APPLICANT'S NAME: M. C. GILL CORPORATION (ID 13011)

MAILING ADDRESS: 4076 EASY STREET
EL MONTE, CA 91731

EQUIPMENT LOCATION: SAME AS ABOVE

EQUIPMENT DESCRIPTION:

Application no. 542464:

TITLE V PERMIT REVISION, DE MINIMIS SIGNIFICANT

Application no. 547539 (PO), Change of Conditions to RTO #6 (C47) operating under A/N 524463:

Section H

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
Process 2: DIP TANK IMPREGNATING OPERATION					
System 3: PREPREGGER #1, PREPREGGER #3					
AFTERBURNER, HOT ROCK, #6, ADWEST, MODEL NO. RETOX 9.0, RTO 95, 10 FT W. X 22 FT 10 IN L. X 8 FT H., NATURAL GAS, WITH 2 CERAMIC BEDS, A 7.5 HP COMB. AIR FAN, A 50 HP EXHAUST FAN & NAT GAS INJEC, 2.5 MMBTU/HR A/N 547539 Permit to Construct Issued: 0x/xx/13	C47	D16 D17 D20 D21 D22 D56 D57		**CO:** 2000 PPMV NATURAL GAS (5) [**RULE 407,4-2-1982]; NOX:** 60 PPMV NATURAL GAS (5) [RULE 1147, 9-9-2011]; PM: (9) [**RULE 405, 2-7-1986**]; **PM:** 0.1 GRAINS/SCF NATURAL GAS (5) [**RULE 409, 8-7-1981**];	A63.8, A72.3, B59.1, C1.6, D182.1, E193.3, H23.5

Application no. 547540 (PC), Change of Conditions to RTO #7 (C48) operating under A/N 527421:

Section H

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
Process 2: DIP TANK IMPREGNATING OPERATION					
System 2: PREPREGGER #1, NOMEX OVEN					
AFTERBURNER, HOT ROCK, #7, ADWEST, MODEL NO. RETOX 6.0, RTO 95, 11 FT 8 IN W. X 19 FT 2 IN L. X 8 FT 11 IN H., NATURAL GAS, WITH 2 CERAMIC BEDS, 3 HP COMBUSTION AIR BLOWER, AND 40 HP EXHAUST FAN, 2.5 MMBTU/HR A/N 547540	C48			**CO:** 2000 PPMV NATURAL GAS (5) [**RULE 407,4-2-1982]; NOX:** 60 PPMV NATURAL GAS (5) [RULE 1147, 9-9-2011]; PM: (9) [**RULE 405, 2-7-1986**]; **PM:** 0.1	A63.8, A72.3, C1.6, D182.1, E193.3, H23.5

Permit to Construct Issued: 0x/xx/13				GRAINS/SCF NATURAL GAS (5) [**RULE 409, 8-7-1981**]	

Application no. 547541 (PO), Change of Conditions to RTO #8 (C49) operating under A/N 456665:

Section H

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
Process 2: DIP TANK IMPREGNATING OPERATION					
System 1: HONEYCOMB DIPPING AND BAKING, ROTOCURE PRESS					
AFTERBURNER, HOT ROCK, #8, ADWEST, MODEL RETOX 6.0, RTO95, 11 FT -8 IN W. X 19 FT 2 IN L. X 8 FT 11 IN H., NATURAL GAS, WITH 2 CERAMIC BEDS, A 100 HP EXHAUST FAN & NAT GAS INJECTION, STARTUP BURNER, 4.5 MMBTU/HR A/N 547541 Permit to Construct Issued: 0x/xx/13	C49	D5 D6 D9 D41		**CO:** 2000 PPMV NATURAL GAS (5) [**RULE 407,4-2-1982]**; **NOX**: 60 PPMV NATURAL GAS (5) [RULE 1147; 9-9-2011]; **PM: (9)** [**RULE 404, 2-7-1986**]; **PM:** 0.1 GRAINS/SCF NATURAL GAS (5) [**RULE 409, 8-7-1981**]	A63.8, A72.3, B59.6, C1.6, D182.1, E193.3, H23.5

