

## Robinson, Richard

---

**From:** Justin Collins <jcollins@flightstarjax.com>  
**Sent:** Tuesday, February 21, 2017 10:30 AM  
**To:** Robinson, Richard; Smith, Harry  
**Subject:** Request for Lower Limit to #0310602  
**Attachments:** Rolling 12 Emissions Hangar 935 for December 2016.xls; Rolling 12 Emissions Hangar 935 for December 2015.xls; Hangar 935 Air Operating Permit 6-18-15.pdf; Hangar 935 AO Application Submittal 5-27-15.pdf

Gentlemen,

I am requesting to put a lower VOC/HAPs limit on the permit for facility 0310602. Maintenance and spray booth operations conducted within this facility puts our emissions well below the HAPs and VOC limit initially requested (see attached data). Please set the lower limit to less than 25 tons per year total HAPs, less than 25 tons per year VOC and less than 10 tons per year individual HAPs.

Note: We stopped using lacquer thinner in late 2015 which significantly reduced emissions.

Thanks again for your time,

**Justin Collins**

Environmental, Health and Safety Manager  
Flightstar Aircraft Services, LLC  
6025 Flightline Road, Bldg. 815 Jacksonville, FL 32221  
Tel: 904.741.0300 Ext. 500  
Cell: 904.614.0877



*This message and any attachments are privileged and/or confidential and only for addressed recipients. If you are not the intended recipient; printing, retaining, reproducing, disclosing or using any information contained is prohibited. If you received this in error, please contact the sender immediately and destroy the message and any attachments or copies (electronic or hard copy). This e-mail shall not be considered a legally binding agreement or amendment to any agreement.*

Flightstar Aircraft Services  
Annual Emissions Inventory  
Hangar 935

December 2016- Roll-12-Month										CAS				
Material	Quantity Used (gal/yr.)	Solids Content (lb/gal)	% Volatiles by Vol (%)	PM Emissions (lb/yr.)	Specific Gravity MSDS	Calculated		Material Density (lb/gal) MSDS	VOC		VOC Emission Factor (lb/lb)	VOC Emissions (lb/yr.) calc	Ph	
						Density (lb/gal) calc	Density (lb/gal)		(gr/liter) MSDS	(lb/gal) calc			(lb/gal) MSDS	(lb/gal) calc
Aerospace Coating Stripper	16.02	2.88	70	0.00	1.15		9.6	9.6	1100	9.17	1.00	146.90	0.00	0
Aircraft Etch	0.00	0.83	90	0.00	1		8.3	8.3	8	0.07	1.00	0.00	0.00	0
Alodine (liquid diluted)	45.00	0.17	98	0.00	1.02		8.5	8.5	0	0.00	1.00	0.00	0.00	0
Typical Primer - Base Coating Compound	95.61	3.08	73	8.09	1.35		11.2	11.2	398	3.32	1.00	317.43	0.00	0
Typical Primer - Hardener	94.61	0.00	100	0.00	1.2		10.0	7.4	640	5.34	1.00	505.22	1.00	0.0738
Typical Primer - Solvent Catalyst	0.00	0.00	100	0.00	0.9		7.5	7.4	88	0.73	1.00	0.00	0.00	0
Typical Topcoat - Base Coating Compound	50.85	5.25	55	7.35	1.4		11.7	11.5	371	3.09	1.00	157.13	0.00	0
Typical Topcoat - Hardener Compound	48.73	0.00	100	0.00	0.96		8.0	8.0	408	3.36	1.00	163.73	25.00	2.0025
Lacquer Thinner	0.00	0.00	100	0.00	0.85		7.1	7.0	737	6.15	1.00	0.00	0.00	0
Aerosol Cans	93.15	0.50	60	1.28	1		8.3	8.3	600	5.01	1.00	466.12	0.00	0
TOTAL (pounds)	443.97			16.72								1756.53		
TOTAL (tons)	0.22			0.01								0.88		
SCC 40188898 Total (pounds)	61.02			0.00								146.90		
SCC 40188898 Total (tons)	0.03			0.00								0.07		
SCC 40200110 Total (pounds)	382.95			16.72								1609.62		
SCC 40200110 Total (tons)	0.19			0.01								0.80		

Password: FAS

NOTES:

VOC Emissions = (Quantity Used gal/yr) x (VOC content lb/gal) x (VOC emiss factor lb/lb)

HAP Emissions = (Quantity Used gal/yr) x (HAP content lb/gal) x (HAP emiss factor lb/lb)

PM Emissions = (Quantity Used gal/yr) x (Solids content lb/gal) x (1 - (transfer efficiency)) \* (1 - (control efficiency))

where:

transfer efficiency = 45%, representing worst case (manual airless) spray application technology

