From: Spahn, Madison R
To: Kevin Parks; Darrick Parker
Subject: IDEM OAQ Contact Information for Application No. 039-47470-00017 for Thor Wakarusa, LLC
Date: Monday, February 5, 2024 8:54:00 AM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png
image006.png
image007.png

Dear Darrick Parker,

I am the permit writer assigned to the current application No. 039-47470-00017 for Thor Wakarusa, LLC. I would like to extend to you my contact information so that we may have continued communication until your new permit is issued. Please keep this information at hand. It is common for questions to arise, and oftentimes, further clarification is needed during the permit review process.

To expedite the review process, please e-mail me the electronic copy of your calculations (preferably in excel format) and other supporting documents used as part of your application.

IDEM, OAQ will notify you when a draft permit has been submitted for public notice and/or when a final permit has been issued. As part of the notification, IDEM, OAQ will provide information on how to access the draft and/or final permit electronically on IDEM's website. If Thor Wakarusa, LLC would prefer to receive paper copies of the entire draft and/or final permit, please let me know prior to the end of the applicant review period. If you prefer to receive paper copies of the entire permit, IDEM, OAQ will mail a paper copy of the draft permit and/or original signed final permit to the source contact. If you do not request to receive paper copies of the entire permit, IDEM, OAQ will only mail a paper copy of the original signed final permit signature page to the source contact.

Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief (Brian Williams) may be contacted at 317-234-5375 or bwilliam@idem.in.gov.

Thank you in advance for your time and assistance. I look forward to working with you.

Sincerely,

IDEM
Indiana Department of Environmental Management
Madison Spahn
Environmental Manager 2
Office of Air Quality
(317)233-3031
mspahn@IDEM.in.gov
Protecting Hoosiers and Our Environment

Help us improve!
IDEM values your feedback

From: Kevin Parks
To: Spahn, Madison R; Darrick Parker
Subject: RE: IDEM OAQ Contact Information for Application No. 039-47470-00017 for Thor Wakarusa, LLC
Date: Monday, February 5, 2024 2:58:01 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png
image006.png
image007.png
46065calcs.xlsx

Dear Madison:

Please find attached the calculations from Permit 46065 for THOR Wakarusa, LLC.

Thank you.

PLEASE NOTE MY NEW EMAIL ADDRESS: kparks@dbesi.com

Sincerely,

Kevin A Parks

Senior Project Manager
D&B Environmental Consulting, LLC
401 Lincoln Way West
Osceola, IN 46561
(574) 674-0161
Fax (574) 674-2778
Mobile (574) 215-6902

From: Spahn, Madison R <MSpahn@idem.IN.gov>
Sent: Monday, February 5, 2024 8:55 AM
To: Kevin Parks <kparks@dbesi.com>; Darrick Parker <dparker@thorindustries.com>
Subject: IDEM OAQ Contact Information for Application No. 039-47470-00017 for Thor Wakarusa, LLC

Dear Darrick Parker,

I am the permit writer assigned to the current application No. 039-47470-00017 for Thor Wakarusa, LLC. I would like to extend to you my contact information so that we may have continued communication until your new permit is issued. Please keep this information at hand. It is common for questions to arise, and oftentimes, further clarification is needed during the permit review process.

To expedite the review process, please e-mail me the electronic copy of your calculations (preferably in excel format) and other supporting documents used as part of your application.

IDEM, OAQ will notify you when a draft permit has been submitted for public notice and/or when a final permit has been issued. As part of the notification, IDEM, OAQ will provide information on how to access the draft and/or final permit electronically on IDEM's website. If Thor Wakarusa, LLC would prefer to receive paper copies of the entire draft and/or final permit, please let me know prior to the end of the applicant review period. If you prefer to receive paper copies of the entire permit, IDEM, OAQ will mail a paper copy of the draft permit and/or original signed final permit to the source contact. If you do not request to receive paper copies of the entire permit, IDEM, OAQ will only mail a paper copy of the original signed final permit signature page to the source contact.

Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief (Brian Williams) may be contacted at 317-234-5375 or bwilliam@idem.in.gov.

Thank you in advance for your time and assistance. I look forward to working with you.

Sincerely,

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Madison Spahn
Environmental Manager 2
Office of Air Quality
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www.idem.IN.gov

Help us improve!
IDEM values your feedback

Appendix A: Emissions Calculations
Emissions Summary

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

	Uncontrolled Potential to Emit (tons/yr)							
Emission Unit	**PM**	**PM10**	**PM2.5**[7]	**SO_2**	**NOx**	**VOC**	**CO**	**Pb**
Plant 1-850 (Motorized Vehicle Assembly, Tile Floor Setting, and Sidewall Lamination)								
Woodworking Mill Room (D1-01)	23.09	23.09	23.09	-	-	-	-	-
Surface Coating: Surface Coating Booths, Sidewall Adhesive Application Process (SV1-6), and Manual Assembly Lines (D1-04) (Assembly Lines 1-Red, 2-Blue[8], and 3-White)	12.33	12.33	12.33	-	-	80.54	-	-
Cap assembly	-	-	-	-	-	2.22	-	-
Undercoating bays[6]	-	-	-	-	-	-	-	-
Cummins Onan Natural Gas-fired Emergency Generator	1.44E-03	2.95E-03	2.95E-03	8.94E-05	0.34	4.50E-03	0.57	-
Miscellaneous Woodworking (MC-850)	0.16	0.16	0.16	-	-	-	-	-
Woodworking (P850WW2 through P850WW14)	0.02	0.02	0.02	-	-	-	-	-
Touch-Up Painting (P850TP)	0.09	0.09	0.09	-	-	5.84	-	-
Plant 2-35 (Final Paint Plant)								
Surface Coating: Partial Paint Line (Paint Line A)	22.58	22.58	22.58	-	-	142.39	-	-
Surface Coating: Full Paint Lines (Paint Lines B through E)	16.27	16.27	16.27	-	-	306.31	-	-
Surface Coating: Repair Line and Undercoating Operation	0.43	0.43	0.43	-	-	93.28	-	-
Natural Gas Combustion: Paint Line A	0.10	0.39	0.39	0.03	5.15	0.28	4.33	-
Surface Coating: Two (2) Paint Prep Areas	4.56	4.56	4.56	-	-	2.74	-	-
Sanding: Two (2) Paint Prep Areas	142.35	142.35	142.35	-	-	-	-	-
Paint Storage and Mixing Area	4.56	4.56	4.56	-	-	2.74	-	-
Final Inspection Area	4.56	4.56	4.56	-	-	2.74	-	-
Adhesive Applicator	2.28	2.28	2.28	-	-	1.37	-	-
Plant 20-820 (Assembly and Welding)								
Adhesive Application (former EU1-7, former EU20-A)	0.07	0.07	0.07	-	-	24.89	-	-
Welding Operations (EU20-B + insignificant activities)	10.51	10.51	10.51	-	-	-	-	-
Welding Operations (EU20-C)	4.43	4.43	4.43	-	-	-	-	-
Natural Gas Combustion	4.96E-03	1.98E-02	1.98E-02	1.57E-03	0.26	0.01	0.22	1.31E-06
Plant 22-822 (Welding Operations)								
Welding Operations (22-822W)	0.43	0.43	0.43	-	-	-	-	-
Plant 26-826 (White Glove Inspection Area and Dispatch)								
Surface Coating: Inspection Area	1.04	1.04	1.04	-	-	18.91	-	-
Plant 28-828 (Warehouse and Wire Harness Assembly)								
wire harness assembly	8.21E-05	8.21E-05	8.21E-05	-	-	8.49E-03	-	8.21E-05
Service Operations								
Plant 29-829 Diesel Service Center	0.53	0.53	0.53			3.79		
Plant 854 Gasoline Service Center	0.51	0.51	0.51	-	-	3.60	-	-
Plant 32-7/8 and Plant 32A (Welding and Warehouse)								
Welding	0.29	0.29	0.29	-	-	-	-	-
Plant 35-833E (Fire Pump Southeast of Plant 2-35)								
Diesel Fire Pump	1.35	1.35	1.35	1.26	19.01	1.54	4.10	-
Plant 36-836 (Welding and Woodworking Operations)								
Welding Operations	3.18	3.18	3.18	-	-	-	-	-
Miscellaneous Woodworking (MC-836)	0.08	0.08	0.08	-	-	-	-	-
Woodworking Operation (P836WW1)	1.23E-03	1.23E-03	1.23E-03	-	-	-	-	-
Plant 56-5 (Warehouse and Welding)								
Welding	0.34	0.34	0.34	-	-	-	-	-
Plant 450 (Motor Home Assembly)								
Assembly (P450AO)[9]	1.17	1.17	1.17	-	-	21.21	-	-
Woodworking (P450WW)	0.38	0.38	0.38	-	-	-	-	-
Woodworking (P450WW2 through P450WW6)	8.21E-03	8.21E-03	8.21E-03	-	-	-	-	-
Miscellaneous operations (P450MO)	1.77	1.77	1.77	-	-	-	-	-
Natural gas combustion (P450NGC)	0.02	0.07	0.07	5.80E-03	0.97	5.31E-02	0.81	4.83E-06
Gasoline tank (GT1)	-	-	-	-	-	0.30	-	-
Diesel fuel tank (DT1)	-	-	-	-	-	6.25E-04	-	-
Plant 831 (Lamination)								
Lamination (FCL1, FCL2, and FCL3)[10]	-	-	-	-	-	2.35E-06	-	-
Lamination (FCL4 - FCL9)	-	-	-	-	-	6.05E-06	-	-
Emergency generator (EG2)	0.26	0.26	0.26	0.25	3.72	0.30	0.80	-
Diesel tank (EG2DT)	-	-	-	-	-	5.09E-04	-	-
Natural Gas Combustion	0.04	0.15	0.15	0.01	1.95	0.11	1.64	9.76E-06
Woodworking (P831WW1 - P831WW5)	4.52E-03	4.52E-03	4.52E-03	-	-	-	-	-
Routing Operations (P831SWR1 through P831SWR3, P831RR1, P831FR1, and P831FR2)	5.12	5.12	5.12	-	-	-	-	-
Total of surface coating operations not determined to be insignificant for PSD	-	-	-	-	-	***130.35***	-	-
Total of Plant 2-35 surface coating operations	-	-	-	-	-	***551.86***	-	-
Total	**264.93**	**265.41**	**265.41**	**1.55**	**31.40**	**715.19**	**12.46**	**9.80E-05**

See notes below Potential to Emit After Issuance table

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Potential to Emit after Control (tons/yr)								
Emission Unit	**PM**	**PM10**	**PM2.5[3]**	**SO_2**	**NOx**	**VOC**	**CO**	**Pb**
Plant 1-850 (Motorized Vehicle Assembly, Tile Floor Setting, and Sidewall Lamination)								
Woodworking Mill Room (D1-01)	23.09	23.09	23.09	-	-	-	-	-
Surface Coating: Surface Coating Booths, Sidewall Adhesive Application Process (SV1-6), and Manual Assembly Lines (D1-04) (Assembly Lines 1-Red, 2-Blue[8], and 3-White)	0.62	0.62	0.62	-	-	80.54	-	-
Cap assembly	-	-	-	-	-	2.22	-	-
Undercoating bays[6]	-	-	-	-	-	-	-	-
Cummins Onan Natural Gas-fired Emergency Generator	1.44E-03	2.95E-03	2.95E-03	8.94E-05	0.34	4.50E-03	0.57	-
Miscellaneous Woodworking (MC-850)	0.16	0.16	0.16	-	-	-	-	-
Woodworking (P850WW2 through P850WW14)	0.02	0.02	0.02	-	-	-	-	-
Touch-Up Painting (P850TP)	0.09	0.09	0.09	-	-	5.84	-	-
Plant 2-35 (Final Paint Plant)								
Surface Coating: Partial Paint Line (Paint Line A)	0.94	0.94	0.94	-	-	142.39	-	-
Surface Coating: Full Paint Lines (Paint Lines B through E)	0.81	0.81	0.81	-	-	306.31	-	-
Surface Coating: Repair Line and Undercoating Operation	0.02	0.02	0.02	-	-	93.28	-	-
Natural Gas Combustion: Paint Line A	0.10	0.39	0.39	0.03	5.15	0.28	4.33	-
Surface Coating: Two (2) Paint Prep Areas	4.56	4.56	4.56	-	-	2.74	-	-
Sanding: Two (2) Paint Prep Areas	14.24	14.24	14.24	-	-	-	-	-
Paint Storage and Mixing Area	4.56	4.56	4.56	-	-	2.74	-	-
Final Inspection Area	4.56	4.56	4.56	-	-	2.74	-	-
Adhesive Applicator	2.28	2.28	2.28	-	-	1.37	-	-
Plant 20-820 (Assembly and Welding)								
Adhesive Application (former EU1-7, former EU20-A)	3.50E-03	3.50E-03	3.50E-03	-	-	24.89	-	-
Welding Operations (EU20-B + insignificant activities)	10.51	10.51	10.51	-	-	-	-	-
Welding Operations (EU20-C)	4.43	4.43	4.43	-	-	-	-	-
Natural Gas Combustion	4.96E-03	1.98E-02	1.98E-02	1.57E-03	2.61E-01	1.44E-02	2.19E-01	1.31E-06
Plant 22-822 (Welding Operations)								-
Welding Operations (22-822W)	0.43	0.43	0.43	-	-	-	-	-
Plant 26-826 (White Glove Inspection Area and Dispatch)								
Surface Coating: Inspection Area	5.20E-02	5.20E-02	5.20E-02	-	-	18.91	-	-
Plant 28-828 (Warehouse and Wire Harness Assembly)								
wire harness assembly	8.21E-05	8.21E-05	8.21E-05	-	-	8.49E-03	-	8.21E-05
Service Operations								
Plant 29-829 Diesel Service Center	0.53	0.53	0.53	-	-	3.79	-	-
Plant 854 Gasoline Service Center	0.51	0.51	0.51	-	-	3.60	-	-
Plant 32-7/8 and Plant 32A (Welding and Warehouse)								
Welding	0.29	0.29	0.29	-	-	-	-	-
Plant 35-833E (Fire Pump Southeast of Plant 2-35)								
Diesel Fire Pump	1.35	1.35	1.35	1.26	19.01	1.54	4.10	-
Plant 36-836 (Welding and Woodworking Operations)								
Welding Operations	3.18	3.18	3.18	-	-	-	-	-
Miscellaneous Woodworking (MC-836)	0.08	0.08	0.08	-	-	-	-	-
Woodworking Operation (P836WW1)	1.23E-03	1.23E-03	1.23E-03	-	-	-	-	-
Plant 56-5 (Warehouse and Welding)								
Welding	0.34	0.34	0.34	-	-	-	-	-
Plant 450 (Motor Home Assembly)								
Assembly (P450AO)[9]	1.17	1.17	1.17	-	-	21.21	-	-
Woodworking (P450WW)	0.38	0.38	0.38	-	-	-	-	-
Woodworking (P450WW2 through P450WW6)	8.21E-03	8.21E-03	8.21E-03	-	-	-	-	-
Miscellaneous operations (P450MO)	1.77	1.77	1.77	-	-	-	-	-
Natural gas combustion (P450NGC)	1.84E-02	7.34E-02	7.34E-02	5.80E-03	0.97	5.31E-02	0.81	4.83E-06
Gasoline tank (GT1)	-	-	-	-	-	0.30	-	-
Diesel fuel tank (DT1)	-	-	-	-	-	6.25E-04	-	-
Plant 831 (Lamination)								
Lamination (FCL1, FCL2, and FCL3)[10]	-	-	-	-	-	2.35E-06	-	-
Lamination (FCL4 - FCL9)	-	-	-	-	-	6.05E-06	-	-
Emergency generator (EG2)	0.26	0.26	0.26	0.25	3.72	0.30	0.80	-
Diesel tank (EG2DT)	-	-	-	-	-	5.09E-04	-	-
Natural Gas Combustion	0.04	0.15	0.15	0.01	1.95	0.11	1.64	9.76E-06
Woodworking (P831WW1 - P831WW5)	4.52E-03	4.52E-03	4.52E-03	-	-	-	-	-
Routing Operations (P831SWR1 through P831SWR3, P831RR1, P831FR1, and P831FR2)	5.12	5.12	5.12	-	-	-	-	-
Total of surface coating operations not determined to be insignificant for PSD	-	-	-	-	-	***130.35***	-	-
Total of Plant 2-35 surface coating operations	-	-	-	-	-	***551.86***	-	-
Total	**86.54**	**87.02**	**87.02**	**1.55**	**31.40**	**715.19**	**12.46**	**9.80E-05**

