



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
ENGINEERING AND COMPLIANCE DIVISION**

**Coating, Printing, Aerospace & Metal Finishing Team  
PERMIT APPLICATION EVALUATION**

Page	1 of 5
A/Ns	547299
Processed by:	WW
Reviewed by:	SMKE
Date	6/11/13

**PERMIT TO CONSTRUCT  
Low NOx Burner (R1147 Compliance)**

**Applicant's Name:** Johanson Dielectrics Inc  
**Facility ID:** 91259  
**Mailing Address:** 15191 Bledsoe Street, Sylmar, CA 91342  
**Equipment Location:** 15191 Bledsoe Street, Sylmar, CA 91342

**EQUIPMENT DESCRIPTION**

**A/N 547299 (A/N 341607, P/O F59947) - PC**

Modification to oven under A/N 341607 (PO F59947) consisting of:

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

- A. AFTERBURNER, CATALYTIC OXIDIZER, BAKER FURNACE, 10'-0" W. X 16'-0" L. X 18'-6" H., NATURAL GAS FIRED, 3.0 MMBTU/HR, WITH 4.13 SQ. FT. OF CATALYST
- B. HEAT EXCHANGER
- C. 30 H.P. EXHAUST FAN VENTING SIX CASTING MACHINES

BY THE REPLACEMENT OF THE BURNER WITH A 3,000,000 BTU/HR ECLIPSE RATIO AIR LOW-NOX BURNER.

**A/N 547300**

Title V permit revision – Minor Permit Revision

**BACKGROUND**

Johanson Dielectrics, Inc. submitted A/N 547299 on 2/01/13 to modify a catalytic oxidizer by replacing the burner with a low-NOx burner to comply with Rule 1147 requirements. The scheduled compliance date is July 2013 listed in the Table-2 of Rule 1147 since this equipment was manufactured in 1998. Per current policy this is an administrative change to retrofit the existing catalytic oxidizer operating above 800°F under permit no. F59947, A/N 341607 with a low-NOx burner that meets 60 PPM NOX emission at 3% O<sub>2</sub> (Table 1). The facility currently operates at above 800°F so the permit will be condition will be changed to 800-1100°F. The 3 MM Btu/hr



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
ENGINEERING AND COMPLIANCE DIVISION**

**Coating, Printing, Aerospace & Metal Finishing Team  
PERMIT APPLICATION EVALUATION**

Page 2 of 5  
A/Ns 547299  
Processed by: WW  
Reviewed by: SMKE  
Date 6/11/13

burner will be replaced with a 3 MM Btu/hr low-NOx burner which will result in NOx emission reduction and no increase with the other combustion pollutants.

The company was last inspected on 5/15/13 and found in compliance with all the District Rules and Regulations according to the inspector's report. The District database showed no notice to comply or notice of violations, nuisance and odor complaints.

Johanson Dielectrics, Inc is a Title V facility. A Title V permit renewal was issued to this facility on November 11, 2011. This proposed project is the 1st permit revision to the Title V permit renewal. Also included with this revision is the removal of the nickel plating tank under A/N 433671 (P/N F71910). A Title V permit application 547300 was also submitted.

Johanson Dielectrics is a manufacturer of ceramic chip capacitors that are used by electronic product manufacturers within circuit board assemblies. The facility operates casting machines used to make ceramic films which are subsequently sandwiched with conducting materials cut, and heat-treated to form dielectric chips. The raw material used for the casting of the ceramic film is proprietary slurry mixed by the company. The slurry consists of ceramic powder, plasticizer, and solvent. Emissions from the casting process are primarily from the drying of the solvent and these emissions are controlled by the catalytic oxidizer.

Rule 1147 was adopted December 5, 2008 and amended September 9, 2011 to reduce NOx emissions from certain gaseous and liquid fuel fired combustion equipment. The other equipment subject to this rule, the backup afterburner (Permit # G6678) has not been used will most likely be taken out of service.

**EMISSION CALCULATION**

Operating schedule: 24 hrs/day, 6 days/wk, 52 wks/yr (max)  
24 hrs/day, 5 days/wk, 52 wks/yr

Summary of emissions from the oven combustion of natural gas:

<i>A/N Burner*</i>	<i>VOC (lb/hr)</i>	<i>NOx (lb/hr)</i>	<i>CO (lb/hr)</i>	<i>PM (lb/hr)</i>
Old-341607	0.02	<b>0.37</b>	0.10	0.021
New-547299	0.02	<b>0.22</b>	0.10	0.021
Change		<b>0.15</b>		

\*See attached spreadsheets for combustion emissions calculations.