(this factor obtained from AP-42 Table 4.2.2.11-1)

control efficiency = 95%, representing nominal performance of paint arrester filters



Flightstar Aircraft Services  
Annual Emissions Inventory  
Hangar 935

Hazardous Air Pollutants/Section 502 Pollutants																
December 2016- Roll-12-Month	108-95-2				CAS 108-10-1				CAS 100-41-4				CAS 001330-20-7			
	enol				MIBK				Ethyl Benzene				Xylene			
Material	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	Tc (lb/gal) calc
Aerospace Coating Stripper	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0
Aircraft Etch	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0
Alodine (liquid diluted)	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0
Typical Primer - Base Coating Compound	1.00	0	5.00	0.5605	1.00	53.589405	0.00	0	1.00	0	8.00	0.8968	1.00	85.743	2.00	0.2242
Typical Primer - Hardener	1.00	6.982218	0.00	0	1.00	0	0.00	0	1.00	0	41.00	3.0258	1.00	286.271	16.00	1.1808
Typical Primer - Solvent Catalyst	1.00	0	18.00	1.3284	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0
Typical Topcoat - Base Coating Compound	1.00	0	1.00	0.1148	1.00	5.83758	1.00	0.1148	1.00	5.83758	8.00	0.9184	1.00	46.7006	0.00	0
Typical Topcoat - Hardener Compound	1.00	97.58183	2.00	0.1602	1.00	7.806546	0.00	0	1.00	0	0.00	0	1.00	0	2.00	0.1602
Lacquer Thinner	1.00	0	0.00	0	1.00	0	2.00	0.1394	1.00	0	0.00	0	1.00	0	67.00	4.6699
Aerosol Cans	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0
TOTAL (pounds)		104.56				67.23				5.84				418.71		
TOTAL (tons)		0.05				0.03				0.00				0.21		
SCC 40188898 Total (pounds)		0.00				0.00				0.00				0.00		
SCC 40188898 Total (tons)		0.00				0.00				0.00				0.00		
SCC 40200110 Total (pounds)		104.56				67.23				5.84				418.71		
SCC 40200110 Total (tons)		0.05				0.03				0.00				0.21		

Password: FAS

Flightstar Aircraft Services  
Annual Emissions Inventory  
Hangar 935

December 2016- Roll-12-Month		Hazardous Air Pollutants/Section 502 Pollutants										Hazardous Air Pollutants/Section 502 Pollutants										CAS	
Material	00108-88-3	CAS 7664-38-2					CAS 7664-39-3					CAS 1333-82-0					CAS					CAS	
		Phosphoric Acid					Hydrofluoric Acid					Chromic Acid					Strontium					CAS	
		EF	(lb/yr.)	(wt%)	(lb/gal)	EF	(lb/yr.)	(wt%)	(lb/gal)	EF	(lb/yr.)	(wt%)	(lb/gal)	EF	(lb/yr.)	(wt%)	(lb/gal)	(wt%)	(lb/yr.)	(wt%)	(lb/gal)	calc	
		(lb/lb)	calc	MSDS	calc	(lb/lb)	calc	MSDS	calc	(lb/lb)	calc	MSDS	calc	(lb/lb)	calc	MSDS	calc	MSDS	calc	MSDS	calc	calc	
Aerospace Coating Stripper		1.00	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00	0	0.00	0	0	
Aircraft Etch		1.00	0	20.00	1.668	0	0	5.00	0.417	0	0	0.00	0	0	0	0.00	0	0.00	0	0.00	0	0	
Alodine (liquid diluted)		1.00	0	0.00	0	0	0	0.00	0	0	0	1.00	0.085068	1	3.82806	0.00	0	0.00	0	0.00	0	0	
Typical Primer - Base Coating Compound		1.00	21.435762	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	20.17	2.261057	0.00	0	0	
Typical Primer - Hardener		1.00	111.71549	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.00	0	0.00	0	0	
Typical Primer - Solvent Catalyst		1.00	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.00	0	0.00	0	0	
Typical Topcoat - Base Coating Compound		1.00	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.00	0	0.00	0	0	
Typical Topcoat - Hardener Compound		1.00	7.806546	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.00	0	0.00	0	0	
Lacquer Thinner		1.00	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.00	0	0.00	0	0	
Aerosol Cans		1.00	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	0.00	0	0.00	0	0	
TOTAL (pounds)			140.96				0.00				0.00				0.00				3.83				
TOTAL (tons)			0.07				0.00				0.00				0.00				0.00				
SCC 4018898 Total (pounds)			0.00				0.00				0.00				0.00				3.83				
SCC 4018898 Total (tons)			0.00				0.00				0.00				0.00				0.00				
SCC 40200110 Total (pounds)			140.96				0.00				0.00				0.00				0.00				
SCC 40200110 Total (tons)			0.07				0.00				0.00				0.00				0.00				

