

## Air Permit Review

Permit Issue Date: **Month XX, Year**

**Region:** Raleigh Regional Office  
**County:** Wake  
**NC Facility ID:** 9200504  
**Inspector's Name:** Stanley Williams  
**Date of Last Inspection:** 07/15/2015  
**Compliance Code:** 3 / Compliance - inspection

<p style="text-align: center;"><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> Austin Quality Foods, Inc.</p> <p><b>Facility Address:</b>  Austin Quality Foods, Inc.  One Quality Lane  Cary, NC 27513</p> <p><b>SIC:</b> 2052 / Cookies And Crackers  <b>NAICS:</b> 311821 / Cookie and Cracker Manufacturing</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V  <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p>	<p style="text-align: center;"><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b> N/A  <b>NSPS:</b> N/A  <b>NESHAP:</b> N/A  <b>PSD:</b> N/A  <b>PSD Avoidance:</b> &lt;250 tons per consecutive 12-month period of VOC  <b>NC Toxics:</b> N/A  <b>112(r):</b> N/A  <b>Other:</b> &lt;10 tons per consecutive 12-month period of acetaldehyde for facility to remain minor for HAPs.</p>
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Contact Data			Application Data
<p style="text-align: center;"><b>Facility Contact</b></p> <p>Joe Atkinson  EH&amp;S Manager  (919) 677-3292  One Quality Lane  Cary, NC 27513</p>	<p style="text-align: center;"><b>Authorized Contact</b></p> <p>Steve Surovec  Plant Manager  (919) 677-3239  One Quality Lane  Cary, NC 27513</p>	<p style="text-align: center;"><b>Technical Contact</b></p> <p>Joe Atkinson  EH&amp;S Manager  (919) 677-3292  One Quality Lane  Cary, NC 27513</p>	<p><b>Application Number:</b> 9200504.14B  <b>Date Received:</b> 10/22/2014  <b>Application Type:</b> Modification  <b>Application Schedule:</b> TV-1st Time</p> <p style="text-align: center;"><b>Existing Permit Data</b></p> <p><b>Existing Permit Number:</b> 06816/R14  <b>Existing Permit Issue Date:</b> 09/15/2015  <b>Existing Permit Expiration Date:</b> 08/31/2023</p>

Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2014	0.0700	10.42	94.34	8.67	0.7900	2.79	2.61 [Acetaldehyde]

<p><b>Review Engineer:</b> Matthew Mahler</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p>	<p style="text-align: center;"><b>Comments / Recommendations:</b></p> <p>Issue 06816/T15  <b>Permit Issue Date:</b> <b>XX/XX/XXXX</b>  <b>Permit Expiration Date:</b> <b>XX/XX/XXXX</b></p>
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### 1. Purpose of Application

Austin Quality Foods, Inc. (Austin Quality Foods) currently holds Air Permit No. 06816R14 with an expiration date of August 31, 2023 for a crackers and snack foods manufacturing facility in Cary, Wake County, North Carolina. The facility was initially permitted as a small fee class because potential emissions from the facility did not exceed major source thresholds. On June 18, 2014, the facility submitted a permit application requesting to remove the 100 tons per consecutive 12-month period facility-wide, synthetic minor limit on VOCs, which would make the facility a Title V facility.

Air Permit No. 06816R13 was issued on July 30, 2014 and had an expiration date of September 30, 2015. The permit reclassified the facility from a synthetic minor facility to a Title V facility operating under a state permit. The permit contained a requirement for a Title V application to be submitted within 12 months of the permit issuance date.

The required first-time Title V application (Application No. 9200504.14B) was submitted on October 22, 2014, which was prior to the submittal due date of July 30, 2015. The facility has requested to keep a 250 tons VOC emission limit per consecutive 12-month period to avoid PSD applicability. The facility has also requested to keep a 10 tons emission limit on acetaldehyde per consecutive 12-month period to avoid being classified as a Part 63 major source of hazardous air pollutants (HAPs).

A permit application (Application No. 9200504.15A) was received on July 2, 2015 for a permit renewal without modification. Subsequently, Air Permit No. 06816R14 was issued on September 15, 2015 and has an expiration date of August 31, 2023.

