

217/785-1705

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

Highland Baking Company
Attn: Boris Golenson
2301 Shermer Road
Northbrook, Illinois 60062

Application No.: 08010037

I.D. No.: 031207AED

Applicant's Designation:

Date Received: January 23, 2008

Subject: Bread and Roll Bakery

Date Issued:

Expiration Date:

Location: 2301 Shermer Road, Northbrook, Cook County, 60062

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of:

Eighteen (18) Natural Gas-Fired Rack Baking Ovens;
Four (4) Natural Gas-Fired Deck Baking Ovens;
Two (2) 2.5 mmBtu/hour Natural Gas-Fired Tunnel Ovens Controlled by Catalytic Thermal Oxidizer;
Two (2) 5.58 mmBtu/hour Natural Gas-Fired Tunnel Ovens Controlled by Catalytic Thermal Oxidizer;
Three (3) Silos Controlled by Baghouses;
Twelve (12) Mixers;
Two (2) 150 HP Natural Gas-Fired Boilers; and

pursuant to the above-referenced application. This permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year for Volatile Organic Material (VOM)). As a result, the source is excluded from the requirements to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permit(s) for this location.
- 2a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 Ill. Adm. Code 212.122.

- b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 meter (1000 foot) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.
- c. Pursuant to 35 Ill. Adm. Code 212.301, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source.
- e. Pursuant to 35 Ill. Adm. Code 212.321(a), except as further provided in 35 Ill. Adm. Code Part 212, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).
- 3. Pursuant to 35 Ill. Adm. Code 214.301, except as further provided by 35 Ill. Adm. Code Part 214, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.
- 4a. Pursuant to 35 Ill. Adm. Code 218.187(a)(1), on and after January 1, 2012: Except as provided in 35 Ill. Adm. Code 218.187(a)(2), the requirements of 35 Ill. Adm. Code 218.187 shall apply to all cleaning operations that use organic materials at sources that emit a total of 226.8 kg per calendar month (500 lbs per calendar month) or more of VOM, in the absence of air pollution control equipment, from cleaning operations at the source other than cleaning operations identified in 35 Ill. Adm. Code 218.187(a)(2). For purposes of 35 Ill. Adm. Code 218.187, "cleaning operation" means the process of cleaning products, product components, tools, equipment, or general work areas during production, repair, maintenance, or servicing, including but not limited to spray gun cleaning, spray booth cleaning, large and small manufactured components cleaning, parts cleaning, equipment cleaning, line cleaning, floor cleaning, and tank cleaning, at sources with emission units.
- b. Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hour (8 lbs/hour) of organic material into the atmosphere from any emission unit, except as provided in 35 Ill. Adm. Code 218.302, 218.303, or 218.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm.

Code 218 Subpart G (Use of Organic Material) shall apply only to photochemically reactive material.

- c. Pursuant to 35 Ill. Adm. Code 218.302(a), emissions of organic material in excess of those permitted by 35 Ill. Adm. Code 218.301 are allowable if such emissions are controlled by flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water.
5. Pursuant to 35 Ill. Adm. Code 212.314, 35 Ill. Adm. Code 212.301 shall not apply and spraying pursuant to 35 Ill. Adm. Code 212.304 through 212.310 and 35 Ill. Adm. Code 212.312 shall not be required when the wind speed is greater than 40.2 km/hour (25 mph). Determination of wind speed for the purposes of this rule shall be by a one-hour average or hourly recorded value at the nearest official station of the U.S. Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to this rule is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements.
- 6a. Pursuant to 35 Ill. Adm. Code 218.187(a)(2)(A)(i), notwithstanding 35 Ill. Adm. Code 218.187(a)(1) cleaning operations subject to the limitations in 35 Ill. Adm. Code 218.182, 218.183, or 218.184; janitorial cleaning operations shall be exempt from the requirements of 35 Ill. Adm. Code 218.187(b), (c), (d), (e), (f), and (g).
- b. This permit is issued based upon the baking ovens not being subject to the control requirements of 35 Ill. Adm. Code 218 Subpart TT (Other Emission Units). Pursuant to 35 Ill. Adm. Code 218.980(f), the control requirements in 35 Ill. Adm. Code 218 Subpart TT shall not apply to bakeries.
- 7a. Pursuant to 35 Ill. Adm. Code 212.306, all normal traffic pattern access areas surrounding storage piles specified in 35 Ill. Adm. Code 212.304 and all normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by 35 Ill. Adm. Code 212.309, 212.310 and 212.312.
- b. Pursuant to 35 Ill. Adm. Code 212.307, all unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods.
 - c. Pursuant to 35 Ill. Adm. Code 212.309(a), the emission units described in 35 Ill. Adm. Code 212.304 through 212.308 and 35 Ill. Adm. Code 212.316 shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 Ill. Adm. Code 212.310

and 212.312, and prepared by the owner or operator and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions.

