

Synthetic Minor Operating Permit Application Evaluation Report
Kraft Foods Group, Inc., Plant #167
Application #23324

Background

Kraft Foods Group Inc. (formerly Kraft Foods Global, Inc.), located at 100 Halcyon Drive in San Leandro, is a large coffee roasting facility. The facility is permitted to roast up to 140,030 tons per year (tpy) of green coffee. In 2009, the facility roasted 45,324 tons of green coffee. In 2010, the facility roasted 46,903 tons of green coffee. The facility currently operates six coffee roasters. The pollutants with a potential to emit above major source thresholds are carbon monoxide (CO) and formaldehyde.

In 2009 and 2010, the facility performed source testing for NO_x, CO, POC and aldehydes for each coffee roaster at the facility. The results of the source testing were used to generate emission factors for each pollutant on a lb/ton basis. At maximum permitted throughputs, the CO emissions from the facility are estimated at 278.3 tpy. The emission estimate for formaldehyde was 12.1 tpy.

The attached potential to emit emission calculations demonstrate that emissions of all other regulated air pollutants are below major source thresholds. Emissions of nitrogen oxides (NO_x) were estimated at 64.7 tpy, precursor organic compounds (POC) at 28.7 tpy, particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀) at 36.6 tpy, sulfur oxides (SO₂) at 3.59 tpy, and carbon dioxide equivalents (CO_{2e}) at 29258 metric tpy. The emission estimate for acetaldehyde was 7.0 tpy. The emissions of NO_x, POC, and SO₂ are less than the 100 tpy major source threshold. Emissions of CO₂ equivalents are less than the 100,000 tpy major source threshold.

The facility is subject to Regulation 2, Rule 6 since the potential to emit for CO and formaldehyde are greater than major source thresholds. The District has verified that the actual emissions from the facility are well below major source thresholds. On April 29, 2011, the facility submitted a synthetic minor permit application to the District. The District deemed the application complete on May 19, 2011.

In order to obtain a Synthetic Minor Operating Permit, this facility will accept conditions limiting its operations such that CO emissions will not exceed 95 tpy, total HAP emissions will not exceed 23 tpy and emissions of the highest single HAP will not exceed 9 tpy. If for any reason, the facility projects the need to increase emissions above levels allowed by the Synthetic Minor Operating Permit, the plant must apply for and receive a Major Facility Review Permit prior to the increase.

The facility operates the following sources:

- 37 Max-Pax Coffee Roaster #1, Direct Fired, Natural Gas, 1.89 MMBtu/hour
- 38 Max-Pax Cooler Cart #1
- 39 Max-Pax Stoner #1
- 40 Max-Pax Coffee Roaster #2, Direct Fired, Natural Gas, 1.89 MMBtu/hour
- 41 Max-Pax Cooler Cart #2
- 42 Max-Pax Stoner #2
- 46 Decaf. System #1 - Green Coffee Transfer

- 47 Decaf. System #2 - Green Coffee Cleaning
- 48 Decaf. System #3 - Green Coffee Blend
- 49 Decaf. System #4 – Decaf. Bean System
- 50 Decaf. System #5 - Transfer & Storage
- 51 Decaf. System #6 - Plant General System
- 55 Airveyor System A
- 56 Airveyor System B
- 57 Airveyor System C
- 61 General Chaff Collection & Conveyor System
- 70 Whole Roasted Bean Airveyor System
- 71 Whole Roasted Bean Airveyor Receiving Hopper
- 72 Neotec Roaster #1, Natural Gas, 2.5 MMBtu/hour
- 73 Neotec Roaster #2, Natural Gas, 2.5 MMBtu/hour
- 74 Neotec Cooler #1
- 75 Neotec Cooler #2
- 76 Neotec Destoner #1
- 77 Neotec Destoner #2
- 78 System 200 Green Bean Airveyor
- 79 System 300 Cyclone Receiver
- 80 System 400 Max Pac Filter Receiver
- 81 System 400 Neotec Filter Receiver #1
- 82 System 400 Neotec Filter Receiver #2
- 83 System 400 Small Thermelo Filter Receiver
- 84 System 700 Filter Receiver #1

- 85 System 700 Filter Receiver #2
 - 86 Bulk Green Coffee Unloader
 - 87 Super Bag Fill Station
 - 88 Bag Coffee Dump Station
 - 89 Conveyor/Transfer line
 - 90 Neotec #3 Coffee Roaster, Natural Gas, 6.7 MMBtu/hour
 - 91 Neotec Continuous Cooler #3
 - 92 Neotec Continuous Destoner #3
 - 93 Green Bean Unloading, Clean Weigh
 - 94 Coffee Conveying and Blending System 1
 - 95 Coffee Conveying and Blending System 2
 - 96 Coffee Conveying and blending System 3
 - 97 Coffee Conveying and Blending System 4
 - 98 NABOB Coffee Conveying and Blending System
 - 99 Emergency Diesel Engine for Fire Pump, 208 hp
 - 101 Green Coffee Bean Conveying System
 - 102 Neotec Roaster No. 4, 6 MMBtu/hour
 - 103 Coffee Bean Cooler
 - 104 Coffee Bean Destoner
- 32001 Minor Sources
Natural Gas Fired Boiler, 3500K BTU/hr max

The facility operates the following abatement devices:

- 25 Max-Pax Cyclone #1, abating S-37
- 26 Max-Pax Afterburner #1, Natural Gas, 2.0 MMBtu/hour, abating A-25
- 27 Max-Pax Cooler Cart #1 Cyclone, abating S-38
- 28 Max-Pax Stoner #1 Cyclone, abating S-39
- 29 Max-Pax Cyclone #2, abating S-40
- 30 Max-Pax Afterburner #2, Natural Gas, 2.0 MMBtu/hour, abating A-29
- 31 Max-Pax Cooler Cart #2 Cyclone, abating S-41
- 32 Max-Pax Stoner #2 Cyclone, abating S-42
- 37 Dust System #1 Baghouse, abating S-46
- 38 Dust System #2 Baghouse, abating S-47
- 39 Dust System #3 Baghouse, abating S-48
- 40 Dust System #4 Baghouse, abating S-49
- 41 Dust System #5 Baghouse, abating S-50
- 42 Dust System #6 Baghouse, abating S-51
train: ,S51,/,P28,
- 48 Baghouse, abating S-55
- 49 Airveyor System "C" Baghouse, abating S-57
- 54 Whole Roasted Bean Airveyor, abating S-71
- 55 Neotec Roaster #1 Cyclone, abating S-72
- 56 Neotec Roaster #1 Afterburner #1, Natural Gas, 3.23 MMBtu/hour, abating A-55
- 57 Neotec Roaster #2 Cyclone, abating S-73
- 58 Neotec Roaster Afterburner #2, 3.23 MMBtu/hour, abating A-57
- 59 Neotec Cooler Cyclone #1, abating S-74
- 60 Neotec Cooler Cyclone #2, abating S-75

- 61 Neotec Destoner Baghouse #1, abating S-76
- 62 Neotec Destoner Baghouse #2, abating S-77
- 63 System 200 Baghouse, abating S-78
- 64 System 300 Baghouse, abating S-79
- 65 Max-Pac Filter Receiver, abating S-80
- 66 System 400 Neotec Filter Receiver #1, abating S-81
- 67 System 400 Neotec Filter Receiver #2, abating S-82
train: ,S82/,P49,
- 68 System 400 Small Thermelo filter Receiver, abating S-83
- 69 System 700 Filter Receiver #1, abating S-84
- 70 System 700 Filter Receiver #2, abating S-85
- 71 Bulk Unloader Baghouse, abating S-86
- 72 Superbag Filter Receiver Baghouse, abating S-87
- 73 Green Coffee Bag Dump Baghouse, abating S-88
- 89 Green Bean handling System Baghouse w/unloading Silo Filter, abating S-89
- 90 Roaster Cyclone, abating S-90
- 91 Catalytic Afterburner, Natural Gas, 1.9 MMBtu/hour, abating A-90
- 92 Cooler Cyclone, abating S-91
- 93 Destoner Cyclone, abating S-92
- 95 Filter Receiver, abating S-93
- 96 Cyclone for Blending System 1, abating S-94
- 97 Cyclone for Blending & Storage #2, abating S-95
- 98 Cyclone for Blending & Storage #2, abating S-96
- 99 Cyclone for Blending & Storage #3 and #4, abating S-97
- 100 Baghouse Serving Blending Systems 1-4; abating A-96, A97, A-98 and A-99