See notes below Potential to Emit After Issuance table

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Potential to Emit after Issuance[1,2] (tons/yr)								
Emission Unit	**PM**	**PM10**	**PM2.5[3]**	**SO_2**	**NOx**	**VOC**	**CO**	**Pb**
Plant 1-850 (Motorized Vehicle Assembly, Tile Floor Setting, and Sidewall Lamination)								
Woodworking Mill Room (D1-01)	23.09	23.09	23.09	-	-	note 4	-	-
Surface Coating: Surface Coating Booths, Sidewall Adhesive Application Process (SV1-6), and Manual Assembly Lines (D1-04) (Assembly Lines 1-Red, 2-Blue[8], and 3-White)	0.62	0.62	0.62	-	-		-	-
Cap assembly	-	-	-	-	-		-	-
Undercoating bays[6]	-	-	-	-	-	note 5	-	-
Cummins Onan Natural Gas-fired Emergency Generator	1.44E-03	2.95E-03	2.95E-03	8.94E-05	0.34	4.50E-03	0.57	-
Miscellaneous Woodworking (MC-850)	0.16	0.16	0.16	-	-	-	-	-
Woodworking (P850WW2 through P850WW14)	0.02	0.02	0.02	-	-	-	-	-
Touch-Up Painting (P850TP)	0.09	0.09	0.09	-	-	5.84	-	-
Plant 2-35 (Final Paint Plant)								
Surface Coating: Partial Paint Line (Paint Line A)	0.94	0.94	0.94	-	-	note 5	-	-
Surface Coating: Full Paint Lines (Paint Lines B through E)	0.81	0.81	0.81	-	-		-	-
Surface Coating: Repair Line and Undercoating Operation	0.02	0.02	0.02	-	-		-	-
Natural Gas Combustion: Paint Line A	0.10	0.39	0.39	0.03	5.15	0.28	4.33	
Surface Coating: Two (2) Paint Prep Areas	4.56	4.56	4.56	-	-	note 5	-	-
Sanding: Two (2) Paint Prep Areas	14.24	14.24	14.24	-	-		-	-
Paint Storage and Mixing Area	4.56	4.56	4.56	-	-		-	-
Final Inspection Area	4.56	4.56	4.56	-	-		-	-
Adhesive Applicator	2.28	2.28	2.28	-	-		-	-
Plant 20-820 (Assembly and Welding)								
Adhesive Application (former EU1-7, former EU20-A)	3.50E-03	3.50E-03	3.50E-03	-	-	note 4	-	-
Welding Operations (EU20-B + insignificant activities)	10.51	10.51	10.51	-	-	-	-	-
Welding Operations (EU20-C)	4.43	4.43	4.43	-	-	-	-	-
Natural Gas Combustion	4.96E-03	1.98E-02	1.98E-02	1.57E-03	0.26	1.44E-02	0.22	1.31E-06
Plant 22-822 (Welding Operations)								
Welding Operations (22-822W)	0.43	0.43	0.43	-	-	-	-	-
Plant 26-826 (White Glove Inspection Area and Dispatch)								
Surface Coating: Inspection Area	5.20E-02	5.20E-02	5.20E-02	-	-	note 4	-	-
Plant 28-828 (Warehouse and Wire Harness Assembly)								
wire harness assembly	8.21E-05	8.21E-05	8.21E-05	-	-	8.49E-03	-	8.21E-05
Service Operations								
Plant 29-829 Diesel Service Center	0.53	0.53	0.53	-	-	note 4	-	-
Plant 854 Gasoline Service Center	0.51	0.51	0.51	-	-	3.60	-	-
Plant 32-7/8 and Plant 32A (Welding and Warehouse)								
Welding	0.29	0.29	0.29	-	-	-	-	-
Plant 35-833E (Fire Pump Southeast of Plant 2-35)								
Diesel Fire Pump	1.35	1.35	1.35	1.26	19.01	1.54	4.10	-
Plant 36-836 (Welding and Woodworking Operations)								
Welding Operations	3.18	3.18	3.18	-	-	-	-	-
Miscellaneous Woodworking (MC-836)	0.08	0.08	0.08	-	-	-	-	-
Woodworking Operation (P836WW1)	1.23E-03	1.23E-03	1.23E-03	-	-	-	-	-
Plant 56-5 (Warehouse and Welding)								
Welding	0.34	0.34	0.34	-	-	-	-	-
Plant 450 (Motor Home Assembly)								
Assembly (P450AO)[9]	1.17	1.17	1.17	-	-	21.21	-	-
Woodworking (P450WW)	0.38	0.38	0.38	-	-	-	-	-
Woodworking (P450WW2 through P450WW6)	8.21E-03	8.21E-03	8.21E-03	-	-	-	-	-
Miscellaneous operations (P450MO)	1.77	1.77	1.77	-	-	-	-	-
Natural gas combustion (P450NGC)	1.84E-02	7.34E-02	7.34E-02	5.80E-03	0.97	5.31E-02	0.81	4.83E-06
Gasoline tank (GT1)	-	-	-	-	-	0.30	-	-
Diesel fuel tank (DT1)	-	-	-	-	-	6.25E-04	-	-
Plant 831 (Lamination)								
Lamination (FCL1, FCL2, and FCL3)[10]	-	-	-	-	-	note 4	-	-
Lamination (FCL4 - FCL9)	-	-	-	-	-	6.05E-06	-	-
Emergency generator (EG2)	0.26	0.26	0.26	0.25	3.72	0.30	0.80	-
Diesel tank (EG2DT)	-	-	-	-	-	5.09E-04	-	-
Natural Gas Combustion	3.71E-02	0.15	0.15	0.01	1.95	0.11	1.64	9.76E-06
Woodworking (P831WW1 - P831WW5)	4.52E-03	4.52E-03	4.52E-03	-	-	-	-	-
Routing Operations (P831SWR1 through P831SWR3, P831RR1, P831FR1, and P831FR2)	5.12	5.12	5.12	-	-	-	-	-
Total of surface coating operations limited or not otherwise determined to be insignificant for PSD[4]	-	-	-	-	-	***240.19***	-	-
Total of Plant 2-35 surface coating operations[5]	-	-	-	-	-	***539.00***	-	-
Total	**86.54**	**87.02**	**87.02**	**1.55**	**31.40**	**812.46**	**12.46**	**9.80E-05**

Notes:
1. The shaded cells indicate where limits are included.
2. Pursuant to 326 IAC 6-3-2(d), the particulate emissions from surface coating operations shall be controlled by dry particulate filters and the Permittee shall operate the control devices in accordance with the manufacturer's specifications. Compliance with this standard, in conjuction with a conservative assumption of 95% capture and control, shall limit PM, PM10, and PM2.5 emissions from the surface coating operations to the values shown.
3. PM2.5 listed is direct PM2.5
4. Total VOC emissions from surface coating operations except units in Plant 2-35 on June 21, 2004 is limited to 240.19 tons per 12 consecutive months. Operations limited pursuant to CP 039-7335-00017, issued July 24, 1997 and SSM 039-12758-00017, issued May 15, 2001, as revised by Part 70 Operating Permit No. 039-7559-00017, issued June 21, 2004.
5. Total VOC emissions from surface coating operations for units in Plant 2-35 on June 21, 2004 is limited to 539 tons per 12 consecutive months. Operations limited pursuant to SSM No. 039-15620-00017, issued December 11, 2002.
6. Undercoating bays were relocated from Plant 2 (now Plant 2-35) in AA No. 039-34062-00017, issued March 18, 2014.
7. Booth SV20-1 in Plant 20 (now Plant 20-820) (formerly SV1-4) was relocated in SSM 039-31023-00017 and removed in AA No. 039-34062-00017.
8. Assembly Line 2-Blue was relocated from Plant 56-5 in SPM 039-39771-00017. The unit was originally constructed in Plant 1 (now Plant 1-850) in 1997 and relocated to Plant 56-5 in AA No. 039-34062-00017, issued March 18, 2014. Emissions have always been included in limits applicable to Plant 1-850.
9. Formerly L1-Gold, added in SSM 039-31023-00017, issued March 27, 2012.
10. FCL1, FCL2, and FCL3 were relocated to Plant 831 from Plant 1-850 in SPM 039-39771-00017 with no change to PTE.

HAPs

The potential to emit HAPs has not been calculated for all of the emissions units at the source because the Permittee is confident that the PTE for HAPs is greater than 25 tons per year for a combination of HAPs; the Permittee has elected to state that this source is major for HAPs rather than calculate the exact potential to emit for these pollutants.

Appendix A: Emissions Calculations
Modification Summary

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Process Description	Uncontrolled Potential to Emit (PTE) of the Modification								
	Criteria Pollutants							Hazardous Air Pollutants	
	PM (tons/yr)	PM10 (tons/yr)	PM2.5 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Highest Single (tons/yr)	Total HAPs (tons/yr)
Plant 450 Woodworking Operations (P450WW2 - P450WW6)	8.21E-03	8.21E-03	8.21E-03	-	-	-	-	-	-
Plant 831 Woodworking Operations (P831WW1 - P831WW5)	4.52E-03	4.52E-03	4.52E-03	-	-	-	-	-	-
Plant 831 Routing Operations - Roof/Floor/Sidewall Routing	5.12	5.12	5.12	-	-	-	-	-	-
Plant 36-836 Miscellaneous Woodworking Operation (MC-P836)	0.08	0.08	0.08	-	-	-	-	-	-
Plant 36-836 Woodworking Operation (P836WW1)	1.23E-03	1.23E-03	1.23E-03	-	-	-	-	-	-
Plant 1-850 Miscellaneous Woodworking Operation (MC-P850)	0.16	0.16	0.16	-	-	-	-	-	-
Plant 1-850 Woodworking Operations (P850WW2 - P850WW14)	0.02	0.02	0.02	-	-	-	-	-	-
Plant 1-850 Touch Up Painting (P850TP)	0.09	0.09	0.09	-	-	5.84	-	0.75	1.08
Total:	**5.49**	**5.49**	**5.49**	**0.00**	**0.00**	**5.84**	**0.00**	**0.75**	**1.08**

Note:
*Highest single HAP is xylenes.

Appendix A: Emissions Calculations
ATP Summary

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

New Emissions Units

New Emissions Units (ton/yr)							
Process/Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**
Plant 450 Woodworking Operations (P450WW2 - P450WW6)	8.21E-03	8.21E-03	8.21E-03	-	-	-	-
Plant 831 Woodworking Operations (P831WW1 - P831WW5)	4.52E-03	4.52E-03	4.52E-03	-	-	-	-
Plant 831 Routing Operation - Roof/Floor/Sidewall Routing	5.12	5.12	5.12	-	-	-	-
Plant 36-836 Miscellaneous Woodworking Operation (MC-P836)	0.08	0.08	0.08	-	-	-	-
Plant 36-836 Woodworking Operation (P836WW1)	1.23E-03	1.23E-03	1.23E-03	-	-	-	-
Plant 1-850 Miscellaneous Woodworking Operation (MC-P850)	0.16	0.16	0.16	-	-	-	-
Plant 1-850 Woodworking Operations (P850WW2 - P850WW14)	0.02	0.02	0.00	-	-	-	-
Plant 1-850 Touch Up Painting (P850TP)	0.09	0.09	0.09	-	-	5.84	-

Project Emissions

Project Emissions (tpy)							
Process/Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**
Sum of ATP Increases	5.49	5.49	5.47	0.00	0.00	5.84	0.00
Project Emissions	**5.49**	**5.49**	**5.47**	**0.00**	**0.00**	**5.84**	**0.00**
Significant Levels	**25**	**15**	**10**	**40**	**40**	**40**	**100**

Appendix A: Emissions Calculations
Plant 1 Woodworking
Mill Room D1-01

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Control Device	Outlet Grain Loading	Maximum Air Flow Rate	Uncontrolled PTE $PM/PM_{10}/PM_{2.5}$		Control Efficiency	Controlled PTE $PM/PM_{10}/PM_{2.5}$	
	grains/dscf	dscfm	lbs/hr	TPY	%	lbs/hr	TPY
bagfilter collector	0.030	20,500	10542.86	46177.71	99.95%	5.27	23.09

Methodology:

It is assumed that $PM=PM_{10}=PM_{2.5}$.

