



NON-TITLE V TECHNICAL SUPPORT DOCUMENT

PERMIT NUMBER: 050123
BUSINESS NAME: PayPal Inc (Prior Name eBay Inc)
SOURCE TYPE: Internet Data Center
PERMIT ENGINEER: Robert Tate

App. ID(s):	406140
Revision(s):	2.0.0.0
Revision Type(s):	Renewal
Date Prepared:	06/08/2016

BACT: No **MACT:** No **NSPS:** Yes **SYNTH MINOR:** Yes **AIRS:** Yes
DUST PLAN REQUIRED: No **DUST PLAN RECEIVED:** No
O&M PLAN REQUIRED: No **O&M PLAN RECEIVED:** No
PORTABLE SOURCE: No **SITE VISIT:** Waived

PROCESS DESCRIPTION:

The source is an internet data center that has 19 emergency engine generator sets (Gensets) currently installed to provide power in the event that their usual power supply fails. The Gensets have been installed in phases throughout the years of operation of the data center as identified in the equipment list, TSD and Permit. For this renewal the operations remain the same as in Revision 1.4.0.0 except that the source indicates in its application that there has been a change in ownership since that revision.

PERMIT HISTORY:

Date Received	Revision Number	Description
01/17/2006	0.0.0.0	Submitted application for new permit for P1 (1A, 2A, 1B, and 2B), 4 emergency gensets at internet data center in Phoenix. App 308256
08/24/2006	0.0.1.0	Minor modification requested to add P2 (3A and 3B), 2 emergency gensets. App 346469
04/02/2008	0.1.0.0	Submitted a non-minor modification to add P3-P4 (4A, 5A, 4B, and 5B), 4 prime gensets. App 373183
11/17/2008	0.1.1.0	Submitted application 377941 minor modification to change all the gensets to emergency gensets.
03/09/2010	1.0.0.0	Submitted renewal application 383286.
03/23/2010	1.0.0.1	Administrative change made to update the revision date.
03/15/2011	1.1.0.0	Submitted a non-minor modification to add P5 (2-1, 2-2, and 2-3), 3 emergency gensets. App 388009
08/14/2012	1.1.1.0	Submitted a minor modification to add P5 (2-4) 1 emergency genset. App 393880
03/05/2014	1.2.0.0	Submitted application 401479 for a non-minor revision to add two additional emergency generators identified as EPA Tier 2 Caterpillar Emergency Generators. This is Phase 6 of the addition of Gensets.
02/11/2015	1.3.0.0	Submitted application 406324 for a non-minor revision to add two (2) additional Gensets as Phase 7 (2A & 2B) and to redistribute the operating hours of the engines to maintain NOx emissions below 90 tpy to assure continued operation as a non-title V source.
11/09/2015	1.4.0.0	Submitted application 410163 for a non-minor revision to add one new emergency generator Caterpillar Model C18, Diesel, EPA Tier 2, Phase 8 and to redistribute the operating hours of the engines to maintain NOx emissions below 90 tpy to assure continued operation as a non-title V source.
05/31/2016	2.0.0.0	Submitted application 406140 for renewal of the permit. The application indicates there have been no changes in operations but that the ownership has changed since

	revision 1.4.0.0 to PayPal Inc via permit transfer submitted 05/31/2016. It should be noted that the permit expiration date was 01/31/2016.
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PURPOSE FOR APPLICATION:

See history above

A. APPLICABLE COUNTY REGULATIONS:

Rule 100: General Provisions and Definitions

Rule 200: Permit Requirements

Rule 220: Non-Title V Permit Provisions

Rule 280: Fees: Table A

Rule 300: Visible Emissions

Rule 324: Stationary Internal Combustion Engines

B. MINOR NEW SOURCE REVIEW:

This source is not a new source nor is this a modification of an existing source but rather a renewal of the permit for an existing source with no changes in operations or equipment. As such Minor New Source Review is not applicable.

C. APPLICABLE FEDERAL REGULATIONS:

40 CFR 60, Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines is applicable to the twelve (12) emergency gensets at the site manufactured after April 1, 2006. Also, if any of the engines manufactured prior to the 2006 date are reconstructed or modified after 7/11/2005 they are subject to the requirements of NSPS IIII.

