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Technical Support Document
Hexcel Corporation
Permit # V20602.R06

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1. BACKGROUND

1.1 Applicant

This permit revision pertains to an existing honeycomb manufacturing facility located at 1214 West Gila Bend Hwy 84, Casa Grande, Arizona, upon a parcel also identified by Pinal County Assessor's Parcel # 503-46-021-D3. The SIC Codes are 2679 and 3469.

This source constitutes a major source, and operates under authority of a "Title V" unitary permit.

This technical support document only summarizes any changes made to the permit through this revision. Additional information may be found in the Technical Support Documents for previous versions of this permit.

This analysis reflects consideration of (at least) the following:

- Permit revision application received on March 24, 2008.

1.2 Attainment Classification

The source is situated in an area classified as "attainment" for all pollutants.

1.3 Permitting History

The following is a list of Hexcel permits since 1992¹:

Permit #	Permit Type	Issue Date	Equipment/Change
20008	Operating	8/14/92	
10043	Installation	9/27/93	CNF Machine
A20422	Operating	1/18/94	
A20422.R02	Significant Revision?	Application withdrawn	4 ovens, RTO, oil heater
A20422.R03	Minor Revision	10/9/01	Diesel generator and diesel compressor
V20602.000	Title V	1/18/05	Initial Title V permit
V20602.R01	Minor Revision	6/2/05	Removes MACT MMMM from applicable requirements and adds DDDDD.
V20602.R02	Significant Revision	2/13/06	Includes requirements from MACT JJJJ and Compliance Plan
V20602.R03	Minor Revision	12/14/06	Septum Core, Purge/Cure Ovens #22 and 23
V20602.R04	Minor Revision	5/24/07	Allows oven #23 to be operated as double oven

¹There are many installation permits issued before 1992, too many to list here.

Permit #	Permit Type	Issue Date	Equipment/Change
V20602.R05	Significant Revision	12/27/07	Replacement of oxidizer #1, dip room capture enhancements, PAA oven replacement, oven fan size increase, addition of oven #24.

1.4 Compliance History

Inspections are being regularly conducted at this facility to ensure compliance with its applicable permit conditions. Except as indicated in §3 of the permit, Hexcel is currently in compliance with the permit conditions cited in permit V20602.R05. The facility is inspected every fiscal year and the following inspection will take place before July, 2008. The following table summarizes the recent inspections that have been conducted on the source:

Inspection Date	Type of Inspection	Results
5/17/06	Annual compliance	In compliance
10/4/06	Annual compliance	In compliance

2. PROCESS DESCRIPTION

2.1 General Process

The facility produces composite components and composite structures for a variety of applications, notably including the aerospace industry and various consumer products. The primary product is generically referred to as "honeycomb." The honeycomb material or "core" is typically bonded as a structural filler or web, sandwiched between facing sheets to form a stiff, strong and light-weight structural panel. Honeycomb-type structures also have unique energy-absorbing characteristics and are used as impact-absorbers on commercial aircraft as well as roadway maintenance trucks and other vehicles. Structural honeycomb and composite honeycomb panels constitute the primary products from the facility. The facility manufactures both metallic and nonmetallic cores. The facility also manufactures a variety of other linear, planar, and cubic composite materials for the aerospace and other industries.

2.2 Process Changes - Addition of Purge/Cure Oven #24

Purge/Cure oven #25 will be another double oven, similar to ovens #23 and #24. This will be an indirect-fired natural gas oven, with 4 burners each rated at 1.2 MMBtu/hr input.

3. EMISSIONS

3.1 Changes in Emissions

Purge/Cure Oven #25

Emissions from the new oven occur due to the combustion of natural gas as well as from the process. The oven will have four burners, each rated at 1.2 MMBtu/hr. In order to avoid PSD applicability, exhaust from this oven will be vented to the RTO in the same fashion as other purge/cure ovens. Potential emissions from this unit have been calculated as:

Pollutant	Potential Emissions (TPY)
NOx	2.06
CO	1.73

SO _x	0.01
VOC _(combustion)	0.23
VOC _(process) (includes HAPs)	17.20
formaldehyde	0.001
phenol	0.16
xylene	0.14

4. REGULATORY REQUIREMENTS AND MONITORING

4.1 PSD Applicability

The application for the original Title V permit filed on September 5, 1997, and issued on January 18, 2005 established a benchmark for future major modifications as defined by Code §1-3-140-.78. In the aggregate, none of the modifications authorized under either the original Title V permit or any of the subsequent revisions triggered the major modification threshold. Even looking back at those same modifications on an after-the-fact basis based on the revised dip-room capture efficiency analysis, those modifications still did not constitute a major modification.

The proposed emissions increase from the addition of oven #25 by itself (without considering any decreases) is less than “significant” and therefore does not require consideration of previous contemporaneous emissions increases at the source. Nonetheless, the Permittee has submitted a netting exercise as part of the application for this revision, and it shows that even with a 5-year “lookback” at aggregate changes, by applying netting the changes in emissions authorized under this revision similarly avoid amounting to a major modification that would trigger PSD.

