(DRAFT) FIRST TIME TITLE V & MODIFICATION REVIEW

APPLICANT		SITE LOCATION		COUNTY
Allen Canning		Turkey		Sampson
CONTACT		PHONE		
Tommy Langston, Plant Manager		(910) 596-0028		
APPLICATION FOR:				Existing P/N
Reclassification				04298R08
APPL. NO.	REVIEWER	SIGNATURE		DATE
8200090.04B	Gautam Patnaik			November 2, 2004
RECOMMENDATION AND COMMENT				FEE CLASS
Issue Permit No. 04298T09				Title V

1. Introduction:

The U.S. Environmental Protection Agency (EPA) has given interim approval to North Carolina's Title V operating permits program effective on December 15, 1995. This EPA approval triggered the requirements for Title V facilities to submit permit applications to the Division of Air Quality (DAQ). Title V facilities are required to obtain an operating permit which addresses all applicable regulations under the State Implementation Plan, Federal Implementation Plan, and other provisions of the Clean Air Act (CAA). The Title V Operating Permit will define all of the facility's obligations under the CAA.

This 1st time Title V Air Permit and Modification Application Review intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to construct the DRAFT Title V operating permit. The primary source of information used to construct the DRAFT permit is the above referenced air permit application.

2. Background Information

The draft Title V operating permit will replace an existing Air Quality Construction and Operation Permit No 04298R08 which was issued on August 23, 2004 and expires on May 31, 2005.

Pursuant to 15A NCAC 2Q .0504 Allen Canning, submitted its initial Title V application to the DAQ on XXX xx, 2004. The application was considered complete for processing on XXX xx, 2004. The DRAFT permit is required to go to public notice pursuant to 15A NCAC 2Q .0521.

This facility already has a one No. 4/No. 5/No. 6/ Natural gas-fired boiler rated at 71 mmBtu per hour maximum heat input (ID No. ES-1). The modification will add another No. 2/ Natural gas-fired boiler rated at 67.2 mmBtu per hour maximum heat input (ID No. ES-2)

3. Facility Description

Allen Canning is a vegetable canning plant.

4. Statement of Compliance

This facility was earlier classified as a synthetic minor facility with limits. Pursuant to this requirement (2Q .0315) limits for the emissions of NOx and SO2 were limited to less than 100 tons per year. On May 11, 2004 was issued a NOV for exceeding their SO2 limits. The facility has since been reclassified as a title V facility with the emissions limit for the two pollutants removed. A PSD avoidance limit was then included for boiler ES-1 (permit No. 04298R08).

The DAQ has reviewed the compliance status of this facility. Based on its latest inspection done on 6/23/04, the facility was in compliance with applicable requirements.

5. Summary of Emission Sources and Control Devices

The following table identifies all emission sources and associated control devices for which the Initial Title V Operating Permit is being issued:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES1	One No. 4/No. 5/No. 6/ Natural gas-fired boiler rated at 71 mmBtu per hour maximum heat input	N/A	N/A
ES2	One No. 2/ Natural gas-fired boiler rated at 67.2 mmBtu per hour maximum heat input	N/A	N/A

6. Emission Source-by-Source Evaluation

A. One No. 4/No. 5/No. 6/ Natural gas-fired boiler rated at 71 mmBtu per hour maximum heat input (ID No. ES-1) and One No. 2/ Natural gas-fired boiler rated at 67.2 mmBtu per hour maximum heat input (ID No. ES-2)

1. Applicable Regulatory Requirements

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	0.36 pounds per million Btu heat input for boiler (ID No. ES-1) and 0.30 pounds per million Btu heat input for boiler (ID No. ES-2)	15A NCAC 2D .0503
sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
visible emissions	20 percent opacity for boiler (ID No. ES-1)	15A NCAC 2D .0521
sulfur dioxide visible emissions	fuel oil firing 1) 0.5 percent sulfur content fuel oil for boiler (ID No. ES-2) 2) 20 percent opacity for boiler (ID No. ES-1)	15A NCAC 2D .0524 (40 CFR Part 60 Subpart Dc)
sulfur dioxide	less than 250 tons from boilers ID No. ES-1 and ES-2	15A NCAC 2Q .0317

a. 2D .0503 Particulates From Fuel Burning Indirect Heat Exchangers

i. Regulatory Analysis

These sources are subject to this regulation; as per this regulation the emissions of particulate matter from these sources are listed below. Since, the actual emissions rate of particulate matter from these boilers are less then the allowable these sources will be in compliance.