- d. Pursuant to 35 Ill. Adm. Code 212.310, as a minimum the operating program shall include the following:
 - i. The name and address of the source;
 - ii. The name and address of the owner or operator responsible for execution of the operating program;
 - iii. A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source;
 - iv. Location of unloading and transporting operations with pollution control equipment;
 - v. A detailed description of the best management practices utilized to achieve compliance with 35 Ill. Adm. Code 212 Subpart K, including an engineering specification of particulate collection equipment, application systems for water, oil, chemicals and dust suppressants utilized and equivalent methods utilized;
 - vi. Estimated frequency of application of dust suppressants by location of materials; and
 - vii. Such other information as may be necessary to facilitate the Illinois EPA's review of the operating program.
- e. Pursuant to 35 Ill. Adm. Code 212.312, the operating program shall be amended from time to time by the owner or operator so that the operating program is current. Such amendments shall be consistent with 35 Ill. Adm. Code 212 Subpart K and shall be submitted to the Illinois EPA for its review.
- 8a. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.
- b. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the catalytic oxidizer associated with the tunnel ovens and the baghouse associated with the silos such that the catalytic oxidizer and the baghouse are kept in proper working condition and not cause a violation of the Illinois Environmental Protection Act or regulations promulgated therein.

- c. The catalytic oxidizer's combustion chamber shall be preheated to at least the manufacturer's recommended temperature but no less than the temperature at which compliance was demonstrated in the most recent compliance test, or 600°F in the absence of a compliance test. This temperature shall be maintained during operation.
 - d. All baking ovens shall only be operated with natural gas as the fuel. The use of any other fuel in the baking ovens requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
- 9a. This permit is issued based on this source not being a participating source in the Emissions Reduction Market System (ERMS), 35 Ill. Adm. Code Part 205, pursuant to 35 Ill. Adm. Code 205.200. This is based on the source's actual VOM emissions during the seasonal allotment period from May 1 through September 30 of each year being less than 10 tons and the source's baseline emissions also being less than 10 tons.
- b. In the event that the source's VOM emissions during the seasonal allotment period equal or exceed 10 tons, the source shall become a participating source in the ERMS and shall comply with 35 Ill. Adm. Code Part 205, by holding allotment trading units (ATUs) for its VOM emissions during each seasonal allotment period, unless the source obtains exemption from the ERMS by operating with seasonal VOM emissions of no more than 15 tons pursuant to a limitation applied for and established in a Clean Air Act Permit Program (CAAPP) permit or a Federally Enforceable State Operating Permit (FESOP).
 - c. Pursuant to 35 Ill. Adm. Code 205.316(a), any participating or new participating source shall not operate without a CAAPP permit or FESOP. Pursuant to 35 Ill. Adm. Code 205.316(a)(2), if a participating or new participating source does not have a CAAPP permit containing ERMS provisions and the source elects to obtain a permit other than a CAAPP permit, the source shall apply for and obtain a FESOP that contains, in addition to other necessary provisions, federally enforceable ERMS provisions, including baseline emissions, allotment for each seasonal allotment period, identification of any units deemed to be insignificant activities for purposes of the ERMS, emissions calculation methodologies, and provisions addressing all other applicable requirements of 35 Ill. Adm. Code Part 205.
- 10a. The total emissions of VOM other than emissions from natural gas combustion from heating the ovens, (including ethanol emissions from all 26 baking ovens) shall not exceed 12.0 tons/month and 96.0 tons/year. These limits are based on the production rates, emission factors of 4.66 lbs/ton for loaves and 5.85 lbs/ton for buns, rolls and French rolls, and 90% overall control efficiency for the catalytic oxidizer on the four tunnel ovens when in use.

