

DRAFT ENGINEERING EVALUATION
ALCO IRON & METAL COMPANY

Application #16042 - Plant #3360

2366 Davis Street/1091 Doolittle Drive
San Leandro, CA 94577

I. BACKGROUND

Alco Iron & Metal Company is applying for a Permit to Operate for the following equipment:

**S-1 Controlled Pyrolysis Cleaning Furnace, Pollution Control Products Co., Model VPI 340,
Fired by LPG, 950,000 Btu/hr**

Alco Iron & Metal Company (Alco) has locations in Vallejo, Stockton, and San Leandro, CA and sells new, usable, and surplus steel, aluminum, and stainless steel products. Alco also purchases scrap and surplus metal products.

On April 23, 2007, the Alco facility in San Leandro, CA., submitted an accelerated permit application to the District for a propane-fired controlled pyrolysis cleaning furnace primarily for the removal of varnish, epoxy, or other organic material from electric motor stators and other electrical parts for recovery of primary base metals, such as copper. Controlled pyrolysis cleaning furnaces are specialized ovens that thermally decompose varnish, epoxy and other organic materials at 750 to 800 degrees Fahrenheit in the absence of oxygen. Organic residues are vaporized off of the metal parts leaving them free of any organic material. The smoke and pyrolysis gases created by vaporization of organic materials are drawn through an afterburner chamber that operates in excess of 1400 degrees Fahrenheit and a residence time of ½ second or greater. The emissions consist primarily of water vapor and carbon dioxide and the discharge is expected to be smokeless and odorless.

II. EMISSION CALCULATIONS

The combustible material throughput is limited to a maximum of 20 lb/hr using a maximum heat input of 950,000 Btu/hr. The furnace operates on an 8-hour batch process mode and may operate up to 5 days per week.

The furnace manufacturer indicates that criteria pollutant emissions are: 0.0542 lb NO_x/hr; 0.10 lb CO/hr; 0.0348 lb HC/hr; 0.027 lb PM/hr; and 0.0036 lb SO_x/hr.

The manufacturer emissions calculation is as follows:

Annual Average Emissions from S-1:

Hours of Operation = 2080 hr/yr = (5 days/week) (52 weeks/year) (8hr/day)

NO_x = 0.0542 lb /hr (2080 hr/yr) = 113 lb/yr or 0.056 TPY

CO = 0.10 lb /hr (2080 hr/yr) = 208 lb/yr or 0.104 TPY

POC = 0.0348 lb /hr (2080 hr/yr) = 72.4 lb/yr or 0.036 TPY

PM10 = 0.027 lb /hr (2080 hr/yr) = 56.2 lb/yr or 0.028 TPY

SO_x = 0.0036 lb /hr (2080 hr/yr) = 7.5 lb/yr or 0.004 TPY

Highest Daily Emissions from S-1:

NO_x = 0.0542 lb /hr (24 hours/day) = 1.30 lb/day

CO = 0.10 lb /hr (24 hours/day) = 2.4 lb/day

POC = 0.0348 lb /hr (24 hours/day) = 0.835 lb/day

PM10 = 0.027 lb /hr (24 hours/day) = 0.65 lb/day

SO_x = 0.0036 lb /hr (24 hours/day) = 0.086 lb/day

Each pollutant is less than 10 lb/highest day; therefore, Best Available Control Technology (BACT) is not triggered.

III. PLANT CUMULATIVE INCREASE AFTER 4/5/91

	<u>Current</u> Ton/yr	<u>New</u> Ton/yr	<u>New Total</u> Lbs/yr	<u>Tons/yr</u>
POC =	0.00	0.036	72.4	0.036
NO _x =	0.00	0.056	113	0.056
SO ₂ =	0.00	0.004	7.5	0.004
CO =	0.00	0.104	208	0.104
NPOC =	0.00	0.000	0	0.000
PM ₁₀ =	0.00	0.028	56.2	0.028

IV. TOXIC SCREENING ANALYSIS

Although this application does not require a Toxics Risk Screening, one was performed for CDD/CDF (dioxin and furan) emission factors from EPA for a scrap wire incinerator, since no emission factors of toxic compounds are available for pyrolysis furnaces. Dioxin and furan emission factors from scrap metal incinerators were chosen because they would be higher than those from a pyrolysis furnace due to higher operational temperatures and in the presence of oxygen.

This Controlled Pyrolysis Cleaning Furnace passed the Health Risk Screening Analysis (HRA) conducted on September 26, 2007 by the District's Toxic Evaluation Section. The risk screen also included the extremely small contribution of toxic compounds from combustion emissions. The source poses no significant toxic risk, since the risks to the maximally exposed residential and industrial receptors are 0.003 and 0.1 in a million, respectively. The chronic hazard indexes for the residential and industrial receptors are less than negligible and 0.00011, respectively. Risk to Students was not calculated since there are no schools within 1,000 feet of this source

VII. STATEMENT OF COMPLIANCE

Source S-1 is subject to and expected to be in compliance with the requirements of District Regulation 1-301 "Public Nuisance" and District Regulation 6 "Particulate Matter and Visible Emissions".

CEQA Categorical Exemption and CEQA "Common Sense Exemption":

Section 2-1-312 of the District Rules and Regulations sets forth specific types of projects, which have been determined by the District to be categorically exempt from CEQA (see CEQA Guidelines § 15300.1). The District concludes that the permit application is exempt from CEQA because it is categorically exempt from CEQA, and the project qualifies for the "Common Sense Exemption" of Subsection (b)(3) of the State CEQA Guidelines.