Application no. 547542 (PC), Change of Conditions to RTO #9 (C55) operating under A/N 527420:

Section H

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
Process 2: DIP TANK IMPREGNATING OPERATION					
System 4: HONEYCOMB DIP COAT IMPREGNATING ROOM #1, AND BAKE OVENS					
AFTERBURNER, HOT ROCK, #9, ADWEST, MODEL RETOX 12.0, RTO95, 15 FT 11 IN. W. X 24 FT L. X 10 FT 5 IN. H., NATURAL GAS, WITH 2 CERAMIC BEDS, A 5 HP. COMB. AIR FAN, A 75 HP. EXH. FAN AND NATURAL GAS INJ, 3.5 MMBTU/HR WITH A/N 547542 Permit to Construct Issued: 0x/xx/13 BURNER, NATURAL GAS, MAXON, MODEL KINEDIZER LE LOW-NOX, WITH LOW-NOX BURNER, 3.5 MMBTU/HR.	C55	D8 D53 D54		**CO:** 2000 PPMV NATURAL GAS (5) [**RULE 407,4-2-1982]; NOX:** 30 PPMV NATURAL GAS (4) [**RULE 1303(a)(1)-BACT, 5-10-1996**; Rule 1303(a)(1)-BACT; 12-6-2002]; **NOX**: 60 PPMV NATURAL GAS (5) [RULE 1147; 12-5-2008]; PM: (9) [**RULE 404, 2-7-1986**]; **PM:** 0.1 GRAINS/SCF NATURAL GAS (5) [**RULE 409, 8-7-1981**]	A63.8, A72.3, C1.6, D182.2, D323.1, E193.3, H23.5

BACKGROUND:

M.C. Gill Corp. submitted application nos. 547539-547542 as Class I's on 2/19/13 for change of conditions to limit the operating hours of the start-up burners for RTO #6 (C47), RTO #7 (C48), RTO #8 (C49) and RTO #9 (C55). When the previous permits were issued, emissions were based on the default 24/7 operating schedule of the burner. However, this resulted in an overestimation of emissions since these burners are actually used only for start-up and not during normal operations. The applicant has instead requested permit conditions limiting monthly operating hours of the start-up burner to 20 hrs per month. This will reduce the facility's NO_x potential to emit from the above four RTO's from 30 lbs/day to 1 lb/day. The facility total NO_x will decrease from 42 lbs/day to 13 lbs/day. MC Gill will be required to maintain a monitoring and recording system to verify the operating time of the start-up burners.

Under a separate evaluation, MC Gill submitted applications nos. 542464-542467 for the installation of a new flowcoater (D62), curing oven (D63) and RTO #10 (C65). All equipment will operate under the existing group VOC cap of 5070 lbs per month. The VOC emissions resulting from this operation is expected to be controlled by at least 98% by a permanent total enclosure and RTO #10. Also, while VOC emissions are released during the curing process in the oven (D63), these emissions will be associated with the flowcoater (D62), where the phenolic resin material will be applied. The operation of the new RTO #10 (C65) will result in an increase of NO_x, PM and SO_x emissions due to operation of the natural gas-fired start-up burner. However, these emissions will be exempt from emission offsets under Rule 1304. There will be increases of CO, NO_x, PM_{10} emissions from the curing oven, including 3 lbs/day of NO_x for a final total PTE of 16 lb/day. A summary of these emissions is in the section for Regulation XXX. See also separate evaluation.

This company is a Title V facility. The Title V renewal permit was issued on 10/13/2010. This project is part of the 4th revision since the renewal. A/N 542464 was submitted for a de minimis significant permit revision.