Conversion Factors: 7000 grains/pound; 60 minutes/hour; 8,760 hours/year; 2,000 pounds/ton

PTE of PM/PM_{10} after Control (lbs/hr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr

PTE of PM/PM_{10} after Control (tons/yr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr x 8760 hr/yr x 1 ton/2000 lbs

PTE of PM/PM_{10} before Control (tons/yr) = PTE of PM/PM_{10} after Control (tons/yr) / (1-Control Efficiency)

Appendix A: Emissions Calculations
Plant 1 -850 Assembly

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Includes VOC & Particulate emissions from: Sidewall Adhesive Application Process (SV1-6), and Manual Assembly Lines (Assembly Lines 1-Red and 3-White) in Plant 1-850, and Assembly Line 2 - Blue now located in Plant 56-5

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Particulate Emissions (lbs/hr)	Particulate Emissions (tons/yr)	Particulate Emissions after controls (tons/yr)
Adhesives*																			
DAP WELDWOOD CRPNTR'S GLUE #494	30207(494)	flow	9.17	0.02	0	2.40%	0	1.00	7,000	19.18	0.22	0.22	100%	0.18	4.22	0.77	0	0	0
ADHESIVE INDUSTRIAL 3M	1300	tube	7.34	0.62	0	62.00%	0	0.02	7,000	0.38	4.55	4.55	100%	0.07	1.75	0.32	0	0	0
ADHESIVE MULTI-PURPOSE	S-235	wipe	9.84	0.33	0	33.00%	0	0.02	7,000	0.38	3.25	3.25	100%	0.05	1.25	0.23	0	0	0
ADHESIVE PARR/5941 CONSTRUCTION 40	5927/40	tube	9.34	0.35	0	35.00%	0	0.85	7,000	16.30	3.27	3.27	100%	2.22	53.29	9.73	0	0	0
ADHESIVE PRO-BOND	AP 32	N.A Spray	7.42	0.99	0	98.50%	0	0.02	7,000	0.38	7.31	7.31	100%	0.12	2.80	0.51	0	0	0
ADHESIVE SIKAFLEX 221	221	tube	9.90	5.99%	0	5.99%	0	0.40	7,000	7.67	0.59	0.59	100%	0.19	4.55	0.83	0	0	0
ADHESIVE SPRAY STAPUT	97351	N.A Spray	10.00	0.95	0	95.00%	0	0.04	7,000	0.67	9.50	9.50	100%	0.27	6.38	1.16	0	0	0
ADHESIVE SUPER TAK HIGH PERF	SUPER TAK	N.A Spray	5.73	0.60	0	60.00%	0	0.25	7,000	4.79	3.44	3.44	100%	0.69	16.48	3.01	0	0	0
ADHESIVE STICK-UP	STICKUP	N.A Spray	7.50	0.52	0	52.00%	0	0.03	7,000	0.48	3.90	3.90	100%	0.08	1.87	0.34	0	0	0
ADHESIVE HOT MELT PUR-FECT LOK	34-9014	flow	8.88	0	0	0.00%	0	2.00	7,000	38.36	0	0	100%	0	0	0	0	0	0
ADHESIVE RED WHISPER SPRAY	LSC711700	N.A Spray	10.30	0.10	0	10.00%	0	1.50	7,000	28.77	1.03	1.03	75%	1.23	29.63	5.41	2.78	12.17	0.61
MORAD WATER REACTIVE URETHANE	M-642	rollcoat	9.26	0	0	0.00%	0	2.00	7,000	38.36	0	0	100%	0	0	0	0	0	0
Solvents/Cleaners																			
CLEANER CITRUS	CM-911	wipe	7.00	0	0	0.00%	0	0.25	7,000	4.79	0	0	100%	0	0	0	0	0	0
CLEANER FASTASTIC II	-	wipe	11.68	0.98	0	98.00%	0	0.02	7,000	0.31	11.45	11.45	100%	0.15	3.51	0.64	0	0	0
CLEANER NU PANEL DAP	14220	wipe	8.17	0.15	0	15.00%	0	0.03	7,000	0.63	1.23	1.23	100%	0.03	0.78	0.14	0	0	0
CLEANER SPRAYON GLASS	SPR00880	aerosol	8.10	0.11	0	11.00%	0	0.15	7,000	2.88	0.89	0.89	100%	0.11	2.56	0.47	0	0	0
CLEANER 3M NATURAL	3M	wipe	6.36	1.00	0	100.00%	0	0.10	7,000	1.92	6.36	6.36	100%	0.51	12.20	2.23	0	0	0
ACETONE HI-MOISTURE	UN-1090	wipe	6.60	0	0	0.00%	0	0.33	7,000	6.33	0	0	100%	0	0	0	0	0	0
LUBRICANT SPRAY SILICONE	MC-43	aerosol	4.74	0.92	0	92.00%	0	0.50	7,000	9.59	4.36	4.36	75%	1.74	41.82	7.63	0.04	0.17	8.30E-03
SHER-WILL-CLEAN	R7K156	wipe	6.39	1.00	0	100.00%	0	0.13	7,000	2.40	6.39	6.39	100%	0.64	15.32	2.80	0	0	0
SOLVENT METHY ETHYL KETONE	4-MEK-D	wipe	6.70	1.00	0	100.00%	0	0.10	7,000	1.92	6.70	6.70	100%	0.54	12.85	2.35	0	0	0
Paints																			
PAINT BLACK DIP ENAMEL - FRAME	5-209	dip	13.50	0.26	0	25.60%	0	13.50	7,000	258.90	3.46	3.46	100%	2.76	66.24	12.09	0	0	0
XYLENE (DIP TANK) - REDUCER	UN-1307	wipe	7.24	1.00	0	100.00%	0	7.24	7,000	138.85	7.24	7.24	100%	1.45	34.80	6.35	0	0	0
Sealants																			
SEALANT BLACK	R-900	tube	10.17	0.25	0	25.30%	0	0.25	7,000	4.79	2.57	2.57	100%	0.51	12.34	2.25	0	0	0
SEALANT SILICONE WHITE	795	aerosol	12.51	0.02	0	2.00%	0	1.00	7,000	19.18	0.25	0.25	100%	0.20	4.80	0.88	0	0	0
SEALANT MANUS BOND ALL COLORS	75-AM/76-AM	tube	22.50	0.12	0	12.00%	0	1.25	7,000	23.97	2.70	2.70	100%	2.70	64.73	11.81	0	0	0
SEALANT DURASHELL	R-3000	tube	9.59	0.40	0	39.60%	0	0.05	7,000	0.96	3.80	3.80	100%	0.15	3.64	0.66	0	0	0
SEALANT WET & DRY LEAK	10,570.00	tube	12.51	0.18	0	18.00%	0	0.10	7,000	1.92	2.25	2.25	100%	0.18	4.32	0.79	0	0	0
SILICONE BLACK	MS101C/88436	tube	8.46	0.30	0	30.00%	0	0.37	7,000	7.10	2.54	2.54	100%	0.75	18.01	3.29	0	0	0
SILICONE WHITE	MS101C/88437	tube	8.46	0.30	0	30.00%	0	0.37	7,000	7.10	2.54	2.54	100%	0.75	18.01	3.29	0	0	0
TAC FREE BODY FILLER	0297	brush	10.00	0.00%	0	0.00%	0	0.10	7,000	1.92	0	0	100%	0	0	0	0	0	0
VARISEAL	VT4	tube	5.84	0.95	0	95.00%	0	0.01	7,000	0.19	5.55	5.55	100%	0.04	1.06	0.19	0	0	0
FOAM SEAL BLACK RESIN "A"	FSA	N.A Spray	10.34	0	0	0.00%	0	0.50	7,000	9.59	0	0	100%	0	0	0	0	0	0
FOAM SEAL BLACK RESIN "B"	S7880	N.A Spray	9.84	2.00%	0	2.00%	0	0.50	7,000	9.59	0.20	0.20	100%	0.08	1.89	0.34	0	0	0
ENERFOAM NBS	ENER 42	N.A Spray	10.00	0.01	0	1.30%	0	0.10	7,000	1.92	0.13	0.13	100%	0.01	0.25	0.05	0	0	0

*The material being sprayed in the sidewall adhesive application process is very thick and the consistency of a spider web. The process therefore produces only negligible particulate emissions.

It is assumed that $PM=PM_{10}=PM_{2.5}$.

Methodology

Material Usage (gal/day) 672.46 **Potential to Emit: 18.39 441.33 80.54 2.82 12.33 0.62**

Total not applied by dip, flow, roll, or brush 28.77

Transfer Efficiency - Hand or Manual Application = 100% and HVLP = 75%
Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water
VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
VOC (lbs/gal) = Density (lb/gal) * Weight % Organics
VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)
VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/ day)
VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)
Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)
Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)

Appendix A: Emissions Calculations
1-850 Cap Assembly

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

1. VOC and PM

Material	Material ID Number	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per Gallon of Coating less Water & Exempts	Pounds VOC per gallon of coating	Potential VOC (lb/hour)	Potential VOC (lb/day)	Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Gallons of Coating (gal/day)	Application Method	Transfer Efficiency
SIKA PRIMER 207	532721	8.09	68.00%	0%	68.00%	0%	0.0150	3.50	5.50	5.50	0.29	6.93	1.27	0.00	1.26	brush	100%
SIKAFLEX 220	404965	9.93	5.00%	0%	5.00%	0%	0.1250	3.50	0.50	0.50	0.22	5.21	0.95	0.00	10.50	brush	100%
								Total or Worst Case Potential to Emit:			**0.51**	**12.14**	**2.22**	**0.00**			

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Natural Gas
4-Stroke Rich-Burn (4SRB) Engines
Plant 1-850 Emergency Generator

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Maximum Output Horsepower Rating (hp)	80
Brake Specific Fuel Consumption (BSFC) (Btu/hp-hr)	7600
Maximum Hours Operated per Year (hr/yr)	500
Potential Fuel Usage (MMBtu/yr)	304
High Heat Value (MMBtu/MMscf)	1020
Potential Fuel Usage (MMcf/yr)	0.30

	Pollutant						
Criteria Pollutants	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor (lb/MMBtu)	9.50E-03	1.94E-02	1.94E-02	5.88E-04	2.21E+00	2.96E-02	3.72E+00
Potential Emissions (tons/yr)	1.44E-03	2.95E-03	2.95E-03	8.94E-05	0.34	4.50E-03	0.57

*PM emission factor is for filterable PM-10. PM10 emission factor is filterable PM10 + condensable PM.
PM2.5 emission factor is filterable PM2.5 + condensable PM.

Hazardous Air Pollutants (HAPs)

Pollutant	Emission Factor (lb/MMBtu)	Potential Emissions (tons/yr)
Acetaldehyde	2.79E-03	4.24E-04
Acrolein	2.63E-03	4.00E-04
Benzene	1.58E-03	2.40E-04
1,3-Butadiene	6.63E-04	1.01E-04
Formaldehyde	2.05E-02	3.12E-03
Methanol	3.06E-03	4.65E-04
Total PAH**	1.41E-04	2.14E-05
Toluene	5.58E-04	8.48E-05
Xylene	1.95E-04	2.96E-05
	Total	**4.88E-03**

HAP pollutants consist of the nine highest HAPs included in AP-42 Table 3.2-3.
**PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

Methodology
Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-3
Potential Fuel Usage (MMBtu/yr) = [Maximum Output Horsepower Rating (hp)] * [Brake Specific Fuel Consumption (Btu/hp-hr)] * [Maximum Hours Operated per Year (hr/yr)] / [1000000 Btu/MMBtu]
Potential Emissions (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2000 lb/ton]