## **2. Facility Description**

Austin Quality Foods is a snack food bakery owned by Kellogg's and was constructed in 1988. The information contained in this description are derived mostly from a prior permit review<sup>1</sup> for Air Permit No. 06816R13 and the current permit application. The bakery operates six (6) natural gas-fired baking ovens (ID Nos. ES-1 through ES-4, ES-7 and ES-8). The facility bakes, assembles, packages, and ships different types of snack crackers and cookies at the facility in Cary, Wake County, North Carolina. Most products are derived from flour, yeast or chemical-leavening agents, oil, sugar, and flavorings that are mixed, baked, and packaged on-site.

The ovens generate emissions from both the combustion of natural gas and from the off-gassing of the baked products. Ammonia, a toxic air pollutant (TAP), is emitted from the bakery products which use ammonium bicarbonate as a leavening agent rather than yeast, as indicated in a previous permit review<sup>2</sup>. Volatile organic compounds (VOCs) and acetaldehyde, both a hazardous air pollutant (HAP), TAP, and VOC are emitted from yeast leavening and the proofing room activities (ID No. ES-11). VOCs and ethyl acetate (TAP/VOC) are also emitted from the use of natural and artificial flavorings. Cleaning and sanitizing operations (ID No. ES-9) emit VOCs and glycol ethers (HAP/VOC) throughout the facility.

In addition to the bakery, the facility is used as a trans-shipping point for other products produced by the company's snack division. Potential VOC emissions from primarily the cookie and crackers baking process exceed 100 tons per year. The facility employs approximately 700 people and operates 24 hours per day, 7 days a week.

## **3. History/Background/Application Chronology**

July 30, 2014                      Air Permit No. 06816R13 issued with the facility listed in the Title V fee class.

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<sup>1</sup> Betty Gatano (07/30/2014).

<sup>2</sup> Dena Pittman (06/17/2009).

October 22, 2014	Permit application 9200504.14B for first-time Title V permit received. The permit application was initially assigned to Mr. Gautam Patnaik.
November 10, 2014	DAQ received application fee payment of \$904.00.
July 2, 2015	Permit application 9200504.15A received for a permit renewal.
September 11, 2015	Mr. Gautam Patnaik of Raleigh Central Office (RCO) emailed Mr. Matthew Page, Managing Consultant of Smith Aldridge, Inc. and requested the quantification of potential emissions and emission factors for all the new insignificant activities pursuant to 15A NCAC 2Q .0503(8) for sources I-4 and I-6 through I-11 listed in the first-time Title V permit application (Application No. 9200504.14B). Mr. Page responded by email on September 29, 2015 and provided the requested insignificant sources emissions data to Mr. Patnaik.
September 15, 2015	Air Permit No. 06816R14 issued as a renewal with the facility listed in the Title V fee class.
October 1, 2015	Permit application 9200504.14B for first-time Title V permit was re-assigned to Mr. Matthew Mahler.
November 12, 2015	Emailed Mr. Matthew Page and requested a clarification of several discrepancies between the emission values listed in the Application's tables and forms. Mr. Page responded by email on November 24, 2015 and provided the revised forms to Mr. Mahler.
November 12, 2015	Emailed draft permit and permit review to Permittee, RRO, SSCB and Supervisor for comments.
November 20, 2015	Mark Cuilla, Permitting Supervisor, provided comments on the draft permit.
November 24, 2015	Comments on the draft permit received from Mr. Matthew Page, Managing Consultant of Smith Aldridge, Inc. On December 3, 2015, Mr. Mahler and Mr. Page spoke about the quarterly reporting frequency requirement of 2D .1100 and about the listing of work practices required by 2D. 0958. Mr. Page indicated that he would speak with facility personnel on if there were any further comments regarding the draft permit.
December 4, 2015	Mr. Page indicated in an email that the permit is ready to be issued.
XXXXXX, 2015	Public comment period.
XXXXXX, 2015	EPA comment permit completed.
XXXXXX, 2015	Permit issued.

#### 4. Permit Modifications and Changes

The following table describes the changes to the current permit as it is updated to the Title V format.

