Statement of Basis

Title V Air Quality Permit Renewal
and
Air Quality Construction Permit

StarMark Cabinetry, Inc
Sioux Falls, South Dakota

South Dakota
Department of Environment and Natural Resources

TABLE OF CONTENTS

1.0 Background

On May 22, 1995, StarMark Cabinetry Inc. was issued a preconstruction permit under the Prevention of Significant Deterioration Program for a bathroom and kitchen cabinet manufacturing facility in Sioux Falls, South Dakota.

On August 20, 1997, StarMark Cabinetry was issued Title V air quality permit #28.4401-01 for its operations in Sioux Falls, South Dakota. On November 30, 1998, StarMark Cabinetry modified its Title V air quality permit by adding a new paint booth to line one. On March 21, 2002, the permit was transferred from StarMark to Norcraft Companies, LLC (StarMark).

On January 8, 2007, Pinnacle Engineering submitted an application, on StarMark's behalf, for a new dust collection system and installation of new woodworking equipment to update and automate the process. The installation of two new baghouses to replace the four existing baghouses was approved by the South Dakota Department of Environment and Natural Resources (DENR) – this replacement project was not completed by StarMark.

On May 13, 2013, DENR issued a minor amendment to the existing permit to replace the existing sander emitting to Unit #3's baghouse with a 2012 Viet wide belt sander that will emit to Unit #3's baghouse. On July 19, 2013, DENR issued a minor permit amendment to replace an existing Timesaver 313 wide belt sander with a Viet S3 333 wide belt sander associated with Unit #3.

On December 26, 2013, DENR issued an air quality construction permit to StarMark for the construction/installation of a 2013 Slipcon brush sander and wide belt sander. Emissions from the sanders are vented to the 1979 Torit baghouse associated with Unit #3. On January 27, 2014, StarMark notified DENR this unit was installed and operational

On December 19, 2011, DENR received an application to renew the Title V air quality operating permit. Permit condition 4.2 states if a timely and complete application for permit renewal is submitted six months prior to the date of expiration, then the existing permit shall not expire and the conditions of that permit shall remain in effect until the Secretary takes final action on the permit renewal application. DENR considered the renewal application timely and StarMark is allowed to operate under the Title V air quality operating permit that expired June 21, 2012, until DENR takes action on the renewal application.

There have been no complaints or violations filed against this facility since the last permit review The Standard Industrial Classification code for this facility is 2434.

1.1 Existing Equipment

Table 1-1 provides a description of the existing permitted equipment at StarMark's facility in Sioux Falls, as outlined in StarMark's July 19, 2013, Title V air quality operating permit.

Table 1-1 – Description of Permitted Units, Operations, and Processes

Unit	Description	Maximum Operating Rate	Control Device
Existing Equipment			
#1	Various powered hand tools and table mounted equipment	Not applicable	1988 Pneumafil baghouse with a flow rate of 30,000 cubic feet per minute. This baghouse may be replaced during the term of this permit.
#2	Various powered hand tools and table mounted equipment	Not applicable	1998 MAC baghouse with a flow rate of 30,000 cubic feet per minute. This baghouse may be replaced during the term of this permit.
#3	Various powered hand tools and table mounted equipment	Not applicable	1979 Torit baghouse with a flow rate of 13,400 cubic feet per minute. This baghouse may be replaced during the term of this permit.
#4	Fines collected from baghouse associated with Unit #l and wood waste grinder	Not applicable	1994 Torit baghouse with a flow rate of 1,200 cubic feet per minute. This baghouse may be replaced during the term of this permit.
#5	Walkthrough Line - Paint Arrestor (model # CPEF-16-8-T-LH) and JBI (model #IDB-167) spray booths.	Not applicable	Blanket style filter system
#6	Line One – Dynaprecipitor (model #CWE 10-8-T-LH), Paint Arrestor (model #CPEF 12-9-T-LH), No Pump (model #CNPB 12-10-T-LH), and Paint Arrestor (model # CPEF 16-7-T-LH) spray booths.	Not applicable	Blanket style filter system
#7	Line Two – Nopump (model #CNPB 10-8-T-LH), Paint Arrestor (model # CPEF 12-9-T-LH), Paint Arrestor (model #CPEF 12-9-T-LH), and Paint Arrestor (model #CPEF 16-7-T-LH) spray booths.	Not applicable	Blanket style filter system
#8	Line Three –Nopump (model #CNPB 12-8-T-LH), two Paint Arrestor (model #CPEF 12-9-T-LH), Paint Arrestor	Not applicable	Blanket style filter system

