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From: Barbara Cenalmor
Date: November 25, 2009

Technical Support Document
PSD/Title V Permit - Major Modification
Hexcel Corporation
Permit #V20602.R07

1. BACKGROUND

1.1 Applicant/Application History

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.

The proposed facility location lies in the central desert basin of Arizona, about 39 miles from Superstition Wilderness, and 61 miles from Saguaro National Monument. These areas are designated as Federal PSD Class I areas which are afforded special protection from environmental impacts under the CAA. Although it does not qualify for the Class I area protections under the CAA, the BLM's Table Top Wilderness lies about 17 miles from the facility.

The Gila Indian Reservation lies about 7 miles north of the facility, and the Ak Chin Indian Reservation lies about 10 miles to the northwest.

This technical support document mostly discusses 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 application, signed by Jim Brown, Global Honeycomb Operations Manager, dated 7/1/08.
- E-mail from Leslie Ramirez (EPA Region 9) to Dave Lima, 8/11/08, explaining that Pinal County, as the Federal agency in the case of a SIP approved PSD program, would have to request the ESA consultation from Fish and Wildlife.
- E-mail from Dave Lima, 8/20/08, including additional information on the new RTO's #3 and #4: manufacturer, equipment #s, model #s...
- E-mail from Dave Lima, 8/20/08, requesting certain "permit hygiene" issues be resolved during this revision, i.e. non applicable requirements and references to equipment removed taken out .
- E-mail from Grant Smedley (Trinity Consultants) to Mike Martinez (Fish &Wildlife), 8/22/08, clarifying some of his questions regarding the ESA consultation.
- E-mail form Grant Smedley , 9/2/08, which includes the impact analysis missing from the application.
- E-mail from Grant Smedley, 9/8/08, with Class I Areas Impact analysis.

1.2 Attainment Classification

This facility is located in an area designated as "attainment" for all pollutants.

However, ozone, CO and particulate nonattainment areas all commence at the Pinal County/Maricopa County line, lying about 30 miles due north of the project.

1.3 Permitting History

The following is a list of permits applied for and/or issued since 1992:

Permit #	Permit Type	Issue Date	Equipment/Change
20008	Operating	8/14/92	
10043	Installation	9/27/93	CNF Machine
A20422	Operating	1/18/94	

Permit #	Permit Type	Issue Date	Equipment/Change
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
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.
V20602.R06	Significant Revision	7/21/08	Addition of Purge/Cure double oven #25

1.4 Compliance/Enforcement History

Inspections are 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.R06. The facility is inspected every fiscal year and the following inspection will take place before July, 2009. 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
5/28/08	Annual compliance	See NOV below

A Notice of Violation (NOV) was issued on July 30, 2008 and Hexcel has achieved compliance with respect to all the items listed in the NOV. The NOV was settled on December 11, 2008.

The NOV was issued due to:

- Several deviations were reported by the source between 2006 and 2007, most regarding the pressure differentials at RTO #1. Since then, RTO#1 has been replaced.
- The NOV also includes alleged changes made to the operation of the dip room through-the-wall vents without proper permitting. These alleged changes occurred prior to the issuance of the original Title V permit. At the very least, as of 'R06, these vents/fans are

properly permitted.

- The 2006 annual certification was not signed by a Responsible Official. This has been corrected.

2. PROCESS DESCRIPTION

2.1 General Process

This facility manufactures "honeycomb" and "structural cores" for aerospace and other industrial applications[1]. The honeycomb material si typically used as a structural web, bonded between sheets to form a stiff, strong and light-weight structural panel. Hexcel manufactures both metallic and nonmetallic cores. The process consists of five main steps:

Step 1. Pre-printing
Step 2. Printing and core preparation
Step 3. Core forming
Step 4. Cure Coating and Curing
Step 5. Core Shaping, bonding and finishing.

To increase the rigidity required for most structural applications, some of the cores are stiffened by impregnating or coating them with a resin. The resin coating is applied by first dipping the core into a solvent/resin mixture, evaporating (purging) the solvent and finally thermally curing the remaining resin. The dip/purge/cure cycle is repeated as many times as required to achieve the desired physical properties of the core.