According to the compliance data base, no notices to comply or notices of violation have been issued to this facility in the past two years. One odor complaint was filed on October 17, 2012 (#228294), however the odors could not be confirmed and traced back to this facility during the follow-up visit. The facility was found to be operating in compliance. No further action was taken.

PROCESS DESCRIPTION:

This company manufactures laminated honeycomb blocks, panels and sheets, which are used in airplanes for commercial and military use. The existing regenerative thermal oxidizers (RTO) are used to control volatile organic compound (VOC) emissions from various coating operations. Each has a natural gas-fired burner that is fired only during start-up, which typically lasts from one to two hours. Upon reaching the ignition point in the combustion chamber (1500-1600°F), the burner shuts off. The VOC concentration in the process stream is high enough for the destruction process to be self-sustaining. In this case, no additional heat is required from the fuel source. This should allow for no NO_x emissions except during start-up. However, if and when needed, the temperature can be maintained with flameless natural gas injection (non-NO_x

forming). The RTO's are designed to achieve a minimum VOC destruction efficiency of 98%. The minimum operating temperature in the combustion chamber is approximately1475°F.

Each of the RTO's will have a monitoring and recording system to verify the operating time of the start-up burners. They will add a separate channel to their existing chart recorder that indicates when the burner is on or off, as well as channels indicating air blower power, combustion chamber temperature, and natural gas injection mode.

The maximum operating schedule of the facility will be 24 hr/day, 7 day/wk, and 52 wk/yr and the average operating time is 24 hr/day, 5 day/week, 50 week/year.

EMISSION CALCULATIONS:

VOC Emissions:

The change of conditions requested for the four RTO's will not affect the material produced through the equipment. There will be no change in VOC emissions from the operations these RTO's serve.

NO_x Emissions from RTO Start-up Burners:

At the applicant's request, the start-up burner will be limited to operate 20 hrs/mo, or less. The combustion emissions were recalculated at this restricted level and the individual spreadsheets are included in the respective files. The NO_x emissions are shown below. Only RTO #9 (C55) has a low NOx burner. The table on the following page summarizes the CO, NO_x and PM_{10} emissions at the restricted 20 hr/mo compared to the previously used default 24 hr/day and 7 day/wk schedule.

Fuel = natural gas
Max. burner heat input rating = (various) mmBTU/hr
Max. operating hours = 20 hr/day, 1 day/wk, 52 wks/yr; 20 hours/month
Ave. operating hours = 2 hr/day, 1 day/wk, 50 wks/yr
Refer to the file(s) for full combustion emission spreadsheets

RTO #6 (C47) under A/N 547539:

$$\frac{2.5\ \text{mmBTU}}{\text{hr}} \cdot \frac{\text{scf}}{1050\ \text{BTU}} \cdot \frac{10^6\ \text{BTU}}{\text{mmBTU}} \cdot \frac{130\ \text{lbs NOx}}{10^6\ \text{scf}} = 0.310\ \frac{\text{lbs NOx}}{\text{hr}} \rightarrow 6.19\ \frac{\text{lbs NOx}}{\text{day}} \rightarrow 6.19\ \frac{\text{lbs NOx}}{\text{mo}}$$

$$\rightarrow \text{30-day R.A.} = 0.206\ \frac{\text{lbs NOx}}{\text{day}}$$

Max fuel usage: $\frac{2.5 \times 10^6\ \text{BTU}}{\text{hr}} \cdot \frac{20\ \text{hrs}}{\text{mo}} \cdot \frac{\text{mo}}{30\ \text{days}} \cdot \frac{\text{scf}}{1050\ \text{BTU}} = 1587\ \frac{\text{scf}}{\text{day}}$