- 101 Baghouse Serving NABOB Blending System, abating A-102
- 102 NABOB Blending System Cyclone, abating S-98
- 103 Filter paper trim removal system (Baghouse & Fan), abating S-61
- 104 Recuperative thermal oxidizer, Natural Gas, 4 MMBtu/hour, abating A103
- 105 Conveyor Transfer Line Baghouse, abating S-101
- 106 Catalytic Afterburner, 3.1 MMBtu/hour, abating A-107
- 107 Coffee Roaster Recirculation Cyclone, abating S-102
- 108 Coffee Roaster Cooler Cyclone, abating S-103
- 109 Coffee Roaster Destoner Cyclone, abating S-104

The facility is in the process of installing two new abatement devices (Application No. 24072) to replace A-56 (abating S-72) and A-58 (abating S-73). The emissions from Neotec roaster No. 1 (S-72) and Neotec roaster No. 2 (S-73) are expected to decrease after the installation of the following new abatement devices:

- A-110 Catalytic Oxidizer, 1.35 MMBtu/hour, abating S-72
- A-111 Catalytic Oxidizer, 1.35 MMBtu/hour abating S-73

The permit condition 5948 will be revised and will be renumbered to 25165. Condition 5948 will apply to S-72 and S-73 until the new oxidizers begin operation. Condition 25165 will apply to S-72 and S-73 after the new oxidizers start operation.

The main sources of CO and HAPs from the facility are the combustion sources: S-37, S-40, S-72, S-73, S-90, S-99, S-102, and S-32001. The combustion sources are the six coffee roasters abated by thermal oxidizer (A-26, A-30) or catalytic oxidizer (A-56, A-58, A-91, A-106), the emergency standby diesel firepump, and a small natural gas fired boiler (3.5 MMBtu/hour). The thermal and catalytic oxidizers abating the large coffee roasters also combust natural gas and generate CO and HAPs emissions. The facility also operates A-104, a small recuperative thermal oxidizer that abates the general chaff collection system baghouse A-103.

The maximum firing rates and fuel type for all combustion sources and related abatement devices are shown in the Table below:

| Source/Abatement No. | Fuel | MMBtu/hour |
|---|-------------|------------|
| S-37 Max Pax Roaster No. 1 | Natural Gas | 1.89 |
| A-26 Max Pax Afterburner #1 | Natural Gas | 2.0 |
| S-40 Max Pax Roaster No. 2 | Natural Gas | 1.89 |
| A-30 Max Pax Afterburner #2 | Natural Gas | 2.0 |
| S-72 Neotec Roaster No. 1 | Natural Gas | 2.5 |
| A-56 Neotec Roaster No. 1 Catalytic Afterburner | Natural Gas | 3.23 |
| S-73 Neotec Roaster No. 2 | Natural Gas | 2.5 |
| A-58 Neotec Roaster No. 2 Catalytic Afterburner | Natural Gas | 3.23 |
| S-90 Neotec Roaster No. 3 | Natural Gas | 6.7 |
| A-91 Neotec No. 3 Catalytic Afterburner | Natural Gas | 1.9 |
| S-102 Neotec Roaster No. 4 | Natural Gas | 6.0 |
| A-106 Neotec No. 4 Catalytic Afterburner | Natural Gas | 3.1 |
| S-99 Emergency Standby Diesel Firepump | Diesel | 1.42 |
| A-104 Recuperative Thermal Oxidizer (Chaff System) | Natural Gas | 4.0 |
| Future Abatement Device for S-72, A-110 Catalytic Oxidizer (Neotec No. 1) | Natural Gas | 1.35 |
| Future Abatement Device for S-73, A-111 Catalytic Oxidizer (Neotec No. 2) | Natural Gas | 1.35 |
| S-32001 Natural Gas Fired Boiler (Exempt) | Natural Gas | 3.5 |

The potential to emit emission estimates for NOx, POC, PM10, SO2, and CO2 are shown in Attachment 2. The calculations show that the potential to emit for NOx, POC, PM10, SO2, and CO2 equivalents are below major source thresholds. Therefore, no additional synthetic minor permit limits have been imposed on these pollutants.

Emission Limit Strategy

To obtain a Synthetic Minor Operating Permit, a facility must have practically enforceable emission or operational conditions that limit its potential to emit to 95 tpy of any regulated air pollutant (except for CO2e 100,000 tpy), 9 tpy of any single HAP, and 23 tpy of any combination of HAPs.

EPA has stated that, with some exceptions, operational or throughput limits are required in addition to emission limitations, when limiting a source's potential to emit (memo entitled Guidance on Limiting Potential to Emit, Seitz, June 13, 1989, herein "Seitz memorandum").

The District considered imposing facility wide and source specific throughput limits on the coffee roasters to limit the potential to emit. The facility wide throughput limit approach would not work due to the large range in CO and formaldehyde emission rates seen across the six different coffee roasters. The use of the most conservative emission factors would limit the facility wide throughput to a level below actual production levels. However, at actual production levels for 2010, the facility wide emissions are well below the major source thresholds for CO and formaldehyde at 63.62 tpy and 3.5 tpy, respectively. See attachment 2 and 3 for emission calculations. Please note that the actual production for 2011 was slightly lower than 2010. The 2010 production data is representative of the production at the facility for the last few years.

Emission Factors developed from source testing conducted at the facility are shown below.

| Source | Test Date | Actual CO (lb/ton) | Actual Formaldehyde (lb/ton) | Actual Acetaldehyde (lb/ton) |
|----------------------------|------------------|---------------------------|-------------------------------------|-------------------------------------|
| S-37 Max Pax Roaster No. 1 | 8/18/2010 | 11.968 | 0.19 | 0.0838 |
| S-40 Max Pax Roaster No. 2 | 8/27/2010 | 15.01 | 0.319 | 0.323 |
| S-72 Neotec Roaster No. 1 | 8/17/2010 | 3.202 | 0.199 | 0.116 |
| S-73 Neotec Roaster No. 2 | 8/18/2010 | 0.963 | 0.301 | 0.128 |
| S-90 Neotec Roaster No. 3 | 9/1/2010 | 0.199 | 0.0625 | 0.0151 |
| S-102 Neotec Roaster No. 4 | 12/1/2009 | 0.267 | 0.0434 | 0.0177 |

The use of source specific throughput limits would work better than facility wide throughput limits, but would still require periodic monitoring of CO and formaldehyde emission rates or emission factors due to the variability seen in emission rates during the 2009/2010 source testing. Emissions may vary from roaster to roaster and also may vary over time for a given roaster. The variability in emission rates requires periodic monitoring of CO and formaldehyde to ensure that the facility wide emissions remain below major source thresholds. Imposing source specific throughput limits without periodic monitoring would not ensure that the potential to emit from the facility would always remain below major source thresholds due to the variation in emission rates seen during the 2009/2010 source testing.