- b. The limits on the emissions of VOM (ethanol) from the baking ovens at this source are based on the maximum production rates and maximum actual VOM emissions calculated from the following equation:

$$E = \Sigma(P_i \times EF_i) / 2,000$$

Where:

E = VOM emissions (tons);

P_i = Product i production rate (tons);

EF_i = Product i Emission Factor (lbs/ton);

Where:

Emissions Factor EF_i shall be calculated using the formula given by AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources (Section 9.9.6, Supplement C, February 1997):

$$EF = 0.95Y_i + 0.19t_i - 0.51Y_s - 0.86t_s + 1.90,$$

Where:

EF = Emission Factor Emission Factor (pounds of VOM emissions per ton of baked product);

Y_i = Initial baker's percent of yeast (yeast percentage with a reference to flour in the dough);

t_i = Total fermentation time (hours);

Y_s = Second baker's percent of yeast (if applicable); and

t_s = Fermentation Time for Second Yeast Percentage (if applicable).

- c. Emission and operation of all natural gas combustion units at this source shall not exceed the following limits:

i. Natural Gas Usage: 33.8 mmscf/month, 338.0 mmscf/year

ii. Emissions from the combustion of natural gas:

<u>Pollutant</u>	<u>Emission Factor</u> (lbs/mmscf)	<u>Emissions</u>	
		(Tons/Mo)	(Tons/Yr)
Carbon Monoxide (CO)	84	1.42	14.20
Nitrogen Oxide (NO _x)	100	1.69	16.90
Particulate Matter (PM)	7.6	0.13	1.28
Sulfur Dioxide (SO ₂)	0.6	0.01	0.10
Volatile Organic Material (VOM)	5.5	0.10	0.93

These limits are based on the maximum firing rate, 8,760 hours/year of operation and standard emission factors (Tables 1.4-1, 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

- d. Emissions and operation of equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>PM Emissions</u>	
	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
Three (2) Silos with Baghouses	0.19	1.87
Twelve (12) Mixers	0.19	1.93

These limits are based on maximum material throughput, the maximum emission rates of 1 lb PM/50,000 lb truckload for the silos and 0.3 lb/hour for the mixers, and 8,760 operating hours per year.

- e. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
11. This permit is issued based on the potential to emit of (PTE) for Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act being less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements of the requirements to obtain a Clean Air Act Permit Program (CAAPP) Permit.
- 12a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
- i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.

- ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.
 - b. Testing required by Condition 14 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.
- 13a. Pursuant to 35 Ill. Adm. Code 218.105(d)(2)(A)(ii), an owner or operator that uses an afterburner or carbon adsorber to comply with any Section of 35 Ill. Adm. Code Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the control device is in use except as provided in 35 Ill. Adm. Code 218.105(d)(3). The continuous monitoring equipment must monitor for each afterburner which has a catalyst bed, commonly known as a catalytic afterburner, the temperature rise across each catalytic afterburner bed or VOM concentration of exhaust.
- b. Pursuant to 35 Ill. Adm. Code 218.105(d)(2)(B), an owner or operator must install, calibrate, operate and maintain, in accordance with manufacturer's specifications, a continuous recorder on the temperature monitoring device, such as a strip chart, recorder or computer, having an accuracy of ± 1 percent of the temperature measured in degrees Celsius or $\pm 0.5^{\circ}\text{C}$, whichever is greater.
- 14a. Pursuant to 35 Ill. Adm. Code 218.187(e)(1)(B), the owner or operator of a source exempt from the limitations of 35 Ill. Adm. Code 218.187 because of the criteria in 35 Ill. Adm. Code 218.187(a)(1) shall comply with the following: On and after January 1, 2012, collect and record the following information each month for each cleaning operation, other than cleaning operations identified in 35 Ill. Adm. Code 218.187(a)(2):
- i. The name and identification of each VOM-containing cleaning solution as applied in each cleaning operation;
 - ii. The VOM content of each cleaning solution as applied in each cleaning operation;
 - iii. The weight of VOM per volume and the volume of each as-used cleaning solution; and
 - iv. The total monthly VOM emissions from cleaning operations at the source.

