

**PERMIT TITLE V RENEWAL AND
PERMIT TO OPERATE EVALUATION**

Applicant name: Prime Wheel (FACILITY ID# 105903)

Mailing address: 17703 South Main St.
Gardena, Ca

Equipment Location: 17704 S. Broadway St.
Carson, Ca

EQUIPMENT DESCRIPTIONS:

Application No. 537672 D91

CHANGE NOX RECLAIM CONCENTRATION LIMIT TO DEFAULT FACTOR:

DRYING OVEN NO.3, IPE/TMF, 13'-9"W. x 121'-4"L. x 7'-3"H., TWO BURNERS, MAXON MODEL 415, NATURAL GAS-FIRED, 1,500,000 BTU/HR EACH, TWO BURNERS, ECLIPSE MODEL WX200, NATURAL GAS-FIRED, 1,500,000 BTU/HR EACH, FOUR 2-HP EXHAUST BLOWERS, AND EIGHT 10-HP RECIRCULATION FANS.

Application No. 537673 D88

CHANGE NOX RECLAIM CONCENTRATION LIMIT TO DEFAULT FACTOR:

DRYING OVEN NO.1, IPE/TMF, 13'-9"W. x 121'-4"L. x 7'-3"H., TWO BURNERS, MAXON MODEL 415, NATURAL GAS-FIRED, 1,500,000 BTU/HR EACH, TWO BURNERS, ECLIPSE MODEL WX200, NATURAL GAS-FIRED, 1,500,000 BTU/HR EACH, FOUR 2-HP EXHAUST BLOWERS, AND EIGHT 10-HP RECIRCULATION FANS.

Application No. 537674 D94

CHANGE NOX RECLAIM CONCENTRATION LIMIT TO DEFAULT FACTOR:

DRYING OVEN NO.2, IPE/TMF, 13'-9"W. x 121'-4"L. x 7'-3"H., ONE BURNER, MAXON MODEL 415, NATURAL GAS-FIRED, 1,500,000 BTU/HR, ONE BURNER, ECLIPSE

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MODEL WX200, NATURAL GAS-FIRED, 1,500,000 BTU/HR, TWO 2-HP EXHAUST BLOWERS, AND FOUR 10-HP RECIRCULATION FANS.

Application No. 537671 **D85**

CHANGE OF CONDITION BY INCREASING POWDER COATINGS USAGE:

SPRAY BOOTH NO. 3, POWDER COATING, WITH ONE 7.5-HP BLOWER

DUST COLLECTOR, 6 CARTRIDGE TYPE FILTERS, 1,356 SQ. FT. TOTAL FILTERING AREA, AND TWO FINAL FILTERS

Application No. 529641 **D139**

MODIFICATION OF POWDER COATING SPRAY BOOTH SYSTEM BY ADDITION OF TWO BENCH TYPE SPRAY BOOTHS:

POWDER COATING SPRAY BOOTH SYSTEM CONSISTING OF:

1. SPRAY BOOTH NO. 4, GLOBAL FINISHING SOLUTIONS, AUTOMOTIVE-TYPE, 9'-8" L. X 6'-0" W. X 7'-2" H., WITH TWELVE 20" X 20" EXHAUST FILTERS.
2. SPRAY BOOTH NO. 5, GLOBAL FINISHING SOLUTIONS, BENCH TYPE, 2'-0" W. x 3'-0" L. x 3'-0" H., WITH ONE 20" x 20" EXHAUST FILTER.
3. SPRAY BOOTH NO. 6, GLOBAL FINISHING SOLUTIONS, BENCH TYPE, 2'-0" W. x 3'-0" L. x 3'-0" H., WITH TWO 20" X 20" EXHAUST FILTERS.
4. EXHAUST SYSTEM, 1/3-HP BLOWER VENTING SPRAY BOOTH NOS. 5 AND 6, WITH A 1-HP BLOWER VENTING SPRAY BOOTH NOS. 4, 5 AND 6.

Application No. 529640
RECLAIM/Title V Minor Permit Revision

Application No. 541064
RECLAIM/Title V De minimis Significant Permit Revision.

Application No. 537670
TITLE V PERMIT RENEWAL

PERMIT CONDITIONS: (SEE SAMPLE PERMIT)

BACKGROUND:

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PRIME WHEEL manufactures aftermarket automobile wheels and original equipment wheels. It is a Title V and Reclaim Facility (Facility ID# 105903).

Application No. 529641 was filed on 12/06/11 to modify a powder coating spray system by connecting two small additional bench type spray booths to an existing spray booth ducting and fan.

Application No. 529640 was filed on 12/06/11 for a RECLAIM/Title V minor permit revision.

Application No. 537670 was filed on 05/10/12 for a Title V Renewal.

Application No. 537671 was filed on 05/10/12 for change of condition by increasing material usage for spray booth no. 3 from 12,000 lbs/month to 20,000 lbs/month. On 10/25/12, Prime Wheel requested to cancel the application because the change of condition is no longer needed. Usage Records from 2012 indicate the facility is currently spraying less than 12,000 lbs/month.

