

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

ENGINEERING DIVISION

**APPLICATION PROCESSING AND CALCULATIONS**

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**Equipment Location**

Kimberly-Clark Worlwide Inc.  
2001 E. Orangethorpe Ave.  
Fullerton, CA. 92831

**Title V revision:**

Application no. 542996

**PERMIT TO CONSTRUCT****Equipment Description**

PROCESS 1: TISSUE AND TOWEL MFG.					
System 3: STARCH MIXING					
Equipment	Device ID	Connected To	Source Type/ Monitoring Unit	Emissions	Equipment Specific Conditions
MIXER, TANK C, HEIGHT 2FT 4IN; DIAMETER: 2FT  Reference A/N 173644	D-20			PM:(9)[RULE 405, 2-7-1986]	D323.2
MIXER, STARCH MAKE DOWN TANK, 940 GALLON CAPACITY, A 12 INCH VENT PIPE, WITH WATER SPRAY, DRAIN SYSTEM COMPONENT WITH WATER SEAL.  Reference A/N 544504  COOKER, STARCH, STEAM HEATED  TANK, THINNED STARCH	D-105			PM:(9)[RULE 405, 2-7-1986]	D381.2, C1.5

**RECOMMENDATION**

Permit to construct is recommended for application No. 544504 subject to the following conditions:

**Conditions:**

D381.2The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment

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whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a quarterly basis, at least, unless the equipment did not operate during the entire quarterly period. The routine quarterly inspection shall be conducted while the equipment is in operation and during daylight hours. If any visible emissions (not including condensed water vapor) are detected, the operator shall take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit.

The operator shall keep the records in accordance with the recordkeeping requirements in Section K of this permit and the following records:

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions; and
- 3). Date and time visible emission was abated.

C1.5 The operator shall limit the material processed to more than 1.0 batch(es) in any one day.

The operator shall maintain records in a manner approved by the District to demonstrate compliance with this condition.

**Background**

Application 544504 was submitted to the District on 11/13/12 as a new construction of a starch mixing tank(D105) which will replace an existing smaller mixer under device D20. The current needs of the facility requires Kimberly Clark to make starch batches daily. With the installation of this new mixer, starch batches will only have to made every other day.

Kimberly-Clark received a Notices to Comply on 11/06/12 to apply proper Missing Data Procedures(MDP) for NOx Major sources; report accurate fuel usages of Process Units and report accurate Quarterly Certified Emissions Reports(QCER) for NOx emissions. Following the 11/19/2012 inspection, the facility was found to be compliance with all District Rule and Regulations. There are no other NOV's or Complaints issued against this facility for the past two years as of 12/22/12.

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**Process Description:**

This process is used to make the starch binder which holds the tissue fibers together. The new tank will be loaded by a starch super sack which is set on top of the mixer. The sack seals the top of the mixer and has a funnel-like nozzle at the bottom neck. The sack nozzle is opened by a pull of a string keeping the nozzle shut. The mixing process is accomplished in 15 minutes.

A twelve inch line vents the mixer. Water nozzles spray water into the vent line to knock down any fugitive starch dust generated during the filling of the mixer. The vent line is directly connected to the facility's waste water system and is not vented to the atmosphere. The starch slurry make down tank has a closed vent pipe to direct any potential fugitive particulates from the tank into the process water u-drain (similar to a "P" trap) which drains into the water treatment plant. Any fugitive particulate that may be generated during the starch transfer will be knocked down and drained into the wastewater.

The starch/water slurry mixture is drawn from the slurry make down tank by a cavity pump into the inline pipe starch cooker. The mixture is cooked by the injection of steam. No supplemental heat is added. The cooked starch is further diluted with water to make a thinner consistency. The thinned starch is placed in the existing thinned starch tank.

**Emission Calculation**

Operating schedule

1 hrs/day, 3 days/week, 52 weeks/year.