Unit	Description	Maximum Operating Rate	Control Device
	(model #CPEF 16-7-T-LH), and Dynaprecipitor (model #SP-CWE 16-8-T-LH) spray booths.		
#9	Walkthrough Line – Dynaprecipitor (model #CWE 10-8-T-LH) spray booth.	Not applicable	Blanket style filter system
New Equipment			
#10	During the term of this permit the equipment and processes associated with Unit #1, #2, #3, and #4 may be ducted to the baghouse associated with this Unit #10.	Not applicable	Donaldson baghouse with a flow rate of 68,200 cubic feet per minute. This baghouse may be installed during the term of this permit to replace the baghouse associated with Unit #1, #2, #3, and/or #4.
#11	During the term of this permit the equipment and processes associated with Unit #1, #2, #3, and #4 may be ducted to the baghouse associated with this Unit #11.	Not applicable	Donaldson baghouse with a flow rate of 68,200 cubic feet per minute. This baghouse may be installed during the term of this permit to replace the baghouse associated with Unit #1, #2, #3, and/or #4.

Table 1-2 provides a description of the equipment under air quality construction permit #28.4402-01-01C.

Table 1-2 – Description of Permitted Units, Operations, and Processes with Brush Sander

Unit	Description	Maximum Operating Rate	Control Device
#3	Various powered hand tools and table mounted equipment (i.e., wide belt sander and 2013 Slipcon brush sander)	13,400 cubic feet per minute	1979 Torit baghouse

1.2 Insignificant Activities

The following are insignificant activities that have been reported by StarMark in the application and or have been verified during inspections:

1. One natural gas fired Lennox furnace with a maximum heat input of 200,000 Btus per hour;
2. Five natural gas fired Reznor furnaces each with a combined maximum heat input of 1,425,000,000 Btus per hour;
3. Three natural gas fired Hastings furnaces, model #P-50-G, each with a maximum heat input of 625,000 Btus per hour;

4. Four natural gas fired Applied Air Systems make-up air units each with a maximum heat input of 1,925,000 Btus per hour each;
5. One natural gas fired Carrier furnace, with a maximum heat input of 180,000 Btus per hour;
6. Two Ruud/Rheem furnaces, each with a maximum heat input of 225,000 Btus per hour;
7. One natural gas fired Carrier furnace, model #48TJE004-501, with a maximum heat input of 115,000 Btus per hour;
8. One natural gas fired Carrier furnace, model #48KH-048-511CE, with a maximum heat input of 100,000 Btus per hour;
9. Four Maxon #408 ovens with a maximum heat input of 800,000 Btus per hour each;
10. One natural gas fired Hastings furnace equipped with two burners and a maximum heat input of 200,000 Btus per hour;
11. Two Weather King natural gas furnaces each with a maximum heat input of 90,000 Btus per hour;
12. Two Trane furnaces fired with natural gas each with a combined maximum heat input of 405,000 Btus per hour;
13. One Rheem/Rudd natural gas fired water heater with a maximum heat input of 156,000 Btu/hr.
14. One natural gas fired Lennox furnace, model #GCS9-413-90A-1G, with a maximum heat input of 90,000 Btus per hour;
15. Two natural gas fired Lennox furnaces, model #GCS9-413-120A-16, each with a maximum heat input of 120,000 Btus per hour;
16. One natural gas fired Lennox furnace, model #GCS16-413-50-3Y, with a maximum heat input of 50,000 Btus per hour; and
17. Two natural gas fired Lennox furnaces, model #GCS9-653-150A-5G, each with a maximum heat input of 150,000 Btus per hour.
18. One Weather-Rite natural gas fired air makeup unit, model TOT 218 VTL, with a maximum heat input of 1,728,000 Btus per hour.
19. Three Weather-Rite natural gas fired air makeup units each with a maximum heat input of 6,648,000 Btus per hour; and
20. 2002 Sternvent Dust Collector 7,200 cfm – 100% emitted indoors