Pages	Section	Description of Changes
All	Entire permit	Changed permit format from a state only (2Q .0300) permit to the current Title V permit standards (2Q .0500). This change includes adding federally enforceable limitations, monitoring, recordkeeping and reporting requirements to all permit conditions (with the exception of the "State Enforceable Only" conditions).
All	Entire permit	Changed all references to NCDENR to the new NCDEQ.
Cover Letter	---	Modified to reflect current permit number, issue, effective and expiration dates, and engineer's phone number.
All	Headers	Amended permit revision number.
Attachments and Pages 1-13	Entire permit, where applicable	Modified to reflect current permit number, issue and effective dates.
Insignificant Activities List	Insignificant Activities List	Added wastewater treatment equipment, five process water heaters and boilers, 200 gallon diesel fuel storage tank, and seasoning room at Permittee's request.
Insignificant Activities List	Insignificant Activities List	Changed the Emission source ID No. for eight vegetable oil storage tanks from IS-2 to IS-3.
3	1 – Permitted Sources Table	Revised the emission source descriptions for ES ID Nos. 1-4, 7 and 8 to include the oven line numbers.
4	2.2.A.1.b	Added testing condition under the 2D .0515 particulate from miscellaneous industrial processes condition.
5	2.2.A.2.b	Added testing condition under the 2D .0516 sulfur dioxide emissions from combustion sources condition.
5	2.2.A.3.b	Added testing condition under the 2D .0521 control of visible emissions condition.
6	2.2.A.2	Corrected the Emission Source description in the Emission Limit(s) table for three natural gas-fired ovens (ID Nos. ES-3, ES-4, and ES-8) in order to be consistent with the description in the Permitted Emission Source(s) table in Section 1.
7	2.2.A.2.a.iii	Corrected the source description for ID No. ES-8 from Oven 8 to Oven 6.
10	2.2 B.2.b	Updated the default EVI value from 500 to 700 pounds/month to account for the potential VOC emissions from the newly added insignificant sources.
	Specific Conditions A.15 and A.16	Removed 15A NCAC 2Q .0504 and 15A NCAC 2Q .0507 (Title V permit application requirements).
4-13	General Conditions	Updated General Conditions and List of Acronyms with most recent version (3.7 09/21/2015).

In the first-time Title V application, the applicant provided a listing of ten additional insignificant sources to be added to the permit. Six of the sources were not included because they either vented to the facility’s indoor air or were found to be on the insignificant activities list pursuant to 15A NCAC 2Q .0503(7), “Insignificant activities because of category.” The remaining insignificant sources are “Insignificant activities because of size or production rate,” per 15A NCAC 2Q .0503(8) and have been added to the permit. They include the wastewater treatment equipment, five process water heaters and boilers, 200 gallon diesel fuel storage tank, and seasoning room. On September 29, 2015, Mr. Matthew Page, Managing Consultant of Smith Aldridge, Inc. provided the potential emissions for the new insignificant sources as shown in the table below.

Pollutant	Wastewater Treatment Equipment Emissions (tpy)	Five process water heaters and boilers (tpy)	200 gallon diesel fuel storage tank (tpy)	Seasoning Room (tpy)
NO <sub>x</sub>		0.77		
SO <sub>2</sub>		0.055		
CO		0.65		
PM		0.05		
VOC	0.006486	0.04	0.753	0.99
<b>HAPS/TAPs</b>				
All HAPs		0.01	0.004	
Acetic Acid (TAP)				0.99
<b>Green House Gases</b>				
(GHG) CO <sub>2</sub> e		933		

## 5. Detailed Description of Modification / Regulatory Review

### Detailed Description of Modification

The facility is requesting no modifications to the permit with this permit application. The current Air Permit No. 06816R14 contained a requirement for a Title V application to be submitted within 12 months of the permit issuance date and this permit application fulfilled this requirement.

### Regulatory Review

Austin Quality Foods is subject to the following regulations.

15A NCAC 2D .0515, Particulates from Miscellaneous Industrial Processes - The six natural gas-fired ovens (ID Nos. ES-1 through ES-4, ES-7 and ES-8) are subject to 2D .0515. This regulation defines allowable emission rates for particulate matter (PM) from any stack, vent, or outlet, resulting from any industrial process for which no other emission control standards are applicable. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67}$$

Where: E = allowable emission rate in pounds per hour

P = process rate in tons per hour

The table below shows the process rate, allowable PM emission rate and potential PM emissions rate of the affected sources. The process rates are the maximum line production of the ovens and were provided by the applicant. The only PM emissions from the ovens occur from the combustion of natural gas.