Boiler	Boiler Rating MBtu/hr	Allowable emission rate of $PM^{(503)}$ - pounds per million Btu heat input	Allowable emission rate of $PM^{(503)}$ - lbs per hour	Actual emission rate of particulate matter – lbs per hour
ES-1	71	0.36	25.56	11.4[1]
ES-2	67.2	0.30	20.16	1.6[2]

(503) - As per 2D. 0503 regulations.

1 – emissions from boiler No. ES-1 while firing No. 6 fuel oil (as worst case scenario)

2 - emissions from boiler No. ES-2 while firing No. 2 fuel oil (as worst case scenario)

All emissions rate based on latest AP-42 factors.

ii. Monitoring/Recordkeeping/Reporting Requirements

There are no testing, monitoring, recordkeeping, and reporting requirements from the firing of natural gas, No. 2, No. 4, No. 5 and No. 6 fuel oil in these sources because the potential emissions of particulate matter will be less than the emission limit.

b. 2D .0516 Sulfur Dioxide Emissions from Combustion Sources

i. Regulatory Analysis

These boilers are sources of sulfur dioxide which discharge through a vent and therefore are subject to 2D .0516(a). Allowable emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. As per the table below the emissions for SO_2 from the boilers will be in compliance with this regulation.

Boiler	Boiler Rating MBtu/hr	Allowable emission rate of SO_2 (516) - pounds per hour	Actual emission SO_2 – pounds per hour	Actual emission rate of SO_2- Tons per year
ES-1	71	163.3	156[1]	683.53[3]
ES-2	67.2	154.5	34[2]	149.26[3]

(516) - As per 2D. 0516 regulations.

[1] – emissions from boiler No. ES-1 while firing No. 6 fuel oil with 2.1% sulfur content (as worst case scenario)

[2] - emissions from boiler No. ES-2 while firing No. 2 fuel oil with 0.5% sulfur content (as worst case scenario)

[3] – Actual emissions from the boiler per year with no operational limit (as worst case scenario)

All emissions rate based on latest AP-42 factors.

ii. Monitoring/Recordkeeping Requirements

There are no testing, monitoring, recordkeeping, and reporting requirements from the firing of natural gas and No. 2 fuel oil. Since these fuels are intrinsically low in sulfur content these standards can never be exceeded.

The sulfur content of any No. 4/5/6 fuel oil combusted at these sources shall not exceed 2.1 percent by weight. The applicant shall monitor the sulfur content of the No. 4/5/6 fuel oil by using fuel oil supplier certification.

iii. Reporting Requirements

The applicant shall submit a summary report of the fuel oil supplier certifications by January 30 and July 30 of each calendar year.

c. <u>2D .0521 Control of Visible Emissions</u>

i. Regulatory Analysis

As per the applicant “The Cleaver Brooks boiler in use at the Turkey plant was constructed on March 27, 1975.” (From the review of App # 8200090.04A). This boiler (ID No. ES-1) has a current opacity limit of 40%. Since the date of manufacture is after July 1, 1971 this boiler is now subject to 2D .0521(d). Per this regulation, visible emissions shall not be more than 20 percent opacity in the new

permit. The latest inspection report not did cite opacity exceedences for this source. The new boiler (ID No. ES-2) will also be subject to 2D .0521(d) with a 20% opacity.

ii. Monitoring Requirements

To assure compliance while firing any No. 4/5/6 fuel oil at the boiler (ES-1) the applicant shall observe once a day the emission points of this source for any visible emissions above normal.

iii. Recordkeeping/Reporting Requirements

None.

d. 2D .0524 NSPS 40 CFR PART 60 SUBPART Dc

i. Regulatory Analysis

As previously stated the current boiler ES-1 was constructed on March 27, 1975. Since the construction date is after June 9, 1989 this boiler has been exempt from this regulation.