Password: FAS



Flightstar Aircraft Services  
Annual Emissions Inventory  
Hangar 935

December 2016- Roll-12-Month			789-06-2 n Chromate				CAS 1306-23-7 Cadmium Sulfide				CAS 71-55-6 Methylene Chloroform				HAPs
Material	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc	(lb/yr.) calc	HAPs	
Aerospace Coating Stripper	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	1	0	0
Aircraft Etch	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	1	0	0
Alodine (liquid diluted)	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	1	0	3.82806
Typical Primer - Base Coating Compound	0.0275	5.9449406	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	166.7132
Typical Primer - Hardener	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	404.9686
Typical Primer - Solvent Catalyst	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	0
Typical Topcoat - Base Coating Compound	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	58.3758
Typical Topcoat - Hardener Compound	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	113.1949
Lacquer Thinner	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	0
Aerosol Cans	0.0275	0	0.00	0	0.0275	0	0.00	0	0.0275	0	8.00	0.6672	1	62.14968	62.14968
TOTAL (pounds)		5.94				0.00								62.15	809.23
TOTAL (tons)		0.00				0.00								0.03	0.40
SCC 40188898 Total (pounds)		0.00				0.00								0.00	3.83
SCC 40188898 Total (tons)		0.00				0.00								0.00	0.00
SCC 40200110 Total (pounds)		5.94				0.00								62.15	805.40
SCC 40200110 Total (tons)		0.00				0.00								0.03	0.40

Password: FAS

Flightstar Aircraft Services  
Annual Emissions Inventory  
Hangar 935

December 2015- Roll-12-Month										CAS						
Material	Quantity Used (gal/yr.)	Solids Content (lb/gal)	% Volatiles by Vol (%)	PM Emissions (lb/yr.)	Specific Gravity	Calculated		Material Density (lb/gal)	VOC			VOC Emission Factor (lb/lb)	Emissions (lb/yr.) calc	Ph		
						Density (lb/gal) calc	Density (lb/gal) MSDS		(gr/liter) MSDS	(lb/gal) calc	(lb/gal) MSDS			(wt%) MSDS	(lb/gal) calc	
Aerospace Coating Stripper	71.50	2.88	70	0.00	1.15	9.6	9.6	9.6	1100	9.17	9.17	1.00	655.66	0.00	0	0
Aircraft Etch	0.00	0.83	90	0.00	1	8.3	8.3	8.3	8	0.07	1.13	1.00	0.00	0.00	0	0
Alodine (liquid diluted)	78.00	0.17	98	0.00	1.02	8.5	8.5	8.5	0	0.00	0.00	1.00	0.00	0.00	0	0
Typical Primer - Base Coating Compound	60.91	3.08	73	5.15	1.35	11.2	11.2	11.2	398	3.32	3.32	1.00	202.22	0.00	0	0
Typical Primer - Hardener	61.91	0.00	100	0.00	1.2	10.0	10.0	7.4	640	5.34	5.34	1.00	330.60	1.00	0.0738	0
Typical Primer - Solvent Catalyst	0.00	0.00	100	0.00	0.9	7.5	7.5	7.4	88	0.73	0.73	1.00	0.00	0.00	0	0
Typical Topcoat - Base Coating Compound	147.54	5.25	55	21.32	1.4	11.7	11.7	11.5	371	3.09	3.09	1.00	455.90	0.00	0	0
Typical Topcoat - Hardener Compound	146.79	0.00	100	0.00	0.96	8.0	8.0	8.0	408	3.36	3.36	1.00	493.21	25.00	2.0025	0
Lacquer Thinner	302.00	0.00	100	0.00	0.85	7.1	7.1	7.0	737	6.15	6.15	1.00	1857.30	0.00	0	0
Aerosol Cans	146.91	0.50	60	2.02	1	8.3	8.3	8.3	600	5.01	5.00	1.00	735.14	0.00	0	0
TOTAL (pounds)	1015.56			28.49									4730.03			
TOTAL (tons)	0.51			0.01									2.37			
SCC 4018898 Total (pounds)	194.80			0.00									934.25			
SCC 4018898 Total (tons)	0.10			0.00									0.47			
SCC 40200110 Total (pounds)	820.76			28.49									3795.78			
SCC 40200110 Total (tons)	0.41			0.01									1.90			

Password: FAS

NOTES:

VOC Emissions = (Quantity Used gal/yr) x (VOC content lb/gal) x (VOC emiss factor lb/lb)

HAP Emissions = (Quantity Used gal/yr) x (HAP content lb/gal) x (HAP emiss factor lb/lb)

PM Emissions = (Quantity Used gal/yr) x (Solids content lb/gal) x (1 - (transfer efficiency)) \* (1-(control efficiency))

where:

transfer efficiency = 45%, representing worst case (manual airless) spray application technology

(this factor obtained from AP-42 Table4.2.2.11-1

control efficiency = 95%, representing nominal performance of paint arrestor filters



Flightstar Aircraft Services  
Annual Emissions Inventory  
Hangar 935

Hazardous Air Pollutants /Section 502 Pollutants															
December 2015- Roll-12-Month		CAS 108-10-1				CAS 100-41-4				CAS 001330-20-7				CAS 01-11-1	
Material	MIBK		Ethyl Benzene		Xylene		Tc								
	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc
Aerospace Coating Stripper	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0
Aircraft Etch	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0
Alodine (liquid diluted)	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0
Typical Primer - Base Coating Compound	1.00	0	5.00	0.5605	1.00	34.140055	0.00	0	1.00	0	8.00	0.8968	1.00	54.6241	2.00
Typical Primer - Hardener	1.00	4.568958	0.00	0	1.00	0	0.00	0	1.00	0	41.00	3.0258	1.00	187.327	16.00
Typical Primer - Solvent Catalyst	1.00	0	18.00	1.3284	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0
Typical Topcoat - Base Coating Compound	1.00	0	1.00	0.1148	1.00	16.937592	1.00	0.1148	1.00	16.93759	8.00	0.9184	1.00	135.501	0
Typical Topcoat - Hardener Compound	1.00	293.947	2.00	0.1602	1.00	23.515758	0.00	0	1.00	0	0.00	0	1.00	0	2.00
Lacquer Thinner	1.00	0	0.00	0	1.00	0	2.00	0.1394	1.00	42.0988	0.00	0	1.00	0	67.00
Aerosol Cans	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0.00	0	1.00	0	0
TOTAL (pounds)		298.52				74.59				59.04				377.45	
TOTAL (tons)		0.15				0.04				0.03				0.19	
SCC 40188898 Total (pounds)		0.00				0.00				6.31				0.00	
SCC 40188898 Total (tons)		0.00				0.00				0.00				0.00	
SCC 40200110 Total (pounds)		298.52				74.59				52.72				377.45	
SCC 40200110 Total (tons)		0.15				0.04				0.03				0.19	

Password: FAS





Flightstar Aircraft Services  
Annual Emissions Inventory  
Hangar 935

December 2015- Roll-12-Month	789-06-2	CAS 1306-23-7				CAS 71-55-6				HAPs	
Material	Chromate		Cadmium Sulfide		Methylene Chloroform		Chloroform		HAPs		
	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc	EF (lb/lb)	(lb/yr.) calc	(wt%) MSDS	(lb/gal) calc		EF (lb/lb)	(lb/yr.) calc
Aerospace Coating Stripper	0	0	0.00	0	0	0	0.00	0	1	0	0
Aircraft Etch	0	0	0.00	0	0	0	0.00	0	1	0	0
Alodine (liquid diluted)	0	0	0.00	0	0	0	0.00	0	1	0	0
Typical Primer - Base Coating Compound	0.0275	3.787327	0.00	0	0.0275	0	0.00	0	1	0	0
Typical Primer - Hardener	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	0
Typical Primer - Solvent Catalyst	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	0
Typical Topcoat - Base Coating Compound	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	0
Typical Topcoat - Hardener Compound	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	0
Lacquer Thinner	0.0275	0	0.00	0	0.0275	0	0.00	0	1	0	0
Aerosol Cans	0.0275	0	0.00	0	0.0275	0	8.00	0.6672	1	98.018352	98.02
TOTAL (pounds)		3.79				0.00				98.02	2438.62
TOTAL (tons)		0.00				0.00				0.05	1.22
SCC 40188898 Total (pounds)		0.00				0.00				0.00	224.50
SCC 40188898 Total (tons)		0.00				0.00				0.00	0.11
SCC 40200110 Total (pounds)		3.79				0.00				98.02	2214.13
SCC 40200110 Total (tons)		0.00				0.00				0.05	1.11

Password: FAS

<p>Hangar 935 0310602-002-AF</p> <p>December 2016</p>
---

SCC: 40200998	61.02
SCC: 40200110	382.95

2016



Hangar 935 0310602-002-AF  
December 2015

Created By: Douglas Bauman, P.E.  
(407) 822-7655