In accordance with ARSD 74:36:05:04.01, these units are considered insignificant activities because each has a heat input not greater than 3.5 million Btus per hour and/or the units emit indoors (i.e., the air makeup units).

2.0 New Source Performance Standards

DENR reviewed the new source performance standards (NSPS) and determined that StarMark is not applicable to any NSPS at this time.

3.0 New Source Review

ARSD 74:36:10:01 states New Source Review (NSR) regulations apply to areas of the state which are designated as nonattainment pursuant to the Clean Air Act for any pollutant regulated under the Clean Air Act. StarMark is located in Sioux Falls, South Dakota, which is in attainment or unclassifiable for all the pollutants regulated under the Clean Air Act. Therefore, StarMark is not subject to NSR review.

4.0 Prevention of Significant Deterioration

A prevention of significant deterioration (PSD) review applies to new major stationary sources and major modifications to existing major stationary sources in areas designated as attainment under Section 107 of the Clean Air Act for any regulated air pollutant. The following is a list of regulated air pollutants under the PSD program:

1. Total suspended particulate (PM);
2. Particulate with a diameter less than or equal to 10 microns (PM10);
3. Particulate with a diameter less than or equal to 2.5 microns (PM2.5);
4. Sulfur dioxide (SO_2);
5. Nitrogen oxides (NOx);
6. Carbon monoxide (CO);
7. Ozone – measured as volatile organic compounds (VOCs);
8. Lead;
9. Fluorides
10. Sulfuric acid mist;
11. Hydrogen sulfide;
12. Reduced sulfur compounds;
13. Total reduced sulfur; and
14. Greenhouse gases (carbon dioxide, methane, nitrous oxide, etc.).

If the source is considered one of the 28 named PSD source categories listed in Section 169 of the federal Clean Air Act, the major source threshold is 100 tons per year of any regulated air pollutant, except for greenhouse gases. The major source threshold for all other sources is 250 tons per year of any regulated air pollutant, except for greenhouse gases. StarMark is not one of the 28 named PSD source categories; therefore, its PSD threshold is 250 tons per year, except for greenhouse gases.

According to the Clean Air Act, once a pollutant is regulated under any part of the Act, (as was the case with greenhouse gas emissions after the motor vehicle regulations were finalized in March 2010) major new sources or major modifications are subject to the PSD program and Title V air quality operating permit program. Under the Clean Air Act, PSD and Title V air quality operating permits are required for all sources that emit a regulated air pollutant above 100 or 250 tons per year, depending on the source. This threshold, if applied to greenhouse gases, would greatly increase the number of facilities requiring a PSD review or Title V air quality

operating permit. Based on administrative necessity, EPA increased these thresholds through the "Tailoring Rule."

On May 13, 2010, EPA issued the final version of the "Tailoring Rule" for greenhouse gas emissions. The major source threshold for greenhouse gases is listed below:

1. New PSD source because of a criteria air pollutant, the major source threshold for greenhouse gases is 75,000 tons per year of carbon dioxide equivalent or more;
2. New PSD source if greenhouse gas emissions are 100,000 tons per year of carbon dioxide equivalent or more;
3. For an existing PSD source because of a criteria air pollutant, a major modification for greenhouse gases is an increase of 75,000 tons per year of carbon dioxide equivalent or more;
4. For an existing non-PSD source that has the potential to emit 100,000 tons per year of carbon dioxide equivalent emissions or more, a major modification for greenhouse gases is an increase of 75,000 tons per year of carbon dioxide equivalent or more; and
5. In addition to subsection (2) and (4), a specific greenhouse gas, without calculating the carbon dioxide equivalent, also needs to emit greater than 100 or 250 tons per year, whichever is applicable, to be regulated.

