cleaned-off of parts. Bay Swiss provides no on-site treatment. All other wastewaters are off-hauled disposal or recycling.



Vibratory Deburring - Work pieces undergo vibratory deburring which incorporates as a "simple green" degreasing compound as a cleaning and wetting solution. The tail waters discharge to a work sink into the domestic sewers.

Ultrasonic Cleaning - Work pieces are also final cleaned through ultrasonic cleaning, the tail waters from which discharge to the same work sink into the domestic sewers.

Machining - The machining operations use two types of coolant cutting fluids, a water-based coolant, and a synthetic oil. The machine shop itself does not have floor drains. Instead spills and drips on the floor are cleaned up through absorbents swept-up for disposal into the garbage or wet floor cleaning drained into a janitor's work sink to the sewers. Spent coolants are hauled off-site for recycling. The metal machining chips are suspended in mesh buckets to allow the drip off of spent cutting oils for capture for off-site recycling.

Solvent Degreasing - Oily parts are degreased through the use of a stoddard solvent parts washer station which is serviced by an outside vendor for off-site for disposal.

Domestic Sewage Sources - The bathrooms fixtures, bathroom floor drains, and break room sink discharge to the sewers. There are no floor drains anywhere in the facility.



Photo: Chip drainage for recycling of spent oils
Taken By: Greg V. Arthur
Date: 07/19/06

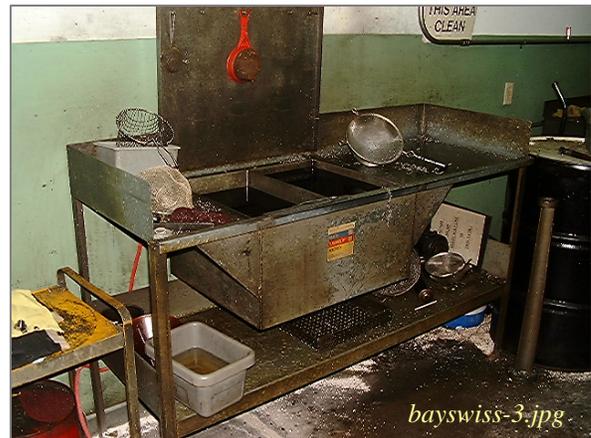


Photo: Stoddard solvent degreasing station
Taken By: Greg V. Arthur
Date: 07/19/06

1.4 POTW Wastewater Treatment

State and Federal Legal Authorities – Lyon County operates the South Dayton Valley wastewater treatment plant under the authority of NDEP permit NEV10017 for the discharge of treated wastewater for reclaim and to the ground water. Lyon County does not possess a Federal NPDES permit issued under the Clean Water Act because the treated sewage does not discharge to surface waters. Nevertheless, Lyon County does qualify as a publicly-owned treatment works (“POTW”) under the Federal definition in 40 CFR 403.3(o) because the wastewater treatment plant treats mixed domestic and non-domestic wastewaters and its sludges are regulated under the Clean Water Act by the Federal regulations in 40 CFR 503.



POTW Configuration – The South Dayton Valley wastewater treatment plant consists of two treatment trains: a sequencing batch reactor ("SBR") and extended aeration lagoons. The City of Dayton generates an average of 220,000 gpd of domestic sewage. The domestic sewage feeds at a constant 140,000 gpd rate into the SBR. The remaining domestic flows are diverted through a splitter to the extended aeration lagoons. The SBR provides aerobic degradation, nitrification, and denitrification. In addition, the Dayton Valley business park generates an average of 60,000 gpd of process-related wastewaters and domestic sewage. Business park wastewaters, excess domestic sewage from city averaging 80,000 gpd, and the aerobic digester sludge from the SBR feed into the first of four lagoons. Primary Ponds #1 and #2 are aerated lagoons in series. Secondary Ponds #A and #B are facultative lagoons operated one at a time. The facultative lagoons discharge without chlorination to a rapid infiltration basin. The SBR discharges without chlorination to a golf course for reclaim.

1.5 State and Local Legal Authorities

There are no local or State permits in effect directly regulating the discharge of non-domestic wastewaters from Bay Swiss to the Lyon County sewers. However, a State permit issued to Lyon County indirectly affects the discharge from Bay Swiss. The State permit imposes ground water quality discharge limits upon the city sewage treatment plant and the Federal sludge standards to the disposal of city sewage treatment plant sludge.