However, source specific throughput limits are not feasible for this facility because the facility relies on operational and production flexibility to meet its business demand. Each coffee roaster has three key parameters that are unique to a given roaster: (i) roasting characteristics (e.g., different roasters impart differing coffee flavor characteristics), (ii) operational orientation within the facility (e.g., different roasters are adjacent to different green coffee storage bins and post-roasting packing operations, and have different "set-up" times), and (iii) volume/time capabilities (e.g., small or large lot roasters). The operation of the facility is designed to employ the roasters at between 0% and 100% of their individual capacity at any given time depending on the coffee products being produced at the facility. The types and quantity of coffee products being roasted will vary from time period to time period. For certain coffee blends different types of green coffee beans are roasted on different roasters and then mixed into the final coffee product. The smaller lot coffee roasters are generally most efficient when used for smaller quantity products or blend components, and have been oriented in the facility to the storage bins used for the smaller quantity products. Depending on the differing coffee products in production and the logistics of roasting and packing the different products, different combinations of roasters will be employed, which in turn requires flexibility as to throughput on any given day or week. The facility requires operational flexibility over a range of coffee throughput quantities for each roaster.

Thus, the District has determined that the use of facility wide emission limits in the synthetic minor operating permit conditions along with adequate monitoring of CO and formaldehyde being emitted from each roaster and recordkeeping of the throughput is the best method to limit the potential to emit for this facility.

The Seitz memorandum contains EPA guidance that operational or throughput limits are required in addition to emission limitations, when limiting a source's potential to emit.

However, an exception has been made for situations involving solvent coating sources.

"If the permitting authority determines for a particular surface coating operation that operating and production parameters (e.g., gallons of coating, quantities produced) are not

readily limited due to the wide variety of coatings and products and due to the unpredictable nature of the operation, emission limits coupled with a requirement to calculate daily emissions may be used to restrict potential to emit.”

The District believes that the exception for a volatile organic compound (VOC) emitting source that uses an emission limitation and adequate recordkeeping is a similar situation to this large coffee roasting facility that also depends on operational and production flexibility. The facility can maintain monthly records of coffee throughput by source and use District approved emission factors based on periodic source testing to determine 12-month rolling average emissions of CO and HAPs to ensure that the emissions remain below 95 tpy of CO, 9 tpy of any single HAP and 25 tpy of aggregate HAP.

For the synthetic minor operating permit conditions, the District approved emission factor for CO, formaldehyde and acetaldehyde will be equal to the results of the last source test on a lb per ton basis.

The Seitz memorandum states that limits in general should be based upon a term not exceeding one month. In cases where a monthly limit is not reasonable, the limit should not exceed an annual limit rolled on a monthly basis. The memo, Use of Long Term Rolling Averages to Limit Potential to Emit (John Rasnic, February 24, 1992), gives examples of the types of operations which qualify for limits based on a rolling 12-month basis. The Kraft Foods facility fits under the source category - “Plants where there may be variations in production due to unpredictable orders or contracts.”

The orders or contracts the facility receives may require products to be made in the higher or lower emitting coffee roasters since this equipment makes different styles of coffee with different blends of beans from around the world. The daily, monthly, and annual throughputs of the coffee are also highly variable according to plant personnel.

The facility has proposed emission limits to ensure that facility-wide emissions remain below the synthetic minor thresholds of 95 tpy of CO, 9 tpy of any single HAP, and 23 tpy of a combination of HAPs. Because of the reasons stated above, the District has allowed use of emission limits, rather than throughput limits. Emission limits of 95 tpy of CO, 9 tpy of any single HAP, and 23 tpy of total HAPs have been assigned to the operations involving coffee roasting and combustion. The facility’s actual emissions are currently well below these thresholds, but the emission limits placed on this facility will limit *potential* emissions. Compliance with these limits will be supported by monthly usage records and emission calculations based upon District approved emission factors for CO, formaldehyde, and acetaldehyde. The District approved emission factors for each coffee roaster will be based on the most recent source test results for that given roaster. Emission calculations for minor sources such as the emergency standby diesel engine firepump and the natural gas fired boilers will be based on District approved emission factors.

Finally, the attached potential to emit calculations based on maximum throughputs and District approved emission factors for all sources have demonstrated that the emissions from these sources are less than major source thresholds for all categories of regulated air pollutants including CO₂ equivalents, except for CO and HAPs. The maximum potential emissions of CO from all of the combustion sources is estimated at 278.5 tpy at maximum production rates and using actual emissions factors. The maximum potential of formaldehyde from all of the combustion sources is estimated at 12.14 tpy at maximum production rates and using actual emission factors. The maximum potential of acetaldehyde from all combustion sources is estimated at 6.96 tpy at maximum production rates using actual emission factors. The attached 2010 emission calculations for the facility show emissions of NO_x, CO, POC, PM₁₀ and SO₂ are well below major source thresholds.

Discussion of Existing Conditions

The complete set of existing District permit conditions that apply to this facility is attached to this evaluation. The table below contains the condition number for each source. These are the District permit conditions that are not synthetic minor operating permit conditions, but the facility must continue to comply with all District permit conditions.

| Source | Condition Number |
|---|---------------------|
| 61 General Chaff Collection & Conveyor System | 18775 |
| 72 Neotec Roaster #1 | 5948 (future 25165) |
| 73 Neotec Roaster #2 | 5948 (future 25165) |
| 74 Neotec Cooler #1 | 5948 (future 25165) |
| 75 Neotec Cooler #2 | 5948 (future 25165) |
| 76 Neotec Destoner #1 | 5948 (future 25165) |
| 77 Neotec Destoner #2 | 5948 (future 25165) |
| 78 System 200 Green Bean Airveyor | 5948 (future 25165) |
| 79 System 300 Cyclone Receiver | 5948 (future 25165) |
| 80 System 400 Max Pac Filter Receiver | 5948 (future 25165) |
| 81 System 400 Neotec Filter Receiver #1 | 5948 (future 25165) |
| 82 System 400 Neotec Filter Receiver #2 | 5948 (future 25165) |
| 83 System 400 Small Thermelo Filter Receiver | 5948 (future 25165) |
| 84 System 700 Filter Receiver #1 | 5948 (future 25165) |
| 85 System 700 Filter Receiver #2 | 5948 (future 25165) |
| 86 Bulk Green Coffee Unloader | 14393 |
| 87 Super Bag Fill Station | 14393 |
| 88 Bag Coffee Dump Station | 14393 |
| 89 Conveyor/Transfer line | 17166 |
| 90 Neotec #3 Coffee Roaster | 17166 |
| 91 Neotec Continuous Cooler #3 | 17166 |
| 92 Neotec Continuous Destoner #3 | 17166 |
| 93 Green Bean Unloading, Clean Weigh | 17353 |
| 94 Coffee Conveying and Blending System 1 | 17353 |
| 95 Coffee Conveying and Blending System 2 | 17353 |
| 96 Coffee Conveying and Blending System 3 | 17353 |
| 97 Coffee Conveying and Blending System 4 | 17353 |
| 98 NABOB Coffee Conveying and Blending System | 17353 |
| 99 Emergency Diesel Engine for Fire Pump | 22820 |
| 102 Neotec Roaster No. 4 | 24014 |

Process Description

The facility-wide emissions can be separated into two categories - emissions from combustion sources such as the coffee roasters and material handling emissions from coffee handling equipment. The combustion sources at the facility include six coffee roasters, thermal oxidizers, catalytic oxidizers, an emergency standby diesel firepump, and a small natural gas fired boiler. At one time the facility could burn liquid petroleum gas (LPG) and diesel fuel in two of the older roasters and the small boiler. The facility now exclusively uses natural gas for these sources. Each coffee roaster is abated by a cyclone and a thermal or

catalytic oxidizer that also burns natural gas. The facility also operates A-104 a small recuperative thermal oxidizer, which abates the general chaff collection system baghouse A-103.

Emission Calculations

The Synthetic Minor Operating Permit will consist of emission limits for the sources of CO and HAPs (formaldehyde and acetaldehyde) to ensure emissions do not exceed major source thresholds. The permit conditions define the calculation methods to be used to demonstrate compliance with the synthetic minor emission limits. Emissions will be calculated by the facility on a monthly basis so that compliance with the permit can be determined at any time. The emissions will be calculated by using a District approved emission factor and the source throughput data. The District approved coffee roaster emission factors for CO, formaldehyde and acetaldehyde will be based on the latest source test results.