4.1 Potential Emissions

DENR uses stack test results to determine air emissions whenever stack test data is available from the source or a similar source. When stack test results are not available, DENR relies on manufacturing data, material balance, EPA's Compilation of Air Pollutant Emission Factors (AP-42, Fifth Edition, Volume 1) document, the applicant's application, or other methods to determine potential air emissions.

Annual potential emissions for each applicable pollutant are calculated from the maximum design capacity listed in the application, assuming the unit operates every hour of every day of the year or 8,760 hours per year.

4.1.1 Spray Booths

The emission factors for the spray booths were derived from the material safety data sheets for the products used in the spray booths. The potential emission rate is estimated from the amount of paint and solvent used in the spray booths and the amount of time the booths are operated. StarMark identified in the permit application that spray booth Units #5, #8 and #9 operate 16 hours per day and 250 days per year (4,000 hours per year). StarMark identified in the permit application that spray booth Units #6 and #7 operate 8 hours per day and 250 days per year (2,000 hours per year).

Although, the spray booths operating 16 hours per day have a smaller multiplying factor; the facility did not distinguish emissions from each spray booth in the actual emissions in the application. Therefore, the higher multiplying factor for potential emissions for the spray booths will be calculated by multiplying the actual emissions by the ratio in Equation 4-1.

Equation 4-1 – Spray Booth Multiplying Factor

$$\frac{8{,}760 \text{ potential operating hours/year}}{2{,}000 \text{ actual operating hours/year}} = 4.38$$

Potential uncontrolled emissions are those that would occur with no emission controls. Dry filter media are used to control particulate matter; however, the filters do not control volatile organic compounds (VOCs). Table 4-1 provides a summary of the potential emissions from the spray booths.

Table 4-1 – Spray Booth Potential Emissions (tons per year)

Pollutant	Actual Emissions [1]	Potential Emissions
Total VOCs	**210.85**	**923.52**

[1] - The actual emissions were provided in the application submitted on December 19, 2011 based upon the 2010 calendar year actual VOC emissions.

4.1.2 Particulate Emissions

DENR used the potential particulate emissions for the four existing baghouses as calculated in the June 21, 2007 permit review and based on a particulate emission rate of 0.02 grains per standard cubic feet. The potential particulate emissions are shown in Table 4-2.

Table 4-2 –Potential Particulate Matter Emissions – Woodworking

Unit	Flow Rate (cubic feet per minute)	Potential Uncontrolled (tons per year)	Potential Controlled (tons per year)
#1	30,000	2,250	22.5
#2	30,000	2,250	22.5
#3	13,400	1,010	10.1
#4	1,200	90	0.9
Total	**74,600**	**5,600**	**56**

In the existing permit, StarMark had the option of replacing the four existing baghouses, Units #1-#4, during the term of the permit with two new baghouses, Units #10 and #11. This was included in the Title V air quality operating permit because at that time, DENR did not have an air quality construction permit program. StarMark indicated it wanted the option to still conduct this project and will still accept a short term particulate matter emission limit of 0.01 grains per dry standard cubic foot. Therefore, DENR will need to evaluate the installation of Unit #10 and #11 and draft an air quality construction permit.