The new boiler ES-2 which will be fired by No. 2 fuel oil and natural gas will have a boiler rating of 67.2 mBtu per hour maximum heat input. This new boiler will be subject to this regulation and as per this regulation the maximum sulfur content of any fuel oil received and burned in this boiler shall not exceed 0.5 percent by weight. As per this regulation this boiler is also subject to a 20% opacity limit.

ii. Monitoring Requirements

The applicant shall demonstrate compliance by fuel supplier certification.

iii. Recordkeeping Requirements

The applicant shall maintain records of the amounts of each fuel fired during each month.

vi. Reporting Requirements

The applicant shall provide a semi-annual summary report of the sulfur content of the distillate fuel oil fired.

e. 2Q .0317: PREVENTION OF SIGNIFICANT DETERIORATION (Avoidance)

i. Regulation Analysis

This facility is currently a minor source for PSD applicability. The current permit has limit on boiler ES-1 to limit the emission's of SO2 to less than 250 tons per year. As indicated in a table above the emissions from the new boiler ES-2 has the potential to emit 149.26 tons per year of SO2 with no operational limit. The applicant requested on 10/29/04 that both these boilers be capped with a emissions limit of less than 250 tons per year of SO2 emissions. Thus, in the new permit both the boilers are subject to an emissions limit of less than 250 tons per of SO2 emissions. This modification also results in the facility still being classified as a minor source facility for PSD purposes, for SO2 emissions. The plant manager of this facility also had a phone discussion with Donald vanderVaart, supervisor in the permits branch and stated that there is no mixing of the fuels.

ii. Monitoring and Recordkeeping Requirements

The applicant shall monthly record the amount of fuel used and the sulfur content, including certification of the fuel. The use of fuel in boilers shall be limited such that sulfur dioxide emissions shall not exceed 250 tons per year for both the boilers.

Calculations shall be made monthly as per the equation below:

$$X = Y \times 0.6 \frac{\text{lbs sulfur dioxide}}{\text{million cubic feet}} + Z \times \frac{N \text{ lbs sulfur dioxide}}{1000 \text{ gallon fuel oil}} \times S$$

Where: X is the total actual emissions of sulfur dioxide in pounds
Y is the total amount of natural gas used in the boilers in cubic feet
Z is the amount of fuel oil used in the boilers in gallons
S is the percent sulfur in the corresponding fuel oil
N is a variable (and it's value for different fuel oils are 142, 150, 157 and 157 for fuel oil No. 2, No. 4, No.5 and No.6 respectively)

iii. Reporting Requirements

The applicant shall submit a semi-annual summary report of monitoring and recordkeeping activities which shall include the monthly sulfur dioxide emissions for the previous 17 months, the monthly quantities of natural gas and fuel oil consumed for the previous 17 months; and the average sulfur content of the fuel oil.

B. General building ventilation (ID No. ES-3)

There are no applicable regulations for this source and it's not an exempted source under 15A NCAC 2Q .0503 (8) since the annual emissions of VOCs from this facility exceed 5 tons per year.

7. General Conditions

The "General Conditions" section of the Title V Operating Permit lists additional applicable rule requirements that the applicant must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, property rights, submission of documents, inspections and entry procedures, reopen for cause, severability, etc.

8. Insignificant Activities

The insignificant activities listed in this application have been reviewed and verified and are as listed below:

Source	Insignificant Regulation
Cooling Tower (ID No. T2)	15A NCAC 2Q .0503 (8)
Truck Unloading of Crops (ID No. U1)	15A NCAC 2Q .0503 (8)
Transfer of Crops into Building (ID No. U2) (New)	15A NCAC 2Q .0503 (8)
Wastewater handling and treatment operations (ID No. W1)	15A NCAC 2Q .0503 (8)

9. Increment Tracking

The addition of the new boiler ES2 will cause an additional increase of the emissions of PM, PM10, SO2 and NOx at a rate of 1.6, 0.5, 34 and 10.0 pounds per hour respectively. As per Donald vanderVaart Sampson County has been triggered and the emissions of SO2 and NOx are being tracked since the emission rate for these pollutants exceed 1.0 lbs per hour.

10. Public Notice

Pursuant to 15A NCAC 2Q. 0521, a notice of the draft Title V Operating Permit will be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30 day comment period, with an opportunity for a public hearing. Copies of the public notice will be sent to persons on the Title V mailing list, affected states and EPA.

11. Regional Office and the Applicant Comments

The Regional Office and the applicant will be given an opportunity to review the draft permit and review and their comments will be incorporated.

12. Recommendations

Allen Canning 1st time Title V and modification application has been reviewed by the DAQ to determine compliance with all procedures and requirements under 15A NCAC 2Q .0500 and 40 CFR Part 70. The DAQ has made a preliminary determination that the facility is complying or will achieve compliance as specified in the draft permit with all applicable requirements. Therefore, the DAQ is proposing to issue the Title V Operating Permit upon completion of the public comment period and the EPA review.