NON-APPLICABLE FEDERAL REGULATIONS

40 CFR 63, Subpart ZZZZ although considered was determined to be non-applicable because the reciprocating internal combustion engines are used in a commercial facility which is exempt under Subpart ZZZZ.

D. AIR POLLUTION CONTROL EQUIPMENT/EMISSION CONTROL SYSTEM(S):

There is no air pollution control equipment at this site.

E. EMISSIONS:

There are a total of 19 emergency generators on site for this renewal including the genset added in the non-minor revision 1.4.0.0. According to the application materials the new generator/engine complies with EPA Tier 2 emissions standards, and is therefore BACT compliant. The emissions calculations were performed by the source using calculation spreadsheets with emission factors taken from manufacturer's emissions data included in this TSD as shown in the embedded icon below and displayed in full in the Appendix of this TSD. Those emission calculations remain the same for this renewal 2.0.0.0.

In revision 1.2.0.0 Phase 1, 2, 3 and 4 gensets (a total of 10 gensets) were limited to 95 hours of operation/year each and Phase 5 & Phase 6 gensets (a total of 6 gensets) were limited to 400 hours of operation/year each to avoid facility wide major source status of 100 tons/year in the local NOx/Ozone non-attainment area.

In revision 1.3.0.0 Phase 1, 2, 3, and 4 gensets (ten gensets) continued to be limited to 95 hours of operation/year each but Phase 5, 6 and 7 gensets (a total of 8 gensets) were limited to a total of 2320 hours of operation/year (for emission calculation purposes 290 hours of operation/year each was used) but with no single genset to exceed 500 hours/year. With these limitations on the hours of operation of the gensets, the facility wide NOx emissions were just under 90 tpy thus allowing the source greater flexibility of use of the engines and to remain a non-title V source of NOx emissions. See the summary spreadsheet for the emissions from the Phase 1 – 7 gensets in the Appendix of this TSD for comparison to the summary spreadsheet for emissions from the Phase 1 – 8 gensets shown in the embedded icon and in the Appendix of this TSD. None of the other criteria pollutants is in excess of any regulatory threshold such as significance level, BACT or major source.

In revision 1.4.0.0 Phases 1, 2, 3 and 4 gensets continue to be limited to 95 hours of operation/year each. Phases 5, 6 and 7 gensets will be limited to 2304 hours of operation/year (for emission calculation purposes 288 hours of operation/year each was used) but with no single genset to exceed 500 hours/year. The new genset Phase 8 (also referred to in the application documents as the Epsilon Project) will be limited to 100 hours/year. With these

limitations on the hours of operation of the gensets, the facility wide NOx emissions are just under 90 tpy thus allowing the source greater flexibility of use of the engines and to remain a non-title V source of NOx emissions. None of the other criteria pollutants is in excess of any regulatory threshold such as significance level, BACT or major source.



Emissions - Phases
1-8.xlsx

F. HAP EMISSION IMPACTS:

Based on the information provided in the permit application, the facility emits insignificant amount of HAPs; therefore, SCREEN modeling was not performed per the Department's HAPs policy.

G. PERFORMANCE TESTING:

No performance testing is required

H. REGULATORY REQUIREMENTS AND MONITORING:

Permit Conditions 1 – 12 were taken from the prior permit which was issued 5/15/2015 and revised to provide for the addition of the Phase 8 generator engine and the changed distribution of operating hours for Phase 5, 6 and 7 generator engines. The revision 1.4.0.0 was completed and made ready for issue upon the filing of an appropriate application for renewal and payment of the charges for revision 1.4.0.0 including EPA review and local public notice on or about April 4, 2016. Therefore the requirements for this renewal 2.0.0.0 remain the same with no updating necessary.