The manufacturer's emission guarantee for each new baghouse is 0.01 grains per dry standard cubic feet and the flow rate through each baghouse is 68,200 actual cubic feet per minute. DENR assumes the particulate emissions from the baghouse are less than 1.0 microns in diameter, therefore, total suspended particulate, particulate 10 microns in diameter (PM10), and particulate 2.5 microns in diameter (PM2.5) are equal. DENR used Equation 4-2 to determine the potential emissions from Units #10 and #11 assuming the baghouses operate at ambient conditions and the standard conditions will have minimal impact on the flow rate. Based on Equation 4-2, the

potential particulate matter emissions from each baghouse is 25.6 tons per year or 51.2 tons per year combined. A comparison of the potential emissions from these units compared to the significant thresholds under the PSD program is displayed in Table 4-3.

Equation 4-2 – Potential Emissions (PE) – Woodworking

$$PE = 0.01\frac{gr}{dscf} \times 68{,}200\frac{dscf}{minute} \times 60\frac{minutes}{hr} \times 8{,}760\frac{hrs}{year} \div 7{,}000\frac{gr}{lb} \div 2{,}000\frac{lbs}{ton}$$

Table 4-3 Potential versus Significant Threshold – Units #10 and #11

Particulate	Potential Emissions (tons per year)	Significant Threshold (tons per year)	Subject to PSD
TSP	51.2	25	Yes
PM10	51.2	15	Yes
PM2.5	51.2	10	Yes

The next step to determine if PSD is applicable is to subtract out the actual emissions from Units #1 through #4 which will be replaced by Unit #10 and #11. The average actual particulate emission from these units for calendar year 2012 and 2013 is 26.6 tons per year. Table 4-4 compares the difference to determine if the significant threshold will be exceeded.

Table 4-4 Potential/Actual versus Significant Threshold – Units #10 and #11

Particulate	Potential	Actual	Difference	Significant Threshold	Subject to PSD
TSP	51.2	26.6	25	25	Yes
PM10	51.2	26.6	25	15	Yes
PM2.5	51.2	26.6	25	10	Yes

The next step is to project potential emissions. Based on 2012 and 2013, Units #1 through #4 were operated, on average, 4,166 hours per year. Substituting 4,166 for 8,760 hours per year in Equation 4-2; results in a potential emission of 12.2 tons per year per unit. Table 4-5 compares the difference of projected actuals minus actual to determine if the significant threshold will be exceeded.

Table 4-5 Projected Actuals/Actual versus Significant Threshold – Units #10 and #11

Particulate	Potential	Actual	Difference	Significant Threshold	Subject to PSD
TSP	24.4	26.6	(2)	25	No
PM10	24.4	26.6	(2)	15	No
PM2.5	24.4	26.6	(2)	10	No

DENR will continue to limit the particulate emissions from Unit #10 and #11 to 0.01 grains per dry standard cubic foot. StarMark will be required to conduct a performance test on each unit to demonstrate compliance with this emission limit. Both units will need to be tested even though the baghouses are the same because each has different operations being controlled by the baghouses. StarMark tracks the number of hours it operates the baghouses to determine particulate emissions for air quality fees. Therefore, DENR will require StarMark to track the

number of hours each operates as a permit condition and calculate potential emissions based on the number of hours and stack test results.

4.1.3 Potential to Emit for Greenhouse Gases

Starmark's application listed the natural gas fired units that are considered insignificant due to either the heat input or the unit emits indoors. The total heat input for the various units totaled up to 38.6 million Btus per hour. Equation 4-3 is used to calculate the potential amount of natural gas combusted during the year. DENR assumed natural gas has a heat value of 1,000 million Btus per million cubic feet.

Equation 4-3– Projected natural gas use

$$Projected\ \left(\frac{million\ cubic\ feet}{year}\right) = \frac{38.6\left(\frac{million\ Btus}{hour}\right) x\ 8{,}760\left(\frac{hours}{year}\right)}{1{,}000\left(\frac{million\ Btus}{million\ cubic\ feet}\right)}$$

The greenhouse gas emission factors for firing the units with natural gas are from AP-42, Table 1.4-2, July 1998 and are listed below:

1. Carbon dioxide = 120,000 pounds per million cubic feet;
2. Nitrous oxide 2.2 pounds per million cubic feet;
3. Methane = 2.3 pounds per million cubic feet.