Ground Water Permit for Lyon County - Permit NEV10017 does not require Lyon County to obtain an approved pretreatment program. This is in keeping with the Federal regulations in 40 CFR 403.8(a) that allow for, but do not mandate, States or EPA to require small POTWs with design capacities under 5.0 mgd to obtain approved pretreatment programs. The permit also does not impose any pretreatment provisions. However, NDEP has recommended that Lyon County obtain an approved pretreatment program. Lyon County drafted a sewer use ordinance (reviewed by EPA) but as of yet has not adopted it into municipal law.

Sewer Discharge Permits for Bay Swiss - Lyon County cannot issue its own local industrial user permits until the ordinance is adopted and the pretreatment program is funded by the Lyon County supervisors. NDEP has not issued a site-specific ground water permit that extends the Nevada revised statutes to Bay Swiss, as an industrial discharger into a sewage treatment plant regulated under a State ground water permit.

1.6 Photo Documentation

Arthur took three digital photos during this inspection, recorded as the jpeg files named *bayswiss-1.jpg* through *bayswiss-3.jpg*. The photo not published in this report is a duplicate.

1.7 Compliance Sampling

There currently is no identified location that could serve as an overall compliance sampling point for the non-domestic wastewaters.



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 sewer discharges from industrial users. (40 CFR 403.5 and 403.6).

Summary

There are no Federal categorical pretreatment standards that apply to the process wastewater discharges from Bay Swiss to the sewers. However, Bay Swiss is subject to the self-implementing authority of the national prohibitions in 40 CFR 403.5(a)(b). In addition, once Lyon County obtains pretreatment program approval, its local limits would be technically-based on the State ground water limits and Federal sludge standards that apply to the South Dayton Valley wastewater treatment plant. The application of Federal standards, national prohibitions, and local limits was determined through visual inspection. *See* Appendix 1.

Requirements

- Any permit must apply technically-based local limits derived from the regulatory requirements that now apply to the South Dayton Valley wastewater treatment plant.

Recommendations

- Bay Swiss should provide sample results of its process wastewater discharges in order to possibly obtain a local permit without self-monitoring requirements.

2.1 Classification by Federal Point Source Category

Bay Swiss does not qualify as categorical industrial user subject to any of the Federal standards in 40 CFRs 407-471. In particular, Bay Swiss does not qualify as a metal finisher under 40 CFR 433 because the operations do not involve any of the six core metal finishing operations of electroplating, electroless plating, anodizing, chemical etching, chemical coating, or printed circuit board manufacturing. Bay Swiss also does not qualify under the metals casting, aluminum forming, copper forming, or non-ferrous metals forming rules in 40 CFR 464, 467, 468 or 471 because the operation do not involve casting, forging, rolling, extrusion, or drawing, nor the iron and steel rules in 40 CFR 420 because the operations do not involve the manufacturing or galvanizing of steel.

2.2 Local Limits and National Prohibitions

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 and any site-specific State limits. *See* Appendix 1 for the national prohibitions and local limits that currently apply.



National Prohibitions – For POTWs to surface waters, the national prohibitions in 40 CFR 403.5 prohibit discharges that can cause the pass-through of pollutants into the receiving waters, operational interference of the treatment works, sewage sludge contamination, sewer worker health and safety risks, fire or explosive risks, and corrosive sewer damage. Pass-through and interference, however, as defined in the Federal regulations only occur when NPDES permit limits are violated. So with no NPDES permit for Lyon County, the national prohibitions cannot prohibit discharges that result in violations of the NDEP ground water permit either through pass-through or operational interference. They do however prohibit discharges that cause unpermitted discharges or bypasses to surface waters.

Local Limits – However, local limits should protect the POTW from all adverse impacts including violations of State permits. In this case, technically-based local limits would be approved if they restrict discharges that can cause the pass-through of pollutants and operational interference resulting in violations of the NDEP ground water permit for Lyon County. Local limits still need to be adopted based on the performance of the sewage treatment plants and the current regulatory requirements in the NDEP permit and the Federal sludge regulations. They would apply to all non-domestic discharges in its service area upon adoption.

2.5 Compliance Sampling

No sampling points have been established as of yet. It is possible that no sampling would be required under the local permit depending on the wastewater quality and given the small volume discharged to the sewers. Local limits and national prohibitions are instantaneous-maximums and are comparable to samples of any length including single grab samples.