Permit Conditions 13 – 19 were taken from the current Sharepoint General Conditions template without revision

APPENDIX

SUMMARY - EMISSIONS - PHOENIX FACILITY PHASES 1 through 7

Emission Rate (lb/yr) by Phase:

SUMMARY TABLE 1. CURRENT PERMITTED EMISSIONS FOR PHASES 1 - 7
 (Based on MCAQD Draft TSD Dated March 2, 2015, Rev. 1.3.0.0)

	Phase 1	Phase 2	Phases 3 and 4	Phase 5	Phase 5A	Phase 6	Phase 7	Cumulative Hours	Total MCAQD Permitted Emissions (lb/yr) Phases 1 - 7
	1A, 2A, 1B, 2B	3A, 3B	4A, 5A, 4B, 5B	2-1, 2-2, 2-3	2-4	ID NEY	ID NEY	Phases 5-7	
Operating Hours per Engine	95	95	95	290	290	290	290		
No. Engines	4	2	4	3	1	2	2	2320	
Carbon Monoxide - CO	241	687	1,985	5,349	2,066	1,923	1,923		14,174
Nitrogen Oxides - NOx	18,579	10,237	20,847	43,868	17,060	34,325	34,376		179,292
Sulfur Dioxide - SOx (1)	443	253	505	1,557	519	1,038	1,038		5,353
Sulfur Dioxide - SOx (2)	14	8	16	47	16	32	32		165
Particulate Material - PM10	121	55	138	289	85	170	170		1,028
Particulate Material - PM2.5	121	55	138	289	85	170	170		1,028
Hydrocarbons - HC	458	97	110	847	311	227	227		2,277
1 Assumes sulfur content is 0.05% by weight.									
2 Assumes sulfur content is 0.0015% by weight.									

SUMMARY - EMISSIONS - PHOENIX FACILITY PHASES 1 through 7, PLUS 8 (PROPOSED)

MAINTAIN SITE-WIDE NOx EMISSIONS BELOW 90 tpy (180,000 lb/yr)

Emission Rate (lb/yr) by Phase:

SUMMARY TABLE 2. PROPOSED FACILITY EMISSIONS BASED ON MODIFYING OPERATING HOURS DURING PHASES 5 - 7 PLUS ADDITION OF PHASE 8
 (Phase 1 - 7 Emissions Based on Modification of MCAQD Draft TSD Dated March 2, 2015, Rev. 1.3.0.0)

	Phase 1	Phase 2	Phases 3 and 4	Phase 5	Phase 5A	Phase 6	Phase 7	Cumulative Hours	Total MCAQD Permitted Emissions (lb/yr) Phases 1 - 7	Proposed Phase 8	Proposed Total Facility Emissions Phases 1 - 8
	1A, 2A, 1B, 2B	3A, 3B	4A, 5A, 4B, 5B	2-1, 2-2, 2-3	2-4	ID NEY	ID NEY	Phases 5-7		Epsilon	
Operating Hours per Engine	95	95	95	288	288	288	288			100	
No. Engines	4	2	4	3	1	2	2	2304		1	
Carbon Monoxide - CO	241	687	1,985	5,312	2,051	1,910	1,910		14,096	102	14,198
Nitrogen Oxides - NOx	18,579	10,237	20,847	43,565	16,942	34,088	34,139		178,397	1,274	179,671
Sulfur Dioxide - SOx (1)	443	253	505	1,546	516	1,031	1,031		5,325	41	5,366
Sulfur Dioxide - SOx (2)	14	8	16	47	16	31	31		163	2	165
Particulate Material - PM10	121	55	138	287	85	169	169		1,024	7	1,031
Particulate Material - PM2.5	121	55	138	287	85	169	169		1,024	7	1,031
Hydrocarbons - HC	458	97	110	841	309	225	225		2,265	3	2,268

1 Assumes sulfur content is 0.05% by weight.

2 Assumes sulfur content is 0.0015% by weight.

Diesel Genset > 600 HP P1 1A 2A 1B 2B

Company: e-Bay, Inc

Permit: 050123

Application Number 308256 New Permit 0.0.0.0 406324 1.3.0.0

Input rating of equipment, HP

Generator = 2146 kW = 2875.64 hp

Emissions factors taken from Manufacturer's Data
Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines

Equipment	HP Rating	Annual Operating Hours	Daily Operating Hours	Reduced Daily Operating Hours
Cat Genset P1 1A	2,876	95		
Cat Genset P1 2A	2,876	95		
Cat Genset P1 1B	2,876	95		
Cat Genset P1 2B	2,876	95		

TOTAL HP 11,504 380

Exempt: **No** **97,784** lbs of NOx at 500 hours
Yes **1,266** lbs of CO at 500 hours