The District has attached emissions calculations that calculate the maximum emissions based on the maximum permitted throughput and using emission factors. The coffee roaster emission factors for NO_x, CO, POC, formaldehyde and acetaldehyde were based on source testing conducted in 2009/2010 at the facility. These calculations clearly demonstrate that the potential to emit for the facility for CO and HAPs is greater than major source thresholds of 100 tpy (for CO) and 10 tpy of any single HAP (formaldehyde). In addition, the District has attached emissions calculations for 2010 (based on 2010 throughput data) for the facility for NO_x, CO, POC, formaldehyde, and acetaldehyde that demonstrate that actual emissions from the facility are clearly well below major source thresholds.

The HAPs of concern emitted from the facility are formaldehyde and acetaldehyde. These are the only two HAPs that could exceed the 10 tpy major source threshold and the 25 tpy aggregate HAP major source threshold. The contribution of other HAPs is negligible by observation when reviewing the maximum emissions estimates. The facility will still be required by the synthetic minor operating permit conditions to demonstrate on a monthly basis that HAP emissions are less than 9 tpy for any single HAP and the less than 23 tpy for aggregate HAPs.

The maximum PM₁₀ emissions from the facility were conservatively calculated using AP-42 and District data bank (District approved) emission factors at 36.60 tpy. The 2010 actual emissions were estimated at 12.92 tpy with the same conservative emission factors. The facility will need to comply with the synthetic minor permit limitations for CO and HAP, and the actual PM₁₀ emissions will remain well below major source thresholds.

Emissions

Below is a summary of the facility's potential emissions under the Synthetic Minor Operating Permit.

| Operation | Single HAP tpy | Total HAPs tpy | POC tpy | PM10 tpy | NOx tpy | CO tpy | SO2 tpy | CO2 tpy |
|-----------|----------------|----------------|---------|----------|---------|--------|---------|---------|
| Total | 9.00 | 23.00 | 28.74 | 36.60 | 64.74 | 95.0 | 3.59 | 29258 |

Statement of Compliance:

This facility is in compliance with the necessary requirements in Regulation 2, Rule 6 to obtain a Synthetic Minor Operating Permit. Kraft Foods has voluntarily accepted practically enforceable permit conditions that will limit its potential to emit to no more than 95 tpy of any regulated air pollutant (except for CO₂e 100,000 tpy), 9 tpy of any hazardous air pollutant, and 23 tpy of any combination of hazardous air pollutants.

Signed by Brian K. Lusher
Brian K Lusher
Senior Air Quality Engineer

September 17, 2012
Date

reference: Regulation 2, Rule 1 - dated March 4, 2009
Regulation 2, Rule 6 - dated April 16, 2003

--- **SYNTHETIC MINOR OPERATING PERMIT** ---

Kraft Foods Group, Inc.
100 Halcyon Drive
San Leandro, CA 94578
Plant #167
Application #23324

Conditions #1 - 11 establish the practically enforceable permit terms that ensure this plant is classified as a Synthetic Minor Facility under District Regulation 2, Rule 6 - Major Facility Review and ensure it is not subject to the permitting requirements of Title V of the Federal Clean Air Act as amended in 1990 and 40 CFR Part 70. Any revision to a condition establishing this plant's status as a Synthetic Minor Facility or any new permit term that would limit emissions of a new or modified source for the purpose of maintaining the facility as a Synthetic Minor must undergo the procedures specified by Rule 2-6, Section 423.

After issuance of a synthetic minor permit, facilities must have emissions that are below the following thresholds, which are set forth in BAAQMD Regulation 2-6-423.2.1:

- 95 tons per year of any regulated air pollutant except CO₂e as defined in 40 CFR 98
- 90,000 tons per year of CO₂e as defined in 40 CFR 98
- 9 tons per year of any individual hazardous air pollutant as defined in section 112(b) of the federal Clean Air Act
- 23 tons per year of any combination of hazardous air pollutants as defined in section 112(b) of the federal Clean Air Act

The permit conditions below acknowledge that the current potential to emit for all pollutants except CO, formaldehyde, and acetaldehyde are below these thresholds and therefore, no additional explicit limits have been placed on pollutants other than CO, formaldehyde, and acetaldehyde. Nonetheless, by accepting the synthetic minor permit, the facility accepts the obligation to limit the emissions in every consecutive 12-month period to no more than the thresholds above.

This operating permit covers all sources at the facility and abatement devices that combust fuel at the facility. The current sources are listed below:

S-37, S-38, S-39, S-40, S-41, S-42, S-46, S-47, S-48, S-49, S-50, S-51, S-55, S-56, S-57, S-61, S-70, S-71, S-72, S-73, S-74, S-75, S-76, S-77, S-78, S-79, S-80, S-81, S-82, S-83, S-84, S-85, S-86, S-87, S-88, S-89, S-90, S-91, S-92, S-93, S-94, S-95, S-96, S-97, S-98, S-99, , S-101, S-102, S-103, S-104, S-32001

The current abatement devices that combust fuel are listed below:

A-26, A-30, A-56, A-58, A91, A104, A-106, Future A-110, Future A-111

1. Facility-wide emissions of carbon monoxide (CO) from all sources shall not exceed 95 tons in any consecutive 12-month period. (Basis: Regulation 2-6-423)
2. Facility-wide emissions of any single hazardous air pollutant (HAP) from all sources shall not exceed 18,000 pounds in any consecutive 12-month period. (Basis: Regulation 2-6-423)
3. Facility-wide emissions of total HAPs from all sources shall not exceed 46,000 pounds in any consecutive 12-month period. (Basis: Regulation 2-6-423)
4. In order to demonstrate compliance with condition parts 1, 2, and 3, the owner/operator shall calculate on a monthly basis CO and HAPs emissions from facility sources, including but not limited to S-37, S-40, S-72, S-73, S-90, S-102, S-32001, A-26, A-30, A-56, A-58, A91, A104, and A-106 using District approved emission factors. The owner/operator shall calculate the CO and HAPs emissions for each calendar month by the 15th day of the following month. The owner/operator shall calculate consecutive 12-month rolling totals of CO and HAP emissions. The owner/operator shall maintain the emissions calculations and rolling consecutive 12 month rolling totals in a District approved log to be maintained onsite for at least five years from the last date of entry and shall make them available for review by District staff upon request. (Basis: Regulation 2-6-423)
5. The owner/operator shall measure the emissions of CO, formaldehyde, and acetaldehyde from S-37, S-40, S-72, S-73, S-90, and S-102 using a District approved source test on an annual basis for CO and every three years for formaldehyde and acetaldehyde starting in 2012. Pursuant to a permit application submitted by Kraft Foods, the District may reduce the source test frequency for each coffee roaster in the future based on a review of several years of source test results for each given coffee roaster. The owner/operator shall use the results of each District approved source test to calculate a new proposed emission factor for each pollutant on a lb per ton of green coffee roasted basis, and submit such proposed emission factor to the District for approval. In the course of approving an emission factor, the District will not add a compliance margin to the approved source test results. Once the emission factor is approved by the District Engineering Division it should be used to calculate monthly emissions until a subsequent new emission factor is approved. The subsequent annual source tests on each coffee roaster must be at least 9 months apart, however if the owner/operator determines that a given test is not representative, then the test may be repeated immediately. The owner/operator shall continuously monitor and record the abatement device temperature (at the catalyst inlet for catalytic units, in the afterburner section for thermal units) for S-37, S-40, S-72, S-73, S-90, and S-102. The temperature monitoring and recording shall

be subject to District approval as parametric monitoring.
(Basis: Regulation 1-521, 1-523, 2-6-423)

