EVALUATION REPORT
Due Torri Coffee
Application #16530 - Plant #18612
910 81st Avenue Unit 15
Oakland, CA 94621

DRAFT

I. BACKGROUND

Due Torri Coffee is moving to a new location. They are moving their existing roaster to a new location and thus require a permit to operate. Once the A/C is granted, the facility will close source S-1 at Plant # 16906. In addition, the source is within 1000 feet of a school and a public notice is required. The facility has applied for an Authority to Construct/Permit to Operate for the following equipment:

S-1 Coffee Batch Roaster with integral Cooler/Destoner; Diedrich IR 24, 220 lb/hr capacity, Built-in Burner, 120,000 Btu/hr.

II. EMISSION CALCULATIONS

S-1 Coffee Roaster

Emission from batch roaster:

Emission factors for emissions of particulate, NOx, CO, CO2, aldehydes, and organics are taken from Permit Handbook Section 11, chapter 3, and AP-42, Table 9.13.2-1,2 (9/95)- Emission Factors for Batch Roasting.

Pollutant (lb/ton)	Factors (ton/yr)	Throughput (lb/yr)	Emissions (ton/yr)	Emissions
PM10[1]	4.2	66	277.20	0.1386
NOx[1]	0.1	66	6.60	0.0033
Organic (VOC)	0.86	66	56.76	0.0284
Organic Acids[1]	0.9	66	59.40	0.0297
Formaldehyde[2]	0.054	66	3.56	0.0018

[1]Taken from AP-42 Table 6.2 Emission Factors for Roasting Processes without controls

[2]The factor used to calculate this formaldehyde emission factor (0.063 lb formaldehyde/lb total organics) was taken from the Toxic Air Contaminant Emission Inventory for the San Francisco Bay Area Status Report, April 2, 1990.

Emission increases from combustion of natural gas at the batch roaster

Basis:

* Total fuel throughput (120,000 Btu/hr capacity) = 720 therm/yr of natural gas.

* Operation hours = 4 hour/day, 3 day/wk, 50wk/yr
* Heat capacity = 1,020 MMBtu/10^6 ft^3 natural gas
* Emission factors taken from AP-42, Table 1.4-2 (revised 7/1/98) for small boiler <100 MMBtu/hr

NOx = (100 lb/ MMscf)/(1020 MMBtu/10^6 ft^3) = 0.098 lb/MMBtu
CO = (84 lb/ MMscf)/(1020 MMBtu/10^6 ft^3) = 0.082 lb/MMBtu
SO2 = (0.6 lb/MMscf)/(1020 MMBtu/10^6 ft^3) = 5.882 x 10^{-4} lb/MMBtu
PM10 = (7.6 lb/MMscf)/(1020 MMBtu/10^6 ft^3) = 0.00745 lb/MMBtu
POC = (5.5 lb/MMscf)/(1020 MMBtu/10^6 ft^3) = 0.00539 lb/MMBtu
NPOC = (3.2 lb/MMscf)/(1020 MMBtu/10^6 ft^3) = 0.0031 lb/MMBtu

Combustion Emission Calculations:
NOx = 72 MMBtu/yr X 0.098 lb/MMBtu = 7.059 lb/yr, or 0.0035 ton/yr
CO = 72 MMBtu/yr X 0.082 lb/MMBtu = 5.929 lb/yr, or 0.0030 ton/yr
SO2 = 72 MMBtu/yr X 0.0005882 lb/MMBtu = 0.0424lb/yr, or 0.00002 ton/yr
PM10 = 72 MMBtu/yr X 0.00745 lb/MMBtu = 0.5365 lb/yr, or 0.00027 ton/yr
POC = 72 MMBtu/yr X 0.00539 lb/MMBtu = 0.3882 lb/yr, or 0.00019 ton/yr
NPOC = 72 MMBtu/yr X 0.0031lb/MMBtu = 0.2259 lb/yr, or 0.00011 ton/yr

Grain Loading calculation from coffee roasting process:
[277.2 lb PM10/yr X 7000 grain/lb] / [60 min/hr X 4 hr/day X 3 day/wk X 50 wk/yr X 580 dscfm] = 0.0929 grain/dscf.