The purging and curing is conducted at several Purge/Cure ovens. The honeycomb blocks are cured in three distinct phases:

Purge phase: the majority of the carrier solvent is driven off during this phase.

Cure phase: the temperature is increased so that the resin reacts to its polymeric form.

Cooldown phase: the honeycomb block is cooled down for removal from the oven.

A more detailed description of this and other processes at the Hexcel facility is included in the Title V permit application (1997) and TSD prepared for that permit.

2.2 Existing Capture and Control - RTO Controlled Processes

Three regenerative thermal oxidizer (RTOs) systems control VOC emissions from the facility.

RTO #2, installed in 1999 has been tested on an annual basis since the Title V permit has been issued, and results always show that at a minimum, a 95% destruction efficiency can be achieved.

RTO #3 and #4 were recently authorized by revision 'R05, to replace RTO#1, and that permit revision requires that the RTOs have at least a 95% destruction efficiency. Testing was conducted on October 9 and10, 2008, and the results show control efficiencies of 99% and 98.2% for RTO#3 and RTO#4, respectively, or an average control efficiency of 98.6%. The results of this test have been used to update efficiencies, operating temperature and residence times in permit sections 5.I.1, 5.I.3, 5.I.4 and 7.C.1.

Most emission points rely on hoods and "sweeps" to capture emissions for conveyance to the

[1]Within this facility, there are at least 35 different primary production operations, but since the activity triggering this permit revision is related to the honeycomb block manufacturing, the general process description concentrates on that process.

oxidizer. Some of them are in Permanent Total Enclosures. The largest emission points, the purge/cure ovens, do provide total enclosures that capture essentially all emissions, but as explained in previous TSDs, an active control system only directs emissions to the RTO units during part of the curing cycle. Testing conducted in 2006 of the capture/atmospheric bypass control regimen indicated an overall capture efficiency of 95% on the emissions from the Purge/Cure ovens.

Emissions occur on a fugitive basis within the diproom, but exhaust as a point source. When adequate demand for process air for the oven exist, the dip room emissions can be ducted to the ovens from which they may be alternatively routed to either the atmosphere or an oxidizer. Other emission points from the dip room, such as the blow out rack and the area wall vents, are in the process of being captured and also vented to the RTO, as required by permit revision 'R05. This revision's modifications allowed the dip room capture efficiency to increase to 83%.

2.3 Permit Modification

Hexcel is proposing to add the following equipment to their processes, which will allow an increase in production of honeycomb blocks:

2.3.1 Additional double-capacity Purge/Cure ovens (#26, #27, #28)

The proposed ovens will be indirect natural gas fired, each with a maximum firing rate of 4.8 MMBtu/hr. Each oven can accommodate 2 honeycomb blocks under normal operating conditions. Emissions from these ovens will be vented to one of the existing RTOs (#3 or #4) in the same fashion as the existing Purge/Cure ovens. During the late part of the curing cycle, as well as during the cooling cycle, emissions from the ovens will be vented through the atmospheric bypass. Testing conducted in 2006 of the capture/atmospheric bypass control regimen indicated an overall capture efficiency of 95% on the emissions form the Purge/Cure ovens.

2.3.2 Four-Block Oven cart

The cart will allow 4 honeycomb blocks to fit inside a double oven, and it is still in the conceptual phase. This represents a change in the method of operation since it would expand the capacity of a double-oven into a quadruple-oven. For this revision, Hexcel is only proposing to add one of these carts, therefore only turning one oven into a quadruple-oven.

2.3.3 An additional "R169" dip tank (R169 Dip Tank #2)

This tank will be similar to the existing R169 tank, but with a larger surface area. This will enable an increase in production of honeycomb blocks.

2.3.4 Replace "F660" dip tank (F660 Dip Tank) and "F124" dip tank (F124 Dip Tank)

The tanks will be replaced with new, larger capacity tanks. This will enable an increase in production of honeycomb blocks.