Source ID	Process Rate (ton/hr)	Allowable PM Emission Rate (lb/hr)	Potential PM Emission Rate (lb/hr)	Compliance Demonstrated?
ES-1	3.916	10.232	0.0822	Yes
ES-2	1.000	4.100	0.0822	Yes
ES-3	4.204	10.731	0.0822	Yes
ES-4	4.805	11.736	0.0936	Yes
ES-7	3.740	9.922	0.1667	Yes
ES-8	3.280	9.087	0.1575	Yes

The potential uncontrolled emissions from these sources are much less than the allowable and thus the sources are expected to be in compliance.

15A NCAC 2D .0516, Sulfur Dioxide Emissions from Combustion Sources - The six natural gas-fired ovens (ID Nos. ES-1 through ES-4, ES-7, and ES-8) are subject to 2D .0516. This regulation limits the emissions of sulfur dioxide (SO<sub>2</sub>) from any source of combustion that is discharged from any vent, stack, or chimney to not exceed 2.3 pounds of sulfur dioxide per million Btu input. Using AP-42 Table 1.4-2 (rev. 07/98), the sulfur dioxide emissions are estimated to be 0.0006 lb SO<sub>2</sub> per million Btu. As shown, natural gas is inherently low in sulfur and SO<sub>2</sub> emissions are expected to be in compliance with this rule.

15A NCAC 2D .0521, Control of Visible Emissions - The six natural gas-fired ovens (ID Nos. ES-1 through ES-4, ES-7, and ES-8) are subject to 2D .0521. This regulations states that visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period, except as specified in 15A NCAC 2D .0521(d). No visible emissions are expected from the combustion of natural gas. No monitoring, recordkeeping, or reporting is required when natural gas is fired in the ovens. Compliance is expected.

15A NCAC 2D .0958, Work Practices for Sources of VOC - This regulation is applicable facility-wide. This Rule applies to all facilities that use volatile organic compounds as solvents, carriers, material processing media, or industrial chemical reactants, or in other similar uses, or that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions. Compliance is anticipated.

15A NCAC 2D .1100, Control of Toxic Air Pollutants - The facility is subject for ammonia. See Section 7 for further discussion regarding air toxics.

15A NCAC 2D .1806, Control and Prohibition of Odorous Emissions - This regulation is applicable facility wide and is state-enforceable only. 2D .1806 requires Austin Quality Foods to provide for the control and prohibition of objectionable odorous emissions. This rule shall apply to all operations that may produce odorous emissions that can cause or contribute to objectionable odors beyond the facility's boundaries. No objectionable odors are expected from the baking process or from the firing of natural gas as direct heat from the ovens.

15A NCAC 2D .1111, Maximum Achievable Control Technology (MACT) - The 150 kW diesel-fired emergency generator (ID No. IS-EG1) is subject to the NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63 Subpart ZZZZ. More discussion is provided in Section 6.

15A NCAC 2Q .0317, Avoidance Conditions – Under this permit, Austin Quality Foods will accept the following avoidance conditions for the following regulations. More discussion regarding these avoidance conditions is presented in Section 6:

- 15A NCAC 2D .0530, Prevention of Significant Deterioration (PSD).
- 15A NCAC 2D .1111, Maximum Achievable Control Technology (MACT).

15A NCAC 2Q .0711, Emission Rates Requiring a Permit – The facility is subject to 2Q .0711 for acetaldehyde, and ethyl acetate. See Section 7 for further discussion regarding air toxics.

## **6. NSPS, NESHAPS/MACT, NSR/PSD, 112(r), CAM**

### NSPS

The Permittee is not currently subject to any New Source Performance Standards. This permit does not affect the status with respect to NSPS.

### NESHAPS/MACT

A prior permit review<sup>3</sup> for the modified Air Permit No. 06816R13 indicated that acetaldehyde emissions had the potential to exceed 10 tons per consecutive 12-month period. The permit review explained that Kellogg's had recently conducted emission testing at a sister facility in Kansas City and discovered that EPA emission factors underestimated the amount of VOCs released from yeast-leavened products. Acetaldehyde is emitted at about 3% of the total VOC from yeast-leavened products. The increase in VOC emissions and likewise in acetaldehyde emissions were due to the revised VOC emission factors, as well as, the addition of proofing room activities as an emission source. The permit review had indicated that Austin Quality Foods had accepted a permit condition to limit emissions of acetaldehyde to less than 10 tons per consecutive 12-month period for avoidance of becoming a Title III major facility. This avoidance condition is included in the current permit. No other HAP approaches the 10 tons per consecutive 12-month period limit and the combined HAP emissions are far lower than 25 tons per consecutive 12-month period. Therefore, only acetaldehyde needs to be limited in the permit.