- d. Pursuant to 35 Ill. Adm. Code 218.187(e)(10), all records required by 35 Ill. Adm. Code 218.187(e) shall be retained by the source for at least three years and shall be made available to the Illinois EPA upon request.
- 15a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
 - i. Records addressing use of good operating practices for the catalytic oxidizer associated with the Tunnel Ovens and the baghouse associated with the silos:
 - A. Records for periodic inspection of the catalytic oxidizer and the baghouse, individual performing the inspection, and nature of inspection;
 - B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair;
 - C. Catalytic oxidizer combustion chamber monitoring data;
 - D. A log of operating time for the catalytic oxidizer, monitoring device, and the associated emission unit(s); and
 - E. A maintenance log for the catalytic oxidizer and monitoring device detailing all routine and non-routine maintenance performed including dates and duration of any outages.
 - ii. Total combined baked product from all Deck and Rack Ovens (tons/month and tons/year) for each of the following:
 - A. Loaves;
 - B. Total Combined Rolls, Buns, and French Rolls; and
 - C. Any other products (separated by type, if emission factors are different).
 - iii. Total combined baked product from all Tunnel Ovens (tons/month and tons/year) for each of the following while the Catalytic Oxidizer was in service:
 - A. Loaves;
 - B. Total Combined Rolls, Buns, and French Rolls; and
 - C. Any other products (separated by type, if emission factors are different).

- iv. Total combined baked product from all Tunnel Ovens (tons/month and tons/year) for each of the following, while the Catalytic Oxidizer was not in service.
 - A. Loaves;
 - B. Total Combined Rolls, Buns, and French Rolls; and
 - C. Any other products (separated by type, if emission factors are different).
 - v. VOM emission factor for each product with supporting calculations (lbs/ton);
 - vi. Natural gas usage (mmscf/month and mmscf/year); and
 - vii. Monthly and aggregate annual CO, NO_x, PM, SO₂, and VOM emissions from the source with supporting calculations (tons/month and tons/year).
- b. The Permittee shall maintain the following records to allow the confirmation of actual VOM emissions during the seasonal allotment period:
- i. Records of operating data and other information for each individual emission unit or group of related emission units at the source, as appropriate, to determine actual VOM emissions during the seasonal allotment period;
 - ii. Records of the VOM emissions, in tons, during the seasonal allotment period, with supporting calculations, for each individual emission unit or group of related emission units at the source, determined in accordance with the procedures that may be specified in this permit; and
 - iii. Total VOM emissions from the source, in tons, during each seasonal allotment period, which shall be compiled by November 30 of each year.
- c. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
16. Pursuant to 35 Ill. Adm. Code 218.187(e)(1)(C), the owner or operator of a source exempt from the limitations of 35 Ill. Adm. Code 218.187 because of the criteria in 35 Ill. Adm. Code 218.187(a)(1) shall comply with the following: Notify the Illinois EPA of any record that shows

that the combined emissions of VOM from cleaning operations at the source, other than cleaning operations identified in 35 Ill. Adm. Code 218.187(a)(2), ever equal or exceed 226.8 kg/month (500 lbs/month), in the absence of air pollution control equipment, within 30 days after the event occurs.

- 18a. If there is an exceedance of or a deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance or deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, and a copy of the relevant records, and a description of the exceedance or deviation and efforts to reduce the emissions and future occurrences.
- b. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

It should be noted that the request for authorization to operate the four (4) tunnel ovens in excess of the applicable emission standards during malfunction and breakdown of the catalytic is denied for the following reason: Proof was not submitted in accordance with 35 Ill. Adm. Code 201.262 which indicated that such continued operation during malfunction and breakdown is necessary to prevent injury to persons or severe damage to equipment; or is required to provide essential services.

It should also be noted that the 6 kW emergency generator and the Product and UPC Printing are exempt from permitting pursuant to 35 Ill. Adm. Code 201.146(i) and (m), respectively.

If you have any questions on this permit, please contact Jocelyn Stakely at 217/785-1705.

Raymond E. Pilapil
Acting Manager, Permit Section

Date Signed: _____

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Division of Air Pollution Control

REP:JRS:psj

cc: Illinois EPA, FOS Region 1
Lotus Notes

Attachment A

This attachment provides a summary of the maximum emission for the Bread & Roll Bakery operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels (i.e., 100 tons/year for VOM) at which this facility would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, and control measures are more effective than required in this permit.

<u>Emission Unit</u>	E M I S S I O N S (Tons/Year)				
	<u>CO</u>	<u>NO_x</u>	<u>PM</u>	<u>SO₂</u>	<u>VOM</u>
Natural Gas Combustion	14.20	16.90	1.28	0.10	0.93
Baking Ovens	----	----	----	----	96.00
Flour Silos	----	----	1.87	----	----
Mixers	-----	-----	<u>1.93</u>	-----	-----
Totals:	14.20	16.90	5.08	0.10	96.93

JRS:psj