Per Section 2-1-312.11, in addition to ministerial projects, permit applications for a new or modified source or sources or for process changes, which will satisfy the "No Net Emission Increase" provisions of District Regulation 2, Rule 2 and for which there is no possibility that the project may have any significant environmental effect in connection with any environmental media or resources other than air quality, are exempt from the CEQA review. The reason for this exemption should be apparent on its face: if a facility is given legal permission to emit more air pollutants from certain points while at the same time being disallowed permission for an equivalent amount of the same type of emissions from other points at the facility, then there is deemed to be no net effect on the air environment, and therefore no possibility of a significant effect under CEQA, provided no-air impacts are also examined and deemed to be of no possible significant consequence.

Also, per the CEQA Guidelines in Title 14, California Code of Regulations, Chapter 3, Article 5, Section 15061(b)(3), a project is exempt from CEQA if the activity is covered by the general rule that CEQA applies only to projects, which have the potential for causing a significant effect on the environment. This is commonly known as the "Common Sense Exemption". Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. The "no net increase" exemption of 2-1-312.11 is essentially a specific, codified, instance of the Common Sense Exemption.

For this permit application, the District determined that the project will satisfy the "No Net Emission Increase" provisions of District Regulation 2, Rule 2. Alco has completed and submitted to the District CEQA Appendix H, Environmental Information Form, for the project. The District has reviewed the CEQA Appendix H form. Alco did not check "yes" to any item regarding potential environmental impacts.

Based on all of the information before the District and the District's review of the information submitted, the District has determined that there is no possibility that the project may have any significant environmental effect.

The CEQA categorical exemption applies to this project notwithstanding the exceptions to the exemptions set forth in Guidelines § 15300.2. This project is a relatively small project of the type that is routinely permitted by the District. There are no unusual circumstances to this project in that it is an application for a relatively small project at a preexisting facility that is completely within the interior of the facility. The facility is an existing scrap metal yard on a seven-acre site in San Leandro, California within an industrial/commercial area.

The District finds these assertions and arguments to be credible. Thus, the District concludes that the permit application is exempt from CEQA because it is categorically exempt from CEQA, and the project qualifies for the "Common Sense Exemption" of Subsection (b)(3) of the State CEQA Guidelines.

The District has considered whether the project is part of a larger project for CEQA purposes, and has concluded that it is not. No other Alco permits are currently pending before the District. Specifically, completion of the project is not necessary in order for Alco to proceed with other permit applications, nor is the project a foreseeable consequence of other permit applications.

Although this project does not require public notification, a public notice was prepared and posted on the District website on October 15, 2007 and distributed to interested parties.

BACT, Offsets, PSD, NSPS, and NESHAPS are not triggered.

VIII. CONDITIONS

Permit condition for S-1, Controlled Pyrolysis Cleaning Furnace, Alco Iron & Metal Company, Plant # 3360, Application # 16042

1. Owner/operator shall limit combustible material throughput to 20 lb per hour. [Basis: Cumulative Increase]
2. Owner/operator shall limit furnace operation to not more than 2080 hours in any consecutive 12-month period. [Basis: Cumulative Increase]
3. Owner/operator shall not place any of the following materials in the furnace:
 - a. Parts coated with, containing, or contaminated with oil, grease, wet or uncured paint, paint sludge, waste powder from powder coatings, paint filters, nitrocellulose paints, solvents, or thinners;
 - b. Parts coated with, containing, or contaminated with plastic, polymer, or PVC (polyvinyl chloride);
 - c. Parts coated with, containing, or contaminated with lead, rubber, wood, paper;

- d. Parts that may be contaminated with medical, pathological, or nuclear materials;
 - e. Parts that may be contaminated with sludge from hot tanks, cold tanks, trichlor tanks, parts washers or jet washers;
 - f. Automotive parts, or parts that are contaminated with gasoline, kerosene or similar highly volatile solvent;
 - g. Parts coated with, containing, or contaminated with chlorine (for example PVC), fluorine (for example Teflon), sulfur, or elements other than carbon, hydrogen, and oxygen;
 - h. Parts coated with, containing, or contaminated with magnesium or magnesium alloys.
[Basis: Toxics]
4. Owner/operator shall properly maintain and operate the furnace strictly in accordance with the furnace manufacturer's Installation, Operation, and Maintenance Manual. [Basis: Cumulative Increase]
5. To demonstrate compliance with Parts 1, 2, 3 and 4 above, the owner/operator shall maintain the following records in a District-approved log for at least 36 months from the date of entry:
- a. Monthly weight of scrap metal throughput in tons;
 - b. Hourly weight of combustibile material throughput in pounds;
 - c. Type of materials and description of coating or contaminant to be removed;
 - d. Date materials were processed through the furnace;
 - e. Number of hours of operation per batch; and
 - f. Monthly total number of hours of operation.

Log entries shall be retained on site and made immediately available to District staff upon request.
[Basis: Recordkeeping]

X. RECOMMENDATION

Waive the Authority to Construct and Issue a conditional Permit to Operate to Alco Iron & Metal Company, for the following equipment:

S-1 Controlled Pyrolysis Cleaning Furnace, Pollution Control Products Co., Model VPI 340, Fired by LPG, 950,000 Btu/hr.

Craig Ullery
Air Quality Engineer II
Engineering Division

Date: October 15, 2007 _____