Equation 4-4, the appropriate emission factors, and projected fuel use were used to determine the potential greenhouse gas emissions. In the case of the greenhouse gases, the result of Equation 4-3 needs to be multiplied by 1, 310, and 21 for carbon dioxide, nitrous oxide, and methane, respectively, to convert the results to carbon dioxide equivalent. The potential emissions for the greenhouse gases are summarized in Table 4-3.

Equation 4-4 – Potential Greenhouse Gases

$$Potential\ \left(\frac{tons}{year}\right) = \frac{338\left(\frac{million\ cubic\ feet}{year}\right) x\ emission\ factor\left(\frac{pounds}{million\ cubic\ feet}\right)}{2{,}000\ \left(\frac{pounds}{ton}\right)}$$

Table 4-3: Greenhouse Gas Potential Emissions (tons per year)

Description	Total Capacity (MMBtus/hr)	Carbon Dioxide (tons/year)	Nitrous Oxide (tons/year)	Methane (tons/year)	Carbon Dioxide Equivalent (tons/year)
Air Make Up Units - 8	29.4				
Furnaces – 25	5.8				
Ovens - 4	3.2				
Other - 1	0.16				
Total - 38	38.6	20,280	115	8	20,403

4.2 PSD Summary

StarMark was originally constructed in 1978 with the potential to emit less than 250 tons per year of particulate matter and volatile organic compound emissions. In 1984, StarMark expanded its facility. The expansion's potential to emit was less than 250 tons per year within itself. Therefore, the expansion was a minor modification to a minor source. However, StarMark's potential to emit VOC emissions was then greater than 250 tons per year; therefore, StarMark was and is considered a major source under this program.

In 1995, StarMark again expanded its facility and was issued a PSD permit on May 22, 1995. The PSD permit established Best Available Control Technology (BACT) limits for VOC emissions which will be carried forward into the Title V air quality operating permit. The state's particulate limit was also included in the PSD permit but was incorrectly included and calculated according to the statement of basis developed for the Title V air quality operating permit issued June 21, 2007. Therefore, the particulate limit in the PSD permit will not be included in this renewal process.

StarMark will generate approximately 20,403 tons of greenhouse gases as carbon dioxide equivalent per year. In addition, there are negligible amounts of greenhouse gases produced during the spray painting and metalizing processes. Therefore, StarMark does not have the potential greenhouse gas emissions greater than 100,000 tons per year.

During the initial review of the two replacement baghouses, it was determined that StarMark would need to accept a particulate matter 10 microns in diameter or less (PM10) emission limit of 0.01 grains per dry standard cubic foot to avoid a PSD review. Therefore, this limit will be carried over into the air quality construction permit. This emission limit will include particulate matter 2.5 microns in diameter or less (PM2.5).

5.0 National Emissions Standards for Hazardous Air Pollutants (PART 61)

Presently, there are no finalized or promulgated National Emissions Standards for Hazardous Air Pollutants (NESHAP) standards applicable to this type of operation

6.0 Maximum Achievable Control Technology Standards (PART 63)

6.1 Potential HAP Emissions

The federal Maximum Achievable Control Technology Standards are applicable to both major and area sources of hazardous air pollutants. A major source of hazardous air pollutants is defined as having the potential to emit 10 tons or more per year of a single hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants. An area source is a source that is not a major source of hazardous air pollutants.

The emission factors for the spray booths were derived from the material safety data sheets for the products used in the spray booths. The potential emission rate is estimated from the amount

of paint and solvent used in the spray booths and the amount of time the booths are operated. In section 4.1.1, DENR determined the multiplying factor for the spray booth operations is 4.38. Therefore, the potential emissions for the spray booths will be calculated by multiplying the actual emissions submitted in the application by 4.38. DENR used the 2013 semi-annual reports submitted by StarMark to determine actual hazardous air pollutant emissions.