<u>Emission factors for diesel:</u>		<u>Constants:</u>	
CO:	2.20E-04 lb/hp-hr	Heating Value =	137,000 BTU/gallon of diesel fuel
NOx:	1.70E-02 lb/hp-hr	500	hours to determine Exempt Status
SOx ¹ :	4.05E-04 lb/hp-hr	1 hp =	2545 BTU/hr
SOx ² :	1.21E-05 lb/hp-hr	1 hp =	2545 BTU/hr
PM ₁₀ :	1.10E-04 lb/hp-hr	1 hp =	0.746 kW
PM _{2.5} :	1.10E-04 lb/hp-hr	1 kW =	1.34 hp
VOC:	4.19E-04 lb/hp-hr		

NOTES:
¹ Assumes sulfur content of diesel fuel is 0.05% by weight.
² Assumes sulfur content of diesel fuel is 0.0015% by weight.

Emissions:

	<u>Yearly Emissions^c</u>	
CO:	241	lbs
NOx:	18579	lbs
SOX¹:	443	lbs
SOX²:	14	lbs
PM₁₀	121	lbs
PM_{2.5}	121	lbs
VOC:	458	lbs

NOTES:
^c Based on annual operating hours for each piece of equipment.

Diesel Genset > 600 HP P2 3A 3B

Company: e-Bay, Inc

Permit: 050123

Application Number 346469 Minor Revision 0.0.1.0 406324 1.3.0.0

Input rating of equipment, HP

Generator = 2451 kW = 3284.34 hp

Emissions factors taken from Manufacturer's Data
Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines

Equipment	HP Rating	Annual Operating Hours	Daily Operating Hours	Reduced Daily Operating Hours
Cat Genset P2 3A	3,285	95		
Cat Genset P2 3B	3,285	95		

TOTAL HP 6,570 190

Exempt: **No** **53,874** lbs of NOx at 500 hours
Yes **3,614** lbs of CO at 500 hours

<u>Emission factors for diesel:</u>		<u>Constants:</u>	
CO:	1.10E-03 lb/hp-hr	Heating Value =	137,000 BTU/gallon of diesel fuel
NOx:	1.64E-02 lb/hp-hr	500	hours to determine Exempt Status
SOx ¹ :	4.05E-04 lb/hp-hr	1 hp =	2545 BTU/hr
SOx ² :	1.21E-05 lb/hp-hr	1 hp =	2545 BTU/hr
PM ₁₀ :	8.81E-05 lb/hp-hr	1 hp =	0.746 kW
PM _{2.5} :	8.81E-05 lb/hp-hr	1 kW =	1.34 hp
VOC:	1.54E-04 lb/hp-hr		

NOTES:

¹ Assumes sulfur content of diesel fuel is 0.05% by weight.

² Assumes sulfur content of diesel fuel is 0.0015% by weight.

Emissions:

	Yearly Emissions^c	
CO:	687	lbs
NOx:	10237	lbs
SOX¹:	253	lbs
SOX²:	8	lbs
PM₁₀	55	lbs
PM_{2.5}	55	lbs
VOC:	97	lbs

NOTES:

^c Based on annual operating hours for each piece of equipment.

Diesel Genset > 600 HP P3 P4 4A 5A 4B 5B

Company: e-Bay, Inc

Permit: 050123

Application Number 373183 Non Minor Revision 0.1.0.0 406324 1.3.0.0

Input rating of equipment, HP

Generator = 2452 kW = 3285.68 hp

Emissions factors taken from Manufacturer's Data
Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines

Equipment	HP Rating	Annual Operating Hours	Daily Operating Hours	Reduced Daily Operating Hours
Cat Genset P3 P4 4A	3,285	95		
Cat Genset P3 P4 5A	3,285	95		
Cat Genset P3 P4 4B	3,285	95		
Cat Genset P3 P4 5B	3,285	95		

TOTAL HP 13,140 380

Exempt: **No** **109,719** lbs of NOx at 500 hours
No **10,447** lbs of CO at 500 hours