Austin Quality Foods will continue to be required to track and calculate emissions of acetaldehyde monthly, as well as, report emissions to ensure that the avoidance limit is not exceeded. The facility must calculate acetaldehyde emissions according to the following equation:

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<sup>3</sup> Betty Gatano (07/30/2014).

$$HAP_t = \left[ \left( \sum_{y=1}^m HAP_y \right) + \left( \sum_{p=1}^n HAP_p \right) \right] \div 2000$$

Where:

HAP<sub>t</sub> = Total facility-wide acetaldehyde emissions (tons/month)  
 HAP<sub>y</sub> = acetaldehyde emissions from yeast-leavening (pounds/month)  
 HAP<sub>p</sub> = acetaldehyde emissions from proofing of dough (pounds/month)  
 m = Number of yeast-containing products  
 n = Number of products requiring proofing

*GACT Subpart ZZZZ*

The 150 kW diesel-fired emergency generator (ID No. IS-EG1) is subject to the “NESHAP for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63,” GACT Subpart ZZZZ. The engine is considered an existing source and is subject to work practices as described below.

- There are no limits on hours of operation for emergency service.
- Operate no more than 100 hours per year for maintenance and readiness testing.
- 50 hrs/yr allowed for non-emergencies (counts as part of the 100 hr/yr maintenance & testing limit).

Compliance Requirements

- Option 1: Change oil and filter every 500 hours of operation or annually. Inspect all hoses and belts every 500 hours of operation or annually and replace if necessary. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

OR

- Option 2: May use oil analysis program instead of prescribed oil change frequency in order to extend the specified oil change requirement.

**Must complete Option 1 or 2 above, AND:**

- Operate/maintain engine & control device per manufacturer’s instructions or owner-developed maintenance plan.
- Install a non-resettable hour meter on the engine and record hours of operation.
- Keep records of maintenance.
- Achieve compliance by May 3, 2013.
- *Notifications not required.*

The potential emissions from the generator are less than five tons per year of criteria pollutants. Based on the potential emissions, the generator is exempt from permitting per 2Q .0503(8).



### NSR/PSD

This facility is currently a minor source under Prevention of Significant Deterioration (PSD) and is located in Wake County, which is in attainment for ozone. As described above, the VOC emission factors have been revised based on emission testing and the updated factors were part of a prior permit modification for Air Permit No. 06816R13. As provided by the applicant, the current facility-wide potential VOC emissions based, in part, on the revised emission factors are 470 tons per year. The Permittee currently operates under a PSD avoidance limit of 250 tons of VOC per consecutive 12-month period. Austin Quality Foods must calculate VOC emissions monthly according to the following equation:

$$VOC_t = \left[ \left( \sum_{j=1}^m VOC_j \right) + \left( \sum_{k=1}^n VOCK \right) + \left( \sum_{s=1}^p VOC_s \right) + EVI \right] \div 2000$$

Where:

VOC<sub>t</sub> = Total facility-wide VOC emissions (tons/month)

VOC<sub>j</sub> = VOC content in flavor (%) \* Flavor Usage (pounds/month)

VOCK = VOC emission factor (lb/ton) \* tons of yeast-leavened product produced per month. VOC emissions from dough proofing are estimated to be 10 percent of the oven emissions.

VOC<sub>s</sub> = VOC content of cleaner/sanitizer (% by weight) \* pounds of product used (lb/month); may be determined based on purchase records.

EVI = Estimated VOC emissions (pounds/month) from the insignificant sources and from the combustion of fuel in ovens. 700 pounds/month is the default value. The Permittee may calculate new EVI values as needed. Documentation of the basis of each EVI value used over the term of the permit shall be recorded. Records documenting the basis of each EVI value used shall be retained on-site and available for Division review.

m = Number of VOC-containing flavors

n = Number of yeast-leavened products

p = Number of VOC-containing cleaners/sanitizers

The equation for VOC emissions will be modified to indicate VOC emissions from dough proofing are assumed to be 10 percent by weight of the oven emissions. For example, if the emission factor for the ovens is 4.0 lbs VOC/ton product, then the total emission factor (VOCK) would be 4.4 lbs VOC/ton.

The default EVI value will be updated from 500 to 700 pounds/month to account for the potential VOC emissions from the newly added insignificant sources. Specific recordkeeping and reporting requirements are included in the current permit. This permit does not affect this status.