Appendix A: Emissions Calculations

Plant 2-35 (Line A) Surface Coating

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	Control Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Uncontrolled Particulate Emissions (lbs/hr)	Uncontrolled Particulate Emissions (tons/yr)	Controlled Particulate Emissions (tons/yr)
Solvents/Cleaners																				
ACETONE HI-MOISTURE	UN-1090	wipe	6.60	0	0	0	0	8.00E-03	5,000.00	0.11	0	0	100%	95%	0	0	0	0	0	0
CLEANER	DX533	wipe	9.76	1.00	0	1.00	0	8.00E-03		0.11	9.76	9.76	100%	95%	0.04	1.07	0.20	0	0	0
CLEANER AQUA MATE WB	W4K157	wipe	8.30	0.16	0	0.16	0	0.50		6.85	1.34	1.34	100%	95%	0.38	9.15	1.67	0	0	0
CLEANER LOW VOC (PAINT)	DX380	wipe	8.31	0.94	0	0.94	0	4.00E-03		0.05	7.81	7.81	100%	95%	0.02	0.43	0.08	0	0	0
CLEANER PRE-CLEAN	DX330	wipe	6.35	1.00	0	1.00	0	0.04		0.55	6.35	6.35	100%	95%	0.14	3.48	0.64	0	0	0
CLEANER SPRAYON GLASS	880	spray	8.10	0.11	0	0.11	0	8.00E-03		0.11	0.89	0.89	75%	95%	4.07E-03	0.10	0.02	8.23E-03	0.04	1.80E-03
GUN CLEANER 4-GCL	UN1263	wipe	6.78	0.90	0	0.90	0	0.08		1.10	6.10	6.10	100%	95%	0.28	6.69	1.22	0	0	0
THINNER ALL PURPOSE LACQUER	DTL10	wipe	7.00	0.69	0	0.69	0	0.02		0.22	4.82	4.82	100%	95%	0.04	1.06	0.19	0	0	0
THINNER	DTL151G	Not. Appl.	6.64	0.35	0	0.35	0	0.01		0.16	2.32	2.32	100%	95%	0.02	0.38	0.07	0	0	0
THINNER ALL PURPOSE	DTL16G	Not. Appl.	6.66	0.70	0	0.70	0	0.50		6.85	4.66	4.66	100%	95%	1.33	31.93	5.83	0	0	0
THINNER LACQUER	5033	Not. Appl.	7.10	0.82	0	0.82	0	0.16		2.19	5.82	5.82	100%	95%	0.53	12.76	2.33	0	0	0
SOLVENT REDUCER	DRR1185	wipe	7.42	0.96	0	0.96	0	0.50		6.85	7.15	7.15	100%	95%	2.04	48.99	8.94	0	0	0
PURE GRADE LACQUER THINNER	THINNER	Not. Appl.	7.50	0.91	0	0.91	0	1.50		20.55	6.80	6.80	100%	95%	5.82	139.78	25.51	0	0	0
Paints																				
ACTIVATOR	NCX255	spray (HVLP)	7.70	0.44	0	0.44	0	8.00E-03	5,000.00	0.11	3.35	3.35	75%	95%	0.02	0.37	0.07	4.97E-03	0.02	1.09E-03
ADDITIVE PAINT SUPERCHARGER	DFX7	spray (HVLP)	8.01	0.98	0	0.98	0	0.08		1.10	7.81	7.81	75%	95%	0.36	8.56	1.56	2.29E-03	0.01	5.01E-04
BLENDER ACRYLIC COLOR	DXA100	spray (HVLP)	7.11	0.74	0	0.74	0	8.00E-03		0.11	5.26	5.26	75%	95%	0.02	0.58	0.11	2.11E-03	9.24E-03	4.62E-04
BLENDER UNIVERSAL	DX830	spray (HVLP)	7.59	0.58	0	0.58	0	8.00E-03		0.11	4.39	4.39	75%	95%	0.02	0.48	0.09	3.65E-03	0.02	7.99E-04
CATALYST	DX84	spray (HVLP)	8.17	0.98	0	0.98	0	0.02		0.22	8.04	8.04	75%	95%	0.07	1.76	0.32	2.98E-04	1.31E-03	6.54E-05
CATALYST	DU5	spray (HVLP)	8.45	0.46	0	0.46	0	1.00E-03		0.01	3.89	3.89	75%	95%	0.00	0.05	9.72E-03	6.51E-04	2.85E-03	1.43E-04
CATALYST	NCX275	spray (HVLP)	8.26	0.41	0	0.41	0	4.00E-03		0.05	3.37	3.37	75%	95%	0.01	0.18	0.03	2.79E-03	0.01	6.11E-04
CATALYST DELTRON	DAU2	spray (HVLP)	7.85	0.95	0	0.95	0	8.00E-03		0.11	7.46	7.46	75%	95%	0.03	0.82	0.15	4.48E-04	1.96E-03	9.81E-05
CATALYST PRETREATMENT	NCX290	spray (HVLP)	8.33	0.39	0	0.39	0	0.01		0.16	3.21	3.21	75%	95%	0.02	0.53	0.10	8.77E-03	0.04	1.92E-03
CLEARCOAT COMPLIANT	DCD35	spray (HVLP)	8.24	0.40	0	0.40	0	1.25		17.12	3.27	3.27	75%	95%	2.33	56.02	10.22	8.86E-01	3.88	0.19
FISH EYE PREVENTER	DX77	spray (HVLP)	7.22	0.99	0	0.99	0	0.01		0.16	7.15	7.15	75%	95%	0.05	1.17	0.21	1.24E-04	5.42E-04	2.71E-05
HARDENER	DU4	spray (HVLP)	8.18	0.55	0	0.55	0	0.25		3.42	4.47	4.47	75%	95%	0.64	15.30	2.79	1.32E-01	0.58	0.03
PAINT	DBU	spray (HVLP)	9.50	0.37	0	0.37	0	2.00		27.40	3.50	3.50	75%	95%	3.99	95.78	17.48	1.71E+00	7.51	0.38
PAINT	DCU2020	spray (HVLP)	8.18	0.55	0	0.55	0	0.01		0.16	4.50	4.50	75%	95%	0.03	0.74	0.13	6.30E-03	0.03	1.38E-03
PAINT BROMA GLOSS SPRAY LACQUER	110/115/109	spray (HVLP)	8.21	0.41	0	0.41	0	0.02		0.22	3.33	3.33	75%	95%	0.03	0.73	0.13	1.12E-02	0.05	2.44E-03
PAINT DAU COLOR	DAU	spray (HVLP)	9.50	0.39	0	0.39	0	4.00E-03		0.05	3.66	3.66	75%	95%	0.01	0.20	0.04	3.33E-03	0.01	7.30E-04
PAINT DIU BASECOAT	DIU 1&2	spray (HVLP)	9.50	0.62	0	0.62	0	0.02		0.22	5.84	5.84	75%	95%	0.05	1.28	0.23	8.35E-03	0.04	1.83E-03
PAINT DURACRYL ACRYLIC LACQUER	DDL	spray (HVLP)	7.92	0.72	0	0.72	0	0.02		0.22	5.70	5.70	75%	95%	0.05	1.25	0.23	5.06E-03	0.02	1.11E-03
PRIMER	NCP250	spray (HVLP)	10.87	0.32	0	0.32	0	0.25		3.42	3.50	3.50	75%	95%	0.50	11.99	2.19	2.63E-01	1.15	0.06
REDUCER	DT860/DT870	spray (HVLP)	7.00	1.00	0	1.00	0	0.10		1.42	7.00	7.00	75%	95%	0.42	9.97	1.82	0.00E+00	0	0
REDUCER WARM TEMPERATURE	DT885	spray (HVLP)	7.21	0.98	0	0.98	0	0.25		3.42	7.03	7.03	75%	95%	1.00	24.07	4.39	6.43E-03	0.03	1.41E-03
SEALER 3.5 VOC	NCS1990	spray (HVLP)	12.51	0.24	0	0.24	0	0.50		6.85	3.04	3.04	75%	95%	0.87	20.82	3.80	6.76E-01	2.96	0.15
SOLVENT ANTI-STAT PREP	DX103	spray (HVLP)	6.26	1.00	0	1.00	0	0.06		0.77	6.26	6.26	75%	95%	0.20	4.80	0.88	0.00E+00	0	0
SV2-35	Basecoat	7.60	0.81	0.10%	0.81	0	0.28	4.20	1,400.00	16.11	6.15	6.15	75%	98%	4.13	99.05	18.08	0.24	1.06	0.02
SV2-36	Clear RTS	8.40	0.60	0.10%	0.60	0	0.40	8.70	1,400.00	33.37	5.03	5.03	75%	98%	7.00	167.90	30.64	1.17	5.12	0.10
*Material in booths SV2-35 and SV2-36 are applied using HVLP guns.									**Material Usage (gal/day):**	**162.04**				**Potential to Emit:**	**32.51**	**780.22**	**142.39**	**5.16**	**22.58**	**0.94**
It is assumed that PM=PM_{10}=$PM_{2.5}$.									**Total not applied by dip, flow, roll, or brush**	**116.45**										

Methodology

Transfer Efficiency - Hand or Manual Application = 100%, Aerosol = 50%, HVLP = 75%
Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water
VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
VOC (lbs/gal) = Density (lb/gal) * Weight % Organics
VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)
VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/ day)
VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)
Uncontrolled Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)
Uncontrolled Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)
Controlled Particulate Emissions (tons/yr) = Material Usage (gal/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs) * (1-Control Efficiency)

Appendix A: Emissions Calculations

Plant 2-35 (Line B - E) Surface Coating

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	Control Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Uncontrolled Particulate Emissions (lbs/hr)	Uncontrolled Particulate Emissions (tons/yr)	Controlled Particulate Emissions (tons/yr)
Paints																				
BC BASES & COLORS	DAB	spray (HVLP)	8.50	0.67	0	0.67	0	3.60		19.73	5.70	5.70	75%	95%	4.69	112.51	20.53	0.57	2.52	0.13
DIAMOND PRIMER	DP21	spray (HVLP)	12.50	0.28	0	0.28	0	0.04		0.19	3.50	3.50	75%	95%	0.03	0.67	0.12	0.02	0.08	3.94E-03
DIAMOND HS HARDENER	DH61/PH61	spray (HVLP)	8.27	0.59	0	0.59	0	0.04		0.19	4.85	4.85	75%	95%	0.04	0.93	0.17	6.82E-03	0.03	1.49E-03
ETCHING PRIMER	DE17	spray (HVLP)	9.34	0.58	0	0.58	0	0.10		0.55	5.39	5.39	75%	95%	0.12	2.95	0.54	0.02	0.10	4.94E-03
DIAMOND ETCHING ACTIVATOR	DA18	spray (HVLP)	6.74	0.96	0	0.96	0	1.00		5.48	6.50	6.50	75%	95%	1.48	35.60	6.50	0.01	0.06	3.03E-03
DIAMOND SPEED DRY CLEAR	DC95	spray (HVLP)	7.86	0.45	0	0.45	0	5.00		27.40	3.50	3.50	75%	95%	3.99	95.83	17.49	1.24	5.45	0.27
DIAMOND CLEAR HARDENER	DH49	spray (HVLP)	8.36	0.42	0	0.42	0	2.25		12.33	3.51	3.51	75%	95%	1.80	43.29	7.90	0.62	2.73	0.14
ACRYLIC LACQUER PRIMER & SEAL	131S	spray (HVLP)	8.06	0.60	0	0.60	0	0.60		3.29	4.80	4.80	75%	95%	0.66	15.79	2.88	0.11	0.49	0.02
UR40 UNIVERSAL LOW TEMP REDUCER	UR40	spray (HVLP)	7.40	1.00	0	1.00	0	0.50	2,000.00	2.74	7.40	7.40	75%	95%	0.84	20.27	3.70	0	0	0
UR50 UNIVERSAL MID TEMP REDUCER	UR50	spray (HVLP)	7.29	1.00	0	1.00	0	2.00		10.96	7.29	7.29	75%	95%	3.33	79.89	14.58	0	0	0
UR60 UNIVERSAL HIGH TEMP REDUCER	UR60	spray (HVLP)	7.55	0.99	0	0.99	0	0.33		1.78	7.50	7.50	75%	95%	0.56	13.35	2.44	9.80E-04	4.29E-03	2.15E-04
809 FISHEYE ELIMINATOR	809	spray (HVLP)	7.29	0.95	0	0.95	0	1.00E-03		5.48E-03	6.90	6.90	75%	95%	1.58E-03	0.04	6.90E-03	2.21E-05	9.66E-05	4.83E-06
811 CLEAR ADHESION PROMOTER	811	spray (HVLP)	7.03	0.14	0	0.14	0	0.25		1.37	1.00	1.00	75%	95%	0.06	1.37	0.25	0.09	0.38	0.02
891 FLEX AGENT	891	spray (HVLP)	7.30	0.81	0	0.81	0	0.03		0.16	5.90	5.90	75%	95%	0.04	0.97	0.18	2.40E-03	0.01	5.26E-04
DF25 DIAMOND FLEX	DF25	spray (HVLP)	8.82	0.30	0	0.30	0	0.06		0.33	2.60	2.60	75%	95%	0.04	0.86	0.16	0.02	0.09	4.66E-03
521-10 RAPID ADDITIVE	521-10	spray (HVLP)	7.33	1.00	0	1.00	0	0.01		0.05	7.30	7.30	75%	95%	0.02	0.40	0.07	1.67E-05	7.33E-05	3.67E-06
SRA REDUCER	5021/5022	spray (HVLP)	7.00	1.00	0	1.00	0	0.27		1.48	7.00	7.00	75%	95%	0.43	10.36	1.89	0	0	0
3M NO CLEANUP ROCKER GARD	8949	spray (HVLP)	7.51	0.62	0	0.62	0	0.03		0.14	4.64	4.64	75%	95%	0.03	0.64	0.12	4.09E-03	0.02	8.97E-04
Composites																				
DDM 9 CLEAR	DDM9	hand (layup)	9.04	0.06	0	0.06	0	0.35		1.92	0.52	0.52	100%	95%	0.04	1.01	0.18	0	0	0
B5504 ACRYL-R PIGMENTED SEAM	B5504	hand (layup)	8.23	0.45	0	0.45	0	0.02		0.08	3.73	3.73	100%	95%	0.01	0.31	0.06	0	0	0
UNSATURATED POLYESTER RESIN	-	hand (layup)	9.05	0.07	0	0.07	0	1.50		8.22	0.59	0.59	100%	95%	0.20	4.83	0.88	0	0	0
CORVETTE WHITE GEL-COAT	774-WT14154	spray	10.63	0.11	0	0.11	0	0.20		1.10	1.15	1.15	75%	95%	0.05	1.26	0.23	0.11	0.47	0.02
DURAGLAS PUTTY	NA	hand (layup)	13.99	0.16	0	0.16	0	0.02		0.11	2.18	2.18	100%	95%	9.97E-03	0.24	0.04	0	0	0
TAC FREE BODYFILLER	A297	hand (layup)	10.00	0.06	0	0.06	0	3.00	2,000.00	16.44	0.60	0.60	100%	95%	0.41	9.86	1.80	0	0	0
KAMBI PUTTY	K3005	hand (layup)	13.00	0.26	0	0.26	0	0.03		0.14	3.39	3.39	100%	95%	0.02	0.46	0.08	0	0	0
DYNASTY WHITE GELCOAT	GM15120	spray	11.43	0.10	0	0.10	0	1.50		8.22	1.19	1.19	75%	95%	0.41	9.77	1.78	0.88	3.84	0.19
STYPOL 040-4385	040-4385	hand (layup)	9.04	0.05	0	0.05	0	0.39		2.14	0.46	0.46	100%	95%	0.04	0.99	0.18	0	0	0
PATCHING AID RESIN SOLUTION	CR-0425	hand (layup)	8.27	0.09	0	0.09	0	0.12		0.66	0.73	0.73	100%	95%	0.02	0.48	0.09	0	0	0
370 POLYESTER FIBERGLAS REPAIR	370.00	hand (layup)	9.25	0.05	0	0.05	0	5.00E-03		0.03	0.48	0.48	100%	95%	5.49E-04	0.01	2.41E-03	0	0	0
Solvents/Cleaners																				
PURE GRADE LACQUER THINNER	THINNER	Not. Appl.	7.50	0.91	0	0.91	0	7.50		41.10	6.80	6.80	100%	95%	11.65	279.55	51.02	0	0	0
SOLVENT ANTI-STAT PREP	DX103	wipe	6.26	1.00	0	1.00	0	6.26		34.30	6.26	6.26	100%	95%	8.95	214.73	39.19	0	0	0
900 PRE-KLEANO	900.00	wipe	6.28	1.00	0	1.00	0	6.28		34.41	6.28	6.28	100%	95%	9.00	216.10	39.44	0	0	0
ACETONE	UN1090	wipe	6.56	0	0	0	0	6.56	2,000.00	35.95	0	0	100%	95%	0	0	0	0	0	0
SHER-WILL-CLEAN	R7K156	wipe	6.39	1.00	0	1.00	0	6.39		35.01	6.39	6.39	100%	95%	9.32	223.74	40.83	0	0	0
3M PERFECT-IT II RUBBING COMPOUND	5,973.00	wipe	8.97	0.21	0	0.21	0	8.97		49.15	1.88	1.88	100%	95%	3.86	92.59	16.90	0	0	0
3M RUBBING COMPOUND	5954/55/56	wipe	10.66	0.30	0	0.30	0	10.66		58.41	3.20	3.20	100%	95%	7.78	186.80	34.09	0	0	0

It is assumed that $PM=PM_{10}=PM_{2.5}$.