<u>Emission factors for diesel:</u>		<u>Constants:</u>	
CO:	1.59E-03 lb/hp-hr	Heating Value =	137,000 BTU/gallon of diesel fuel
NOx:	1.67E-02 lb/hp-hr	500	hours to determine Exempt Status
SOx ¹ :	4.05E-04 lb/hp-hr	1 hp =	2545 BTU/hr
SOx ² :	1.21E-05 lb/hp-hr	1 hp =	2545 BTU/hr
PM ₁₀ :	1.10E-04 lb/hp-hr	1 hp =	0.746 kW
PM _{2.5} :	1.10E-04 lb/hp-hr	1 kW =	1.34 hp
VOC:	8.81E-05 lb/hp-hr		

NOTES:
¹ Assumes sulfur content of diesel fuel is 0.05% by weight.
² Assumes sulfur content of diesel fuel is 0.0015% by weight.

Emissions:

	<u>Yearly Emissions^c</u>	
CO:	1985	lbs
NOx:	20847	lbs
SOX¹:	505	lbs
SOX²:	16	lbs
PM₁₀	138	lbs
PM_{2.5}	138	lbs
VOC:	110	lbs

NOTES:
^c Based on annual operating hours for each piece of equipment.

Diesel Genset > 600 HP P5 2-1, 2-2, 2-3

Company: e-Bay, Inc

Permit: 050123

Application Number 388009 Non Minor Revision 1.1.0.0 406324 1.3.0.0

Input rating of equipment, HP

Generator = 3301 kW = 4423.34 hp

Emissions factors taken from Manufacturer's Data

Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines

Equipment	HP Rating	Annual Operating Hours	Daily Operating Hours	Reduced Daily Operating Hours
Caterpillar Genset P5 2-1	4,423	288		
Caterpillar Genset P5 2-2	4,423	288		
Caterpillar Genset P5 2-3	4,423	288		

TOTAL HP 13,269 864

Exempt: **No** **75,634** lbs of NOx at 500 hours
No **9,222** lbs of CO at 500 hours

Emission factors for diesel:

CO: 1.39E-03 lb/hp-hr
 NOx: 1.14E-02 lb/hp-hr
 SOX¹: 4.05E-04 lb/hp-hr
 SOX²: 1.21E-05 lb/hp-hr
 PM₁₀: 7.49E-05 lb/hp-hr
 PM_{2.5}: 7.49E-05 lb/hp-hr
 VOC: 2.20E-04 lb/hp-hr

Constants:

Heating Value = 137,000 BTU/gallon of diesel fuel
 500 hours to determine Exempt Status
 1 hp = 2545 BTU/hr
 1 hp = 2545 BTU/hr
 1 hp = 0.746 kW
 1 kW = 1.34 hp

NOTES:

¹ Assumes sulfur content of diesel fuel is 0.05% by weight.

² Assumes sulfur content of diesel fuel is 0.0015% by weight.

Emissions:

	Yearly Emissions^c	
CO:	5312	lbs
NOx:	43565	lbs
SOX¹:	1546	lbs
SOX²:	47	lbs
PM₁₀	287	lbs
PM_{2.5}	287	lbs
VOC:	841	lbs

NOTES:

^c Based on annual operating hours for each piece of equipment.

Diesel Genset > 600 HP P5 2-4

Company: e-Bay, Inc

Permit: 050123

Application Number 393880 Minor Revision 1.1.1.0 406324 1.3.0.0

Input rating of equipment, HP

Generator = 3301 kW = 4423.34 hp

Emissions factors taken from Manufacturer's Data

Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines

Equipment	HP Rating	Annual Operating Hours	Daily Operating Hours	Reduced Daily Operating Hours
Caterpillar Genset P5 2-4	4,423	288		

TOTAL HP 4,423 288

Exempt: **No** **29,413** lbs of NOx at 500 hours
Yes **3,561** lbs of CO at 500 hours

Emission factors for diesel:

CO: 1.61E-03 lb/hp-hr
 NOx: 1.33E-02 lb/hp-hr
 SOX¹: 4.05E-04 lb/hp-hr
 SOX²: 1.21E-05 lb/hp-hr
 PM₁₀: 6.60E-05 lb/hp-hr
 PM_{2.5}: 6.60E-05 lb/hp-hr
 VOC: 2.42E-04 lb/hp-hr

Constants:

Heating Value = 137,000 BTU/gallon of diesel fuel
 500 hours to determine Exempt Status
 1 hp = 2545 BTU/hr
 1 hp = 2545 BTU/hr
 1 hp = 0.746 kW
 1 kW = 1.34 hp

NOTES:

¹ Assumes sulfur content of diesel fuel is 0.05% by weight.

