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ENGINEERING AND COMPLIANCE	523303-5	DATE 04/02/11
PERMIT APPLICATION EVALUATION AND CALCULATIONS	PROCESSED BY AED	CHECKED

**PERMIT TO CONSTRUCT EVALUATION
(Abrasive Blasting, Dust collector, Title V Revision)**

OWNER/OPERATOR: ROHR, INC. OPERATING AS GOODRICH AEROSTRUCTURES

FACILITY ID: 800113

EQUIPMENT LOCATION: 8200 ARLINGTON AVE., RIVERSIDE, CA 92503

MAILING ADDRESS: SAME AS ABOVE

Title V Permit Revision Application:

A/N: 532305

PERMITS TO CONSTRUCT

EQUIPMENT DESCRIPTION:

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
Process 9: ABRASIVE BLASTING					
ABRASIVE BLASTING, ROOM, MAXIMUM AIR PRESSURE OF 100 PSIG, MAXIMUM ¾ INCH INSIDE DIAMETER, WITH: 16 FT: HEIGHT, 12 FT LENGTH, 23 FT WITH ABRASIVE BLASTING NOZZLE, FOUR CYCLONE, PROGRESSIVE SURFACES, WITH RAT TRAP FILTER, DIA. 4 FT., LENGTH 7 FT 9 IN, DIA. 4 FT., BLOWER 30 H.P., 12000 CFM AUTO MEDIA ADDED HOPPER, PROGRESSIVE SURFACES, VOLUME 40 ½ CUBIC FT., AIR OPERATED VALVE. Reference:A/N: 471942 532303	D67	C274 C70		PM: (9) [RULE:1140, 2-1-1980: RULE 1140, 8-2-1985; RULE 405, 2-7-1986]	D323.1, E193.2, E448.1, K67.9
BAGHOUSE, FARR, GS12SQ, EACH CARTRIDGES 15 IN DIA. X 39 IN L, 12 CARTRIDGE, WITH PULSE JET CLEANING SYSTEM	C274	D67		PM: (9) [RULE 404, 2-7-1986]	A63.21, C6.19, D322.2, E102.1, E193.2,

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A/N: 471912 Reference: A/N: 532304					H23.14, K67.1
CYCLONE, HEIGHT: 7 FT 9 IN, DIAMETER: 4 FT A/N 471912	C68	D67C69			D323.1, H23.4
BAGHOUSE, EACH CARTRIDGE 14 IN DIA X 28 IN LENGTH, 12 CARTRIDGE A/N 471912	C69	C68		PM: (9) [RULE 404, 2-7-1986]	A63.21, D322.2, D381.1, E102.1, H23.14, K67.1

Abrasive Blasting Conditions:

D323.1 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on an annual basis, at least, unless the equipment did not operate during the entire annual period. The routine annual 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 that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either;

- 1) Take corrective action(s) that eliminate 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; or
- 2) Have a Carb-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures in the CARB manual "Visible Emissions Evaluation", within three business days and report any deviations to AQMD.

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
- 3) Date and time visible emission was abated, and
- 4) All visible emissions observation records by operator or a certified smoke reader.

E193.2 The operator shall construct this equipment according to the following requirements;

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This permit shall expire if the construction of this equipment is not complete within one year from the date of the issuance of this permit unless an extension of time has been approved in writing by a District representative.

The operator shall notify a District representative when construction has been completed.

E448.1 The operator shall comply with the following requirements:

The total quantity of abrasive blasting media discharged through the nozzles shall not exceed 60,000 pounds per day, including recycled abrasive material

K67.9 The operator shall keep records, in a manner approved by the district, for the following parameter(s) or item(s):

Daily usage of abrasive blasting media, including recycled abrasive material

Baghouse Conditions:

A63.21 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSION LIMIT
Visible emissions	Less than or equal to 0 Percent Opacity

C6.19 The operator shall use this equipment in such a manner that the differential pressure being monitored, as indicated below, does not exceed 6 inches water column.

To comply with this condition, the operator shall install and maintain a(n) differential pressure gauge to accurately indicate the differential pressure across the filter media.