4,000 lbs starch per batch

Emission factor for mixer loading cement used – 0.572 lbs/ton

$$R1 = 4,000 \text{ lbs/batch} / (2,000 \text{ lbs/ton}) (0.572 \text{ lbs PM/ton})$$

$$= 1.14 \text{ lbs PM/batch}$$

One hour per batch, One batch per day;

$$R1 = 1.14 \text{ lbs PM/hr} = 1.14 \text{ lbs PM/day}$$

Assume 90% internal control for water spray

$$R2 = 1.14 \text{ lbs PM/day} (1 - 0.9) = 0.114 \text{ lbs PM/day}$$
**Risk Assessment:**

The material used to make up the starch batches is a food grade starch and has no toxic health effects.

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**APPLICATION PROCESSING AND CALCULATIONS****Rule Evaluation:**

The above equipment can be expected to operate in compliance with all applicable Rules and Regulations of the South Coast Air Quality Management District.

Specific compliance with the following rules is also anticipated.

Rule 212: The modification to this equipment will not constitute a significant project in that there is not an emission increase, nor will the MICR be than one in a million. Compliance with rule is expected. No public notice is required.

Rule 401: Compliance with this rule is expected.

Rule 402: Compliance with this rule is expected.

REG XIII: New Source Review.

1303(a) BACT: This modification will not result in a PM emission increase which will trigger BACT since the PM emission will not exceed 1.0 lb PM per day with the internal water spray.

1303(b) States that a new permit unit must meet each of the four requirements if there is an emission increase.

1) Modeling:

The preliminary screening analysis require the emissions to be less than 0.41lbs/hr PM10 for non-combustion sources. The estimated emissions are 0.114 lbs/hr PM. No modeling is required for ROG or SOx. Compliance with the modeling requirements is expected.

2) Emission Offsets:

Offsets are required for emissions in excess of 0.49 lbs/day. No offsets are required since the PM emissions are 0.114 lbs PM/day.

3) Facility Compliance:

This facility is in compliance with all District Rules and Regulations.

4) Major Polluting Facilities:

This change is not a major modification to a major polluting facility.

REG. XIV: No toxic emissions are emitted by this operation. Compliance with this rule is expected.

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REG. XX: The addition of the new mixer will not cause a NO<sub>x</sub> emission. REG 20 will not be triggered. Compliance with this regulation is expected.

REG. XXX

The proposed project is considered as a “de minimis significant permit revision” to the Title V permit renewed to this facility on October 6, 2009. Rule 3000(b)(6) defines a “de minimis significant permit revision” as any Title V permit revision where the cumulative emission increases on non-RECLAIM pollutants or hazardous air pollutants (HAP) from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

<b>Air Contaminant</b>	<b>Daily Maximum (lbs/day)</b>
HAP	30
VOC	30
NO <sub>x</sub>	40
PM <sub>10</sub>	30
Sox	60
CO	220

To determine if a project is considered as a “de minimis significant permit revision” for non-RECLAIM pollutants or HAPs, emission increases for non-RECLAIM pollutants or HAPs resulting from all permit revisions that are made after the issuance of the Title V renewal permit shall be accumulated and compared to the above threshold levels. This proposed project is the 4<sup>th</sup> permit revision to the Title V renewal permit issued to this facility on October 6, 2009. The following table summarizes the cumulative emission increases resulting from all permit revisions since the Title V renewal permit was issued:

<b>Revision</b>	<b>HAP</b>	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>Sox</b>	<b>CO</b>
Revisions Total	0	0	1	0	0	-7
Revision # 4 Application No. 544504 to install a new mixer to replace the current mixer under device D20.	0	0	0	0	0	0

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Revisions Cumulative	0	0	1	0	0	-7
Maximum Daily	30	30	40	30	60	22 0

\* RECLAIM pollutant, not subject to emission accumulation requirements

Since the cumulative emission increases resulting from all permit revisions are not greater than any of the emission threshold levels, this proposed project is considered as a “de minimis significant permit revision” for non-RECLAIM pollutants or HAPs and a “minor permit revision” for RECLAIM pollutants.

RECOMMENDATION

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “de minimis significant permit revision”, it is exempt from the public participation requirements under Rule 3006 (b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not raise any objections within the review period, a revised Title V permit will be issued to this facility.