Total Material Usage (gal/day): **415.54**
Total not applied by dip, flow, roll, or brush **138.58**

Paint Lines B through E Total Surface Coating Potential to Emit: **69.93** **1,678.43** **306.31** **3.71** **16.27** **0.81**

Methodology

Transfer Efficiency - Hand or Manual Application = 100%, Aerosol = 50%, HVLP = 75%

Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water
VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
VOC (lbs/gal) = Density (lb/gal) * Weight % Organics
VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)
VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/ day)
VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)
Uncontrolled Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)
Uncontrolled Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)
Controlled Particulate Emissions (tons/yr) = Material Usage (gal/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs) * (1-Control Efficiency)

Appendix A: Emissions Calculations

Plant 2-35 Repair & Undercoating Surface Coating

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	Control Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Uncontrolled Particulate Emissions (lbs/hr)[1]	Uncontrolled Particulate Emissions (tons/yr)	Controlled Particulate Emissions (tons/yr)
Cleaners/Solvents																				
SHER-WILL-CLEAN	R7K156	wipe	6.39	1.00	0	1.00	0	0.25		4.79	6.39	6.39	100%	95%	1.28	30.64	5.59	0	0	0
BRAKE CLEANER	4800	aerosol	6.71	0.96	0	0.96	0	0.18		3.45	6.41	6.41	75%	95%	0.92	22.12	4.04	0.01	0.05	2.38E-03
CITRUS CLEANER	CM-911	wipe	7.00	0	0	0	0	5.00E-03		0.10	0	0	100%	95%	0	0	0	0	0	0
FANTASTIC II	-	aerosol	11.68	0.98	0	0.98	0	5.00E-03		0.10	11.45	11.45	75%	95%	0.05	1.10	0.20	2.33E-04	1.02E-03	5.11E-05
NU PANEL DIP	14220	wipe	8.17	0.15	0	0.15	0	5.00E-03		0.10	1.23	1.23	75%	95%	4.90E-03	0.12	0.02	6.94E-03	0.03	1.52E-03
SPRAYON GLASS	SPR00880	aerosol	8.10	0.11	0	0.11	0	0.05	7,000.00	0.96	0.89	0.89	75%	95%	0.04	0.85	0.16	0.07	0.32	0.02
3M NATURAL	3M	aerosol	6.36	1.00	0	1.00	0	6.00E-03		0.12	6.36	6.36	75%	95%	0.03	0.73	0.13	0	0	0
ACETONE	UN-1090	wipe	6.60	0	0	0	0	0.05		0.96	0	0	100%	95%	0	0	0	0	0	0
LUBRICANT SPRAY SILICON	MC-43	aerosol	4.74	0.92	0	0.92	0	0.01		0.19	4.36	4.36	75%	95%	0.03	0.84	0.15	7.58E-04	3.32E-03	1.66E-04
TERP-A-CLEAN	-	wipe	7.85	0	0	0	0	0.10		1.92	0	0	100%	95%	0	0	0	0	0	0
BEA-TWEEN CARPET	-	aerosol	8.20	0	0	0	0	1.00E-03		0.02	0	0	75%	95%	0	0	0	1.64E-03	7.18E-03	3.59E-04
Paints																				
BROMA SPRAY	115/110	aerosol	8.21	0.41	0	0.41	0	5.00E-03	7,000.00	0.10	3.33	3.33	75%	95%	0.01	0.32	0.06	4.87E-03	0.02	1.07E-03
MOHAWK LACOVER 30	-	aerosol	7.34	0.90	0	0.90	0	5.00E-03		0.10	6.61	6.61	75%	95%	0.03	0.63	0.12	7.33E-04	3.21E-03	1.61E-04
Sealants																				
SEALANT SILICONE	795	aerosol	12.51	0.02	0	0.02	0	0.02	7,000.00	0.38	0.25	0.25	100%	95%	4.00E-03	0.10	0.02	0	0	0
SEALANT MANUS BOND ALL COLORS	75-AM/76-AM	wipe	22.50	0.12	0	0.12	0	0.08		1.53	2.70	2.70	100%	95%	0.17	4.14	0.76	0	0	0
Adhesives																				
MULTI-PURPOSE	S-235	wipe	9.84	0.33	0	0.33	0	5.00E-03	7,000.00	0.10	3.25	3.25	100%	95%	0.01	0.31	0.06	0	0	0
SUPER TAK HIGH PERFORM	SUPER TAK	wipe	5.73	0.60	0	0.60	0	0.02		0.29	3.44	3.44	100%	95%	0.04	0.99	0.18	0	0	0
Undercoating[2]																				
AQUA SEAL 2000 UNDERCOATING	2000	N.A. Spray	9.40	0.02	0	0.02	0	7.50	7,000.00	143.84	0.20	0.20	100%	95%	1.18	28.39	5.18	0	0	0
RUBBERIZED UNDERCOATING	735	N.A. Spray	7.93	0.44	0	0.44	0	6.26		120.05	3.50	3.50	100%	95%	17.49	419.85	76.62	0	0	0

Notes:

1. It is assumed that PM=PM $_{10}$=PM $_{2.5}$.

2. Undercoating operations moved to Plant 22, AA No. 039-34062-00017 issued March 18, 2014

Material Usage (gal/day) **279.08**

Total not applied by dip, flow, roll, or brush **5.22**

Potential to Emit: **21.30** **511.13** **93.28** **0.10** **0.43** **0.02**

Methodology

Transfer Efficiency - Hand or Manual Application = 100% and HVLP = 75%
Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water
VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
VOC (lbs/gal) = Density (lb/gal) * Weight % Organics
VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)
VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/ day)
VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)
Uncontrolled Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)
Uncontrolled Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)
Controlled Particulate Emissions (tons/yr) = Material Usage (gal/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs) * (1-Control Efficiency)

Appendix A: Emissions Calculations
Plant 2-35 Paint Prep

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Paint Lines	Maximum Throughput (units/hr)	Emission Factor (lbs/unit)	Control Efficiency*	Uncontrolled Particulate Emissions (lbs/hr)	Uncontrolled Particulate Emissions (tons/yr)	Controlled Particulate Emissions (lbs/hr)	Controlled Particulate Emissions (tons/yr)
Partial (Paint Line A)	2.50	5.00	0.90	12.50	54.75	1.25	5.48
Full (Paint Lines B through E)	1.00	20.00	0.90	20.00	87.60	2.00	8.76
Total				**32.50**	**142.35**	**3.25**	**14.24**

*Emissions are controlled by a general ventilation control system designed to achieve 90% collection efficiency, based on settling of large particles and capture of airborne particles in a filter at the
It is assumed that $PM=PM_{10}=PM_{2.5}$.

Methodology
Uncontrolled Particulate Emissions (lbs/hr) = Maximum Throughput (units/hr) * Emission Factor (lbs/unit)
Uncontrolled Particulate Emissions (tons/yr) = Maximum Throughput (units/hr) * Emission Factor (lbs/unit) * (8760 hr/yr) * (1 ton/2000 lbs)
Controlled Particulate Emissions (tons/yr) = Maximum Throughput (units/hr) * Emission Factor (lbs/unit) * (8760 hr/yr) * (1 ton/2000 lbs) * (1 - Control Efficiency)

Appendix A: Emissions Calculations
From Surface Coating Operations
Plant 2-35TU Touch Up Operation

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

1. VOC and PM

Manufacturer	Material	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per Gallon of	Pounds VOC per gallon of coating	Potential VOC (lb/hour)	Potential VOC (lb/day)	Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Gallons of Coating (gal/day)	Application Method	Transfer Efficiency	Substrate
Touch up coatings																		
BASF	CB bases and colors	10.98	43.70%	0%	43.70%	0%	0.0156	3.50	4.80	4.80	0.26	6.29	1.15	0.52	1.31	airless spray	65%	metal
BASF	DC5335 Glamour Clear	7.87	60.00%	15.00%	45.00%	17.88%	0.0078	3.50	4.31	3.54	0.10	2.32	0.42	0.13	0.66	airless spray	65%	metal
Cleaning solvents																		
-	lacquer thinner	7.07	100.00%	0%	100.00%	0%	0.0078	3.50	7.07	7.07	0.19	4.63	0.85	0	0.66	wipe	100%	metal
								Total or Worst Case Potential to Emit:			**0.55**	**13.24**	**2.42**	**0.65**				

METHODOLOGY
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

2. Hazardous Air Pollutants

Material ID	Density (lb/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % EB[1]	Weight % Methanol	Weight % Toluene	Weight % Xylene	EB Emissions (ton/yr)	Methanol Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylene Emissions (ton/yr)	Total HAP Emissions (ton/yr)
CB bases and colors[2]	10.98	0.0156	3.50	0.05%	0.00%	0.05%	0.10%	1.31E-03	0	1.31E-03	2.63E-03	5.25E-03
DC5335 Glamour Clear	7.87	0.0078	3.50	1.00%	0%	1.00%	3.00%	9.41E-03	0	9.41E-03	2.82E-02	4.71E-02
lacquer thinner	7.07	0.0078	3.50	0%	9.38%	66.28%	5.59%	0	7.93E-02	0.56	4.73E-02	0.69
Total Potential to Emit								**1.07E-02**	**7.93E-02**	**0.57**	**7.81E-02**	**0.74**

Notes
1. EB - ethylbenzene (CASRN 100-41-4)
2. HAP content based on default HAP concentrations for Stoddard Solvent (CASRN 80521-41-3) from Table 3, 40 CFR 63, Subpart MMMM and aliphatic groups from Table 4, 40 CFR 63, Subpart MMMM applied to heavy alkylate naphtha (CASRN 64741-65-7)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Paint Line A

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Unit	ID	Number	Capacity (MMBtu/hr) Unit	Total
Bake oven	SV2-37	1	4.00	4.00
Air Makeup Unit	--	2	4.00	8.00
			Total	**12.00**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
12.00	1,020.00	103.06

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.90	7.60	7.60	0.60	100.00 **see below	5.50	84.00
Potential Emission in tons/yr	0.10	0.39	0.39	0.03	5.15	0.28	4.33

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.10E-03	1.20E-03	0.08	1.80	3.40E-03	
Potential Emission in tons/yr	1.08E-04	6.18E-05	3.86E-03	0.09	1.75E-04	**0.10**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.00E-04	1.10E-03	1.40E-03	3.80E-04	2.10E-03	
Potential Emission in tons/yr	2.58E-05	5.67E-05	7.21E-05	1.96E-05	1.08E-04	**2.82E-04**
					Total HAPs	**0.10**
					Worst HAP	**0.09**

Methodology is the same as above.
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
from Surface Coating Operations
Plant 20-820 Adhesive Application

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Particulate Emissions (lbs/hr)	Particulate Emissions (tons/yr)	Particulate Emissions after Controls (tons/yr)
Adhesives																			
ADH MOR-AD	M-622	rollcoat	9.09	0.15	0	15.00%	0	0.50		9.59	1.36	1.36	100%	0.54	13.07	2.39	0	0	0
ADH RED NON-FLAM WHISPER G	LSC71700	rollcoat	10.30	0.75	0	10.00%	0	2.00		38.36	1.03	1.03	100%	1.65	39.51	7.21	0	0	0
GLUE URETHANE HOT MELT	70-7872	flow	8.80	0.02	0	2.00%	0	4.00	7,000.00	76.71	0.18	0.18	100%	0.56	13.50	2.46	0	0	0
PUR-FECT LOK	34-3182	flow	8.80	0.02	0	2.00%	0	4.00		76.71	0.18	0.18	100%	0.56	13.50	2.46	0	0	0
STIX 246	246	rollcoat	8.00	0	0	0.00%	0	0.10		1.92	0	0	100%	0	0	0	0	0	0
SUPER-TAK HP ADHESIVE	-	rollcoat	5.73	0.59	0	59.30%	0	0.01		0.19	3.40	3.40	100%	0.03	0.65	0.12	0	0	0
Solvents/Cleaners																			
METHYL ETHYL KETONE	MEK	wipe	6.70	1.00	0	100.00%	0	0.10		1.92	6.70	6.70	100%	0.54	12.85	2.35	0	0	0
ACETONE HI-MOISTURE	UN-1090	wipe	6.60	0	0	0.00%	0	0.25		4.79	0	0	100%	0	0	0	0	0	0
CLEANER MESAMOLL	L-235	wipe	8.80	0	0	0.00%	0	0.02	7,000.00	0.38	0	0	100%	0	0	0	0	0	0
DYNASOLVE	CU-5	wipe	8.84	1.00	0	100.00%	0	0.10		1.92	8.84	8.84	100%	0.71	16.95	3.09	0	0	0
ISOPROPYL ALCOHOL	IPA	wipe	6.55	1.00	0	100.00%	0	0.10		1.92	6.55	6.55	100%	0.52	12.56	2.29	0	0	0
LUBRICANT SPRAY SILICONE	MC-43	aerosol	8.00	0.90	0	90.00%	0	0.10		1.92	7.20	7.20	75%	0.58	13.81	2.52	0.02	0.07	3.50E-03

It is assumed that PM=PM_{10}=$PM_{2.5}$.

Material Usage (gal/day) **216.33** **Potential to Emit:** **5.68** **136.41** **24.89** **0.02** **0.07** **3.50E-03**

Total not applied by dip, flow, roll, or brush **1.92**

Methodology

Transfer Efficiency - Hand or Manual Application = 100%, Aerosol = 50%, HVLP = 75%
Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water
VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
VOC (lbs/gal) = Density (lb/gal) * Weight % Organics
VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)
VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/ day)
VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)
Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)
Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 20-820

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

PROCESS	Number of Stations	Max. electrode consumption per	Max. electrode consumption per	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING		station (lbs/hr)	station (lbs/day)	PM=PM10 =PM2.5	Mn	Ni	Cr	PM=PM10 =PM2.5	Mn	Ni	Cr	
Sidewall (Stick) Welding (E7018 electrode) (EU20-B, former EU1-8)	24	3	72.00	0.0211	0.0009			1.519	0.065	0.000	0	0.065
Metal Inert Gas (MIG)(carbon steel) (insignificant activity)	15	3	72.00	0.0055	0.0005			0.248	0.023	0.000	0	0.023
Stick (E7018 electrode) (insignificant activity)	10	3	72.00	0.0211	0.0009			0.633	0.027	0.000	0	0.027
EMISSION TOTALS												
Potential Emissions lbs/hr								2.40	0.11	0.00	0.00	0.11
Potential Emissions lbs/day								57.59	2.74	0.00	0.00	2.74
Potential Emissions tons/year								10.51	0.50	0.00	0.00	0.50

Methodology:

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 20-820C

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

PROCESS	Number of Stations	Max. electrode consumption per station		EMISSION FACTORS* (lb pollutant/lb electrode)					EMISSIONS (lbs/hr)					HAPS (lbs/hr)
WELDING		(lbs/hr)	(lb/day)	PM=PM10=PM2.5	Mn	Ni	Co	Cr	PM=PM10=PM2.5	Mn	Ni	Co	Cr	
Submerged Metal Arc (steel, E7018)[1] (EU20-820CA)	9	3	72	1.84E-02	1.03E-03	2.00E-06	1.00E-06	6.00E-06	0.497	2.78E-02	5.40E-05	2.70E-05	1.62E-04	2.81E-02
Metal Inert Gas (MIG)(aluminum, 4043)[2] (EU20-820CB)	16	3	72	0.0107	--	--	--	--	0.514	--	--	--	--	--
EMISSION TOTALS														
Potential Emissions lbs/hr									1.01	2.78E-02	5.40E-05	2.70E-05	1.62E-04	2.81E-02
Potential Emissions lbs/day									24.25	0.67	1.30E-03	6.48E-04	3.89E-03	0.67
Potential Emissions tons/year									4.43	0.12	2.37E-04	1.18E-04	7.10E-04	0.12

Notes:

1. Emission factors from Tables 12.19-1 and 12.19-2, AP-42 (1/95)

2. Emission factor for MIG welding with 4043 aluminum wire from internal IDEM guidance

Methodology:

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Description	ID	Number	Capacity (MMBtu/hr) Unit	Total
Air Makeup Unit	P820AM1	1	0.028	0.03
Thermo-cycler	P820TC1	1	0.58	0.58
Total				**0.61**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
0.61	1020	5.2