Potential uncontrolled emissions are those that would occur with no emission controls. Dry filter media are used to control particulate matter; however, the filters do not control hazardous air pollutant emissions. Table 6-1 provides a summary of the potential emissions from the spray booths.

Table 6-1 – Spray Booth Potential Hazardous Air Pollutant Emissions (tons per year)

Pollutant	Actual emissions [1]	Potential emissions
Total HAPs	**48.59**	**213**

[1]- The actual emissions were provided in the semiannual reports submitted July 22, 2013 and January 29, 2014 – actual emissions was based on the HAP 12-month rolling total ending December 2013.

Based on Table 6-1, StarMark is considered a major source of hazardous air pollutants. DENR reviewed the maximum achievable control technology (MACT) standards and determined the following standards may be applicable.

6.2 40 CFR Part 63, Subpart JJ

The national emission standards for wood furniture manufacturing operations applies to each facility that is engaged, either in part or in whole, in the manufacture of wood furniture or wood furniture components and is located at a plant site that is a major source for hazardous air pollutants under the Title V air quality operating permit program. The major source threshold under the Maximum Achievable Control Technology (MACT) standards is the potential to emit greater than 10 tons per year from a single hazardous air pollutant or 25 tons per year from a combination of hazardous air pollutants. StarMark's potential emissions are greater than the major source threshold under the MACT standards and is considered an existing affected source. Therefore, the facility is applicable to 40 CFR Part 63, Subpart JJ.

On November 21, 2011, EPA proposed amendments to Subpart JJ, effective November 21, 2014. As of the effective date, facilities would be required to meet formaldehyde emission limits by:

1. Limiting total formaldehyde use in coatings and contact adhesives to no more than 400 pounds per rolling 12-month period; or
2. Use coatings and contact adhesives only if they are low formaldehyde coatings and adhesives, in any wood furniture manufacturing operations. Low formaldehyde means, formaldehyde concentration of less than or equal to 1.0 percent formaldehyde by weight, as described in a certified product data sheet for the material; or

StarMark has requested the option to track formaldehyde emissions via using coatings and contact adhesives with less than 1.0 percent formaldehyde be included in the permit renewal prior to the November 2014 effective date.

6.3 Other MACT Standards

DENR reviewed the other Maximum Achievable Control Technology Standards and determined there are no other standards applicable to StarMark.

7.0 State Requirements

Any source operating in South Dakota that meets the requirements of the Administrative Rules of South Dakota (ARSD) 74:36:05:03 is required to obtain a Title V air quality operating permit. StarMark's potential HAP emissions are greater than 25 tons per year of a combination of HAPs. In addition, StarMark must comply with federal MACT standards. A source that has the potential to emit greater than the major source threshold under the Title V air quality operating permit program or is required to comply with a federal MACT standard must obtain a Title V air quality operating permit.

7.1 State Particulate and Sulfur Dioxide Emission Limits

Particulate and sulfur dioxide emission limits are derived from ARSD 74:36:06. These emission limits apply to an emission unit (i.e., fuel-burning or process unit) and not fugitive emissions

Administrative Rules of South Dakota (ARSD) 74:36:06:01 notes that if a stationary source is applicable to a New Source Performance Standard (ARSD 74:36:07), Maximum Available Control Technology Standard (ARSD 74:36:08), Prevention of Significant Deterioration (PSD) standard (ARSD 74:36:09), or a Non-Attainment New Source Review Standard (ARSD 74:36:10) that has a particulate and/or sulfur dioxide emission limit, the state's particulate matter and/or sulfur dioxide limit does not apply.

StarMark's existing Title V air quality operating permit contains a permit condition restricting the emissions from Units #1 through #4's baghouses to 0.01 grains per dry standard cubic feet which is more stringent than the state's particulate matter emission limit. Therefore, DENR will maintain the limit of 0.01 grains per dry standard cubic feet in the air quality permit.

