January 11, 2008

Ken Hoffman, Owner
Palm Springs Plating
345 Del Sol Road
Palm Springs, California 92262

Re: October 8, 2007 Clean Water Act Inspection

Dear Mr. Hoffman:

Enclosed is the January 11, 2008 report for our October 8, 2007 inspection of Palm Springs Plating. Please submit a short response to the findings in Sections 2 through 5 of this report, to EPA, the City of Palm Springs, and the Regional Water Quality Control Board, by February 28, 2008.

The main findings are summarized below:

1. Palm Springs Plating qualifies as a “zero-discharging” new source metal finisher since it generates but does not discharge Federally-regulated wastewaters.

2. The City of Palm Springs should issue a permit that requires periodic “zero-discharge” self-certification. Waste manifests should accompany the self-certifications.

3. Palm Springs Plating achieves “zero-discharge” compliance through the effective wastewater collection and off-site disposal. Palm Springs Plating has good procedures to record and track generation and disposal. The manifests account for the wastes expected from the operations. Palm Springs Plating should address the potential for inadvertent or unauthorized discharges through the work sink.

I appreciate your helpfulness extended to me during this inspection. I remain available to Veolia Water, the City of Palm Springs, 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: Bob Okren, Veolia Water
Doug Wylie, RWQCB-Colorado River
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 9
CLEAN WATER ACT COMPLIANCE OFFICE

NPDES COMPLIANCE EVALUATION INSPECTION REPORT

Industrial User: Palm Springs Plating
345 Del Sol Road, Palm Springs, California 92262
40 CFR 433 – Zero-Discharging New Source Metal Finishing

Treatment Works: City of Palm Springs
Palm Springs Wastewater Treatment Plant
(No NPDES Permit - California WDRs R7-93-076)

Date of Inspection: October 8, 2007

Inspection Participants:

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

RWQCB-Colorado River: None

City of Palm Springs: Bob Okren, Veolia Water, Compliance, (760) 323-8166 ex121
Eddie Moore, Veolia Water, Inspections, (760) 323-8166

Palm Springs Plating: Carlos Borja, Operations Manager, (760) 325-6012
Ken Hoffman, Owner, (760) 325-6012

Report Prepared By: Greg V. Arthur, Environmental Engineer
January 11, 2008
1.0 Scope and Purpose

On October 8, 2007, EPA, and Veolia Water representatives of the City of Palm Springs conducted a compliance evaluation inspection of Palm Springs Plating in Palm Springs, 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.

Palm Springs Plating, located at 345 Del Sol Road, would qualify as a categorical industrial user under the Clean Water Act within the Palm Springs sewer service area if it discharged process-related wastewaters to the sewers. The compliance of Palm Springs Plating was assessed through this inspection as part of an on-going EPA evaluation of industrial users in EPA Region 9 by industry sector. The inspection participants are listed on the title page. Arthur conducted the inspection.

1.1 Process Description

Palm Springs Plating is a decorative metal finishing job-shop that provides nickel, bronze, brass, gold, and chromium plating, and zincate and antiquing coatings primarily on plumbing fixtures. Palm Springs Plating does not own the parts it finishes. Operations began in 1986. The parts arrive formed and cast but not necessarily clean. The operations by processing line follow below. The processing line designations "A", "B", “C”, “D”, and "E" and the tank numbering are strictly those of the EPA inspector for the purposes of this report.

**Preparation and Strip Line "A" - (Tanks A1-A17).**
alkaline soap cleaning, caustic electrocleaning, sulfuric-acid activation, hydrochloric-acid pickling, degreasing, paint stripping, hydrochloric-acid and sulfuric-acid nickel stripping

**Nickel Plating Line "B" - (Tanks B18-B23, B38-B46).**
Watts nickel plating, dull nickel plating, black nickel plating, nickel strike, nitric-acid activation of aluminum, zincate coating

**Chromium Plating Line "C" - (Tanks C24-C26)**
decorative chrome plating

**Decorative Finish Plating Line “D” - (Tanks D27-D37)**
brass-cyanide plating, bronze-cyanide plating, gold-cyanide plating, copper-cyanide plating