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.00	0.02	0.02	0.00	0.26	0.01	0.22

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	5.5E-06	3.1E-06	2.0E-04	0.00	8.9E-06	**0.00**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	1.3E-06	2.9E-06	3.7E-06	9.9E-07	5.5E-06	**1.4E-05**
					Total HAPs	**0.00**
					Worst HAP	**0.00**

Methodology is the same as above.
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 22-822 Welding Operations

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				PM=PM10=PM2.5	Mn	Ni	Cr	PM=PM10=PM2.5	Mn	Ni	Cr	
Metal Inert Gas (MIG)(carbon steel)	6	3.00	72.00	0.0055	0.0005			0.10	9.00E-03		0	9.00E-03
EMISSION TOTALS												
Potential Emissions lbs/hr								0.10	9.00E-03	0	0	9.00E-03
Potential Emissions lbs/day								2.38	0.22	0	0	0.22
Potential Emissions tons/year								0.43	3.94E-02	0	0	3.94E-02

Methodology:
*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lb

Appendix A: Emissions Calculations
from Surface Coating Operations
Plant 26-826 Inspection Area

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Particulate Emissions (lbs/hr)	Particulate Emissions (tons/yr)	Particulate Emissions after Controls (tons/yr)
Solvents/Cleaners																			
ACETONE HI-MOISTURE	-	wipe	6.60	1.00	0	100.00%	0	0.10		1.92	6.60	6.60	100%	0.53	12.66	2.31	0	0	0
CLEANER	DX103	wipe	6.99	1.00	0	100.00%	0	0.02		0.38	6.99	6.99	100%	0.11	2.68	0.49	0	0	0
CLEANER WAX REMOVER	DX330	wipe	6.36	1.00	0	100.00%	0	0.04	7,000.00	0.77	6.36	6.36	100%	0.20	4.88	0.89	0	0	0
CLOPHANE WINDOW CLEANER	M028	aerosol	8.92	0.10	0	10.00%	0	0.10		1.92	0.89	0.89	100%	0.07	1.71	0.31	0	0	0
THINNER	DTL151	Not. Appl.	6.63	0.35	0	35.00%	0	0.10		1.92	2.32	2.32	100%	0.19	4.45	0.81	0	0	0
Foam Products																			
RESIN/SEALANT COMP "B"/FOAMSEAL	S7880	N.A Spray	9.84	0.29	0	29.00%	0	1.00		19.18	2.85	2.85	100%	2.28	54.73	9.99	0	0	0
SEALANT COMP "A"/FOAMSEAL BLUE	FSA-10	N.A Spray	10.34	0.05	0	5.00%	0	1.00	7,000.00	19.18	0.52	0.52	100%	0.41	9.92	1.81	0	0	0
SEALANT FILLER FOAM SPRAY/DASH	21551	N.A Spray	10.00	0.30	0	30.00%	0	0.03		0.48	3.00	3.00	100%	0.06	1.44	0.26	0	0	0
Sealants																			
SEALANT SILICONE BLACK/WHITE	795	aerosol	12.51	0.05	0	5.00%	0	0.10	7,000.00	1.92	0.63	0.63	75%	0.05	1.20	0.22	0.24	1.04	0.05
Undercoatings/Paints																			
UNDERCOATING AQUASEAL EMULSION	2000	N.A Spray	9.40	0.02	0	2.10%	0	2.50	7,000.00	47.95	0.20	0.20	100%	0.39	9.46	1.73	0	0	0
404335 RUB. UNDERCOAT SPRAY (PITT PEN)	-	N.A Spray	8.34	0.30	0	30.00%	0	0.01		0.19	2.50	2.50	100%	0.02	0.48	0.09	0	0	0

It is assumed that $PM=PM_{10}=PM_{2.5}$.

Material Usage (gal/day) **95.79**
Total not applied by dip, flow, roll, or brush **3.84**

Potential to Emit: **4.32** **103.60** **18.91** **0.24** **1.04** **0.05**

Methodology

Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water
VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
VOC (lbs/gal) = Density (lb/gal) * Weight % Organics
VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)
VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day)
VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)
Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)
Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)
Transfer Efficiency - Hand or Manual Application = 100%, Aerosol = 50%, HVLP = 75%

Appendix A: Emissions Calculations
VOC, Particulate, and HAPs (lead)
Plant 28-828 Wire Harness Assembly Operations (WHA)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Solder - Inorganic

Material	Material Usage Rate (lb/hr)	Emission Factor (lb/ton)	Potential to Emit of PM/PM10 and Lead (lb/hr)	(lb/day)	(tons/yr)
SN60/PB40 Bar Solder	0.025	1.5	1.88E-05	4.50E-04	8.21E-05

PTE, PM/PM10/Lead (lb/hr) = Material Usage Rate (lb/hr) / 2,000 (lbs/ton) * Emission Factor (lb/ton)
PTE, PM/PM10/Lead (lb/day) = PTE, PM/PM10/Lead (lb/hr) * 24 hrs/day
PTE, PM/PM10/Lead (tons/yr) = PTE, PM/PM10/Lead (lb/hr) * 8,760 hrs/yr * 1 ton / 2,000 lbs

Flux - Organic

Material	Material Usage Rate	Density	VOC Content		PTE of VOC			HAP Content (Methanol CAS 67-56-1)		PTE of HAP (Methanol CAS 67-56-1)		
	(lb/hr)	(lb/gal)	(%)	(lb/gal)	(lb/hr)	(lb/day)	(tons/yr)	(%)	(lb/gal)	(lb/hr)	(lb/day)	(tons/yr)
1544 Rosin Soldering Flux	0.0039	7.76	49.7%	3.86	0.002	0.05	**8.49E-03**	2.5%	0.19	9.75E-05	2.34E-03	**4.27E-04**

	(lb/hr)	(lb/day)	(tons/yr)
PTE Total HAP(s) - Lead and Methanol	1.16E-04	2.79E-03	5.09E-04

PTE, VOC/HAP (lb/hr) = Material Usage Rate (lb/hr) * VOC/HAP Weight Content (%)
PTE, VOC/HAP (lb/day) = PTE, VOC/HAP (lb/hr) * 24 hr/day
PTE, VOC/HAP (tons/yr) = PTE, VOC/HAP (lb/hr) * 8,760 hrs/yr * 1 ton/ 2,000 lbs/ton

Notes: Lead emission factor from AP-42, Chapter 12.17 *Miscellaneous Lead Products*. Lead emissions are presumed to be equal to PM and PM10 emissions.

Appendix A: Emissions Calculations
From Surface Coating Operations
Plant 29-829 Diesel Service Center

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

1. VOC and PM

Material	Material ID Number	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per Gallon of Coating less Water & Exempts	Pounds VOC per gallon of coating	Potential VOC (lb/hour)	Potential VOC (lb/day)	Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Gallons of Coating (gal/day)	Application Method	Transfer Efficiency
Adhesives																	
ADH BLACK WELD ABS CEMENT P773GL	30271	7.17	90.00%	0%	90.00%	0%	0.2000	0.03	6.45	6.45	0.04	0.93	0.17	0.00	0.14	brush	100%
ADH PARR/5942 CONSTRUCTION 40	5927	10.00	30.00%	0%	30.00%	0%	0.5000	0.03	3.00	3.00	0.05	1.08	0.20	0.00	0.36	tube	100%
ADH SIKAFLEX	221	9.90	5.99%	0%	5.99%	0%	0.5000	0.03	0.59	0.59	0.01	0.21	0.04	0.00	0.36	tube	100%
ADH ARMSTRONG MULTIPURPOSE	S-235	9.84	3.50%	0%	3.50%	0%	0.3000	0.03	0.34	0.34	0.00	0.07	0.01	0.00	0.22	wipe	100%
ADH SIKAFLEX	252	9.70	9.77%	0%	9.77%	0%	0.2000	0.03	0.95	0.95	0.01	0.14	0.02	0.00	0.14	tube	100%
ADH SPRAY STAPUT	97,351.00	10.00	95.00%	0%	95.00%	0%	0.4000	0.03	9.50	9.50	0.11	2.74	0.50	0.01	0.29	N.A Spray	75%
ADH TITEBOND	3120	9.67	0.10%	0%	0.10%	0%	0.5000	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.36	tube	100%
VULTRAFOAM 16-L-716 PART A	16L716A	10.26	0.00%	0%	0.00%	0%	1.0000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.72	N.A Spray	100%
VULTRAFOAM 16-L-716 PART B	16L716B	9.01	0.00%	0%	0.00%	0%	1.0000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.72	N.A Spray	100%
Paints																	
PAINT SPRAY BLACK BROMA	115/110	8.30	83.00%	0%	83.00%	0%	0.2000	0.03	6.89	6.89	0.04	0.99	0.18	0.01	0.14	Spray	75%
PRIMER FOURSEAL	18-9001	10.44	35.88%	0%	35.88%	0%	0.3000	0.03	3.75	3.75	0.03	0.81	0.15	0.07	0.22	Spray	75%
PRIMER FOURSEAL	7865	7.00	80.00%	0%	80.00%	0%	0.3000	0.03	5.60	5.60	0.05	1.21	0.22	0.01	0.22	Spray	75%
Caulks/Sealants																	
SEALANT FILLER FOAM SPRAY	21551	10.00	30.00%	0%	30.00%	0%	0.3000	0.03	3.00	3.00	0.03	0.65	0.12	0.00	0.22	N.A Spray	100%
SEALANT MANUS BOND ALL COLORS	75-AM/76-AM	22.50	12.00%	0%	12.00%	0%	0.5000	0.03	2.70	2.70	0.04	0.97	0.18	0.00	0.36	wipe	100%
SEALANT SILICONE BLACK	795	12.51	2.00%	0%	2.00%	0%	0.5000	0.03	0.25	0.25	0.00	0.09	0.02	0.20	0.36	aerosol	75%
SEALANT SILICONE CLEAR	999	8.50	5.00%	0%	5.00%	0%	0.2000	0.03	0.43	0.43	0.00	0.06	0.01	0.00	0.14	tube	100%
SEALANT SILICONE WHITE	795	12.51	2.00%	0%	2.00%	0%	0.4000	0.03	0.25	0.25	0.00	0.07	0.01	0.16	0.29	aerosol	75%
Solvents/Cleaners																	
ACETONE	--	6.60	100.00%	0%	100.00%	0%	0.5000	0.03	6.60	6.60	0.10	2.38	0.43	0.00	0.36	wipe	100%
CLEANER AFTA	4005	6.50	96.00%	0%	96.00%	0%	0.1000	0.03	6.24	6.24	0.02	0.45	0.08	0.00	0.07	wipe	100%
CLEANER CAMPER	38-8815	8.51	0.00%	0%	0.00%	0%	0.1000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.07	wipe	100%
CLEANER NU PANEL DAP	14220	8.17	15.00%	0%	15.00%	0%	0.2000	0.03	1.23	1.23	0.01	0.18	0.03	0.00	0.14	wipe	100%
CLEANER/SOLVENT/ DEGREASER	BPK200	5.63	100.00%	0%	100.00%	0%	0.3000	0.03	5.63	5.63	0.05	1.22	0.22	0.00	0.22	wipe	100%
CLEANER SPRAYON GLASS	880	8.10	11.00%	0%	11.00%	0%	0.3000	0.03	0.89	0.89	0.01	0.19	0.04	0.07	0.22	spray	75%
LUBRICANT SPRAY SILICONE	MC-43	4.74	92.00%	0%	92.00%	0%	0.2000	0.03	4.36	4.36	0.03	0.63	0.11	0.00	0.14	aerosol	75%
SOLVENT FOR INSTANT ADHESIVES	76820	9.18	100.00%	0%	100.00%	0%	0.1000	0.03	9.18	9.18	0.03	0.66	0.12	0.00	0.07	wipe	100%
SOLVENT CLEAN SAFE	C-60/MC22	8.34	95.60%	0%	95.60%	0%	0.1000	0.03	7.97	7.97	0.02	0.57	0.10	0.00	0.07	wipe	100%
THINNER	DTL876	7.50	100.00%	0%	100.00%	0%	0.2200	0.03	7.50	7.50	0.05	1.19	0.22	0.00	0.16	Not. Appl.	100%
THINNER ALL PURPOSE	DTL16G	6.66	99.99%	0%	99.99%	0%	0.2200	0.03	6.66	6.66	0.04	1.05	0.19	0.00	0.16	Not. Appl.	100%
LACQUER THINNER	91665	7.01	100.00%	0%	100.00%	0%	0.4400	0.03	7.01	7.01	0.09	2.22	0.41	0.00	0.32	Not. Appl.	100%
									Total or Worst Case Potential to Emit:		**0.87**	**20.76**	**3.79**	**0.53**		

Gallons of Surface Coatings per Day Not Otherwise Exempted Under 326 IAC 6-3-1(b)(5)-(8) **2.22**

Appendix A: Emissions Calculations
From Surface Coating Operations
Plant 854 Gasoline Service Center