The equipment that would be subject to a sulfur dioxide limit are considered exempt from permitting requirements based upon being classified as insignificant activities. Therefore, the state's sulfur dioxide emission limits do not apply.

Visible emissions are applicable to any unit that discharges to the ambient air. In accordance with ARSD 74:36:12, a facility may not discharge into the ambient air more than 20 percent opacity for all units. StarMark must control the opacity at less than 20 percent for the all units.

7.2 Performance Testing

StarMark is required to maintain records on the amount of volatile organic compounds emitted. DENR will require StarMark to stack test Units #10 and #11, the new baghouses, once they are installed to ensure compliance with the short term limit of 0.01 grains per dry standard cubic

feet. The testing requirements in the MACT standards are sufficient for determining compliance with limits in the MACT standards.

7.3 Compliance Assurance Monitoring

Compliance assurance monitoring is applicable to permit applications received on or after April 20, 1998, from major sources applying for a Title V air quality operating permit. StarMark's application was received after April 20, 1998. Therefore, compliance assurance monitoring is applicable to any unit that meets the following criteria:

1. The unit is subject to an emission limit or standard for the applicable regulated air pollutant;
2. The unit uses a control device to achieve compliance with any such emission limit or standard; and
3. The unit has potential uncontrolled emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

The baghouses are used to control particulate matter emissions from various processes. The potential uncontrolled emissions are greater than the major source threshold under the Title V air quality operating permit program for Units #1, #2, #3, #4, #10, and #11 and the baghouses are used to maintain compliance with particulate matter emission limits. Therefore, Units #1, #2, #3, #4, #10, and #11 are subject to compliance assurance monitoring. Compliance assurance monitoring will consist of initial stack performance tests on Units #10 and #11, pressure drop readings across the baghouses, and periodic visible emission readings. The frequency of performing visible emission readings will depend on the results of the visible emission reading.

StarMark is considered a major source of hazardous air pollutant emissions (See Table 6-1). However, none of the permitted units emitting hazardous air pollutants are (1) subject to an emission limit or (2) use control equipment to achieve compliance with an emission limit or standard. StarMark is subject to annual reporting requirements for volatile organic compounds and hazardous air pollutants. StarMark is subject to federal MACT, Subpart JJ, requirements that require them to report any exceedances of de minimis emissions of specified hazardous air pollutants. Therefore, StarMark is not subject to compliance assurance monitoring for hazardous air pollutants.

7.4 Periodic Monitoring

Periodic monitoring is required for each emission unit that is subject to an applicable requirement at a source subject to Title V of the Federal Clean Air Act. Units that are subject to opacity limits are typically based on periodic visible emission readings. However, in the case of painting operations, historical opacity readings indicate that periodic visible emission readings are not required.

The recordkeeping and monitoring requirements in the MACT standards are sufficient for periodic monitoring related to the MACT standards.

7.5 Air Fees

Title V sources are subject to an annual air quality fee. StarMark is a major source under the Title V air quality operating permit program; therefore, they are required to pay an annual air quality fee.

8.0 Recommendation

StarMark is a major source for hazardous air pollutants and is subject to a MACT standard. Therefore, StarMark will be required to operate within the requirements stipulated in the following regulations:

1. ARSD 74:36:05 – Operating Permits for Part 70 Sources;
2. ARSD 74:36:08 – National Emission Standards for Hazardous Air Pollutants
3. ARSD 74:36:11 – Performance Testing
4. ARSD 74:36:12 – Control of Visible Emissions; and
5. ARSD 74:37:01 – Air Emission Fees.

Based on the information submitted in the air quality permit application, DENR recommends that StarMark's existing Title V air quality operating permit be renewed. In addition, DENR recommends StarMark be issued an air quality construction permit for Unit #10 and #11. Any questions on this review should be directed to Keith Gestring, Engineer II, Department of Environment and Natural Resources.