Application No. 537672, was filed on 05/10/12 to change the RECLAIM NOx concentration limit from 16 ppm to the default factor for oven D91.

Application No. 537673, was filed on 05/10/12 to change the RECLAIM NOx concentration limit from 16 ppm to the default factor for oven D88.

Application No. 537674, was filed on 05/10/12 to change the RECLAIM NOx concentration limit from 16 ppm to the default factor for oven D94.

Application No. 541064 was filed on 07/31/12 for a RECLAIM/Title V De minimis Significant permit revision.

PROCESS DESCRIPTION:

The wheels at this facility are manufactured from aluminum which are re-melted from clean aluminum ingots or sows in a dry hearth surface or in a second furnace (chip furnace). The control of the particulate and hydrocarbon emissions from these operations are part of the premelt system. Once the wheels are cast, they are loaded on racks and pass through the heat treatment oven, quench tank, aging oven, and a cooling section. The wheels are then machined and are placed on an overhead conveyor to be cleaned and treated in a spray tunnel process line. After exit from the tunnel they are dried in a dry-off oven. The wheels are then placed on another conveyor

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to pass through a spray booth to be painted using two dry electrostatic powder booths plus one wet coating booth. Some wheels are fully painted in all three booths with primer, liquid paint and clear coat. Others may be painted only with clear coat in spray booth #3. The wheels are transferred to an oven to cure so that the powder coating is allowed to flow and form a layer. Also, the wet coating exposed to heat creates a hardened texture.

EMMISSION EVALUATION:**APPLICATION NO. 529641 D139, D141, D142****EMISSIONS**

Devices: Spray Booth System

Operating Schedule: Average : 4 hrs/day, 4 days/wk, 12 wks/yr

Maximum: 4 hrs/day, 4 days/wk, 12 wks/yr

Facility has requested to connect two additional bench type spray booths to an existing spray booth ducting and an existing fan without changing the throughput limit. VOC and PM₁₀ emissions are not expected to increase. No change in the type of coatings and solvents. No increase in usage of coatings and solvents. The maximum VOC emissions from this equipment will be kept at a maximum of 14 lbs VOC/month (168 lbs/year). This is considered a modification with no increase in emissions.

APPLICATION NO. 537672**Emissions**

The NO_x reporting factor is being changed from a 16 ppm concentration limit to the default factor. The facility is opting to use the default factor to avoid future periodic monitoring requirements. NO_x emissions must be recalculated to assure facility has sufficient RTC allocation. In this case, NSR calculations will be based on BACT limit and not default factor since they did a source test and it passed.

Maximum Heat Input Rating, MM BTU/hr: 6

Conversion Factors, ppm @ 3% O₂ to lb/MM BTUNO_x: .00121

Operating Schedule: 24 hrs, 7 days, 52 weeks

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Pre-Mod

NOx hourly emissions

$$.00121 \times 16 \text{ ppm} \times 6,000,000 \text{ Btu/hr} / 1,000,000 = .12 \text{ lbs/hr}$$

NOx daily emissions

$$.12 \text{ lbs/hr} \times 24 = 2.78 \text{ lbs/day}$$

Post-Mod

$$.00121 \times 30 \text{ ppm} \times 6,000,000 \text{ Btu/hr} / 1,000,000 = .22 \text{ lbs/hr}$$

$$.22 \text{ lbs/hr} \times 24 = 5.28 \text{ lbs/day}$$

Increase = Post-Mod – Pre-Mod

$$= 5.28 - 2.78$$

$$= \mathbf{2.5 \text{ lbs/day}}$$

A/N 537673 - Emissions

The NOx reporting factor is being changed from a 16 ppm concentration limit to the default factor. The facility is opting to use the default factor to avoid future periodic monitoring requirements. NOx emissions must be recalculated to assure facility has sufficient RTC allocation. In this case, NSR calculations will be based on BACT limit and not default factor since they did a source test and it passed.

Maximum Heat Input Rating, MM BTU/hr: 6

Conversion Factors, ppm @ 3% O2 to lb/MM BTU

NOx: .00121

Operating Schedule: 24 hrs, 7 days, 52 weeks

Pre-Mod

NOx hourly emissions

$$.00121 \times 16 \text{ ppm} \times 6,000,000 \text{ Btu/hr} / 1,000,000 = .12 \text{ lbs/hr}$$

NOx daily emissions

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$$.12 \text{ lbs/hr} \times 24 = 2.78 \text{ lbs/day}$$

Post-Mod

$$.00121 \times 30 \text{ ppm} \times 6,000,000 \text{ Btu/hr} / 1,000,000 = .22 \text{ lbs/hr}$$

$$.22 \text{ lbs/hr} \times 24 = 5.28 \text{ lbs/day}$$

$$\begin{aligned} \text{Increase} &= \text{Post-Mod} - \text{Pre-Mod} \\ &= 5.28 - 2.78 \\ &= \mathbf{2.5 \text{ lbs/day}} \end{aligned}$$

A/N 537674 - Emissions

The NO_x reporting factor is being changed from a 16 ppm concentration limit to the default factor. The facility is opting to use the default factor to avoid future periodic monitoring requirements. NO_x emissions must be recalculated to assure facility has sufficient RTC allocation. In this case, NSR calculations will be based on BACT limit and not default factor since they did a source test and it passed.