4.1.1 VOC Emissions

Not considering “lookback”, the physical changes authorized by this permit revision are not a major modification as defined in §1-3-140.78. The net VOC increase does not exceed the significance level of 40 tons per year.

Net Emissions Increase = Actual (Future Allowable) Increases - Actual Decreases
(defined in §1-3-140.85)

The table below summarizes the actual increases and decreases which have occurred in the contemporaneous period, as well as the net emissions increase. There have been no other modifications to the permit from 2001 until 2005.

Application Date	Issued Date	Mod #	Description	In Diproom ?	Capture	Actual VOC Emission Increase TPY	Net VOC Emission Increase TPY
2/8/05	6/2/05	R01	Add new applicable requirement	N/A	N/A	0	0
9/13/05	2/13/06	R02	Compliance with JJJJ	NO	N/A	0	0
7/26/06	12/14/06	R03	Septum Core	NO	95%	7.59	
			Purge/Cure Ovens #22 & 23	YES	75%	18.78	
<i>Subtotal</i>						26.37	26.37

2/9/07	5/24/07	R04	Purge/Cure Oven #23 (2 nd half)	YES	75%	8.72	35.09
4/12/07	12/27/07	R05 ²	RTO Replacement	YES	75%	2.26	
			Dip Room Capture Improvements	YES	83%	(-39)	
			Fan Upgrade Ovens #17-21	YES	75%	4.36	
			PAA Oven Replacement	NO	95%	0.18	
			Purge/Cure Oven #24	YES	75%	17	
<i>Subtotal</i>						<i>(-15.20)</i>	19.89
3/24/08	6/08	R06	Purge/Cure Oven #25	YES	75%	17.43	37.32

4.1.2 NOx Emissions

Hexcel is not a major source of NOx as defined in §1-3-140.78. The NOx increase due to the change on this revision, 2.06 tpy, does not exceed the significance threshold of 40 tons per year and therefore this is not a major modification.

4.2 Monitoring/Compliance Verification

4.2.1 NOx and VOC from Oven #25

Same as other natural gas burning equipment at the facility, Permittee will keep records of the amount of natural gas burned, as a surrogate of NOx and CO emissions.

Emissions from Purge/Cure Oven #25 will be captured and controlled in the same fashion as the other ovens in the dip room (Group 2 ovens), and except for during the cool down, emissions will be vented to the new RTO system.

4.2.2 Compliance Assurance Monitoring (CAM) - 40 CFR Part 64

Permittee submitted a CAM plan for the new RTO (#3 and #4) on August 21, 2007, and the CAM requirements were included in Hexcel's permit during revision 'R05.

4.3 Pinal County HAP Rule

The Pinal County Hazardous Air Pollutant (HAPs) Program³ was adopted in June, 2007. Due to its SIC Code, Hexcel is an "affected source category", and it is a minor source of HAPs.

The changes authorized by this minor modification will result in an increase in the emissions of phenol, formaldehyde and xylene from the facility. The potential increase of formaldehyde emissions, 2.8 lb/yr, is higher than the de minimis amount of 0.90 lb/yr listed in the HAPs rule, and therefore the requirement to either install HAPRACT or to conduct a Risk Management Analysis are triggered.

Hexcel has elected to install controls that meet HAPRACT, and conducted a case-by-case HAPRACT analysis, as required by §7-2-030.4. Hexcel proposes to control the emissions from oven #25 with an RTO with a minimum destruction efficiency of 95%, and the dampers that

² In actual order of installation.

³ Chapter 7, Article 2

direct the VOC/HAP emissions from the oven to the RTO will be operated in the same way as other existing ovens, with an overall capture efficiency of 95% (confirmed by tests conducted in July 2005).

5. AMBIENT IMPACT ASSESSMENT

The changes to the permit do not include significant increases in emissions of VOCs or NOx, therefore, no additional impact assessments have been conducted for this revision.

6. LIST OF ABBREVIATIONS

atm.	atmosphere
AP-42	"Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources", 5 th Ed.
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DAS	Digital Data Acquisition System
HAPs	Hazardous Air Pollutants
IPA	Isopropyl alcohol
hr	Hour
lb	Pound
MACT	Maximum Achievable Control Technology
MEK	Methyl ethyl ketone
MIBK	Methyl isobutyl ketone
MMBTU	Million British Thermal Units
Mod.	Modification
MSDS	Material Safety Data Sheet
NMP	N-methylpyrrolidone
NOX	Nitrogen Oxides
NSPS	New Source Performance Standard
NSR	New Source Review
PCAQCD	Pinal County Air Quality Control District
PGCAQCD	Pinal-Gila Counties Air Quality Control District
PM10	Particulate Matter nominally less than 10 Micrometers
PSD	Prevention of Significant Deterioration
RTO	Regenerative Thermal Oxidizer
SIC	Standard Industrial Code
SOX	Sulfur Dioxide
tpy	tons per year
TSD	Technical Support Document
VOC	Volatile Organic Compound
yr	year