2.3.5 An Acousti-Cap Dip/Blot Machine (A-Cap Machine)

This machine utilizes the same process as the existing Septum Core process, and it will be used to produce a new type of honeycomb blocks. The adhesive used in the process will generate VOC emissions during application and curing. These emissions will be vented to an existing RTO.

2.3.6 CCC Machine Modification

In addition to the changes described above, which purpose is to increase production of honeycomb blocks, Hexcel is proposing to enhance the current enclosure to include the CCC Machines #1 and #2, which currently are uncontrolled process. The captured emissions will be vented to an existing RTO.

3. VOC EMISSIONS

3.1 General Methodology

For purposes of discussion of capture and control efficiency within the dip room, this section summarizes the results from different tests conducted at Hexcel since the original Title V permit was issued, as well as an explanation of how all these tests come together. This information was obtained from Hexcel's letter to PCAQCD on April 25, 2008.

Dip room emissions were labeled in the original TV permit as Group 3 emissions. This group of emissions was made up of certain oven vents and all Purge/Cure Ovens (labeled as Group 2), and constituted the combination of fugitive emissions from the Dip Room and those ovens which are tributaries from the sweeps within the Dip Room.

The Group 2 Purge/Cure Ovens are equipped with control dampers on the exhaust side that are positioned to vent to the RTO during VOC-rich portions of the oven cycle, and directly to the atmosphere during low or non-VOC portions of the oven cycle. The original Title V permit included a testing regime for both capture and efficiency, to quantify the atmospheric bypass from the oven damper system. The tests were conducted in 2005, and the average capture efficiency measured during the tests was 95%.

Group 3 emissions include all honeycomb dip/cure process, including the room itself, dip tanks, and ovens (already included in Group 2), both controlled and uncontrolled emissions (at the time these were the natural draft openings, floor sweeps and vents, barometric dampers on floor sweep manifolds, purge/cure oven pass-through and VOC emissions from ovens in late stages of cure and/or cool down). The development of a test method to determine the aggregate capture efficiency proved difficult due to the complexity of the Dip Room, as well as the overlap with Group 2 emissions. The first attempt at testing was conducted in May 2006. This test was conducted by measuring the VOCs introduced into the room from the underground storage tanks, and since all dip room process equipment that was controlled vented to RTO#1 (this RTO has been replaced since then), also measuring the VOC delivered to the RTO inlet of in the 2 trunk lines before the non-Group 3 emission sources connection to the RTO. Capture efficiency was calculated by simply dividing the amount of given VOC measured at the RTO trunk lines by the total amount introduced into the process. The average capture efficiency measured through this test was 75%.

For purposes of demonstrating that Hexcel was not a major source of HAPs, they went on to demonstrate that in the case of formaldehyde and phenol, the assumption that 100% of the VOCs are emitted during the process is inaccurate. Based on engineering experience, Hexcel staff knew that formaldehyde and phenol participate in the resin polymerization reaction, and that the amount available for emissions purposes is reduced to some degree from the amount originally present in the resin mixture. A laboratory-based study was conducted in mid-2007 which showed that 98.6% of the formaldehyde and 57% of the phenol was consumed during the reaction and was unavailable for emissions. This testing also demonstrated that the vast majority of the emissions of these 2 compounds took place under elevated temperatures, i.e., in the ovens, where the level of capture and control is the highest.

Using the results from tests on Group 2 and 3 emissions, Hexcel divided each individual VOC component into low-volatility and high-volatility groups. The high-volatility compounds are most accurately quantified by using the Group 3 capture efficiency test result of 75%, since they are more likely to be emitted within the Dip Room even before the increased temperature of the ovens.

The low-volatility pollutants are most accurately quantified by using the Group 2 capture/atmospheric bypass test result of 95% since these emissions will be released during the high temperature cycles of the ovens.

3.1.1 Purge/Cure Ovens & Four-Block Oven Cart

The emissions from Purge/Cure Ovens #26-28 were calculated in the same fashion as the most recent additions of double-ovens approved by permit revisions 'R04, 'R05 and 'R06.