² Assumes sulfur content of diesel fuel is 0.0015% by weight.

Emissions:

	Yearly Emissions^c	
CO:	2051	lbs
NOx:	16942	lbs
SOX¹:	516	lbs
SOX²:	16	lbs
PM₁₀	85	lbs
PM_{2.5}	85	lbs
VOC:	309	lbs

NOTES:

^c Based on annual operating hours for each piece of equipment.

Diesel Genset > 600 HP Phase 6, ID NEY

Company: e-Bay, Inc

Permit: 050123

Application Number 401479 406324 1.3.0.0

Input rating of equipment, HP

Generator = 3301 kW = 4423.34 hp

Emissions factors taken from Manufacturer's Data

Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines

Equipment	HP Rating	Annual Operating Hours	Daily Operating Hours	Reduced Daily Operating Hours
Cat Genset Phase 6	4,423	288		
Cat Genset Phase 6	4,423	288		

TOTAL HP 8,846 576

Exempt: **No** **59,180** lbs of NOx at 500 hours
Yes **3,316** lbs of CO at 500 hours

Emission factors for diesel:

CO: 7.50E-04 lb/hp-hr
 NOx: 1.34E-02 lb/hp-hr
 SOX¹: 4.05E-04 lb/hp-hr
 SOX²: 1.21E-05 lb/hp-hr
 PM₁₀: 6.61E-05 lb/hp-hr
 PM_{2.5}: 6.61E-05 lb/hp-hr
 VOC: 8.82E-05 lb/hp-hr

Constants:

Heating Value = 137,000 BTU/gallon of diesel fuel
 500 hours to determine Exempt Status
 1 hp = 2545 BTU/hr
 1 hp = 2545 BTU/hr
 1 hp = 0.746 kW
 1 kW = 1.34 hp

NOTES:

¹ Assumes sulfur content of diesel fuel is 0.05% by weight.

² Assumes sulfur content of diesel fuel is 0.0015% by weight.

Emissions:

	Yearly Emissions^c	
CO:	1910	lbs
NOx:	34088	lbs
SOX¹:	1031	lbs
SOX²:	31	lbs
PM₁₀	169	lbs
PM_{2.5}	169	lbs
VOC:	225	lbs

NOTES:

^c Based on annual operating hours for each piece of equipment.

Diesel Genset > 600 HP Phase 7, 2A & 2B Engines

Company: e-Bay, Inc

Permit: 050123

Application Number 406324 1.3.0.0

Input rating of equipment, HP

Generator = 3301 kW = 4423.34 hp

Emissions factors taken from Manufacturer's Data

Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines

Equipment	HP Rating	Annual Operating Hours	Daily Operating Hours	Reduced Daily Operating Hours
Cat Genset Phase 7	4,423	288		
Cat Genset Phase 7	4,423	288		

TOTAL HP 8,846 576

Exempt: **No** **59,269** lbs of NOx at 500 hours
Yes **3,316** lbs of CO at 500 hours

Emission factors for diesel:

CO: 7.50E-04 lb/hp-hr
 NOx: 1.34E-02 lb/hp-hr
 SOX¹: 4.05E-04 lb/hp-hr
 SOX²: 1.21E-05 lb/hp-hr
 PM₁₀: 6.62E-05 lb/hp-hr
 PM_{2.5}: 6.62E-05 lb/hp-hr
 VOC: 8.83E-05 lb/hp-hr

Constants:

Heating Value = 137,000 BTU/gallon of diesel fuel
 500 hours to determine Exempt Status
 1 hp = 2545 BTU/hr
 1 hp = 2545 BTU/hr
 1 hp = 0.746 kW
 1 kW = 1.34 hp

NOTES:

¹ Assumes sulfur content of diesel fuel is 0.05% by weight.

² Assumes sulfur content of diesel fuel is 0.0015% by weight.