6. The owner/operator shall record the throughput of green coffee, the type of product being made, and abatement device temperature during all emissions testing. (Basis: Regulation 2-6-423)
7. The owner/operator shall submit a facility-wide annual CO and HAPs emissions summary and supporting calculations for each calendar year to the Director of Compliance & Enforcement by the end of February of the following year. The owner/operator shall submit (Basis: Regulation 2-6-423)
8. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section prior to conducting any testing under this condition. The owner/operator shall notify the District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). The owner/operator shall submit the source test results to the District Source Test Section within 60 days of conducting the tests. (Basis: Regulation 2-6-423)
9. The quantities of green coffee roasted at S-37, S-40, S-72, S-73, S-90, and S-102 shall be totaled on a monthly basis and recorded in a District approved log to be maintained onsite for at least five years from the last date of entry and be made available for review by District staff upon request. (Basis: Regulation 2-6-423)
10. In order to calculate emissions as required by this condition, the owner/operator shall maintain monthly throughput and/or usage records for all permitted sources at the facility and exempt sources at the facility that emit CO and/or HAPs. The owner/operator shall record these throughput and/or usage records in a District approved log to be maintained onsite for at least five years from the last date of entry and be made available for review by District staff upon request. The owner/operator shall record abatement device temperature for S-37, S-40, S-72, S-73, S-90 and S-102 in a District approved log to be maintained onsite for at least five years from the date of last entry and be made available for review by District staff upon request. (Basis: Regulation 2-6-423)
11. The owner/operator shall ensure that all of the following combustion sources are fired on natural gas exclusively S-37, S-40, S-72, S-73, S-90 and S-102, and S-32001. The owner/operator shall ensure that S-99 is fired on CARB diesel fuel exclusively. (Basis: Regulation 2-6-423).
12. Because the Permits to Operate for S-37 and S-40 do not establish average or minimum operating temperatures for the corresponding abatement device, the source tests conducted on S-37 and S-40 for the purpose of

establishing CO and HAP (formaldehyde and acetaldehyde) emission factors under this Condition must specify the average and minimum abatement device operation temperatures recorded during the source tests.

The average and minimum abatement device operating temperatures recorded during a source test shall become the average and minimum temperatures at which A-25 (S-37) and A-29 (S-40) are to be operated during the time period between the most recent District-approved source test and the completion of the next District-approved source test conducted for the purpose of establishing CO and HAP emission factors under this Condition for S-37 and S-40. The minimum operation temperature shall be established by subtracting 25 deg. F from the minimum temperature recorded during the source test. A-25 and A-29 do not need to operate at the average and minimum temperatures when the corresponding coffee roaster is not operating.

All temperature excursions at S-37 and S-40 shall be recorded in a District approved log to be maintained onsite for at least five years from the last date of entry and be made available for review by District staff upon request. Twelve allowable excursions from the required operating temperatures shall be allowed over a rolling twelve-month period provided that the temperature controller set point is above the average temperature from the last source test used to determine the emission factors being used for S-37 and S-40. An allowable temperature excursion is less than 100 degrees below the average or minimum operating temperatures recorded during the last District approved source test and less than two hours in duration. The owner/operator shall report other excursions to the Engineering Division within 7 days of the incident.

A-25 (S-37) and/or A-29 (S-40) are permitted to operate at average or minimum temperatures other than those established by the last District-approved source test. Should A-25 (S-37) and/or A-29 (S-40) be operated at average or minimum temperatures lower than those established by the last District-approved source test, Kraft shall submit to the District proposed new CO and HAP emission factors for S-37 and S-40 for the purposes of calculating facility-wide CO and HAP emissions for District approval. Such new CO and HAP emission factors for S-37 and S-40 shall be based on empirical data regarding CO and HAP emissions for S-37 and S-40 at the relevant abatement device average and minimum temperatures actually recorded.

(Basis: 1-521, 1-523)

Attachment 1

Existing Permit Conditions

COND# 5948 -----

Kraft Foods
Plant 167

Conditions for S-72 and S-73

- 1) The total quantity of coffee beans roasted at S-72 and S-73 combined shall not exceed 54,000 tons during any consecutive twelve month period.
- 2) Emissions from S-72 Coffee Roaster shall be abated during all periods of operation by A-55 Cyclone (Ducon Model 355 VM, 14150 cfm) and A-56 Catalytic Incinerator (Catalytic Products, Vanguard Model, 3900 cfm). The owner/operator of S-72 shall maintain A-55 and A-56 in proper operating condition at all times.
- 3) Emissions from S-73 Coffee Roaster shall be abated during all periods of operation by A-57 Cyclone (Ducon Model 355 VM, 14150 cfm) and A-58 Catalytic Incinerator (Catalytic Products, Vanguard Model, 3900 cfm). The owner/operator of S-73 shall maintain A-57 and A-58 in proper operating condition at all times.
- 4) The total particulate matter emissions from S-72 and S-73 combined, after abatement shall not exceed 31.2 pounds per day.
- 5) The total precursor organic compound (non-methane hydrocarbon) emissions from S-72 and S-73 combined, after abatement by A-56 and A-57 Catalytic Incinerators shall not exceed 0.15 lb of POC per ton of coffee beans roasted.
- 6) The A-56 and A-58 Catalytic Incinerator chamber temperatures shall be maintained at a minimum of 750°F whenever S-72 and S-73 are in operation. This minimum chamber temperature may be revised to allow compliance with condition #6 and shall be determined by source testing as specified in condition #9. A-56 and S-58 shall be equipped with a District-approved temperature indicator and continuous temperature recorder.

- 7) If the A-56 and A-58 catalytic incinerators fail to comply with condition #5 above, the APCO may require the owner/operator of S-72 and S-73 to replace the catalytic incinerator with conventional, direct-flame thermal incinerators complying all of the above conditions.
- 8) The owner/operator of S-72 and S-73 shall receive approval from the District's Source Test Manager for the location of thermocouples required to monitor for compliance with condition #7, testing ports, and platforms. The owner/operator shall notify the Permit Services Division and the Source Test Manager at least two weeks prior to any source test. Complete reports of source test results shall be submitted to the Districts Source Test Section and Permit Services Division within 30 days of the source test.
- 9) To demonstrate compliance with conditions #1 and #6, the owner/operator of S-72 and S-73 shall maintain daily records of the following data in a District-approved log:
 - a) quantity of coffee roasted daily at S-72 and S-73, totaled on a monthly basis
 - b) A-56 and A-57 Catalytic Oxidizer combustion chamber temperatures

Conditions for S-74 and S-75

- 1) The emissions from S-74 Cooler shall be abated by the properly operating and maintained A-59 Cyclone (Ducon Model 285 VM, 8,850 cfm) whenever S-74 is in operation.
- 2) The emissions from S-75 Cooler shall be abated by the properly operating and maintained A-60 Cyclone (Ducon Model 285 VM, 8,850 cfm) whenever S-75 is in operation.
- 3) The owner/operator shall maintain records of A-59 and A-60 downtime in a District-approved log to verify compliance with conditions #1 and #2. These records shall be retained on-site and made available for District inspection for a minimum of 24 months from the date of entry.

Conditions for S-76 and S-77

- 1) The emissions from S-76 Stoner shall be abated by the properly operating and maintained A-61 Baghouse (Jet Air, model DFC 48/2400, 8000 cfm) whenever S-76 is in operation.
- 2) The emissions from S-77 Stoner shall be abated by A-62 Baghouse (Jet Air, model DFC 48/2400, 8000 cfm) whenever S-77 is in operation.
- 3) The owner/operator shall maintain daily records of A-61 and A-62 downtime in a District-approved log to verify compliance with conditions #1 and #2. These records shall be retained on-site and made available for District inspection for a minimum of 24 months from the date of entry.