Since this revision also approves the use of a Four-Block oven cart, which is designed to allow a double-capacity oven to double the amount of blocks it can process, the net effect is to double the emissions[2] of the double oven where it's being used.

So the total emissions were calculated based on the addition of the equivalent of 4 double-oven capacity (or 8 single-ovens). The emissions increase is listed in the table in section 3.3 of this document.

With the exception of formaldehyde and phenol, for which the source obtained on-site emission factors through testing in 2006, it was conservatively assumed that 100% of each VOC species is emitted. Calculations taken into account low volatility constituents, which are not expected to generate emissions at ambient temperatures (within the dip room or during cooldown), and high volatility constituents which will emit VOCs at ambient temperatures. Based on testing, 75% of the total mass of high volatility constituents is routed to the RTO via de Purge/Cure ovens. The other 25% is released to the atmosphere either as fugitives or during the cooling cycle of the ovens.

3.1.2 Dip Tanks

Since the fugitive emissions from the dip room tanks are captured and transferred to the Purge/Cure ovens, their emissions are already accounted for as part of the Purge/Cure oven emissions.

3.1.3 A-Cap Machine

The adhesive used in this process will generate VOC emissions, which will be captured and vented to an existing RTO. Emissions were calculated based on annual use of the adhesive, with a 95% capture and 95% destruction efficiency.

3.1.4 CCC Machines

Hexcel is proposing to capture the emissions of CCC Machines #1 and #2 (out of 5 machines, the ones with the largest volume) and vent them through an existing RTO. This will account for approximately 90% of the CCC Machines VOC emissions. The annual reductions are shown in section 3.3 of this document.

3.2 Potential/Allowable Emissions

Facility-wide potential emissions of HAPs and VOCs, after the changes allowed by revision 'R07 have been estimated at 9.9 and 273 tons per year, respectively

3.3 Changes in Emissions

[2]Combustion emissions remain unchanged, since the firing rate of the oven is not affected by the use of the Cart.

Emissions Source	NOx	CO	SO2	PM10	VOC	HAPs
Combustion	6.18	5.19	0.04	0.47	0.68	0.12
Purging/Curing	-	-	-	-	68.72	1.93
A-CAP Machine	-	-	-	-	1.59	-
CCC Machines	-	-	-	-	-9.70	-
TOTAL	6.18	5.19	0.04	0.47	61.29	2.05
PSD Significance Emission Rates	40	100	40	15	40	25

3.4 Net Emissions Increase

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	Rev. #	Description	In DipRoom?	Actual VOC Emission Increase (tpy)	Net VOC Emissions Increase (tpy)
7/26/06	12/14/06	R03	Septum Core	N	7.59	7.59
			Purge/Cure Ovens #22 & #23	Y	18.78	26.37
729/07	5/24/07	R04	Purge/Cure Oven #23 (2nd half)	Y	8.72	35.09
4/12/07	12/27/07	R05	RTO Replacement	N/A	2.26	37.35
			Dip Room Capture Improvements	Y	-39	-1.65
			Fan Upgrade Ovens #17-21	Y	4.36	2.71
			PAA Oven Replacement	N	0.18	2.89
			Purge/Cure Oven #24	Y	17.41	20.3
3/24/08	7/21/08	R06	Purge/Cure Oven #25	Y	17.41	37.71
7/1/08	TBD	R07	Total in Current Application	Y/N	61.29	**99**

4. REGULATORY REQUIREMENTS AND MONITORING

4.1 TITLE V/PSD Applicability

4.1.1 BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS - VOCs[3]

Estimated potentials to emit VOC at rates above the PSD significance levels trigger

[3]For more detailed information on the BACT analysis, refer to Appendix A of the 7/01/08 application.

requirements to define and implement pollutant-specific Best Available Control Technology ("BACT") for each of the new and modified emissions unit that is proposed in this major modification. See the table in §3.3 for a list of the new VOC sources proposed, a comparison of estimated emissions from the proposed project and the significance levels for PSD. For a conservative approach, Hexcel included a BACT analysis for all the new and modified sources, as well as for other projects approved in previous permit revisions which are included in the net emissions increase determination[4].