Emissions:

	Yearly Emissions^c	
CO:	1910	lbs
NOx:	34139	lbs
SOX¹:	1031	lbs
SOX²:	31	lbs
PM₁₀	169	lbs
PM_{2.5}	169	lbs
VOC:	225	lbs

NOTES:

^c Based on annual operating hours for each piece of equipment.

Diesel Genset > 600 HP Phase 8, "Epsilon"

Company: e-Bay, Inc

Permit: 050123 1.4.0.0 410163

Application Number

Input rating of equipment, HP

Generator = 750 kW = 1005 hp

Emissions factors taken from Manufacturer's Data (Performance Data [DM8518]; Nominal emission factors)
Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines

Equipment	HP Rating	Annual Operating Hours	Daily Operating Hours	Reduced Daily Operating Hours
Cat Genset Phase 8	1,005	100		

TOTAL HP 1,005 100

Exempt: **No** **6,370** lbs of NOx at 500 hours
Yes **510** lbs of CO at 500 hours

Emission factors for diesel:

CO: 1.01E-03 lb/hp-hr
NOx: 1.27E-02 lb/hp-hr
SOX¹: 4.05E-04 lb/hp-hr
SOX²: 1.21E-05 lb/hp-hr
PM₁₀: 6.61E-05 lb/hp-hr
PM_{2.5}: 6.61E-05 lb/hp-hr
VOC: 2.20E-05 lb/hp-hr

Constants:

Heating Value = 137,000 BTU/gallon of diesel fuel
500 hours to determine Exempt Status
1 hp = 2545 BTU/hr
1 hp = 2545 BTU/hr
1 hp = 0.746 kW
1 kW = 1.34 hp

NOTES:

¹ Assumes sulfur content of diesel fuel is 0.05% by weight.

² Assumes sulfur content of diesel fuel is 0.0015% by weight.

Emissions:

	Yearly Emissions^c	
CO:	102	lbs
NOx:	1274	lbs
SOX¹:	41	lbs
SOX²:	2	lbs
PM₁₀	7	lbs
PM_{2.5}	7	lbs
VOC:	3	lbs

NOTES:

^c Based on annual operating hours for each piece of equipment.



NON-TITLE V COMPLETENESS DETERMINATION CHECKLIST

Items 1-15 Front page: Items 1 to 15 (14 for Renewals) must be completed.

Notes to engineer:

- For renewal applications the source must either answer 'No' to questions 2-5 or submit an application for a permit modification.
- Item 8: Many applicants do not know the SIC code or NAICS code for their industry. For a new application the code can be obtained by doing an on-line search. <http://www.osha.gov/pls/imis/sicsearch.html>
- Items 5, 7 and 14: These may be the same for many applicants.

Complete: Incomplete:

Item 16: A simple site diagram has been included, preferably on a standard size paper. Detailed blueprints or construction drawings are not required.

Complete: Incomplete: N/A:

Item 17: A simple process flow diagram on a standard size paper is preferred. A process flow diagram may not be needed for some small businesses.

Complete: Incomplete: N/A:

Item 18: An O&M plan is required only for a control device. An O&M plan is not required for a spray booth. Instead of including the O&M plan with the application, an applicant may submit it after receiving the permit.

Complete: Incomplete: N/A:

Item 19: A dust control plan, if required, must accompany the permit application. The plan will be reviewed and approved by the dust compliance group.

Complete: Incomplete: N/A:

Item 20: The applicant needs to complete only those sections of the permit application that are applicable.

Complete: Incomplete: N/A:

Notes to engineer:

- Concerning Section Z: Many applicants will not be able to perform these engineering calculations. We will accept the permit application with a blank Section Z.

Instructions for completing Sections A, B, C, D, E-1, E-2, F, G, H, I, J, K-1, K-2, K-3, K-4, L, M, X-1, X-2, Y and Z of the permit application are included at the beginning of each section and are self-explanatory.

In general, a material safety data sheet (MSDS) is required for each chemical used, stored or processed at the facility. Exceptions are for very common materials, such as gasoline, diesel, acetone, etc.

Business name: eBay Inc/PayPal ?

Permit number: 050123

Completeness review completed.

Application determined to be: Complete: Incomplete:

Permit Engineer: Robert Tate

Date: 06/08/2016