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

1. VOC and PM

Material	Material ID Number	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per Gallon of Coating less Water & Exempts	Pounds VOC per gallon of coating	Potential VOC (lb/hour)	Potential VOC (lb/day)	Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Gallons of Coating (gal/day)	Application Method	Transfer Efficiency
Adhesives																	
ADH BLACK WELD ABS CEMENT P773GL	30271	7.17	90.00%	0%	90.00%	0%	0.2000	0.03	6.45	6.45	0.04	0.88	0.16	0.00	0.14	brush	100%
ADH PARR/5942 CONSTRUCTION 40	5927	10.00	30.00%	0%	30.00%	0%	0.5000	0.03	3.00	3.00	0.04	1.03	0.19	0.00	0.34	tube	100%
ADH SIKAFLEX	221	9.90	5.99%	0%	5.99%	0%	0.5000	0.03	0.59	0.59	0.01	0.20	0.04	0.00	0.34	tube	100%
ADH ARMSTRONG MULTIPURPOSE	S-235	9.84	3.50%	0%	3.50%	0%	0.3000	0.03	0.34	0.34	0.00	0.07	0.01	0.00	0.21	wipe	100%
ADH SIKAFLEX	252	9.70	9.77%	0%	9.77%	0%	0.2000	0.03	0.95	0.95	0.01	0.13	0.02	0.00	0.14	tube	100%
ADH SPRAY STAPUT	97,351.00	10.00	95.00%	0%	95.00%	0%	0.4000	0.03	9.50	9.50	0.11	2.60	0.48	0.01	0.27	N.A Spray	75%
ADH TITEBOND	3120	9.67	0.10%	0%	0.10%	0%	0.5000	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.34	tube	100%
VULTRAFOAM 16-L-716 PART A	16L716A	10.26	0.00%	0%	0.00%	0%	1.0000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.68	N.A Spray	100%
VULTRAFOAM 16-L-716 PART B	16L716B	9.01	0.00%	0%	0.00%	0%	1.0000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.68	N.A Spray	100%
Paints																	
PAINT SPRAY BLACK BROMA	115/110	8.30	83.00%	0%	83.00%	0%	0.2000	0.03	6.89	6.89	0.04	0.94	0.17	0.01	0.14	Spray	75%
PRIMER FOURSEAL	18-9001	10.44	35.88%	0%	35.88%	0%	0.3000	0.03	3.75	3.75	0.03	0.77	0.14	0.06	0.21	Spray	75%
PRIMER FOURSEAL	7865	7.00	80.00%	0%	80.00%	0%	0.3000	0.03	5.60	5.60	0.05	1.15	0.21	0.01	0.21	Spray	75%
Caulks/Sealants																	
SEALANT FILLER FOAM SPRAY	21551	10.00	30.00%	0%	30.00%	0%	0.3000	0.03	3.00	3.00	0.03	0.62	0.11	0.00	0.21	N.A Spray	100%
SEALANT MANUS BOND ALL COLORS	75-AM/76-AM	22.50	12.00%	0%	12.00%	0%	0.5000	0.03	2.70	2.70	0.04	0.92	0.17	0.00	0.34	wipe	100%
SEALANT SILICONE BLACK	795	12.51	2.00%	0%	2.00%	0%	0.5000	0.03	0.25	0.25	0.00	0.09	0.02	0.19	0.34	aerosol	75%
SEALANT SILICONE CLEAR	999	8.50	5.00%	0%	5.00%	0%	0.2000	0.03	0.43	0.43	0.00	0.06	0.01	0.00	0.14	tube	100%
SEALANT SILICONE WHITE	795	12.51	2.00%	0%	2.00%	0%	0.4000	0.03	0.25	0.25	0.00	0.07	0.01	0.15	0.27	aerosol	75%
Solvents/Cleaners																	
ACETONE	--	6.60	100.00%	0%	100.00%	0%	0.5000	0.03	6.60	6.60	0.09	2.26	0.41	0.00	0.34	wipe	100%
CLEANER AFTA	4005	6.50	96.00%	0%	96.00%	0%	0.1000	0.03	6.24	6.24	0.02	0.43	0.08	0.00	0.07	wipe	100%
CLEANER CAMPER	38-8815	8.51	0.00%	0%	0.00%	0%	0.1000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.07	wipe	100%
CLEANER NU PANEL DAP	14220	8.17	15.00%	0%	15.00%	0%	0.2000	0.03	1.23	1.23	0.01	0.17	0.03	0.00	0.14	wipe	100%
CLEANER/SOLVENT/ DEGREASER	BPK200	5.63	100.00%	0%	100.00%	0%	0.3000	0.03	5.63	5.63	0.05	1.16	0.21	0.00	0.21	wipe	100%
CLEANER SPRAYON GLASS	880	8.10	11.00%	0%	11.00%	0%	0.3000	0.03	0.89	0.89	0.01	0.18	0.03	0.07	0.21	spray	75%
LUBRICANT SPRAY SILICONE	MC-43	4.74	92.00%	0%	92.00%	0%	0.2000	0.03	4.36	4.36	0.02	0.60	0.11	0.00	0.14	aerosol	75%
SOLVENT FOR INSTANT ADHESIVES	76820	9.18	100.00%	0%	100.00%	0%	0.1000	0.03	9.18	9.18	0.03	0.63	0.11	0.00	0.07	wipe	100%
SOLVENT CLEAN SAFE	C-60/MC22	8.34	95.60%	0%	95.60%	0%	0.1000	0.03	7.97	7.97	0.02	0.55	0.10	0.00	0.07	wipe	100%
THINNER	DTL876	7.50	100.00%	0%	100.00%	0%	0.2200	0.03	7.50	7.50	0.05	1.13	0.21	0.00	0.15	Not. Appl.	100%
THINNER ALL PURPOSE	DTL16G	6.66	99.99%	0%	99.99%	0%	0.2200	0.03	6.66	6.66	0.04	1.00	0.18	0.00	0.15	Not. Appl.	100%
LACQUER THINNER	91665	7.01	100.00%	0%	100.00%	0%	0.4400	0.03	7.01	7.01	0.09	2.11	0.39	0.00	0.30	Not. Appl.	100%
									Total or Worst Case Potential to Emit:		**0.82**	**19.75**	**3.60**	**0.51**		

Gallons of Surface Coatings per Day Not Otherwise Exempted Under 326 IAC 6-3-1(b)(5)-(8) **2.11**

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 32-7/8 Welding Operations

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				PM=PM10=PM2.5	Mn	Ni	Cr	PM=PM10=PM2.5	Mn	Ni	Cr	
Metal Inert Gas (MIG)(carbon steel)	4	3.00	72.00	0.0055	0.0005			0.07	6.00E-03		0	6.00E-03
EMISSION TOTALS												
Potential Emissions lbs/hr								0.07	6.00E-03	0	0	6.00E-03
Potential Emissions lbs/day								1.58	0.14	0	0	0.14
Potential Emissions tons/year								0.29	2.63E-02	0	0	2.63E-02

Methodology:
*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)
Maximum Input Rate (<=4.2 MMBtu/hr)
Plant 35-833E (fire pump southeast of Plant 2-35)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Output Horsepower Rating (hp)	140.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	1,226,400

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	1.35	1.35	1.35	1.26	19.01	1.54	4.10

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	4.00E-03	1.76E-03	1.22E-03	1.68E-04	5.07E-03	3.29E-03	3.97E-04	7.21E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	**1.66E-02**

Methodology
Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 36-836 Welding Operations

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

PROCESS WELDING	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/hr)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Metal Inert Gas (MIG)(carbon steel)	44	3	72	0.0055	0.0005			0.726	6.60E-02	0	0	6.60E-02
EMISSION TOTALS												
Potential Emissions lbs/hr								0.73	6.60E-02	0	0	6.60E-02
Potential Emissions lbs/day								17.42	1.58	0	0	1.58
Potential Emissions tons/year								3.18	0.29	0	0	0.29

Methodology:

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 56-5 Welding and Thermal Cutting (P56-WC)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				PM=PM10=PM2.5	Mn	Ni	Cr	PM=PM10=PM2.5	Mn	Ni	Cr	
Metal Inert Gas (MIG)(E70S)	5.00	3.00	72.00	5.20E-03	3.18E-04			7.80E-02	4.77E-03	0	0	4.77E-03
EMISSION TOTALS												
Potential Emissions lbs/hr								7.80E-02	4.77E-03	0	0	4.77E-03
Potential Emissions lbs/day								1.87	0.11	0	0	0.11
Potential Emissions tons/year								0.34	2.09E-02	0	0	2.09E-02

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
From Surface Coating Operations
Plant 450 Assembly Operations (P450AO)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

1. VOC and PM

Manufacturer	Material	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per Gallon of Coating less Water & Exempts	Pounds VOC per gallon of coating	Potential VOC (lb/hour)	Potential VOC (lb/day)	Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Gallons of Coating (gal/day)	Application Method	Transfer Efficiency	Substrate
Sealant	600 Clear	8.51	2.00%	0%	2.00%	0.00%	0.42	1.50	0.17	0.17	0.11	2.57	0.47	0.00	15.12	Manual	100%	Metal/Plastic
Sealant	600 Black	10.84	2.00%	0%	2.00%	0.00%	1.26	1.50	0.22	0.22	0.41	9.83	1.79	0.00	45.36	Manual	100%	Metal/Plastic
Sealant	600 White	11.18	3.00%	0%	3.00%	0.00%	0.61	1.50	0.34	0.34	0.31	7.37	1.34	0.00	21.96	Manual	100%	Metal/Plastic
Sealant	75-AM	14.18	0.53%	0%	0.53%	0.00%	7.71	1.50	0.08	0.08	0.87	20.86	3.81	0.00	277.56	Manual	100%	Metal/Plastic
Sealant	Glass/Metal Sealant	8.67	2.00%	0%	2.00%	0.00%	0.44	1.50	0.17	0.17	0.11	2.75	0.50	0.00	15.84	Manual	100%	Metal/Glass
Adhesive	Poly Foam	10.50	17.00%	0%	17.00%	0.00%	0.02	1.50	1.79	1.79	0.05	1.29	0.23	0.00	0.72	Manual	100%	Metal/Wood
Adhesive	3M Trim Adhesive	6.05	50.74%	23.50%	27.24%	21.51%	0.04	1.50	2.10	1.65	0.10	2.37	0.43	0.39	1.44	Aerosol	50%	Metal/Plastic
Adhesive	3M Fastbond	9.17	55.00%	51.60%	3.40%	56.74%	0.53	1.50	0.72	0.31	0.25	5.95	1.09	0.00	19.08	Flow	100%	Wood/Plastic
Adhesive	Sta-Put 2001M	5.87	75.70%	0%	75.70%	0.00%	0.08	1.50	4.44	4.44	0.53	12.80	2.34	0.00	2.88	Flow	100%	Wood/Plastic
Adhesive	Low VOC Adhesive	11.01	55.00%	51.21%	3.79%	67.60%	1.15	1.50	1.29	0.42	0.72	17.28	3.15	0.00	41.40	Manual	100%	Wood/Plastic
Coating	Spray Paint Gloss Black	5.80	90.92%	29.00%	61.92%	25.45%	0.04	1.50	4.82	3.59	0.22	5.17	0.94	0.07	1.44	Aerosol	50%	Wood/Plastic
Cleaner	Citrus Cleaner	9.37	100.00%	0%	100%	0.00%	0.03	1.50	9.37	9.37	0.42	10.12	1.85	0.00	1.08	Wiping	100%	NA
Cleaner	Glass Cleaner	8.17	99.90%	87.90%	12.00%	86.11%	0.03	1.50	7.06	0.98	0.04	1.06	0.19	0.00	1.08	Aerosol	50%	NA
Cleaner	Lacquer Thinner	7.07	100.00%	0%	100%	0.00%	0.02	1.50	7.07	7.07	0.21	5.09	0.93	0.00	0.72	Wiping	100%	NA
Lubricant	Silicone Lubricant	5.42	60.00%	0%	60.00%	0.00%	0.10	1.50	3.25	3.25	0.49	11.71	2.14	0.71	3.60	Aerosol	50%	Metal
								Total or Worst Case Potential to Emit:			**4.84**	**116.21**	**21.21**	**1.17**			

Worst-case PTE when Coating Metal: **58.74** **10.72**
Worst-case PTE when Coating Substrates not Otherwise Regulated by 326 IAC 8: **57.46** **10.49**

Gallons of Surface Coatings per Day Not Otherwise Exempted Under 326 IAC 6-3-1(b)(5)-(8) **2.88**

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

HAZARDOUS AIR POLLUTANTS

Material	Material ID	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Methanol	Weight % Toluene	Weight % Xylene	Methanol Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylene Emissions (ton/yr)	Total HAP Emissions (ton/yr)
	600 Clear	8.51	0.42	1.50	0%	0%	0%	0	0	0	0
	600 Black	10.84	1.26	1.50	0%	0%	0%	0	0	0	0
	600 White	11.18	0.61	1.50	0%	0%	0%	0	0	0	0
	75-AM	14.18	7.71	1.50	0%	0%	0%	0	0	0	0
	Glass/Metal Sealant	8.67	0.44	1.50	0%	0%	0%	0	0	0	0
	3M Trim Adhesive	6.05	0.04	1.50	0%	0%	0%	0	0	0	0
	3M Fastbond	9.17	0.53	1.50	2.50%	3.00%	0%	0.80	0.96	0	1.76
	Sta-Put 2001M	5.87	0.08	1.50	0%	0%	0%	0	0	0	0
	Low VOC Adhesive	11.01	1.15	1.50	0%	0%	0%	0	0	0	0
	Spray Paint Gloss Black	5.8	0.04	1.50	0%	14.00%	0%	0	0.21	0	0.21
	Citrus Cleaner	9.37	0.03	1.50	0%	0%	0%	0	0	0	0
	Glass Cleaner	8.17	0.03	1.50	0%	0%	0%	0	0	0	0
	Lacquer Thinner	7.07	0.02	1.50	9.38%	66.28%	5.59%	0.09	0.62	0.05	0.75
	Silicone Lubricant	5.42	0.10	1.50	0%	0%	0%	0	0	0	0
Potential Emissions								**0.89**	**1.79**	**0.05**	**2.72**

METHODOLOGY

*Reactive Components - 1% of Available Content is Actually Estimated to be Emitted

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Plant 450 Woodworking (P450WW)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Unit ID	Control Device	Outlet Grain Loading (gr/dscf)	Maximum Air Flow Rate (dscfm)	Potential to Emit		Control Efficiency	Uncontrolled Emissions	
				(lb/hr)	(tons/yr)		(lb/hr)	(tons/yr)
P450WW	P450DC1	0.001	10000	8.57E-02	0.38	99%	8.57	37.54

Appendix A: Emissions Calculations
Plant 450 Miscellaneous Operations (P450MO)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Process	Description	Unit ID	Material Input (lb/hr)	Material Thickness (in)	Cutting Surface Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Potential to Emit PM = PM_{10} = $PM_{2.5}$ (lb/hr)	(tons/yr)
Woodworking	Two (2) drill machines	DM1, DM2	200	0.125	0.25	50	1.56	0.026	4.07E-02	0.18
Woodworking	Two (2) band saws	BS1, BS2	200	0.125	0.0625	50	0.39	0.026	1.02E-02	4.46E-02
Aluminum cutting	One (1) band saw	BS3	100	0.125	0.0625	25	0.20	0.095	1.86E-02	8.17E-02
Aluminum cutting	Five (5) chop saws	CS1 - CS5	500	0.125	0.1875	125	2.93	0.095	0.28	1.23
Aluminum cutting	One (1) abrasive saw	AS1	100	0.125	0.1875	25	0.59	0.095	5.59E-02	0.25
Total										**1.77**

Material densities	(lb/ft^3)	(lb/in^3)
Wood (Southern yellow pine, dry)	45	0.026
Aluminum	165	0.095

Source: Table, pg 655, T. Glover, Pocket Ref, 3rd ed., Sequoia Publishing, Inc., Littleton, CO, 2008
(lb/in^3) = (lb/ft^3) / 1,728 (in^3/ft^3)

Methodology

Material Loss (in^3/hr) = Material Thickness (in) x (Cutting Surface Thickness (in) x Process Rate (in/hr)
Potential to Emit (lb/hr) = Material Loss (in^3/hr) x Material Density (lb/in^3)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

Appendix A: Emissions Calculations
Plant 450 Natural Gas Combustion (P450NGC)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Description	Unit ID	Number of Units	Capacity (MMBtu/hr) Unit	Total
Space heater	OH1	1	0.12	0.12
Thermo-cycler	TC1, TC2	2	0.58	1.16
Air makeup unit	AM1	1	0.97	0.97
			Total	**2.25**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
2.25	1020	19.3