RTO #7 (C48) under A/N 547540:

$$\frac{2.5\ \text{mmBTU}}{\text{hr}} \cdot \frac{\text{scf}}{1050\ \text{BTU}} \cdot \frac{10^6\ \text{BTU}}{\text{mmBTU}} \cdot \frac{130\ \text{lbs NOx}}{10^6\ \text{scf}} = 0.310\ \frac{\text{lbs NOx}}{\text{hr}} \rightarrow 6.19\ \frac{\text{lbs NOx}}{\text{day}} \rightarrow 6.19\ \frac{\text{lbs NOx}}{\text{mo}}$$

$$\rightarrow \text{30-day R.A.} = 0.206\ \frac{\text{lbs NOx}}{\text{day}}$$

Max fuel usage: $\frac{2.5 \times 10^6\ \text{BTU}}{\text{hr}} \cdot \frac{20\ \text{hrs}}{\text{mo}} \cdot \frac{\text{mo}}{30\ \text{days}} \cdot \frac{\text{scf}}{1050\ \text{BTU}} = 1587\ \frac{\text{scf}}{\text{day}}$

RTO #8 (C49) under A/N 547541:

$$\frac{4.5\ \text{mmBTU}}{\text{hr}} \cdot \frac{\text{scf}}{1050\ \text{BTU}} \cdot \frac{10^6\ \text{BTU}}{\text{mmBTU}} \cdot \frac{130\ \text{lbs NOx}}{10^6\ \text{scf}} = 0.557\ \frac{\text{lbs NOx}}{\text{hr}} \rightarrow 11.14\ \frac{\text{lbs NOx}}{\text{day}} \rightarrow 11.14\ \frac{\text{lbs NOx}}{\text{mo}}$$

$$\rightarrow \text{30-day R.A.} = 0.371\ \frac{\text{lbs NOx}}{\text{day}}$$

Max fuel usage: $\frac{4.5 \times 10^6\ \text{BTU}}{\text{hr}} \cdot \frac{20\ \text{hrs}}{\text{mo}} \cdot \frac{\text{mo}}{30\ \text{days}} \cdot \frac{\text{scf}}{1050\ \text{BTU}} = 2857\ \frac{\text{scf}}{\text{day}}$

RTO #9 (C55) under A/N 547542:

$$\frac{3.5\ \text{mmBTU}}{\text{hr}} \cdot \frac{\text{scf}}{1050\ \text{BTU}} \cdot \frac{10^6\ \text{BTU}}{\text{mmBTU}} \cdot \frac{38.2\ \text{lbs NOx}}{10^6\ \text{scf}} = 0.127\ \frac{\text{lbs NOx}}{\text{hr}} \rightarrow 2.54\ \frac{\text{lbs NOx}}{\text{day}} \rightarrow 2.54\ \frac{\text{lbs NOx}}{\text{mo}}$$

$$\rightarrow \text{30-day R.A.} = 0.085\ \frac{\text{lbs NOx}}{\text{day}}$$

Max fuel usage: $\frac{3.5 \times 10^6\ \text{BTU}}{\text{hr}} \cdot \frac{20\ \text{hrs}}{\text{mo}} \cdot \frac{30\ \text{days}}{\text{mo}} \cdot \frac{\text{scf}}{1050\ \text{BTU}} = 2755\ \frac{\text{scf}}{\text{day}}$

Summary of CO, NO_x and PM_{10} Emission Changes
(30-Day avg.)

Equipment Device # A/N	CO			NO_X			PM_{10}		
	Old (lb/day)	New (lb/day)	Change (lb/day)	Old (lb/day)	New (lb/day)	Change (lb/day)	Old (lb/day)	New (lb/day)	Change (lb/day)
RTO #6 (C47) 547539	2.00	0.056	-1.944	7.429	0.206	-7.22	0.429	0.012	-0.417
RTO #7 (C48) 547540	2.00	0.056	-1.944	7.429	0.206	-7.22	0.429	0.012	-0.417
RTO #8 (C49) 547541	3.60	0.100	-3.500	13.371	0.371	-13.00	0.77	0.021	-0.75
RTO #9 (C55) 547542	2.80	0.078	-2.72	3.05	0.085	-2.97	0.60	0.017	-0.58
Subtotal	10.40	0.178	-10.22	31.279	0.868	-30.41	2.228	0.062	-2.17
Oven (D63) 542466	-	3.20	3.20	-	3.49	3.49	-	0.69	0.69
RTO #10 (C65) 542467	-	0.85	0.85	-	0.106	0.106	-	0.01	0.01
Total	10.40	1.14	-9.26	31.28	4.46	-26.81	2.228	0.072	-2.16