2.6 Pollutants of Concern

The pollutants of concern for Bay Swiss comprise those regulated by the national prohibitions and site-specific pollutants for which there is a potential to cause the South Dayton Valley wastewater treatment plant to violate its NDEP permit or Federal sludge limits.

National Prohibitions – The pollutant measures regulated by the national prohibitions would include pH for corrosivity, *40 CFR 403.5(b)(2)*.

Local Limits – Site-specific pollutants can cause violations of the NDEP permit or Federal sludge limits in two ways. First, the pollutants could cause an operational interference of the treatment works which results in either (1) the unauthorized release of untreated or partially treated sewage or (2) the violation of permit limits for pollutants that measure performance such as BOD. Second, the pollutants could pass-through the treatment works into either the WWTP sludge or the receiving waters at levels exceeding permit or regulatory limits. From this inspection, EPA determined that the pollutants of concern at Bay Swiss likely include pH, oil and grease, chromium, copper, zinc, nickel, and toxic organics as a risk of pass-through.



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

No Federal categorical standards apply to the wastewaters generated by Bay Swiss.

Requirements

- None.

Recommendations

- None.



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

No definitive conclusion regarding compliance can be made until (1) technically-based local limits for the pollutants of concern are enacted in a permit and (2) samples are obtained of the process wastewater discharges. Nevertheless, Bay Swiss already benefits from a number of good design features and source controls that prevent the discharge of pollutants into the sewers. In particular, the lack of floor drains, the use of solid absorbent, and a solvent degreasing station confines the inadvertent introduction of shop floor pollutants to just mop water. Chip draining and the collection of coolant for recycling also lessens the potential to introduce wastewaters to the sewers from a significant source of oil and grease. The only potential significant source of pollutants would be from vibratory deburring, especially if it is also used to clean cutting oils from the parts. Sewer collection system interferences related to the formation of hydrogen sulfide and the resulting acidic disintegration of the sewers are not expected because the wastewaters are not high-strength in biodegradable organics and are not expected to be acidic in nature. Flammability also would not be expected because the discharges to the sewer are expected to entrain only negligible amounts of volatile organics.

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 Lyon County 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

Bay Swiss does not qualify as a significant industrial user since it is not subject to any Federal categorical standards and it discharges less than 25,000 gpd. Lyon County could designate Bay Swiss as a significant industrial user if the small wastewater discharges are found through sampling to entrain significant concentrations of pollutants deemed to pose a risk to the operations of the sewerage works. Otherwise, self-monitoring is not required to be advanced in the local permit.

Requirements

- See Appendix 1 for the expected self-monitoring requirements for Bay Swiss.

Recommendations

- None.



Appendix 1 Sewer Discharge Standards and Limits Bay Swiss Manufacturing Company						
pollutants of concern (mg/l)	Fed Categorical Standards		NDEP ⑥ Permit (d-max)	Nat'l ⑥ Prohibtns (instant)	Proposed LocLimits (instant)	Proposed Monitoring Frequency
	(d-max)	(mo-avg)				
est discharge (gals)	-	-	-	-	-	month est
pH (s.u.)	-	-	-	<5.0 su.	5.5-10.0	④
EC (µmohs/cm)	-	-	-	-	-	-
explosivity	-	-	-	① ②	-	-
oil&grease - petroleum	-	-	-	-	150	④
sulfides	-	-	-	-	0.1	-
BOD/COD	-	-	-	-	1000	-
total suspended solids	-	-	-	-	1000	④
cadmium	-	-	-	-	③	-
chromium	-	-	-	-	③	④
copper	-	-	-	-	③	④
iron	-	-	-	-	③	④
lead	-	-	-	-	③	④
mercury	-	-	-	-	③	-
molybdenum	-	-	-	-	③	-
nickel	-	-	-	-	③	-
selenium	-	-	-	-	③	-
silver	-	-	-	-	③	-
zinc	-	-	-	-	③	④
total cyanide	-	-	-	-	③	-
amenable cyanide	-	-	-	-	③	-
total toxic organics	-	-	-	-	③	④
temperature (°F)	-	-	-	⑤	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 Potential technically-based local limits to be re-adopted to ensure POTW permit compliance. ④ One-time sample of the shop floor mop water sink, and the deburring/ultrasonic sink ⑤ National-prohibitions - Not causing >104°F at POTW's wastewater treatment plant Proposed Self-Monitoring Frequency red - increase black - no change green - decrease						