BACT is defined as "... an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction of each pollutant subject to regulation under the Act... which the Administrator, on a case-by-case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable for such source."

The applicant identified emission control technologies by researching the RACT/BACT/LAER Cleanringhouse (RBLC), and the search results were included in the application as an appendix.

4.1.1.1 Identify relevant, available control technologies

The applicant identified and discussed the following control technologies:

- Process Incineration
- Thermal Oxidation
- Catalytic Oxidation
- Carbon Adsorption
- Condensation
- Biofiltration
- Absorption

Since honeycomb manufacturing is a unique process, no control technologies were identified in the RBLC search for similar operations, so results from ovens and dip tanks in other processes were used as guidelines in this analysis.

4.1.1.2 Eliminate technically infeasible options

The following control technologies were deemed technically infeasible:

- Process Incineration: The combusted vent stream must generate sufficient heat as a fuel stream for use in other areas of the facility or be able to be used as supplementary combustion air. The exhaust stream from this facility has a relatively low heating value, and the boilers and gas-heaters operated are small.

- Catalytic Oxidation: Most suited to systems with lower exhaust volumes, when there is little variation in the type and concentration of VOCs, and where catalyst fouling contaminants are not present. At Hexcel, the flow rate, concentration and composition of VOCs generated varies widely, and heavy hydrocarbons and particulates can foul the catalyst over time.

- Carbon Adsorption: Activated carbon is affected by humidity in the

[4]These projects are: the addition of Purge/Cure ovens #22, #23, #24, #25 and the Septum Core machine; the upgrade of Oven Fans; and the improvements to the Dip Room Capture. The Table in Section 1.3 indicates which permit revisions approved these projects.

stream, is designed for streams of 1,000 ppm VOC or greater, and for temperatures below 130 F. The temperature of the exhaust stream at Hexcel is expected to range from 80-365F, and the quantity of VOC in the exhaust stream is relatively small.

- Condensation: Most effective for low volume flow rates and relatively high VOC concentrations. Hexcel's exhaust streams are high volume, low VOC concentration.

- Biofiltration: Mostly used to control odors, VOCs from industrial solvent use and VOCs from petroleum products. Its use for VOC control is still under review. The maximum operating temperature of biofilters is approximately 105F. Hexcel's exhaust can reach 365F, and additional cooling would be required to meet the maximum operating temperature of the biofilters.

- Absorption: Generally used to remove organics compounds with high water solubility, and most applicable to streams with high concentrations of compounds. Hexcel's exhaust stream are high volume, low VOC.

4.1.1.3 Rank the remaining control technologies by control effectiveness

The only remaining control technology is Thermal Oxidation with a control efficiency of 95%-99%.

4.1.1.4 Evaluate Most Effective Emissions Control

There will be no significant energy, environmental, or economic impacts associated with thermal oxidation, since Hexcel has existing RTO capacity available to control emissions from the proposed equipment.

Although 4 of the facilities found in the RBLC tables had listed efficiencies higher than 95%, Hexcel is proposing a Regenerative Thermal Oxidizer with a 95% control efficiency for BACT. The higher-efficiency facilities either employed a catalytic oxidizer, which is infeasible for Hexcel, or are significantly different industries using solvents and chemicals not used at Hexcel.

4.1.15 Select BACT

Hexcel proposes a well-designed ventilation system for VOC capture[5], and the use of an RTO with 95% destruction efficiency as BACT. PCAQCD concurs.

4.1.2 VOC Cap; Changes in formulation

Historically, Hexcel's potential VOC emissions have been quantified based on the physical configuration of the facility, coupled with the inherent limitations of reasonably anticipated product demands. That is, Hexcel does not produce products for speculative purposes, and demand for Hexcel's aerospace-related products can be projected with a reasonable degree of specificity. On that basis, prior to the current permit revision application, Hexcel's projected potential to emit for VOCs was 216 TPY.