Condition for S-78

- 1) The emissions from S-78 Green Bean Conveyor shall be abated by A-63 Baghouse (Buhler, Model RPDC 25/4, 8000 cfm) whenever S-78 is in operation.
- 2) The owner/operator of S-78 shall maintain A-63 in proper operating condition at all times with no detectable fugitive particulate emissions.

Condition for S-79

- 1) The emissions from S-79 Green Bean Receiving Hopper shall be abated by A-64 Baghouse (Buhler, Model RPDC 25/4, 8000 cfm) whenever S-79 is in operation.
- 2) The owner/operator of S-79 shall maintain A-64 in proper operating condition at all times with no detectable fugitive particulate emissions.

Conditions for S-80, S-81, S-82, and S-83

- 1) The emissions from S-80, S-81, S-82, and S-83 System 400 Green Bean Receivers shall be abated, respectively, by A-65, A-66, A-67, and A-68 Baghouses whenever S-80, S-81, S-82, and S-83 are in operation.
- 2) The owner/operator shall maintain A-65, A-66, A-67, and A-68 in proper operating condition at all times with no detectable fugitive particulate emissions.

Conditions for S-84 and S-85

- 1) The emissions from S-84 and S-85 System 700 Roasted Bean Receivers shall be abated, respectively, by A-69 and A-70 Baghouses whenever S-84 and S-85 are in operation.
- 2) The owner/operator shall maintain A-69 and A-70 in proper operating condition at all times with no detectable fugitive particulate emissions.

COND# 14393 -----

Kraft Foods
Plant 167

Conditions for S-86

- 1) Particulate matter emissions from S-86 Bulk Green Bean Truck Unloader shall be abated by A-71 Baghouse at all times.

Conditions for S-87

- 1) Particulate matter emissions from S-87 Super Bag Fill Station shall be abated by A-72 Baghouse at all times.

Conditions for S-88

- 1) Particulate matter emissions from S-88 Green Bean Bag Dump Station shall be abated by A-73 Baghouse at all times.

COND# 17166 -----

Plant #167

Source #90 Indirect fired continuous coffee roaster

1. The total amount of green coffee beans roasted at Coffee Roaster S-90 shall not exceed 20,494 tons totaled over any consecutive 12-month period. [Basis: Cumulative Increase]
2. The volatile organic compound emission rate from S-90 Coffee Roaster, after abatement by A-2 Thermal/Catalytic Oxidizer, shall not exceed 0.16 lb/ton of green coffee beans roasted. [Basis: Cumulative Increase]
3. Coffee Roaster S-90 shall be abated at all times by A-90 Cyclone and A-91 Catalytic Oxidizer. [Basis: Cumulative Increase]
4. A minimum temperature of 800(+ F) shall be maintained in A-91 Catalytic Oxidizer when ever there is a pollutant stream directed to A-91 Catalytic Oxidizer. [Basis: Regulation 2-1-403]
5. The A-91 Catalytic Oxidizer shall be equipped with a temperature measuring device capable of continuously measuring and recording the temperature in A-91 Catalytic Oxidizer. This device shall be maintained in accordance with manufacturer's recommendations. This temperature monitor shall be used to determine compliance with the temperature requirements in Condition #4. [Basis: Regulation 1-521]
6. The facility may conduct a source test for the purpose of lowering the minimum temperature requirement provided that the following has occurred:
 - a. The facility has applied to the Permit Services Division for a change of conditions.
 - b. The Source Test Section was notified at least seven days prior to testing and the test protocol was deemed acceptable.
 - c. The results of the test demonstrate that A-91 Catalytic Oxidizer is capable of meeting the emission factor limits imposed in Condition #2 for VOC at the lower operating temperature. [Basis: Regulation 2-1-403]

7. To demonstrate compliance with the above conditions, the Permit Holder 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-90.
- 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 record keeping requirements shall not replace the record keeping requirements contained in any applicable District Regulations. [Basis: Cumulative Increase]

8. The permit to operate for S-90 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:

- a. submit, within 60 days of notification by the APCO, a permit application for an Authority to Construct additional emission control; and/or
- b. 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]

COND# 17353 -----

Plant #167

Sources #93-98 Green Bean Handling and Blending

1. The total amount of green coffee beans handled S-93 shall not exceed 190,000 tons totaled over any consecutive 12-month period. [Basis: Cumulative Increase]

2. The total amount of green coffee beans blended at each blending system S-94, S-95, S-96, and S-97 shall not exceed 75,000 tons totaled over any consecutive 12-month period. [Basis: Cumulative

Increase]

3. The total amount of green coffee beans blended at blending system S-98 shall not exceed 65,000 tons totaled over any consecutive 12-month period. [Basis: Cumulative Increase]
4. Green Bean Unloading, Clean & Weigh Station S-93 shall be abated during all periods of operation by A-95 Filter Receiver. [Basis: Regulation 6]
5. Green Bean Blending Systems S-94, S-95, S-96, S-97 and S-98 shall be abated during all periods of operation by Baghouse A-100 and Filter A-101. [Basis: Regulation 6]
6. Green Bean Blending Systems S-94, S-95, S-96, S-97 and S-98 shall be abated during all periods of operation by Cyclones A-96, A-97, A-98, A-99 and A-102 respectively [Basis Regulation 6]
7. To demonstrate compliance with the above conditions, the Permit Holder 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 cleaned and weighed at S-93.
 - b. Monthly records of the quantity of green coffee beans conveyed and blended by S-94, S-95, S-96, S-97 and S-98.
 - c. 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 record keeping requirements shall not replace the record keeping requirements contained in any applicable District Regulations. [Basis: Cumulative Increase]

COND# 18775 -----

Kraft Foods Global, Inc., Plant #167
Application #3798, Revised under Application #12026
Conditions for S-61, Chaff Collection and Conveyor System
Abated by A-103, Chaff Collection Dual Cyclone, 6135 cfm or
Abated by A-103, Chaff Collection Dual Cyclone and A-104,
Recuperative Thermal Oxidizer, 4MMBtu/hr, in series

1. The Permit Holder shall ensure that the particulate matter emissions from S-61, Chaff Collection and Conveyor System are abated by A-103, the Chaff Collection Dual Cyclone, or abated by A-104, Chaff Collection Dual Cyclone followed by A-104, Recuperative Thermal Oxidizer, in series. (Basis: Regulation 6-301)
2. The Permit Holder shall ensure that the operation of S-61 does not result in visible particulate matter emissions as dark or darker than Ringlemann 1.0 for more than 3 minutes in any hour. (Basis: Regulation 6-301)
3. The Permit Holder shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including the following information:
 - a. Total monthly throughput at S-61 and monthly fuel usage for A-104;
 - b. Monthly throughput and fuel usage shall be totaled for each consecutive 12-month period.All records shall be retained on-site for two years from the date of entry and made available for inspection by District staff upon request. These requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (basis: Cumulative Increase)

COND# 22820 -----

1. The owner/operator shall not exceed 20 hours per year per engine for reliability-related testing.
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection 93115.6 (b)(3)(A)(1)(a)]
2. The owner/operator shall operate each emergency standby

engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, State or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating while mitigating emergency conditions or while emission testing to show compliance with District, State or Federal emission limits is not limited.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection 93115.6 (b)(3)(A)(1)(a)]

3. The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection 93115.10 (e)(1)]

4. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.

- a. Hours of operation for reliability-related activities (maintenance and testing).
- b. Hours of operation for emission testing to show compliance with emission limits.
- c. Hours of operation (emergency).
- d. For each emergency, the nature of the emergency condition.
- e. Fuel usage for each engine(s).

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection 93115.10 (g) (or, Regulation 2-6-501)]

5. At School and Near-School Operation:

If the emergency standby engine is located on school grounds or within 500 feet of any school grounds, the following requirements shall apply:

The owner/operator shall not operate each stationary emergency standby diesel-fueled engine for non-emergency use, including maintenance and testing, during the following periods:

- a. Whenever there is a school sponsored activity (if the engine is located on school grounds)
- b. Between 7:30 a.m. and 3:30 p.m. on days when school is in session.