The operator shall determine and record the parameter being monitored once every 7 days.

D322.2 The operator shall perform an annual inspection of the equipment and filter media for leaks, broken or torn filter media, and improperly installed filter media.

E102.1 The operator shall discharge dust collected in this equipment only into closed containers.

E193.2 The operator shall construct this equipment according to the following requirements;

This permit shall expire if the construction of this equipment is not complete within one year from the date of the issuance of this permit unless an extension of time has been approved in writing by a District representative.

The operator shall notify a District representative when construction has been completed.

H23.14 This equipment is subject to the applicable requirements of the following rules or regulations:

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Contaminant	Rule	Rule Rule/Subpart
PM	District Rule	1155

K67.1 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s);
The name of the person performing the inspection and/or maintenance of the filter media
The date, time and results of the inspection.
The date, time and description of any maintenance or repairs resulting from the inspection.

BACKGROUND:

Rohr submitted the above applications for expedited permit processing for the modification of an abrasive blasting system and a replacement of a baghouse venting the abrasive blasting system. The new baghouse replacing baghouse C69 has larger filter area, the abrasive blast room (D67) will be modified to include an auto media adder hopper to improve the media transfer (see attached diagram). In addition, cyclone (C68) will be replaced with an identical cyclone, which has a “rat trap” for easier maintenance.

Rohr is a RECLAIM/Title V facility. A Title V renewal permit was issued to this facility on July 6, 2010. Rohr has proposed to revise their Title V renewal permit (with A/N: 532305) by the replacement of a baghouse and modifying an abrasive blasting system by adding an auto media adder, and a replacement of a cyclone. This permit revision is considered a “de minimis significant permit revision” to the Title V renewal permit, as described in the Regulation XXX evaluation.

PROCESS DESCRIPTION:

Rohr manufactures aerospace components for commercial and military aircraft. They perform metal and composite material processing, structural bonding and assembly operations. Manufacturing processes conducted at this location include composite bonding, resin curing, core stabilizing, primer and topcoat spray painting, roller coating, degreasing, solvent cleaning, metal surface preparation, abrasive blasting and tooling preparation.

The above abrasive blasting system and associated air pollution control equipment baghouse will be for the surface preparation of unpainted graphite and other composite parts. A maximum of 60,000 lbs/day of abrasive media is used per permit condition (E448.1). The facility will continue to process the same parts, use the same abrasive blasting media (Aluminum Oxide), and continue to operate with no change in the operating schedule of the equipment.

EMISSION CALCULATION:

The proposed modification to the abrasive blasting system by the replacement of the cyclone and addition of the hopper will result in negligible emission increase of PM emissions. The abrasive blasting system will be vented to the new baghouse C274. The facility will continue to process the same parts, use the same abrasive blasting media (Aluminum Oxide), and continue to operate with no change

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in the operating schedule of the equipment. As a result, previous calculations for PM10 emissions will be used.

4 Abrasive Blasting Nozzles each 3/4" @ 80 psi
PM = 2 x PM10

Sand Flow Rate = 2400 lb sand/hr
Density: Aluminum Oxide - 160 lb/gal; Sand - 99 lb/gal
Aluminum Oxide Flow Rate = 2400 x 160/99 = 3878.8 lb Al. Ox/hr per nozzle
Total Flow Rate = 4 nozzles x 3879 lb/hr = 15,516 lb Al Ox/hr
Permit limit = 60,000 lb AL Ox/day

Emission Factor = 0.01 lb PM/lb Al Ox

Current Maximum PM Emissions

R1, PM = 60,000 lb/day X 0.01 lb PM/lb
= 600 lb/day
R1, PM10 = 300 lb/day

R2, PM = 600 lb/day X (1 - 0.99) = 6 lb/day
R2, PM10 = 3 lb/day

Rule 404 emission calculation:

Exhaust PM concentration
= (0.75 lb/hr x 7000 gr/lb) x (min /12000 ft³) x (hr /60min) = 0.0073 grains/ ft³
Rule 404 allowable limit based on 12000 cfm is 0.0739 grains/ft³