Maximum Heat Input Rating, MM BTU/hr: 3

Conversion Factors, ppm @ 3% O₂ to lb/MM BTU

NO_x: .00121

Operating Schedule: 24 hrs, 7 days, 52 weeks

Pre-Mod

NO_x hourly emissions

$$.00121 \times 16 \text{ ppm} \times 3,000,000 \text{ Btu/hr} / 1,000,000 = .06 \text{ lbs/hr}$$

NO_x daily emissions

$$.06 \text{ lbs/hr} \times 24 = 1.39 \text{ lbs/day}$$

Post-Mod

$$.00121 \times 30 \text{ ppm} \times 3,000,000 \text{ Btu/hr} / 1,000,000 = .11 \text{ lbs/hr}$$

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$$.11 \text{ lbs/hr} \times 24 = 2.64 \text{ lbs/day}$$

$$\begin{aligned} \text{Increase} &= \text{Post-Mod} - \text{Pre-Mod} \\ &= 2.64 - 1.39 \\ &= \mathbf{1.25 \text{ lbs/day}} \end{aligned}$$

RULES EVALUATION:

Rule 212- Standard for Approving Permits

Paragraph 212(c)(1) Requires a public notice for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school. According to the website mapquest.com the nearest school, Ambler Avenue Elementary School, is beyond 2000 ft. of Prime Wheel's property line. A 30-Day Public Notice is not required under this paragraph.

Paragraph 212(c)(2) The equipment will not result in on-site emission increasing exceeding the daily maximum emissions as specified in the table in Rule 212(g). Therefore, a 30-day public notice period will not be required under this paragraph.

Paragraph 212(c)(3) The equipment will not result in an increase in toxics. Public notice will not be required under this paragraph.

This is a Title V Renewal. Public Notice required.

Rule 401- Visible Emission: No visible emission is expected if the equipment is well maintained and properly operated. Therefore, compliance is expected.

Rule 402- Nuisance: No nuisance odors expected. Therefore, compliance is expected.

Rule 407/409: The ovens are fired with natural gas. Compliance is expected.

Rule 481- Spray Coating Operations:

FPM(Large Booth): 7,200 cfm/33 sq. ft = 218

FPM(Smaller booths): 450 cfm/2.78 sq. ft. = 162

Face velocity for smaller booths not expected to change. The additional ducting to the stack will allow enough increase in air flow velocity to allow emissions to leave the main stack. Face velocity for large booth not expected to change. Losses in additional ducting will be compensated

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by the increase in airflow from the smaller fan. Only HVLP guns will be used in the spray booth. Compliance is expected.

Rule 1107 – Coating of Metal Parts and Products: The VOC limit for general coatings is 2.3 lbs/gallon. MSDS was provided and will be kept on site. Facility is in compliance.

Reg XIII:

BACT: Spray Booth

Subcategory/ Rating/Size	VOC	NOx	SOx	CO	PM₁₀	Inorganic
Other Types, < 1170 Lbs/Month of VOC Emissions	Compliance with Applicable AQMD Regulation XI Rules (10-20-2000)				Dry Filters or Waterwash (1990)	

Application to increase usage for spray booth was cancelled. BACT is not triggered. No increase in emissions expected.

Modeling/Offsets: No change in coatings or usage, therefore no increase in emissions expected.

Rule 1147: This is a Reclaim facility. Does not apply.

Rule 1401- New Source Review of Toxic Air Contaminants: No increase in toxics expected.

Rule 2005: New Source Review for Reclaim:

BACT:

	ppm@ 3% O₂	
	Limit	Actual
NOx	30	16

There is no change in combustion emissions for the three ovens other than changing the reporting method. Upon issuance of original PO, the facility source tested the three ovens for BACT purposes and passed.

Offsets:

The facility is subject to the “hold” requirement for the first year of operation. Facility

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must hold sufficient NOx RTCs to offset the NOx emission increase due to the change of reporting factor for the three ovens. Facility must hold a minimum of 1922 lbs of NOx RTCs for D88, 1922 lbs of NOx RTCs for D91, and 961 lbs of NOx RTCs for D94 for the first year of operation. Permit Conditions I297.1, I297.2, and I297.3 are added to ensure compliance.

Reg XXX – Title V Permits: The modification to the spray booth is a minor permit revision. The change of condition for the three ovens is a De minimis Significant revision. The Title V Renewal is considered a Significant revision. All of the revisions require EPA 45-day review. In addition, the Title V Renewal requires public notice.

CONCLUSIONS AND RECOMMENDATIONS:

Based on the evaluation contained herein, the subject equipment is expected to comply with all of the District's rules and regulations; therefore, I recommend all Permits to Operate as described above along with the Title V Permit Renewal.