"School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" or "School Grounds" includes any building or structure, playground, athletic field, or other areas of school property but does not include unimproved school property.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection 93115.6 (b)(2)]

COND# 24014 -----

Plant #167

Source #102 Neotec Roaster No. 4

Amended by A#21497 (2010)

1. The owner/operator of coffee roaster S-102 shall not roast more than 34,000 tons of green beans totaled over any consecutive 12-month period. [Basis: Cumulative Increase]
2. The owner/operator of S-102 shall ensure that the oxides of nitrogen emissions do not exceed 0.92 lb per ton of green coffee to be roasted, carbon monoxide emissions do not exceed 0.78 lb per ton of green coffee to be roasted, and precursor organic compound emissions do not exceed 0.15 lb per ton of green coffee to be roasted after abatement by A-106 Thermal/Catalytic Oxidizer.
[Basis: BACT for NO_x, CO, and POC]
3. The owner/operator shall ensure that S-102 is abated at all times of operation by A-107 Cyclone and A-106 Catalytic Oxidizer. [Basis: Cumulative Increase]
4. An average temperature of 650 (degrees F) and a minimum temperature of 625(degrees F) shall be maintained at

the catalyst bed inlet in A-106 Catalytic Oxidizer whenever there is a pollutant stream directed to A-106 Catalytic Oxidizer. [Basis: Regulation 2-1-403]

5. The A-106 Catalytic Oxidizer shall be equipped with a temperature measuring and recording device capable of continuously measuring and recording the temperature at the catalyst bed inlet in A-106 Catalytic Oxidizer. This device shall be maintained in accordance with manufacturer's recommendations. This temperature monitor shall be used to determine compliance with the temperature requirements in Part 4. The temperature monitoring and recording shall be subject to District approval as parametric monitoring. [Basis: Regulation 1-521, 1-523]
6. The owner/operator may conduct a source test for the purpose of lowering the minimum temperature requirement provided that the following has occurred:
 - a. The facility has made a written request to the Engineering Division (formerly Permit Services) for a change of conditions. The District may administratively change the temperature limit in part 4 of this condition.
 - b. The Source Test Section was notified at least seven days prior to testing and the test protocol was deemed acceptable.
 - c. The results of the test demonstrate that A-106 Catalytic Oxidizer is capable of meeting the emission factor limits imposed in Condition #2 for POC at the lower operating temperature. [Basis: Regulation 2-1-403]
7. To demonstrate ongoing compliance with these permit conditions the 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-102.
 - 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 record keeping requirements shall not replace the record keeping requirements contained in any applicable District Regulations. [Basis: Cumulative Increase]

8. The permit to operate for S-102 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:
 - a. submit, within 60 days of notification by the APCO, a permit application for an Authority to Construct additional emission control; and/or
 - b. 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]

9. To demonstrate compliance with the above conditions, the owner/operator shall conduct an annual compliance test starting in 2012 for the following: NO_x, CO, POC, and a source test every three years starting in 2012 for the following: Acetaldehyde, and Formaldehyde. The annual source tests must be at least 9 months apart. If the owner/operator determines that an emissions test is not representative, then the test may be repeated immediately.

Condition No. 25256

Plant No. 167

NO_x Facility-wide Emission Limit and POC Testing Requirement for Units with a POC Limit.

1. The owner/operator shall ensure that the total facility wide NO_x emissions do not exceed 35.00 tons per consecutive 12-month period. (Basis: Offsets, Cumulative Increase)

2. The owner/operator shall calculate NO_x emissions using actual throughputs for each source and a District approved emission factor. The emission factor for all coffee roasters (S-37, S-40, S-72, S-73, S-90, S-102) will be based on the most recent District approved source test. The owner/operator shall calculate the NO_x emissions for each calendar month by the 15th day of the following month. (Basis: 2-2-302, Offsets, Cumulative Increase)

3. The owner/operator shall measure the emissions of NO_x from S-37, S-40, S-72, S-73, S-90, and S-102 using a District approved source test on an annual basis starting in 2012. The owner/operator shall measure the emissions of POC from S-72, S-73, S-90, and S-102 using a District

approved source test on an annual basis starting in 2012. Pursuant to a permit application submitted by Kraft Foods, the District may reduce the source test frequency for each coffee roaster in the future based on a review of several years of source test results for each given coffee roaster. The annual source tests on each coffee roaster must be at least 9 months apart, however if the owner/operator determines that a given test is not representative, then the test may be repeated immediately. The owner/operator shall use the results of each District approved source test to calculate a new proposed emission factor for each pollutant on a lb per ton of green coffee roasted basis, and submit such proposed emission factor to the District for approval. In the course of approving an emission factor, the District will not add a compliance margin to the approved source test results. Once the emission factor is approved by the District Engineering Division it should be used to calculate monthly emissions until a subsequent new emission factor is approved. (Basis: 2-1-403, Offsets, Cumulative Increase)

4. Because the Permits to Operate for S-37 and S-40 do not establish average or minimum operating temperatures for the corresponding abatement device, the source tests conducted on S-37 and S-40 for the purpose of establishing NO_x emission factors under this Condition must specify the average and minimum abatement device operation temperatures recorded during the source tests.

The average and minimum abatement device operating temperatures recorded during a source test shall become the average and minimum temperatures at which A-25 (S-37) and A-29 (S-40) are to be operated during the time period between the most recent District-approved source test and the completion of the next District-approved source test conducted for the purpose of establishing NO_x emission factors under this Condition for S-37 and S-40. The minimum operation temperature shall be established by subtracting 25 deg. F from the minimum temperature recorded during the source test. A-25 and A-29 do not need to operate at the average and minimum temperatures when the corresponding coffee roaster is not operating.

Twelve allowable excursions from the required operating temperatures shall be allowed over a rolling twelve-month period provided that the temperature controller set point is above the average temperature from the last source test used to determine the emission factors being used for S-37 and S-40. An allowable temperature excursion is less than 100 degrees below the average or minimum operating temperatures recorded during the last District approved source test and less than two hours in duration. The owner/operator shall report other excursions to the Engineering Division within 7 days of the incident.

A-25 (S-37) and/or A-29 (S-40) are permitted to operate at average or minimum temperatures other than those established by the last District-approved source test. Should A-25 (S-37) and/or A-29 (S-40) be operated at average or minimum temperatures lower or more than 200 deg. F higher than those established by the last District-approved source test, Kraft shall submit to the District proposed new NO_x emission factors for S-37 and S-40 for the purposes of calculating facility-wide NO_x emissions for District approval. Such new NO_x emission factors for S-37 and S-40 shall be based on empirical data regarding NO_x emissions for S-37 and S-40 at the relevant abatement device average and minimum temperatures actually recorded.
(Basis: 1-521, 1-523)

5. The owner/operator shall record the throughput of green coffee, the type of product being made, and abatement device temperature during all emissions testing. (Basis: 2-1-403)
6. The owner/operator shall submit a facility-wide annual NO_x emissions summary for each calendar year to the Director of Compliance & Enforcement by the end of February of the following year. (Basis: 2-1-403, Offsets, Cumulative Increase)
7. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section prior to conducting any testing under this condition. The owner/operator shall notify the District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). The owner/operator shall submit the source test results to the District Source Test Section within 60 days of conducting the tests. (Basis: BACT, 2-2-419)
8. The quantities of green coffee roasted at S-37, S-40, S-72, S-73, S-90, and S-102 shall be totaled on a monthly basis and recorded in a District approved log to be maintained onsite for at least five years from the last date of entry and be made available for review by District staff upon request. All temperature excursions at S-37 and S-40 shall be recorded in a District approved log to be maintained onsite for at least five years from the last date of entry and be made available for review by District staff upon request. (Basis: Regulation 2-1-403)
9. In order to calculate emissions as required by this condition, the owner/operator shall maintain throughput and/or usage records for all permitted sources at the facility and exempt sources at the facility that emit NO_x. The owner/operator shall record these throughput and/or usage records in a District approved log to be maintained onsite for at least five years from the last date of entry and be made available for review by District staff upon request. (Basis: Regulation 2-1-403)

Future Condition that will become applicable to S-72 and S-73 after the new oxidizers A-110 and A-111 become operational. A-110 and A-111 will replace A-56 and A-58.