Rule 405 emissions calculation:

Actual PM emission = 0.75 lb/hr
Rule 405 allowable limit based for a process weight of 7500 lbs/hr is 7.4 lb/hr

Abrasive Blasting Systems

Abrasive Material:	Aluminum Oxide
Nozzle Diameter, Inches:	3/4"
Room Dimensions (W' X L' X H'):	16' x 23' x 12'
Blower rating, H.P.:	30- H.P.
CFM:	12,000
No. of Filters:	12 Cartridges (3,900 sq. Ft.)
No. of Nozzles:	four

Room Cross draft Velocity (CD)
Room Cross Area: 9 W. X 8 H. = 192. Ft².
CD = Blower CFM / Area = 12,000 / 192 = 62.5 fpm (should be min 50 ft/min)
In draft Velocity through Air Port (ID):

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ID = 12,000/ sq ft of opening
 = 12,000/ 24 sq. ft. = 500 fpm (should be min 500 ft/min)
 Air -to- Cloth Ratio (A/C) = 12,000/3900 = 3.08 (should be max of 8.0:1)

Baghouse and Abrasive Blasting Room Guideline Review:

	Recommended	Actual	Compliance
A/C Ratio	8:1 Max	3.08:1	Yes
Bag Shaker	PJ/MN	PJ	Yes
Access Door	Yes	Yes	Yes
Closed Container	Yes	Yes	Yes
Pressure Gauge	Yes	Yes	Yes

RULE ANALYSIS

RULE 212 (c)(1) This section requires a public notice for all new or modified permit units that emit air contaminants located within 1,000 feet from the outer boundary of a school. No public notice is required since no school is located within 1,000 ft from the above site.

(c)(2) This section requires a public notice for all new or modified facilities that have on-site emission increases exceeding any of the daily maximums as specified by Rule 212(g).

The equipment will not result in on-site emission increases exceeding the daily maximums for any criteria pollutant emissions as specified in Rule 212(g). Therefore, a 30-day public notice period will not be required.

(c)(3) This section requires a public notice for all new or modified permit units with increases in emissions of toxic air contaminants listed in Table I of Rule 1401 resulting in a cancer risk equal or greater than one in a million.

The proposed modification of the abrasive blasting system and replacement of the baghouse will not result in any emission increase that will result in a cancer risk equal or greater than one in a million. See Rule 1401 evaluation. Public notice is not required under this section of the rule.

212(g) This section requires a public notice for all new or modified sources that result in emission increases exceeding any of the daily maximums as specified by Rule 212(g). The proposed modification of the abrasive blasting system and replacement of the baghouse will not result in an emission increase exceeding the daily maximums.

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	Maximum Daily Emissions					
	ROG	NO _x	PM ₁₀	SO ₂	CO	Pb
Emission increase	0	0	0	0	0	0
MAX Limit (lb/day)	30	40	30	60	220	3
Compliance Status	Yes	Yes	Yes	Yes	Yes	Yes

RULES 401 & 402: Emissions from the abrasive blasting room are being vented to an air pollution control system baghouse for particulate emission control. With the proper operation and maintenance of the air pollution control equipment, compliance with this rule is expected.

Rule 404: The emission calculations indicates that the proposed abrasive blasting system and control equipment is expected to comply with the requirements of this rule.

Rule 405: The emission calculations indicates that the proposed abrasive blasting system is expected to comply with the requirements of this rule.

Rule 1140: The abrasive blasting room is totally enclosed and vented to an air pollution control equipment baghouse to minimize particulate matter emissions to the atmosphere. Compliance with this rule is expected.

RULE 1155: The abrasive blasting room is totally enclosed and the emissions are vented to an air pollution control system baghouse. The baghouse is a tier 2 baghouse and is subject to a weekly visible emission monitoring and recordkeeping. Further, the operator is required install and operate a pressure gauge with a pressure drop limit. The operator is required to monitor and record the pressure drop across the filters on a weekly basis. In addition, the operator is required to inspect the filters on an annual basis for leaks, broken or torn filter media, and improperly installed filter media. Therefore, the operation of the air pollution control equipment with the above specified conditions will ensure compliance with the Rule.

