

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

FONA International, Inc.  
Attn: William Churchwell  
1900 Averill Road  
Geneva, Illinois 60134

Application No.: 08050037

I.D. No.: 089035ACB

Applicant's Designation:

Date Received: December 10, 2008

Subject: Food Flavoring

Date Issued:

Expiration Date: May 15, 2008

Location: 1900 Averill Road, Geneva, Kane County, 60134

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

Seven (7) Spray Dryers Controlled by Scrubbers and a Regenerative Thermal Oxidizer (RTO) (1, 2, 3, 5, 6, SDA, and SDB);  
One (1) Ribbon Blender with Dust Collector;  
One (1) Blending Mixing System;  
Four (4) Blending Tanks;  
Two (2) Blending Reactors;  
One (1) Shear Mixer Tank;  
Two (2) Blending Tanks;  
One (1) Gum Compounding Process Controlled by Dust Collector

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:
  - i. 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 requirement 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.
  - ii. To limit the potential emissions of VOM from the source to less than 25 tons/year. As a result, the source is excluded from the requirement of 35 Ill. Adm. Code Part 205, Emission Reduction Market System. 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 212.321(a), 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, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to excess 2000 ppm.
- 4a. 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 source, 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 shall apply only to photochemically reactive material.
  - b. 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.
  - c. The seven spray dryers and the flavor mixing and blending process are subject to 35 Ill. Adm. Code 218 Subpart TT: Other Emission Units. Pursuant to 35 Ill. Adm. Code 218.986, every owner or operator of an emission unit subject to 35 Ill. Adm. Code 218 Subpart TT shall comply with the requirements of 35 Ill. Adm. Code 218.986(a), (b), (c), (d), or (e) below:

- i. Emission capture and control equipment which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit; or
- ii. Any leaks from components subject to the control requirements of 35 Ill. Adm. Code 218 Subpart TT shall be subject to the following control measures by March 15, 1995:

Repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found, unless the leaking component cannot be repaired until the next process unit shutdown, in which case the leaking component must be repaired before the unit is restarted.

- 5. Pursuant to 35 Ill. Adm. Code 218.980(d), no limits under 35 Ill. Adm. Code 218 Subpart TT shall apply to emission units with emissions of VOM to the atmosphere less than or equal to 2.3 Mg (2.5 tons) per calendar year if the total emissions from such emission units not complying with 35 Ill. Adm. Code 219.986 does not exceed 4.5 Mg (5.0 tons) per calendar year.
- 6a. The scrubbers and the regenerative thermal oxidizer (RTO) shall be in operation at all times when the associated dryers are in operation and emitting air contaminants.
- b. The regenerative thermal oxidizer combustion chamber shall be preheated to the temperature at which compliance was demonstrated during the most recent performance test or to at least the manufacturer's recommended temperature of 1,400°F in the absence of a compliance test. This temperature shall be maintained during operation of the associated dryers.
- c. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the scrubbers and the regenerative thermal oxidizer such that the scrubbers and the regenerative thermal oxidizer are kept in proper working condition and not cause a violation of the Illinois Environmental Protection Act or regulations promulgated therein.
- d. The dryers and the regenerative thermal oxidizer shall only be operated with natural gas as the fuel. The use of any other fuel in the dryers or the regenerative thermal oxidizer 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.
- e. In the event that the operation of this emission unit 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.

7a. Emissions and operation of the flavoring equipment (except for the gum compounding process) shall not exceed the following limits:

i. Production rate and material usage:

<u>Emission Unit</u>	<u>Process Rate/Usage</u>		
	<u>(Lbs/Hr)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Dryer 1	100.0	43.8	438
Dryer 2	25.0	11.0	110
Dryer 3	150.0	65.7	657
Dryers 5 and 6 (Combined)	600.0	262.8	2,628
Blending	1,025.6	320.0	3,200
Dryers SDA and SDB (Combined)	50.0	22.0	220

ii. PM and VOM emissions:

<u>Emission Unit</u>	<u>PM Emissions</u>			<u>VOM Emissions</u>		
	<u>(Lb/Hr)</u>	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>	<u>(Lb/Hr)</u>	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Dryer 1	0.55	0.24	2.41	0.48	0.21	2.10
Dryer 2	0.25	0.11	1.08	0.13	0.06	0.57
Dryer 3	0.64	0.28	2.79	0.69	0.30	3.02
Dryers 5 & 6	1.34	0.59	5.85	0.59	0.29	2.58
Blending	1.78	0.56	5.55	0.23	0.10	1.01
Dryers SDA & SDB	0.55	0.24	2.41	0.26	0.11	1.14
		<u>Totals:</u>	<u>20.09</u>			<u>10.42</u>

The limits on PM emissions are based on the maximum hourly production rate at the maximum hours of operation (8,760 hours/year for the dryers and 6,240 hours for the blending operation) and the allowable PM emission rates pursuant to 35 Ill. Adm. Code 212.321. The limit for VOM emissions are based on the latest stack test of the dryers prior to the RTO, and overall reduction of VOM emissions by at least 90% (capture system and destruction of VOM by the RTO).

b. Emissions and operation of the fuel combustion emission units (dryers and the RTO) shall not exceed the following limits:

i. Natural Gas Usage: 7.89 mmscf/month, 78.84 mmscf/year.

ii. Emissions from the combustion of natural gas:

<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>	
	<u>(Lbs/mmscf)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Carbon Monoxide (CO)	84.0	0.33	3.31
Nitrogen Oxides (NO <sub>x</sub> )	100.0	0.39	3.94
Particulate Matter (PM)	7.6	0.03	0.30
Sulfur Dioxide (SO <sub>2</sub> )	0.6	0.01	0.02
Volatile Organic Material (VOM)	5.5	0.02	0.22

These limits are based on the maximum fuel usage and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

- c. This permit is issued based on negligible emissions of particulate matter from the gum compounding process controlled by dust collector. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.
- d. 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).
- 8. This permit is issued based on the Potential to Emit (PTE) for Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act from the source 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 Section 112(g) of the Clean Air Act.
- 9a. 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 Conditions 10 and 11 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.
10. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
  11. Pursuant to 35 Ill. Adm. Code 218.988, when in the opinion of the Illinois EPA it is necessary to conduct testing to demonstrate compliance with 35 Ill. Adm. Code 218.986, the owner or operator of a VOM emission unit subject to the requirements of 35 Ill. Adm. Code 218 Subpart TT shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in 35 Ill. Adm. Code 218.105.
  - 12a. Pursuant to 35 Ill. Adm. Code 218.105(d)(2)(A)(i), 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 does not have a catalyst bed, the combustion chamber temperature of each afterburner.
    - 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  $\pm 1$  percent of the temperature measured in degrees Celsius or  $\pm 0.5^{\circ}\text{C}$ , whichever is greater.
  13. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
  - 14a. Pursuant to 35 Ill. Adm. Code 218.986(e)(2), for any leak which cannot be readily repaired within one hour after detection, the following records, as set forth below in 35 Ill. Adm. Code 218.986(e)(2), shall be kept. These records shall be maintained by the owner or operator for a minimum of two years after the date on which they are made. Copies of the records shall be made available to the Illinois EPA or USEPA upon verbal or written request.

- i. The name and identification of the leaking component;
  - ii. The date and time the leak is detected;
  - iii. The action taken to repair the leak; and
  - iv. The date and time the leak is repaired.
- b. Pursuant to 35 Ill. Adm. Code 218.991(a)(2), any owner or operator of a VOM emission unit which is subject to the requirements of 35 Ill. Adm. Code 218 Subpart PP, QQ, RR or TT and complying by the use of emission capture and control equipment shall collect and record all of the following information each day and maintain the information at the source for a period of three years:
- i. Control device monitoring data;
  - ii. A log of operating time for the capture system, control device, monitoring equipment and the associated emission source;
  - iii. A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
- 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 scrubbers and the regenerative thermal oxidizer:
    - A. Records for periodic inspection of the scrubbers and the regenerative thermal oxidizer with date, individual performing the inspection, and nature of inspection; and
    - B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
  - ii. Amount of raw material used in each unit (tons/month and tons/year);
  - iii. Hours of operations for each permitted equipment (hours/month and hours/year);
  - iv. Natural gas usage for the dryers and the regenerative thermal oxidizer (mmscf/month and mmscf/year); and
  - v. Monthly and annual CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions with supporting calculations (tons/month and tons/year).

- b. 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 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
- 17a. Pursuant to 35 Ill. Adm. Code 218.990, upon request by the Illinois EPA, the owner or operator of an emission unit which is exempt from the requirements of 35 Ill. Adm. Code 218 Subparts PP, QQ, RR, TT or 35 Ill. Adm. Code 218.208(b) shall submit records to the Illinois EPA within 30 calendar days from the date of the request that document that the emission unit is exempt from those requirements.
- b. Pursuant to 35 Ill. Adm. Code 218.991(a)(3), any owner or operator of a VOM emission unit which is subject to the requirements of 35 Ill. Adm. Code 218 Subpart PP, QQ, RR or TT and complying by the use of emission capture and control equipment shall notify the Illinois EPA:
    - i. Of any violation of the requirements of 35 Ill. Adm. Code 218 Subpart PP, QQ, RR or TT by sending a copy of any record showing a violation to the Illinois EPA within 30 days following the occurrence of the violation;
    - ii. At least 30 calendar days before changing the method of compliance with 35 Ill. Adm. Code 218 Subpart PP or TT from the use of capture systems and control devices to the use of complying coatings, the owner or operator shall comply with all requirements of 35 Ill. Adm. Code 218.991(a)(1) above. Upon changing the method of compliance with 35 Ill. Adm. Code 218 Subpart PP or TT from the use of capture systems and control devices to the use of complying coatings, the owner or operator shall comply with all requirements of 35 Ill. Adm. Code 218.991(b).
- 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, a copy of the relevant

records, and a description of the exceedance or deviation and efforts to reduce 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

If you have any questions on this, please call George Kennedy at 217/782-2113.

Edwin C. Bakowski, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

Date Signed: \_\_\_\_\_

ECB:GMK:psj

cc: Illinois EPA, FOS Region 1  
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the food flavoring facility 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 (e.g., 100 tons per year of VOM) at which this source 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<sub>x</sub></u>	<u>PM</u>	<u>SO<sub>2</sub></u>	<u>VOM</u>
Dryer 1			2.41		2.10
Dryer 2			1.08		0.57
Dryer 3			2.79		3.02
Dryers 5 & 6			5.85		2.58
Blending			5.55		1.01
Dryers SDA & SDB			2.41		1.14
Gum Compounding Process			0.44		
Natural Gas Combustion	<u>3.31</u>	<u>3.94</u>	<u>0.30</u>	<u>0.02</u>	<u>0.22</u>
TOTAL	<u>3.31</u>	<u>3.94</u>	<u>20.83</u>	<u>0.02</u>	<u>10.64</u>

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