**Coloring Line “E” - (Tanks E47-53)**
caustic electrocleaning, hydrochloric-acid/selenium brown patina antiquing, black patina antiquing, ebonol brass blackening
1.2 Facility SIC Code

Palm Springs Plating is assigned the SIC codes 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 Palm Springs Plating to the Palm Springs domestic sewers although a possibility exists that process wastewaters could inadvertently enter the sewers through a work sink. The only non-domestic discharges to the sewers were three non-contact wastewaters through the work sink connection. The City of Palm Springs has not issued a zero-discharge permit to specifically authorize the
discharge of only non-process wastewaters from Palm Springs Plating. As a result, Palm Springs Plating has not been required to submit reports to the City of Palm Springs certifying to no generation and disposal of liquid wastes, sludges, or hazardous wastes into the sewers.

**Non-Contact** - There are three sources of non-contact non-domestic wastewater with observed connection to the sewers: (1) city water reverse osmosis reject, (2) boiler blowdown, and (3) work sink washdown. All three sources discharged through the same sewer connection below the work sink.

**Spent Solutions** – The imparted contamination from the processing of parts and the progressive drop in solution strength generates spent solutions. The generation rate of spents depends on plating bath usage, effectiveness of bath contamination control, and the amount of drag-out lost into the rinses. According to Palm Springs Plating all solution tanks for the plating and coating steps are regenerated strictly through additions, while spent solutions for parts preparation and stripping are off-hauled as hazardous. The list of baths follows below.

<table>
<thead>
<tr>
<th>Baths Regenerated by Additions</th>
<th>Bath Vol</th>
<th>Baths Generating Spents</th>
<th>Spent Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>B19 - Watts nickel-plating</td>
<td>500 gal</td>
<td>A1 - paint strip</td>
<td>55 gal / -</td>
</tr>
<tr>
<td>B20 - dull nickel-plating</td>
<td>100 gal</td>
<td>A3 - caustic strip</td>
<td>55 gal / -</td>
</tr>
<tr>
<td>B38 - black nickel-plating</td>
<td>200 gal</td>
<td>A5 - HCl-acid Ni strip</td>
<td>55 gal / -</td>
</tr>
<tr>
<td>B40 - nickel strike</td>
<td>500 gal</td>
<td>A6 - H2SO4-acid Ni strip</td>
<td>55 gal / -</td>
</tr>
<tr>
<td>C24 - chromium-plating</td>
<td>500 gal</td>
<td>A7 - HCl-acid pickling</td>
<td>20 gal / -</td>
</tr>
<tr>
<td>D27 - brass/CN-plating</td>
<td>500 gal</td>
<td>A8 - simple green degrease</td>
<td>20 gal / 2-wks</td>
</tr>
<tr>
<td>D28 - brass/CN-plating</td>
<td>200 gal</td>
<td>A9 - no solv degreasing</td>
<td>20 gal / 2-wks</td>
</tr>
<tr>
<td>D31 - gold/CN-plating</td>
<td>50 gal</td>
<td>A11 - alkaline soap clean</td>
<td>200 gal / 6-mos</td>
</tr>
<tr>
<td>D32 - gold/CN-plating</td>
<td>20 gal</td>
<td>A12 - caustic electroclean</td>
<td>500 gal / year</td>
</tr>
<tr>
<td>D33 - gold/CN-plating</td>
<td>20 gal</td>
<td>A16 - H2SO4-acid activate</td>
<td>400 gal / year</td>
</tr>
<tr>
<td>D36 - copper/CN-plating</td>
<td>400 gal</td>
<td>B43 - HNO3-acid activate</td>
<td>40 gal / -</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B44 - zincate coating</td>
<td>40 gal / -</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E47 - brown patina antique</td>
<td>55 gal / -</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E48 - black patina antique</td>
<td>55 gal / -</td>
</tr>
<tr>
<td>Ⓥ circulation through activated carbon and filter cartridges</td>
<td></td>
<td>E49 - ebonol brass blacken</td>
<td>55 gal / -</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E50 - caustic electroclean</td>
<td>55 gal / -</td>
</tr>
</tbody>
</table>