Note: All RTO's will be limited to operate no more than 20 hrs/mo (based on 30 days/mo)
RTO #10 (C65) is under separate evaluation.

RULES AND REGULATIONS

RULE 212: SIGNIFICANT PROJECT PUBLIC NOTIFICATION

Rule 212(c)(1):
There is no school within 1000 feet of the facility. Therefore, public notice will not be required.

Rule 212(c)(2):
Public notice will not be required by this paragraph since there will be no emission increases as a result of limiting the operating hours of the start-up burners on the four RTO's.

Rule 212(c)(3):
The toxic emissions from the combustion of natural gas in the start-up burner of the four RTO's are expected to be reduced as a result of the change of conditions. Therefore, public notice is not required by this paragraph.

Rule 212(c)(g):
The change of conditions will result in reduced emissions from the four RTO's. Therefore, public notice is not required by this paragraph.

RULE 401: VISIBLE EMISSIONS
Visible emissions from the operation of this equipment are not expected. No complaints have been filed on this equipment in the past.

RULE 402: NUISANCE
The continued operation of this equipment is not expected to cause a public nuisance. Although there have been some odor complaints against the facility, the facility has not been issued any notices of violations for nuisance(s) for this equipment or otherwise.

RULE 1128: PAPER, FABRIC, AND FILM COATING OPERATIONS
According to the recent site inspection conducted on 8/10/12, the facility continues to comply with the requirements of this rule. The four RTO's have been source tested to confirm that they achieve the minimum 95% overall destruction efficiency and 90% collection efficiency [per Rule 1128(d)]. Continued compliance is expected.

RULE 1147: NO_x REDUCTIONS FROM MISCELLANEOUS SOURCES
The natural gas-fired start-up burners on the four RTO's are not yet subject to the future compliance requirements of this rule. All four burners have been manufactured in 2002, or later. Compliance is expected.

REGULATION XIII:
There will be a net decrease of emissions after the change of conditions of limiting the operating hours of the start-up burners for the four RTO's.

BACT — No new BACT requirements will be triggered since the change of conditions will result in a net emission decrease. Therefore, compliance is expected.

Offsets: — The existing permits for RTO #6 (C47), RTO #7 (C48), RTO #8 (C49) and RTO #9 (C55) are being evaluated for a change of conditions to reduce operating

hours of the start-up burner to 20 hrs/mo instead of the default 24/7 operating schedule. Emissions have been recalculated. See the summary table under the Emissions Section. After doing so, the NO_x potential to emit (PTE) associated with the four RTO's will be reduced from 30 lb/day to 1 lb/day (+1 lb/day will be assigned to RTO #6 to account for the net increase of NO_x emissions from the 5 RTO's). The total facility NO_x PTE will become 16 lb/day, including NOx from the new curing oven (D63) and new RTO #10 (C65) under A/Ns 542466 and 542467 (separate evaluation).

Modeling: Since there is no net increase in emissions resulting from the change of conditions, there will be no modeling requirements for CO, NO_x or PM_{10}. See the separate evaluation for modeling requirements for the curing oven (D63) under A/N 542466, and the new RTO #10 (C65) under A/N 542467.

Rule 1401: NEW SOURCE REVIEW OF TOXIC AIR CONTAMINANTS
Accounting of toxic emissions from the start-up burners of the four RTO's will decrease as a result of the change of conditions. The start-up burners will be operated a maximum of 20 hrs/mo instead of the higher default of 24 hr/day and 7 days/week, emissions will be based on a maximum 20 hrs/mo. Compliance is expected.