Total emissions:
NOx = 6.60 lb/yr + 7.059 lb/yr = 13.659 lb/yr or 0.0068 ton/yr
CO = 5.93 lb/yr = 5.93 lb/yr or 0.0030 ton/yr
SO2 = 0.042 lb/yr or 0.00002 ton/yr
PM10 =277.2 lb/yr + 0.536 lb/yr = 277.74 lb/yr or 0.1389 ton/yr
POC = 56.76 lb/yr + 0.388 lb/yr = 57.148 lb/yr or 0.0286 ton/yr
NPOC = 0.2259 lb/yr or 0.00011 ton/yr

III. PLANT CUMULATIVE INCREASE SINCE 4/5/1991

	Current Ton/yr	New Ton/yr	New Total Lbs/yr	New Total Tons/yr
POC =	0.000	0.0286	57.148	0.0286
NO_x =	0.000	0.0068	13.659	0.0068
SO_2 =	0.000	0.00002	0.0424	0.00002
CO =	0.000	0.0030	5.929	0.0030
NPOC =	0.000	0.00011	0.2259	0.00011
TSP =	0.000	0.1389	277.736	0.1389
PM_{10} =	0.000	0.1389	277.736	0.1389

IV. TOXIC RISK SCREENING

A risk screen is not required for this project because the toxic emissions from all sources did not exceed the toxic trigger level. The maximum operating rate is 66 tons/yr.

Toxic Pollutant Emitted	Emissions Rate factors lb/ton	Emissions Rate emissions lb/yr	Trigger Level lb/yr
Aldehyde (formaldehyde)	0.2	13.2	30
Acrolein	0.076	5.016	2.3
Acetaldehyde	.0460	3.036	64
Organic acids(acetic acid)	0.9	59.4	

Emissions of the toxic compounds acrolein, acetaldehyde, and organic acids may be present in coffee roaster exhaust streams, however the amounts of these emissions have not been substantiated to warrant their inclusion in this Permit Handbook chapter. In addition, these levels of risk are acceptable under our risk management policy. Currently, CARB does not have certified emission factors or analytical test method for acrolein. Therefore, since no tools are available to enforce the acrolein emission limit, the District will not conduct a HRSA for emissions of acrolein.

V. BEST AVAILABLE CONTROL TECHNOLOGY

Source S-1 does not trigger BACT, as emissions from the following compounds (POC, NPOC, NO_x, SO_2, PM_{10}, or CO) does not exceed 10 lbs/day. The source S-1is not subject to Regulation 2-2-301.

VI. OFFSETS

Offsets are not required since the facility's POC and NOx emissions do not exceed 10 ton/yr per Regulation 2-2-302.

VII. STATEMENT OF COMPLIANCE

Source S-1 complied with Regulation 6 as its estimated particulate emission is well under the 0.15 gr/dscf allowed per Regulation 6-310. Source S-1 will be in compliance with Regulation 7, Odorous Substances.

This application for a proposed new source is classified as ministerial, and is accordingly exempt from the District's California Environmental Quality Act (CEQA) requirement. Since the District's engineering evaluation and basis for approval or denial of the permit application for the project is limited to the criteria set forth in Section 2-1-428 of Regulation 2, Rule 1 and to the specific procedures, fixed standards, and objective measurements set forth in the BACT/TBACT Workbook and Chapter 11.3 of the District's Permit Handbook.

This project is within 1,000 ft from the nearest public school and is therefore subject to the public notification requirements of Regulation 2-1-412. Acorn Woodland Elementary School has been identified as needing a public notice.

PSD, and NESHAPS are not triggered

VIII. CONDITIONS

S-1 Coffee Batch Roaster with integral Cooler/Destoner Diedrich IR 24, 220 lb/hr capacity, Built-in Burner, 120,000 Btu/hr.

Permit conditions for S-1 (Batch Roaster), A/N 16530

1. The owner/operator of S-1 shall not roast more than 132,000 pounds green coffee beans at Coffee Roaster S-1 totaled over any consecutive 12-month period. [Basis: Cumulative Increase]

2. The permit to operate for S-1 Coffee Roaster is contingent upon compliance with Regulation 1-301, Standard for Public Nuisance, and Regulation 7, Odorous Substances. Upon receipt of a violation for either of these statutes, the Air Pollution Control Officer may require the operator to submit, within 60 days of notification by the APCO, a permit application for an Authority to Construct additional emission control / curtail operations until either the operation can be modified or the meteorological conditions change, such that the community is no longer adversely impacted. [Basis: Regulation 1-301, 7-301, 7-302, 7-303]

3. To demonstrate compliance with the above conditions, S-1's owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including the following information:
   a. Monthly records of the quantity of green coffee beans roasted at S-1.
   b. Monthly usage records shall be totaled for each consecutive 12-month period.

   All records shall be retained onsite for two years from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. [Basis: Cumulative Increase]

IX. RECOMMENDATION

It is recommended that a conditional Authority to Construct be issued to Due Torri Coffee for:

S-1 Coffee Batch Roaster with integral Cooler/Destoner; Diedrich IR 24, 220 lb/hr capacity, Built-in Burner, 120,000 Btu/hr.

October 16, 2007

Irma Salinas
SeniorAir Quality Engineer