COND# 25165 -----

Kraft Foods
Plant 167

Conditions for S-72 and S-73

1. The total quantity of coffee beans roasted at S-72 and S-73 combined shall not exceed 47,304 tons during any consecutive twelve month period. (Basis: Cumulative Increase)
2. Emissions from S-72 Coffee Roaster shall be abated during all periods of operation by A-55 Cyclone (Ducon Model 355 VM, 14150 cfm) and A-110 Catalytic Incinerator (Conversion Products, Model #CR42/50H-3900MC-72BA, 3900 cfm). The owner/operator of S-72 shall maintain A-55 and A-110 in proper operating condition at all times.
(Basis: Regulation 6, Rule 1, Regulation 8, Rule 2, BACT)
3. Emissions from S-73 Coffee Roaster shall be abated during all periods of operation by A-57 Cyclone (Ducon Model 355 VM, 14150 cfm) and A-111 Catalytic Incinerator (Conversion Products, Model #CR42/50H-3900MC-72BA, 3900 cfm). The owner/operator of S-73 shall maintain A-57 and A-111 in proper operating condition at all times.
(Basis: Regulation 6, Rule 1, Regulation 8, Rule 2, BACT)
4. The total particulate matter emissions from S-72 and S-73 combined, after abatement shall not exceed 31.2 pounds per day. (Basis: Cumulative Increase)
- 5a. The total precursor organic compound (non-methane hydrocarbon) emissions from S-72, after abatement by A-110 Catalytic Incinerator shall not exceed 0.15 lb of POC per ton of green coffee beans roasted. (Basis: BACT)
- 5b. The total precursor organic compound (non-methane hydrocarbon) emissions from S-73, after abatement by A-111 Catalytic Incinerator shall not exceed 0.15 lb of POC per ton of green coffee beans roasted. (Basis: BACT)

6. The A-110 and A-111 Catalytic Incinerator catalyst bed inlet temperatures shall be maintained at a minimum of 650°F whenever S-72 and S-73 are in operation. This minimum catalyst inlet temperature may be revised to allow compliance with part #5 and shall be determined by source testing for POC as specified in part #8. A-110 and A-111 shall be equipped with a District-approved temperature indicator and continuous temperature recorder at the catalyst inlet and outlet. The catalyst inlet and outlet temperatures shall be monitored on a continuous basis. (Basis: BACT, Regulation 2-1-403)
7. If the A-110 and A-111 catalytic incinerators fail to comply with part #5 above, the APCO may require the owner/operator of S-72 and S-73 to replace the catalytic incinerator with conventional, direct-flame thermal incinerators complying with all of the above parts of this condition. (Basis: BACT)
- 8a. The owner/operator of S-72 and S-73 shall receive approval from the District's Source Test Manager for the location of thermocouples required to monitor for compliance with part #6, testing ports, and platforms. (Basis: Regulation 2-1-403)
- 8b. Within 30 days of startup of each catalytic oxidizer, A-110 and A-111, the owner/operator shall conduct a source test to determine the lb pollutant per ton of green coffee roasted emission rate of POC, NO_x, and CO. The owner/operator shall notify the Permit Services Division and the Source Test Manager at least two weeks prior to any source test. Complete reports of source test results shall be submitted to the Districts Source Test Section and Permit Services Division within 30 days of the source test. (Basis: Regulation 2-1-403)
9. To demonstrate compliance with parts #1 and #6, the owner/operator of S-72 and S-73 shall maintain daily records of the following data in a District-approved log:
 - a. quantity of green coffee roasted daily at S-72 and S-73, totaled on a monthly basis
 - b. A-110 and A-111 Catalytic Oxidizer temperatures at the inlet and outlet of the catalyst bed.

(Basis: Regulation 8, Rule 2, Cumulative Increase, BACT)

Conditions for S-74 and S-75

- 1.The emissions from S-74 Cooler shall be abated by the properly operating and maintained A-59 Cyclone (Ducon Model 285 VM, 8,850 cfm) whenever S-74 is in operation. (Basis: Regulation 6, Rule 1)
- 2.The emissions from S-75 Cooler shall be abated by the properly operating and maintained A-60 Cyclone (Ducon Model 285 VM, 8,850 cfm) whenever S-75 is in operation. (Basis: Regulation 6, Rule 1)
- 3.The owner/operator shall maintain records of A-59 and A-60 downtime in a District-approved log to verify compliance with conditions #1 and #2. These records shall be retained on-site and made available for District inspection for a minimum of 24 months from the date of entry. (Basis: Regulation 6, Rule 1)

Conditions for S-76 and S-77

- 1.The emissions from S-76 Stoner shall be abated by the properly operating and maintained A-61 Baghouse (Jet Air, model DFC 48/2400, 8000 cfm) whenever S-76 is in operation. (Basis: Regulation 6, Rule 1)
- 2.The emissions from S-77 Stoner shall be abated by A-62 Baghouse (Jet Air, model DFC 48/2400, 8000 cfm) whenever S-77 is in operation. (Basis: Regulation 6, Rule 1)
- 3.The owner/operator shall maintain daily records of A-61 and A-62 downtime in a District-approved log to verify compliance with conditions #1 and #2. These records shall be retained on-site and made available for District inspection for a minimum of 24 months from the date of entry. (Basis: Regulation 6, Rule 1)

Condition for S-78

- 1.The emissions from S-78 Green Bean Conveyor shall be abated by A-63 Baghouse (Buhler, Model RPDC 25/4, 8000 cfm) whenever S-78 is in operation. (Basis: Regulation 6, Rule 1)

- 2.The owner/operator of S-78 shall maintain A-63 in proper operating condition at all times with no detectable fugitive particulate emissions. (Basis: Regulation 6, Rule 1)

Condition for S-79

- 1.The emissions from S-79 Green Bean Receiving Hopper shall be abated by A-64 Baghouse (Buhler, Model RPDC 25/4, 8000 cfm) whenever S-79 is in operation. (Basis: Regulation 6, Rule 1)
- 2.The owner/operator of S-79 shall maintain A-64 in proper operating condition at all times with no detectable fugitive particulate emissions. (Basis: Regulation 6, Rule 1)

Conditions for S-80, S-81, S-82, and S-83

- 1.The emissions from S-80, S-81, S-82, and S-83 System 400 Green Bean Receivers shall be abated, respectively, by A-65, A-66, A-67, and A-68 Baghouses whenever S-80, S-81, S-82, and S-83 are in operation. (Basis: Regulation 6, Rule 1)
- 2.The owner/operator shall maintain A-65, A-66, A-67, and A-68 in proper operating condition at all times with no detectable fugitive particulate emissions. (Basis: Regulation 6, Rule 1)

Conditions for S-84 and S-85

- 1.The emissions from S-84 and S-85 System 700 Roasted Bean Receivers shall be abated, respectively, by A-69 and A-70 Baghouses whenever S-84 and S-85 are in operation. (Basis: Regulation 6, Rule 1)
- 2.The owner/operator shall maintain A-69 and A-70 in proper operating condition at all times with no detectable fugitive particulate emissions. (Basis: Regulation 6, Rule 1)

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Attachment 2

Maximum Permitted Emissions Calculations

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Attachment 3

2010 Emissions Calculations