### 112(r)

The facility is not subject to Section 112(r) because it does not store one or more of the regulated substances in quantities above the thresholds in the Rule. This permit does not affect the status with respect to 112(r).

### CAM

Austin Quality Foods has no add on control devices and, thus, is not subject to CAM.

## **7. Facility Wide Air Toxics**

Ammonia is emitted from the bakery products that use ammonium bicarbonate, a leavening agent (i.e., chemical-leavening) rather than yeast. The thermal decomposition of ammonium bicarbonate in product dough yields ammonia emissions. The facility previously triggered a toxics evaluation

because ammonia emissions from chemical-leavening were shown to be above the 2Q .0711 Toxic Permit Emission Rate (TPER) of 0.68 lb/hr for ammonia. The facility has conducted several dispersion modeling analyses over the years to demonstrate compliance with the NC air toxics for ammonia. The most recent analysis was conducted when the facility requested to increase the amount of ammonium bicarbonate used in its products in 2012. The results of the modeling analysis were approved in a September 24, 2012 memo from Mr. Tom Anderson, AQAB, and showed that with the increased ammonium bicarbonate usage, the facility was in compliance with NC air toxics at 94% of the 1-hour acceptable ambient level (AAL) for ammonia. With this current application, the facility has requested no increase in ammonia emissions beyond the previously demonstrated allowable rate. No changes to the limits are required under this permit.

Austin Quality Foods has also previously demonstrated that emissions from ethyl acetate (from the flavorings) and acetaldehyde are below their respective TPERs of 36 lb/hr and 6.8 lb/hr. As noted in Section 6 above, estimated acetaldehyde emissions had increased as shown in a prior permit review for the modified Air Permit No. 06816R13. Acetaldehyde emissions had remained below its TPER even after the increase. No changes to acetaldehyde emissions occur with this permit application and no further analysis is needed. No changes to the permit are required under this permit.

## 8. Facility Emissions Review

The potential facility-wide emissions for this permit are provided in the following table. The facility submitted an emission inventory of 2014 actual emissions and the pollutant totals are provided in the header to this permit review.

Pollutant	Oven Combustion Emissions (tpy)	Emergency Generator (tpy)	Flavorings (tpy)	Yeast-leavening (tpy)	Chemical-leavening (tpy)	Cleaning/Sanitizing (tpy)	Proofing Room Activities (tpy)	Facility-wide Emissions	
								Before Limits (tpy)	After Limits (tpy)
NO <sub>x</sub>	38.35	1.71	--	--	--	--	--	40.1	40.1
SO <sub>2</sub>	0.23	0.11	--	--	--	--	--	0.34	0.34
CO	32.21	0.37	--	--	--	--	--	32.6	32.6
PM	2.91	0.12	--	--	--	--	--	30.0	30.0
PM <sub>2.5</sub>	2.91	0.12	--	--	--	--	--	30.0	30.0
PM <sub>10</sub>	2.91	0.12	--	--	--	--	--	30.0	30.0
VOC	2.11	0.14	14.28	395.17		18.58	39.52	469.8	<250
<b>HAPS/TAPs</b>									
Acetaldehyde	--	0.0003	--	11.85	--	--	1.19	13.0	<10
All HAPs	0.72	0.0015	--	11.85	--	0.65	1.19	14.4	14.4
Ethyl Acetate (T)	--	--	1.61	--	--	--	--	1.6	1.6
Ammonia (T)	--	--	--	--	226.81	--	--	226.8	226.8
<b>Green House Gases</b>									
(GHG) CO <sub>2</sub> e	46,289	45.98	--	403.53	3,229.73	--	--	49,968	49,968
<b>Notes:</b>									
1. Oven combustion emissions were based on emission factors from AP-42, 5 <sup>th</sup> Edition, Tables 1.4-1 through 1.4-3 and with 8760 hours of operation per year.									
2. Emissions from emergency generator were based on emission factors from AP-42, 5 <sup>th</sup> Edition, Tables 3.3-1 and 3.3-2 and assuming 500 hours of operation.									