**No Off-site Disposal**

| Hauled Off-site as Hazardous |

**Rinses** - Palm Springs Plating employs first- or second-stage static or spray rinses for either solution bath make-up or off-hauling as hazardous. One secondary final static rinse for the Nickel Plating Line B and a tertiary final static rinse for the Coloring Line E discharges through a small reverse osmosis unit for on-site reclaim. There are no overflow rinses. Palm Springs Plating also employs a second reverse osmosis unit to precondition the incoming city water. The list of rinses follows on the next page.
Residuals - Palm Springs Plating employs a number of static drag-out rinses for return as solution tank make-up, reverse osmosis water as make-up, and acid activation steps to neutralize the surface chemistry of the previous step, all practices that extend the useful life of the metal finishing solutions. Extension of solution useful life reduces the generation of residuals to be hauled off-site as hazardous. The in-tank filtration in certain solution tanks also generates spent filters for off-hauling and the solution tanks themselves accumulate bottom sludges for off-hauling. No other residuals are expected to be generated on-site because Palm Springs Plating provides no chemical treatment or preconditioning of any spent solutions, spent static rinses, or rinses.

1.4 Facility Process Wastewater Handling

Palm Springs Plating is operated to not discharge any process-related wastewaters to the sewers and as a result does not provide any wastewater treatment. However, Palm Springs Plating has the physical possibility to deliver process-related wastewaters to the sewer through portable pumps and hoses to a work sink with a connection to the sewers. See Figure 1.4 on the next page.

Composition - The process-related wastewaters listed in section 1.3 above would be expected to contain copper, chromium, lead, nickel, selenium, zinc, cyanide, and acidity, as well as oil & grease, salts, surfactants, paint grime, and other pollutants in the surface grime cleaned off of parts. The non-contact wastewaters would be expected to concentrate the minerals contained in the city water.

Delivery - Palm Springs Plating employs, as the only acknowledged method of delivery, portable pumps and hoses to drain spents to containers for hazardous waste pick-up. The
portable pumps and hoses could also be used to deliver other wastewaters to other destinations, for example, to the work sink. No floor drains were found. See the photos in Section 1.7 of this report. Also see Section 3.2 of this report.

**Figure 1.4**
Palm Springs Plating - Configuration and Layout

Hazardous Waste Handling - Palm Springs Plating delivers spent solutions, spent static rinses, reverse osmosis reject, spent tank filters, and tank bottom sludges to 55 gallon containers for off-site delivery as hazardous waste. The drum storage area and the shop floor have secondary containment berms although the cyanide plating area is not segregated from the rest. Palm Springs Plating maintains a tabulation of all manifested hazardous waste drums by type. From these records, in 2007 Palm Springs Plating hauled off-site as hazardous the following wastes listed on the next page.
<table>
<thead>
<tr>
<th>Spents/Residuals to Haz in 2007</th>
<th>Haul Vol</th>
<th>Rinses/ROReject to Haz in 2007</th>
<th>Haul Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>A7 - HCl-acid pickling</td>
<td>55 gal</td>
<td>A2 - for A1 paint stripping</td>
<td>1375 gal</td>
</tr>
<tr>
<td>A8 - simple green degreaser</td>
<td>275 gal</td>
<td>A4 - for A5/6/7 strippants</td>
<td>605 gal</td>
</tr>
<tr>
<td>A9 - no solv degreaser</td>
<td>495 gal</td>
<td>A10 - for A9 no solv degrease</td>
<td>165 gal</td>
</tr>
<tr>
<td>A16 - H$_2$SO$_4$-acid activation</td>
<td>110 gal</td>
<td>A17 - for A16 acid activation</td>
<td>330 gal</td>
</tr>
<tr>
<td>B19/20 - nickel plating</td>
<td>55 gal</td>
<td>B41 - for B40 nickel strike</td>
<td>220 gal</td>
</tr>
<tr>
<td>B40 - nickel strike</td>
<td>55 gal</td>
<td>E52 - for E47/48 patinas</td>
<td>110 gal</td>
</tr>
<tr>
<td>E47/48 - brown/black patina</td>
<td>605 gal</td>
<td>RO reject - for B42/E53 rinses</td>
<td>825 gal</td>
</tr>
<tr>
<td>E49 - ebonol blackener coating</td>
<td>220 gal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.5 **POTW Legal Authorities**