[5]Section 2.2 of this TSD discusses the ventilation and capture system of the dip room area, where most of the facility changes will be conducted.

The current permit revision proposes addition of a product line and corresponding physical changes, with a resulting change in the VOC PTE to 273 TPY.

However, even though demand for Hexcel's products can be projected with some precision, market demand for the products manufactured at the facility not fixed. That is, even within the confines of the current physical facility and the existing methods of doing business, shifts in demand for existing products could result in modest increases in actual VOC emissions.

The EPA has expressed concern over the lack of an annual TPY-cap in the current permit revision proposal.

In order to establish a ton-per-year VOC emission cap, Hexcel proposes to allow for an additional 10% or 27 TPY to accommodate possible changes in product mix. The resulting facility cap would be 300 TPY for VOCs, and compliance would be tracked through the existing mass-balance/emission control accounting system.

Hexcel will have to demonstrate on a monthly rolling basis that such cap is not being exceeded. For such purposes, EPA also recommended that the recordkeeping section of the permit be improved to ensure that emission factors used for on-going emissions calculations are enforceable.

In addition to demonstrating compliance with the annual VOC limitation, Hexcel has to implement a tracking system for VOC emission changes resulting from changes in or additions of process materials. This language was added as a result of discussions with EPA regarding formulation changes being considered “changes in the method of operation”.

4.1.3 AIR QUALITY IMPACT ANALYSIS

4.1.3.1 Ozone Nonattainment Area Impacts

To the extent this is a major modification of a major source of VOC emissions, Code §3-3-250.A.5.b requires an investigation of the degree of ambient impact on the nearby ozone nonattainment area.

The maximum VOC emission rate for this modification is about 61.29 tpy. Since ozone impacts are assessed on a seasonal, short-term basis, emissions should be viewed on a daily basis. Facility operation would only produce a worst-case daily emission rate of 0.007 tons-per day or 13.99 pounds-per-day of VOCs.

The MathPro Fuels Report (February 16, 1998), prepared for the 1997 Governor’s Air Quality Strategies Task Force, indicated that the Summer 1999 daily emissions of VOCs in the Phoenix metropolitan area equal 336 metric-tons-per-day, which should fall to 299 metric-tons-per-day by the year 2010. Accordingly, even if emissions from this facility were to occur within the nonattainment area, those emissions would represent a minuscule portion of the current or anticipated VOC emission inventories in the Phoenix metropolitan area. That is, anticipated emissions from this facility would equal 0.0023% of the daily emissions of VOCs in the Phoenix area in 2010.

Given the minuscule relative magnitude of the VOC emissions, the fact that this facility lies roughly 30 miles from the Phoenix ozone nonattainment area, and the diffusion necessarily inherent in any transport of emissions from this facility into that nonattainment area, PCAQCD expressly finds that this facility will not

contribute to violations of the Arizona ambient air quality standards for ozone in that adjacent Phoenix ozone nonattainment area.

4.1.4 ADDITIONAL IMPACT ANALYSIS

4.1.4.1 Growth Analysis

The proposed plant modification will cause little to no associated commercial growth since the products manufactured are custom made for mostly aerospace clients in other areas of the country.

There will be short-term increases in vehicle traffic to the area during periods of equipment installation, but the long-term labor force for operation at the facility will not increase. Changes in air quality due to population increases are associated with increased vehicle and home fuel use. Since the increase in work force for the project is negligible, it can be concluded that the air quality impacts from secondary growth will be negligible.

Since no associated commercial, industrial or residential growth is expected as a result of the proposed project, negligible growth-related ambient impacts are expected.

4.1.4.2 Soils and Vegetation Analysis

Soil and vegetation impacts are primarily caused by the deposition of nitrogen and sulfur. The proposed increase in VOC emissions is not expected to have an effect on soil or vegetation around the Casa Grande facility.

4.1.4.3 Visibility Impairment Analysis - Class I Areas

The CAA and relevant PSD regulations afford nearby Class I areas a special protection. Specifically, “air quality related values” (“AQRV”) must be protected. Visibility constitutes the principal AQRV.