REGULATION XIII

RULE 1303(a), BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

The abrasive blasting system will be vented to the new baghouse C274 which will satisfy BACT requirements.

RULE 1303(b)(1), MODELING

This proposed modification of the abrasive blasting system will result in negligible PM10 emission increase. Compliance with this rule is expected.

RULE 1303(b)(2), OFFSET

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This proposed modification of the abrasive blasting system will result in negligible PM emission increase. Therefore no offsets will be required for this project.

RULE 1401: Toxics: Rule 1401 contains the following requirements:

- 1) **(d)(1) MICR and Cancer Burden** - The cumulative increase in MICR which is the sum of the calculated MICR values for all toxic air contaminants emitted from the new, relocated or modified permit unit will not result in any of the following:
 - (A) an increased MICR greater than one in one million (1.0×10^{-6}) at any receptor location, if the permit unit is constructed without T-BACT;
 - (B) an increased MICR greater than ten in one million (1.0×10^{-5}) at any receptor location, if the permit unit is constructed with T-BACT;
 - (C) a cancer burden greater than 0.5.
- 2) **(d)(2) Chronic Hazard Index** - The cumulative increase in total chronic HI for any target organ system due to total emissions from the new, relocated or modified permit unit will not exceed 1.0 at any receptor location.
- 3) **(d)(3) Acute Hazard Index** - The cumulative increase in total acute HI for any target organ system due to total emissions from the new, relocated or modified permit unit will not exceed 1.0 at any receptor location.

The proposed modification of the abrasive blasting system will result in negligible emission increase. However, the modification will not cause an increased MICR nor will there be an increase of the Acute Hazard index in excess of 1.0. Compliance with this rule is expected.

REGULATION XX-RECLAIM

RULE 2005-NEW SOURCE REVIEW FOR RECLAIM

Rohr, Inc. is a NOx RECLAIM facility. This project will not affect NOx emissions at the facility since the baghouse and abrasive blasting room do not emit NOx. This rule is not applicable to this project.

REGULATION XXX

The proposed project is considered as a “de minimis significant permit revision” for non-RECLAIM pollutants and hazardous air pollutants, and a “minor permit revision” for RECLAIM pollutants.

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 (HAP) from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

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Air Contaminant	Daily Maximum (lb/day)
HAP	30
VOC	30
NO _x	40
PM10	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 3rd permit revision to the Title V renewal permit issued to this facility on July 6, 2010.

Revision	HAP	VOC	NO _x *	PM10	SO _x	CO
Previous permit Revisions.	0	0	0*	0	0	0
3 rd Permit Revision Modification of Abrasive Blasting Room Device ID# D67 by replacing the cyclone, and adding an Auto Media Added Hopper. Replacement of baghouse C69 with C274.	0	0	0	0	0	0
Cumulative Total	0	0	0	0	0	0
Maximum Daily	30	30	40*	30	60	220

* RECLAIM pollutant, not subject to emission accumulation requirements

+ Reduced emissions will not be subtracted from Cumulative Total

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.

RECLAIM Pollutants

Rule 3000(b)(12)(A)(v) defines a “minor permit revision” as any Title V permit revision that does not result in an emission increase of RECLAIM pollutants over the facility starting Allocation plus nontradeable Allocations, or higher Allocation amount which has previously undergone a significant permit revision process.

Since NO_x is a RECLAIM pollutant for this facility, a separate analysis shall be made to determine if the proposed permit revision is considered a “minor permit revision” for RECLAIM pollutants. The proposed modification of the abrasive blasting system and the replacement of the baghouse will not

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result in an increase in NOx emissions. As a result, this proposed project is considered as 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” for non-RECLAIM pollutants and hazardous air pollutants, and a “minor permit revision” for RECLAIM pollutants, 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 with conditions (as specified in the sample facility permit) will be issued to this facility.