The City of Palm Springs - Veolia Water, under contract with the City of Palm Springs, operates the Palm Springs Wastewater Treatment Plant, which discharges through percolation basins to the underlying groundwater. The wastewater treatment plant operates under the requirements of the State of California in the Colorado River Basin RWQCB's Waste Discharge Requirements, No. R7-93-076, issued to Palm Springs in 1993. The WDRs require the City of Palm Springs to obtain and implement an approved pretreatment program only if there are significant industrial users in the sewer service area discharging into the domestic sewers. So far the City has not identified any significant industrial users.

The City has adopted sewer use regulations in Chapter 15.28 of the municipal code with narrative limits for incompatible pollutants but without specifying numerical limits. The WDRs also do not impose numerical limits for incompatible pollutants beyond certain salts in the treated wastewater discharge from the Palm Springs Wastewater Treatment Plant to the groundwater.

1.6 **Sampling Record**

There are no compliance samples since Palm Springs Plating is not authorized to discharge under a Palm Springs permit.
1.7 Photo Documentation

Five photographs taken during this inspection are depicted below and saved as palmspringsplating-1.jpg through -5.jpg.

Photo: Solution Transfer Pumps and Hoses
Taken By: Greg V. Arthur
Date: 10/08/07

Photo: Ni-Plating Tank B19 Circulation Filter
Taken By: Greg V. Arthur
Date: 10/08/07

Photo: Drum Storage Area with 2º Containment
Taken By: Greg V. Arthur
Date: 10/08/07

Photo: RO Preconditioning Unit for City Water
Taken By: Greg V. Arthur
Date: 10/08/07

Photo: Work Sink and Connection to the Sewer
Taken By: Greg V. Arthur
Date: 10/08/07
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, Palm Springs Plating does generate wastewaters that would be regulated if they were discharged. The application of Federal standards, national prohibitions, and local limits was determined through visual inspection.

Requirements

- None.

Recommendations

- The City of Palm Springs should issue a zero-discharge permit specifically permitting the observed non-domestic discharges and listing the Federal standards that would apply if the process-related wastewaters were discharged to the sewers.

- The City of Palm Springs should require, as part of any permit, semi-annual certifications by Palm Springs Plating of “no discharge”.

2.1 Classification by Federal Point Source Category

Palm Springs Plating 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. Palm Springs Plating would not qualify as an existing source job-shop metal finisher subject to the Federal standards in 40 CFR 413 because it began operations in its current configuration after the August 31, 1982 promulgation date of the metal finishing rule for new sources. Any discharge from Palm Springs Plating also 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. In this case with
Palm Springs Plating, there are no local limits beyond narrative prohibitions in Chapter 15.28 of the City sewer use ordinance and no City permit issued to Palm Springs Plating. A "zero discharge" requirement in a permit that authorizes only the discharge of domestic and non-contact wastewaters to the sewers would be the expression of the local limits and national prohibitions.

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

<table>
<thead>
<tr>
<th>40 CFR 433.17</th>
<th>Cd</th>
<th>Cr</th>
<th>Cu</th>
<th>Pb</th>
<th>Ni</th>
<th>Ag</th>
<th>Zn</th>
<th>CNa</th>
<th>CNt</th>
<th>TTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>daily-maximum (mg/l)</td>
<td>0.11</td>
<td>2.77</td>
<td>3.38</td>
<td>0.69</td>
<td>3.98</td>
<td>0.43</td>
<td>2.61</td>
<td>0.86</td>
<td>1.20</td>
<td>2.13</td>
</tr>
<tr>
<td>monthly-average (mg/l)</td>
<td>0.07</td>
<td>1.71</td>
<td>2.07</td>
<td>0.43</td>
<td>2.38</td>
<td>0.24</td>
<td>1.48</td>
<td>0.32</td>
<td>0.65</td>
<td>-</td>
</tr>
</tbody>
</table>

Applicability - Under 40 CFR 433.10(a), the metal finishing standards apply to the process wastewaters from electroplating (nickel, chromium, copper, brass, bronze, gold), chemical coating (zincate, antiquing, blackening, chemical oxidation), and etching (acid activation, acid stripping, caustic 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, polishing, sand blasting, bead blasting, solvent degreasing, paint stripping, 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, and parts coatings, as well as from shop spills. The Federal standards would not apply to domestic wastewater from bathrooms and sinks, or to the non-contact, non-domestic wastewaters that considered dilution waters (boiler blowdown and RO reject for intake water preconditioning).