REG XXX
This facility is not in the RECLAIM program. The proposed project is considered as a "de minimis significant permit revision" to the Title V permit for this facility.

Rule 3000(b)(6) defines a "de minimis significant permit revision" as any Title V permit revision where the cumulative emission increases of non-RECLAIM pollutants or hazardous air pollutants (HAPs) from these permit revisions during the term of the permit are not greater than any of the emission threshold levels on the following page:

Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30
NO_x	40
PM_{10}	30
SO_x	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 part of the fourth permit revision to the Title V renewal permit issued to this facility on October 13, 2010. Also included in this revision is the addition of a new flow coater, oven and RTO in separate evaluation. The table below summarizes the cumulative emission increases resulting from this permit revision, the fourth since the Title V renewal permit was issued:

Title V Permit Revisions Summary

		HAP	VOC	NO_x	PM_{10}	SO_x	CO
1st Revision	Install new curing oven (D53), and vent to new RTO #9 (C55) – P/C (A/N 527418)	0	0	0	0	0	0
	Install new curing oven (D54) , and vent to new RTO #9 (C55) – P/C (A/N 527419)	0	0	0	0	0	0
	Install new RTO #9 (C55), to vent dip coat impregnating room #1 (D8), curing ovens (D53 and D54) - P/C (A/N 527420)	0	0	3	1	0	3
	Modification to dip coat impregnating room #1 (D8) to vent it to new RTO #9 (C55) - P/C (A/N 527421)	0	0	0	0	0	0
	Modification to RTO #7 (C48) to remove venting of dip coat impregnating room #1 (D8) - P/C (A/N 527422)	0	0	0	0	0	0
2nd Revision	Installation and operation of dip coat impregnating and drying equipment , prepregger #3 (D56-D57) and vented to existing RTO #6 (C47) –P/C (A/N 524462)	0	0	0	0	0	0
	Modification of existing RTO #6 (C47) to vent prepregger #3 (D56-D57) –P/C (A/N 524463)	0	0	0	0	0	0
3rd Revision	New construction of boiler with 11.815 mmBTU/hr low-NOx burner (D60) to replace boiler (D29) (A/N 537850)	0	1	3	2	0	21
4th Revision	Install new resin flowcoater (D62), to be vented to new RTO #10 (C65) - P/C(A/N 542465)	0	0	0	0	0	0
	Install new curing oven (D63), to be vented to new RTO #10 (C65) – P/C (A/N 542466)	0	1	3	1	0	3
	Install new RTO #10 (C65), to vent new flowcoater (D62) and new curing oven (D63) - P/C (A/N 542467)	0	0	0	0	0	0
	Change of conditions to RTO #6 (C47) to limit operating hours of start-up burner to 20 hrs/mo - P/C (A/N 547539)	0	0	-6[(a)]	0	0	-2
	Change of conditions to RTO #7 (C48) to limit operating hours of start-up burner to 20 hrs/mo - P/C (A/N 547540)	0	0	-7	0	0	-2
	Change of conditions to RTO #8 (C49) to limit operating hours of start-up burner to 20 hrs/mo - P/C (A/N 547541)	0	0	-13	-1	0	-3
	Change of conditions to RTO #9 (C55) to limit operating hours of start-up burner to 20 hrs/mo - P/C (A/N 547542)	0	-1	-3	-1	0	-3
	Cumulative Total	0	1	-23	2	0	17
	Maximum Daily	30	30	40	30	60	220

Note: (a) -7 lb NOx/day from RTO #6, plus 1 lb/day assigned for actual NOx emissions for group of RTO #6-9.

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".

RECOMMENDATION/CONCLUSION:

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 have any objections within the review period, a revised Title V permit will be issued to this facility with permits to construct in Section H.