The Class I areas in the vicinity of the proposed project include the Superstition Wilderness (65 km from Hexcel), administered by the National Forest Service, and the Saguaro National Monument (83 km from Hexcel), administered by the Park Service.

As described on the June 2008 Federal Land Manager’s Air Quality Related Value Guidance (FLAG):

“...the Agencies will consider a source locating greater than 50 km from a Class I area to have negligible impacts with respect to Class I AQRVs if its total SO2, NOx, PM10 and H2SO4 emissions (in tons per year, based on a 24-hour maximum allowable emissions), divided by the distance (in km) from the Class I area (Q/D) is 10 or less.”

The proposed total emission increases of NOx, SO2 and PM10 from this project are approximately 7 tons per year. The increases of VOCs, while not required, were also included in the total, raising the number to 68 tpy.

With the given distances to the Class I areas, and Q value of 68 tpy, the Q/D ratio is only 1.0 for Superstition Wilderness and 0.82 for Saguaro National Park, both significantly lower than the screening value of 10. Therefore, the proposed project is expected to have negligible impacts on AQRVs in the nearest Class I

areas.

4.1.5 ENDANGERED SPECIES ACT

Based on rational analysis, and the existing anthropogenic impacts on the surrounding area, PCAQCD does not contemplate any adverse impact on sensitive species.

Pursuant to Section 7 of the Endangered Species Act, a Federal Agency is required to initiate consultation with the Fish and Wildlife Service (FWS) if any action, including permit issuance, might jeopardize the continued existence of endangered or threatened species or adversely modify their critical habitat.

Under a SIP-approved program, a PSD project is considered a state action (not a federal action). While not required[6], on 7/31/08 PCAQCD furnished a copy of the Biological Assessment prepared for the permit application to the FWS, and asked for their comment, if any.

Mike Martinez from the FWS requested additional information on general air quality aspects, as well as the 3 km radius chosen for the Biological Assessment impact. The 3 km "action area" was chosen in accordance with other Biological Assessments conducted in Region V for ESA consultations.

Mike Martinez in a phone conversation with PCAQCD staff on 9/24/08 indicated that they agree with PCAQCD in that the issuance of the proposed permit revision would not adversely impact any sensitive species.

On October 16, 2008, PCAQCD received a letter from FWS[7] indicating that "...no endangered or threatened species, critical habitat, waterways, or wetlands will be affected by the project; nor is the project likely to jeopardize the continued existence of proposed species or destroy or adversely modify proposed critical habitat, because no such species or habitats exist in the project area. No further review is required for this project at this time."

4.2 Regulatory Emission Limitations and Compliance/Monitoring

4.2.1 HAPs Emissions Caps

During EPA's review of the proposed revision V20602.R07, they raised the issue of enforceability regarding the minor source of HAPs status. In response to their comments, an emission caps was added to the permit of 10 tons for individual HAPs and 25 tons for a combination of HAPs.

Additionally, in order not to exceed these caps, the permit now requires a "budget" limitation for HAPs. Basically, Hexcel is required to keep monthly and 12-month rolling records of HAPs, and every month, on the 15th day, set a HAPs emission limit for the next 2 months (based on emissions from the past 10 months). So each month their limit is re-set.

4.2.2 Pinal County HAPs Rule

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[6]Under a SIP-Approved program there is no Federal Agency action and therefore the requirements of Section 7 don't apply. Permittees need to comply with Section 10 of the Endangered Species Act, which requires them to obtain permits from FWS. Local air agency involvement is not necessary.

[7]Signed by Debra T. Bills for Steven L. Spangle, Field Supervisor, October 14, 2008.

HAP increases at the facility due to this permit modification, and specifically increases in formaldehyde emissions, make this revision subject to the requirements of the Pinal County HAPs rule, contained in Article 2 of Chapter 7 of the PCAQCD Regulations. Hexcel has proposed that the BACT analysis for VOC emissions is sufficient to demonstrate compliance with the requirements of HAPRACT, since BACT is more stringent than HAPRACT. In addition, per Arizona Department of Environmental Quality (ADEQ) guidance, control devices that control VOC can be assumed to control VOC HAPs to similar level, for the purpose of demonstrating compliance with the local HAPs program. Therefore, a separate HAPRACt analysis was not provided.