Pollutant	Oven Combustion Emissions (tpy)	Emergency Generator (tpy)	Flavorings (tpy)	Yeast-leavening (tpy)	Chemical-leavening (tpy)	Cleaning/Sanitizing (tpy)	Proofing Room Activities (tpy)	Facility-wide Emissions	
								Before Limits (tpy)	After Limits (tpy)
<p>3. PM emissions from two (2) wet cooling towers (26.96 tpy potential/actual) provided by applicant and originally provided in the facility's 2010 permit renewal.</p> <p>4. Potential emissions from flavoring were based on the maximum emitting product per line.</p> <p>5. Emissions from yeast-leavening were based on revised emissions factors (lb/ton of product) and maximum line capacity (ton of product/hr), with hours of operation at 8760 hours per year.</p> <p>6. Ammonia emissions from chemical-leavening were based on maximum ammonium bicarbonate usage rates (lb/hr) as allowed in the permit. Emissions of CO<sub>2</sub> based on the engineering design rates and the emission factors derived from chemical reactions of leavening agents.</p> <p>7. Potential emissions from cleaning and sanitizing operations were conservatively estimated as three times actual emissions.</p> <p>8. Emissions from proofing room activities were assumed to be 10 percent of yeast-leavening emissions.</p> <p>9. Potential GHG emissions from yeast-leavening only are 403.53 tpy, rather than the 4,058.5 tpy provided in Permit Application, Table 1. 4,058.5 tpy represents the total GHG emissions from both yeast and chemical leavening, as calculated by the Applicant. Instead, it should be noted that the potential GHG emissions from all dough leavening is 3,633 tpy. The discrepancy is explained in footnote 10.</p> <p>10. Potential GHG emissions from all dough leavening is 3,633 tpy rather than 4,058 tpy shown in Table 8 of the Permit Application. This is due to chemical-leavening emissions, which were inadvertently assigned to Oven 7 (ID No. ES-7), a yeast-leavening only emission source. In Table 8, the engineering design rate (EDR) of 7,480 lbs of product per hour was also inadvertently assigned to Oven 6 (ID No. ES-8) rather than 6,560 lbs/hr as reported throughout the Permit Application.</p>									

## 9. Compliance Status

DAQ has reviewed the compliance status of this facility. During the most recent inspection, conducted on July 15, 2015 by Mr. Stanley Williams of the Raleigh Regional Office (RRO), the facility appeared to be in compliance with all applicable requirements. In addition, a signed Title V Compliance Certification (Form E5) was included with the permit application and indicated that the facility was in compliance with all applicable requirements.

## 10. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 2Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. No affected programs are within 50 miles of the facility.

## 11. Other Regulatory Considerations

- A P.E. seal is NOT required for this application.
- A zoning consistency determination is NOT required for this application.

## 12. Comments and Recommendations

Mr. Mark Cuilla of RCO provided comments on the draft permit and permit review documents by email on November 20, 2015. Subsequently, the documents were updated with these revisions.

- Mr. Charles McEachern of the RRO replied by email on November 16, 2015 and had no comments.
- Mr. Matthew Page, Managing Consultant of Smith Aldridge, Inc. and the facility's consultant, provided the following comments during the public notice period and DAQ's Permitting Section responses follow:

1. Comment: Mr. Page requested that the reporting period frequency for the 2D .1100 Control of Air Pollutant Emissions requirement be changed from quarterly to semi-annually.

Response: The maximum ammonium bicarbonate usage reported in the facility's compliance reports indicate that the facility is consistently utilizing greater than 75 percent of their allowable limit. This indicates that quarterly reporting is the appropriate reporting frequency and no changes to the reporting frequency will be made.

2. Comment: Regarding 2D .0958 Work Practices For Sources of VOCs, Mr. Page asked if all of the listed work practices are applicable to the facility's aqueous cleaners and sanitizers. Mr. Page questioned the need for the listed practices which refer to cleaning coating equipment, vat containers and parts cleaners.

Response: The entire range of potential activities is listed in this requirement. Those specific activities conducted by the facility, which are applicable to 2D .0958 must adhere to these work practice requirements. No changes are needed.

3. Comment: Regarding the PSD Avoidance condition, Mr. Page requested that the default EVI value be changed from 500 to 520 pounds/month. This value is used in calculating monthly VOC emissions, which is part of the monitoring/recordkeeping requirements.

Response: The potential pounds per month of VOC emissions from oven combustion and the insignificant sources was re-evaluated by DAQ. Likewise, the default EVI value has been updated to 700 pounds/month of VOC based on the newly added insignificant sources.

The NC DAQ recommends the issuance of Air Permit No. 06816T15 to Austin Quality Foods, Inc.