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 Palm Springs Plating does not discharge any process-related wastewaters. However, the work sink could be misused to discharge to the sewers. As a result, the pollutants of concern for sewer system reconnaissance could comprise some of those regulated by the Federal new source metal finishing standards (copper, chromium, nickel, lead, zinc, cyanide), and the national prohibitions (pH).
3.0 Compliance with Federal Standards, National Prohibitions, and Local Limits

**Summary**

Palm Springs Plating achieves compliance with the Federal standards, national prohibitions, and local limits by not discharging process-related wastewaters to the sewers. Compliance is achieved through the effective collection and off-site hauling of generated wastewaters. In particular, Palm Springs Plating maintains good procedures to record and track the generation and disposal of process-related wastewaters. As a result, the waste manifests for 2007 confirm “zero-discharge” compliance. A work sink and portable pumps make it physically possible for the inadvertent or unauthorized discharge of process-related wastewaters to the sewers.

**Requirements**

- None.

**Recommendations**

- Palm Springs Plating should eliminate the possession on-site of any long hoses used in the transfer of solutions and spents throughout the facility.
- Palm Springs Plating should isolate the secondary containment under the cyanide-bearing tanks from the rest of the shop.

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 Palm Springs wastewater treatment plant through consistent compliance with their sludge and discharge limits.

### 3.2 Compliance with Standards and Limits

**Compliance Status** - Palm Springs Plating complies with the applicable Federal standards and local limits strictly through the proper handling of all spents, rinses, and residuals by the shop operators. Consistent compliance depends on the successful and consistent delivery of all spent solutions, spent drag-out rinses, and residuals to barrels for hauling off-site as hazardous waste. Any inadvertent or unauthorized discharge of process-related wastewaters of any quality to the work sink connection to the sewers or to any other sewer connection would violate the narrative prohibitions against discharge. Any inadvertent or unauthorized discharge likely would also violate the numerical Federal standards since Palm Springs Plating does not treat any wastewaters on-site for the removal of metals, the destruction of cyanide, or the pH adjustment of acidic and alkaline conditions.

**Discharge and Disposal** - There are good reasons for the finding that Palm Springs Plating attains and can maintain "zero-discharging" compliance. Foremost, the hazardous waste hauling records reasonably account for the wastewater losses necessary to explain the continued successful operation of Palm Springs Plating as a "zero-discharging" shop. Next, two final rinses of higher quality are reclaimed through the small reverse osmosis unit, thereby reducing the volume of wastewaters to off-haul. Also, there were no observed floor drains, hard-piped sewer connections, or other entry points into the sewers, beyond the bathrooms and one non-domestic work sink.

**Secondary Containment** - The shop is configured with secondary containment around the metal finishing lines and the drum storage area. The secondary containment under the shop floor is not segregated to provide separate containment for the cyanide-bearing tanks. The commingling of cyanide-bearing wastewaters and acids could produce hazardous fumes.

**Pump and Hose Delivery** - Palm Springs Plating uses portable pumps and hose extensions for the delivery of spents for disposal or reclaim as make-up. The portable pumps can be stationed anywhere in the shop. Maintaining only short hose lengths prevents the delivery of spent solutions to an improper disposal point.

### 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 since there is no treatment. On the other hand, an inadvertent or unauthorized discharge to the sewers would violate the prohibition against bypassing treatment necessary to comply since compliance with standards is achieved through the capture and off-hauling of all wastewaters.
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**

Palm Springs Plating 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 Palm Springs to issue a permit with self-monitoring requirements. Since compliance is achieved through zero-discharge practices, it is appropriate for Palm Springs to issue a permit that substitutes a written certification of no discharge in lieu of semi-annual self-monitoring.

**Requirements**

- None.

**Recommendations**

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