4.2.3 Compliance Assurance Monitoring (CAM)

Ovens #26, #27, #28, DipTanks R169, F660 and F124 and the A-Cap Machine are all subject to CAM. However, a CAM plan was already submitted for the RTO units (#3 and #4) that will be used to control emissions from these new emissions sources. The CAM requirements are included in section §7.D.4 of the permit.

4.3 NSPS/NESHAP Applicability

This facility is not a major source of HAPs. Therefore, none of the standards from 40 CFR Part 63 (for major sources) are applicable to this facility. Currently there are no promulgated area source MACTs that regulate any of this facility's processes.

None of the changes incur any NSPS applicable requirements.

4.3.1 40 CFR 63 Subpart JJJJ

Prior to December of 2005, Hexcel's MEK emissions put their potential emissions at approximately 70 tons per year, well above the major source threshold. On December 19 2005, MEK was delisted as a HAP. Shortly after that date, Hexcel submitted an Applicability Determination Request to EPA region 9 and EPA responded with a letter that indicated that if the PTE calculations submitted by Hexcel were correct, and that the HAP PTE (before MEK) was below the major source threshold as of Hexcel's compliance date of 10/31/06, then Hexcel would not be subject to Subpart JJJJ.

Since there were several questions in regard to the HAP PTE emissions methodology, Hexcel and PCAQCD held several meetings and discussions, and finally in April, 2008, after receipt of a Hexcel letter with diverse compliance clarifications[8], PCAQCD approved Hexcel's conclusion that the PTE for any single HAP did not exceed 10 tpy, nor did the aggregate HAP PTE exceeded 25 tpy.

Therefore, with this revision, PCAQCD is removing the applicable requirements of Subpart JJJJ from this permit.

4.3.2 40 CFR 63 Subpart DDDDD

This rule was vacated on July 30, 2007, but in absence of a standard for this source category, the requirements of §112(j), the MACT "hammer" kicks in.
The Steam Boilers (Equipment # 620A through E), Hot Oil Heaters (Equipment #630A through C) and Hot Water Boilers (Equipment #660A and B) are not subject to any requirement in Subpart DDDDD or in subpart A because as of the date of promulgation

[8]Hexcel's original report demonstrating their minor source status was submitted November 30, 2007 but additional discussions and meetings were held before PCAQCD agreed.

of such Subpart, the facility was not a major source of HAPs.

5. LIST OF ABBREVIATIONS

ADEQ ..... Arizona Department of Environmental Quality
ADS ..... Agglomerative Dust Suppression
AP-42 .....
"Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources", 5th Edition
AQRV ..... Air Quality Related Values
BACT ..... Best Available Control Technology
BLM ..... Bureau of Land Management
CAA ..... Clean Air Act
CAM ..... Compliance Assurance Monitoring
CFR ..... Code of Federal Regulations
CO ..... Carbon Monoxide
EPA ..... Environmental Protection Agency
ESA ..... Endangered Species Act
FLAG ..... Federal Land Manager's Air Quality Related Value Guidance
FWS ..... Fish and Wildlife Services
HAPRACT ..... Hazardous Air Pollutant Reasonably Available Control Technology
hr ..... Hour
lb ..... Pound
MACT ..... Maximum Achievable Control Technology
MEK ..... Methyl Ethyl Ketone
MMBTU ..... Million British Thermal Units
Mod. ..... Modification
MSDS ..... Material Safety Data Sheet
NOV ..... Notice of Violation
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
RBLC ..... RACT/BACT/LAER Clearinghouse
RTO ..... Regenerative Thermal Oxidizer
SIC ..... Standard Industrial Code
SIP ..... State Implementation Plan
SOX ..... Sulfur Dioxide
tpy ..... tons per year
TSD ..... Technical Support Document
VOC ..... Volatile Organic Compound
yr ..... year