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
ENGINEERING AND COMPLIANCE DIVISION**

**Coating, Printing, Aerospace & Metal Finishing Team  
PERMIT APPLICATION EVALUATION**

Page	3 of 5
A/Ns	547299
Processed by:	WW
Reviewed by:	SMKE
Date	6/11/13

## **RULE EVALUATION**

***RULE 212(c)(1)*** *This section requires a public notice for all new and modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school.*

The facility is not located within 1,000 feet from a school therefore a public notice is not required per Rule 212 (c)(1).

***RULE 212(c)(2)&(g)*** *This section requires a public notice for all new and modified equipment and facilities which have on-site emission increases exceeding any of the daily maximums specified in subdivision (g).*

This is a modification with a reduction in NO<sub>x</sub> combustion emissions and no increase in other pollutants. Public notice will not be required.

***RULE 212(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 resulted in MICR greater than  $1E^{-6}$  per permit unit or greater than  $10E^{-6}$  per facility.*

There is no increase in TAC from this equipment due to the burner replacement since the new burner has the same rating. Therefore, public notice is not required.

***RULE 401*** *Visible Emissions*

Visible emissions are not expected with proper maintenance and operation of this equipment. The system shows no visible emissions complaints for the last two years for this facility.

***RULE 402*** *Nuisance*

Operation of this equipment is not expected to create a nuisance with proper maintenance and operation. The system shows no odor complaints for the last two years for this facility.



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
ENGINEERING AND COMPLIANCE DIVISION**

**Coating, Printing, Aerospace & Metal Finishing Team  
PERMIT APPLICATION EVALUATION**

Page 4 of 5  
A/Ns 547299  
Processed by: WW  
Reviewed by: SMKE  
Date 6/11/13

**RULE 1147** NOx Reductions

This equipment which operates at 800°F will be equipped with a burner which is expected to emit less than 60 ppmv NOx emissions at 3% O<sub>2</sub>. A source test will be conducted to verify compliance. Therefore, compliance is expected.

**REG XIII** Rule 1303(a), Best Available Control Technology (BACT)

The oven will be equipped with a low NOx burner therefore BACT is not triggered for this modification since there is a reduction in NOx emissions and no increase in other pollutants.

Rule 1303 (b)(1), Modeling

Modeling is not required for this modification since there is no increase in emission. The calculated values for the combustion emissions are less than the screening limits in Table A-1, therefore no further modeling analysis is required.

	<b>NOx lb/hr</b>	<b>CO lb/hr</b>	<b>PM<sub>10</sub> lb/hr</b>
<b>Table A-1 Limit</b>	<b>0.31</b>	<b>17.1</b>	<b>1.9</b>
A/N 547299– Curing Oven (>2 <5 MMBTU/hr)	0.22	0.1	0.02

Rule 1304 (d)(2)(B), Offsets Exemption

This is a modification to retrofit the burner with a low NOx burner. There is no emission increase for this equipment. Therefore no offsets required.

**RULE 1401** New Source Review of Carcinogenic Air Contaminants

This is a modification with no increase in toxic air contaminants, exempt by (g)(1)(B).

**REGULATION XXX**

This facility is not in the RECLAIM program. The proposed project is considered as a “minor permit revision” to the Title V permit for this facility.



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
ENGINEERING AND COMPLIANCE DIVISION**

**Coating, Printing, Aerospace & Metal Finishing Team  
PERMIT APPLICATION EVALUATION**

Page 5 of 5  
A/Ns 547299  
Processed by: WW  
Reviewed by: SMKE  
Date 6/11/13

Rule 3000(b)(12)(vi) defines a “minor permit revision” as any Title V permit revision that does not result in an increase in emissions of a pollutant subject to Regulation XIII – New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP).

The proposed project is not expected to result in an increase in emissions of a pollutant subject to Regulation XIII – New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP), and therefore is considered as a “minor permit revision” pursuant to Rule 3000(b)(12)(A)(vi).

This proposed project is the 1st permit revision to the Title V renewal permit issued to this facility on November 29, 2011. This revision will also include removal of the nickel plating tank under A/N 433671 (P/N F71910). The following table summarizes the permit revisions since the Title V renewal permit was issued:

Revision		HAP	VOC	NOx	PM <sub>10</sub>	SOx	CO
1 <sup>st</sup> Permit Revision	A/N 547299 modification of oven and removal of a nickel plating tank A/N 433671 (P/N 71910).	0	0	0	0	0	0
Cumulative Total		0	0	0	0	0	0
Maximum Daily		30	30	40	30	60	220

**RECOMMENDATION:**

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “minor 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, a revised Title V permit will be issued to this facility with a permit to construct for the catalytic oxidizer.