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	1.84E-02	7.34E-02	7.34E-02	5.80E-03	0.97	5.31E-02	0.81

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	2.03E-05	1.16E-05	7.25E-04	1.74E-02	3.29E-05	**1.82E-02**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	4.83E-06	1.06E-05	1.35E-05	3.67E-06	2.03E-05	**5.29E-05**
					Total HAPs	**1.82E-02**
					Worst HAP	**1.74E-02**

Methodology is the same as above.
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Plant 450 Fuel Tanks

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation emission factors from AP-42 Chapter 5.2 Transportation And Marketing Of Petroleum Liquids were used. The total potential emission of VOC is as follows:

A. Gasoline Tank (GT1)

Gasoline Throughput = 25.00 kgal/yr

Volatile Organic Compounds (VOC)

Emission Source	Emission Factor (lb/kgal of throughput)*	PTE of VOC (tons/yr)
Filling storage tank (splash filling)	11.50	0.1438
Tank breathing and emptying	1.00	0.0125
Vehicle refueling (displaced losses - uncontrolled	11.00	0.1375
Spillage	0.70	0.0088
	Total	**0.303**

Methodology
The gasoline throughput was provided by the source.
*Emission Factors from AP-42 Chapter 5.2 Transportation And Marketing Of Petroleum Liquids (dated 6/08), Table 5.2-7
PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]

Hazardous Air Pollutants (HAPs)

Volatile Organic HAP	CAS#	Hazardous Air Pollutant (HAP) Content (vapor mass fraction)**	PTE of HAP (tons/yr)
Benzene	71-43-2	0.37%	1.1E-03
n-Hexane	110-54-3	0.34%	1.0E-03
Toluene	108-88-3	0.40%	1.2E-03
m-Xylenes	108-38-3	0.11%	3.3E-04
	Total PTE of HAPs (tons/yr)		**3.7E-03**
	PTE of Worst Single HAP (tons/yr)		**1.2E-03** **(Toluene)**

Methodology
**Source: US EPA TANKS Version 4.09 program
PTE of Total HAPs (tons/yr) = [Total HAP Content (% by weight)] * [PTE of VOC (tons/yr)]
PTE of HAP (tons/yr) = [Hazardous Air Pollutant (HAP) Content (vapor mass fraction)] * [PTE of VOC (tons/yr)]

B. Diesel Fuel Tank (DT1)

Diesel Throughput = 25.01 kgal/yr

Volatile Organic Compounds (VOC)

Emission Source	Emission Factor (lb/kgal of throughput)*	PTE of VOC (tons/yr)
Filling storage tank (splash filling)	2.37E-02	2.97E-04
Tank breathing and emptying	2.07E-03	2.58E-05
Vehicle refueling (displaced losses - uncontrolled	2.27E-02	2.84E-04
Spillage	1.45E-03	1.81E-05
	Total	**6.25E-04**

Methodology
The diesel fuel throughput was provided by the source.
*Emission Factors from AP-42 Chapter 5.2 Transportation And Marketing Of Petroleum Liquids (dated 6/08), Table 5.2-7
scaled for the different liquid using Eqn 1, Chapter 5.2:

$$L_L = 12.46\ (SPM/T)$$

Where L_L = loading loss, lb/kgal
S = a scaling factor from Table 5.2-1, in this case S = 1.45 for splash loading in dedicated normal service
P = true vapor pressure of the liquid, psia
M = molecular weight of vapors, lb/lb-mole
T = temperature of the bulk liquid, °R

So for any two liquids, $(L_1/L_2) = [12.46\ S_1P_1M_1/T_1] / [(12.46\ S_2P_2M_2/T_2]$

which reduces to $(L_1/L_2) = (P_1M_1) / (P_2M_2)$ because S and T are the same for both liquids

or $L_1 = (P_1M_1) / (P_2M_2) \times L_2$

and the gasoline emission factors from Table 5.2-7 are scaled for diesel fuel using representative physical properties from AP-42, Table 7.1-2:

Product	P, psia at 70°F	M lb/lb-mole
Distillate fuel oil No.2	0.0065	130
Gasoline (RVP10)	6.2	66

PTE of VOC (tons/yr) = Diesel Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]
HAP emissions from diesl fuel are considered negligible

Appendix: Emissions Calculations
from Surface Coating Operations
Plant 831 Laminators

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

1. VOC and PM

Process	Manufacturer	Material	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Volume % Non-Volatiles[3] (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hr)	Gallons of Coating per Day (gal/day)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential to Emit VOC[1,2] (lb/hr)	(lb/day)	(tons/yr)	Substrate
FCL1[3]	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL2	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL3[4]	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	3.50	168.00	0	0	7.68E-08	1.84E-06	3.36E-07	Metal/Plastic
Total of surface coating operations not determined to be insignificant for PSD														**5.38E-07**	**1.29E-05**	**2.35E-06**	
FCL4	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL5	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL6	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL7	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL8	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL9	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
Uncontrolled Potential VOC Emissions														**1.38E-06**	**3.32E-05**	**6.05E-06**	

Notes

1. VOC emissions taken to be equal to total HAP emissions because the SDS indicates that product does not contain VOC, see MDI Methodology, below.
2. Flowcoat-type application method does not generate PM so, pursuant to 326 IAC 6-3-1(b)(7), the processes are exempt from 326 IAC 6-3
3. FCL1 formerly identified as sidewall lamination operation exhausting to stack GV1-1
4. FCL3 formerly identified as sidewall lamination operation GV32-1 (formerly GV56-1, formerly GV54-1)

Methodology
PTE (lb/day) = PTE (lb/hr) x 24 (hr/day)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

2. Hazardous Air Pollutants

Process	Manufacturer	Material	Density (Lb/Gal)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Weight % MDI[1]	MDI Emissions[2] (tons/yr)	Total HAP Emissions (ton/yr)
FCL1	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL2	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL3	Henkel	Macroplast UR-8343	9.17	2.00	3.50	30.00%	3.36E-07	3.36E-07
FCL4	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL5	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL6	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL7	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL8	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL9	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
Uncontrolled Potential HAP Emissions							**8.41E-06**	**8.41E-06**

Notes:
1. MDI - methylene diphenyl diisocyanate (CASRN 101-68-8), does not include isomers, oligomers, or polymers.
2. Calculated MDI/HAP emissions based on Center for the Polyurethanes Industry methodology cited below.

METHODOLOGY
HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

MDI Methodology
Pure MDI is a solid at room temperature and has an extremely low vapor pressure (1.0×10^{-5} mm Hg @ 298.2 K). MDI is also a highly reactive chemical which readily undergoes a chemical reaction to form a non volatile polyurethane polymer.
Therefore, the potential VOC/HAP emissions are estimated by engineering calculations utilizing physical and chemical properties and fundamental relationships, such as, Raoult's law, Henry's law, and the ideal gas law.
The following formula, obtained from the cited reference, is used to estimate the potential MDI evaporative loss in a lamination process;

Appendix D, Equation 7.0, Calculating Emissions From Open Processes

$$W = 25.4 * VP_{MDI} * (M_W / T_{proc}) * u^{0.78} * S_A * t_{TF} * K_{MDI}$$

Where: W = Evaporative Losses, g/day
VP_{MDI} = MDI Vapor Pressure at process temperature, atm
= 1.023E-05 mm Hg, Table A-1, Reporting Guidelines
= 1.346E-08 atm
M_W = Molecular Weight
= 250.26 g/g-mole
T_{proc} = Process Temperature (Kelvin)
= 77 °F (ambient conditions)
= 298 K
u = Airflow speed, m/s
= 100 ft/min (assumed worst case for the work area)
= 0.51 m/s
S_A = Exposed Surface Area, m^2/day

worst-case:	336	ft²/unit, based on maximum panel dimensions of 8 ft x 42 ft	
FCL1, FCL2	FCL3	FCL4-FCL-6	
10.50	3.50	10.50	unit/hr
3528	1176	3528	ft²/hr
S_A = 84,672	28,224	84,672	ft²/day
= 7,866	2,622	7,866	m^2/day

t_{TF} = Tack Free Time, sec
= 5.00 sec (default value)
K_{MDI} = Vapor Pressure Adjustment Factor for MDI Concentration
= 0.377 interpolated from Table B-1, Reporting Guidelines, 77ºF

	FCL1, FCL2	FCL3	FCL4-FCL-6	
Then W =	2.51E-03	8.36E-04	2.51E-03	g/day
=	1.04E-04	3.48E-05	1.04E-04	g/hr
MDI PTE =	2.30E-07	7.68E-08	2.30E-07	lb/hr
=	1.01E-06	3.36E-07	1.01E-06	tons/yr

METHODOLOGY REFERENCE
MDI Emissions Reporting Guidelines for the Polyurethanes Industry, American Chemistry Council, Center for the Polyurethanes Industry, Washington, DC, May 2012

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)
Maximum Input Rate (<=4.2 MMBtu/hr)
Plant 831 Emergency Generator (EG2)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Output Horsepower Rating (hp)	480.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	240,000

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.26	0.26	0.26	0.25	3.72	0.30	0.80

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	7.84E-04	3.44E-04	2.39E-04	3.28E-05	9.91E-04	6.44E-04	7.77E-05	1.41E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	**3.25E-03**

Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

Appendix A: Emission Calculations
Plant 831 Emergency Generator (EG2)
Diesel Fuel Tank (EG2DT)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

References are to Chapter 7, AP-42 (11/06) except as noted

Indianapolis Meteorological Data (Tbl 7.1-7)

Average daily maximum ambient temperature, T_{AX} = 62.0 °F
Average daily minimum ambient temperature, T_{AN} = 42.2 °F
Daily total insolation, I = 1165 Btu/ft^2-day
average atmospheric pressure, P_A = 14.33 psia

from Table 7.1-6		color	condition	
α =	0.68	med gray	good	description provided by the source

Horizontal tank, capacity and dimensions provided by the source

V = 450 gal L = 8.5 ft D = 3 ft

Storage Losses (breathing losses)

Daily average ambient temperature, T_{AA} = 512.1 °R, Eqn 1-27, $T_{AA} = (T_{AX} + T_{AN})/2$
Liquid bulk temperature, T_B = 515.2 °R, Eqn 1-28, $T_B = T_{AA} + 6\,\alpha - 1$
Daily average liquid surface temperature, T_{LA} = 520.1 °R, Eqn 1-26, $T_{LA} = 0.44\,T_{AA} + 0.56\,T_B + 0.0079\,\alpha\,I$

Vapor molecular weight, M = 130 lb/lb-mole, Tbl 7.1-2, No 2 distillate fuel oil
Throughput, Q = 193596 gal/yr = 4609.4 bbl/yr *(note 1 bbl = 42 gal)*

A = 12.3 vapor pressure equation (Eqn 1-24) coefficients,
B = 9029 regression of data in Tbl 7.1-2, No 2 distillate fuel oil

Vapor pressure at daily average liquid surface temperature, P_{VA} = 0.01 psia, Eqn 1-24, Ch 7

Effective diameter, D_E = 5.70 ft Eqn 1-13, $D_E = ((LD)/(\pi/4))^{1/2}$
Effective height, H_E = 2.36 ft Eqn 1-14, $H_E = \pi D/4$
Vapor space outage, H_{VO} = 1.18 ft $H_E/2$, explanation of terms, Eqn 1-15

Maximum and minimum liquid surface temperature and vapor pressure

T_{LX} =	530.0 °R	T_{LN} =	510.2 °R	Eqn 1-26 applied at T_{AX} and T_{AN}, note 5 to Eqn 1-7
P_{VX} =	0.01 psia	P_{VN} =	0.00 psia	Eqn 1-24 applied at T_{AX} and T_{AN}, note 5 to Eqn 1-7

Daily vapor pressure range, ΔP_V = 0.00 psia, Eqn 1-9, $\Delta P_V = P_{VX} - P_{VN}$
Daily vapor temperature range, ΔT_V = 36.4 °R, eqn 1-8, $\Delta T_V = 0.72\,(T_{AX} - T_{AN}) + 0.028\,\alpha\,I$
Breather vent pressure setting range, ΔP_B = 0.06 psia, assumed, see note 3 to Eqn 1-7

Vapor space expansion factor, K_E = 0.07 Eqn 1-7, $K_E = (\Delta T_V/T_{LA}) + (\Delta P_V - \Delta P_B)/(P_A - P_{VA})$
Vented vapor saturation factor, K_S = 1.00 Eqn 1-20, $K_S = 1 / (1 + 0.053\,P_{VA}\,H_{VO})$
Stock vapor densiity, W_V = 0.0001 lb/ft^3, Eqn 1-21, $W_V = (M_V\,P_{VA}) / (R\,T_{LA})$
R = ideal gas law constant, 10.73 (psia ft^3)/(lb-mole ºR), Table 1-9, Perry's Chemical Engineers' Handbook, 6th ed.

Storage loss, $L_S = 365\,K_E\,(\pi D_E^2/4)\,H_{VO}\,K_S\,W_V$, Eqn 1-4

L_S = 0.11 lb/yr

Working Losses

turnovers = 430 per year, N = Q (gal/yr) / V (gal) *(note Eqn 1-30 gives N in terms of Q (bbl/yr) and V_{LX} (ft^3), presumed the same as this equation)*
Working loss turnover (saturation) factor, K_N = 0.24 Fig 7.1-18, explanation of terms, Eqn 1-29
Working loss product factor, K_P = 1 organic liquids other than crude oil, explanation of terms, Eqn 1-29

Working loss, $L_W = 0.0010\,M_V\,P_{VA}\,Q\,K_N\,K_P$, Eqn 1-29

L_W = 0.91 lb/yr, Eqn 1-29, AP-42 Ch 7

Total Losses

Total losses, $L_T = L_S + L_W$, Eqn 1-1

Potential to Emit		
	lb/yr	tons/yr
L_T =	1.02	5.09E-04

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Plant 831

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Description	ID	Number	Capacity (MMBtu/hr) Unit	Total
Thermo-cycler	P831TC1 - P831TC5	5	0.72	3.60
Thermo-cycler	P831TC6	1	0.58	0.58
Furnace	P831H1	1	0.075	0.08
Furnace	P831H2, P831H3	2	0.09	0.18
Furnace	P831H4	1	0.11	0.11
Total				**4.55**

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
4.55	1020	39.0

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.04	0.15	0.15	0.01	1.95	0.11	1.64

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	4.1E-05	2.3E-05	1.5E-03	0.04	6.6E-05	**0.04**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	9.8E-06	2.1E-05	2.7E-05	7.4E-06	4.1E-05	**1.1E-04**
					Total HAPs	**0.04**
					Worst HAP	**0.04**

Methodology is the same as above.
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
Plant 450 Woodworking Operations - (P450WW2 - P450WW6)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Woodworking Operations

Process ID(s)	Equipment ID(s)	Baghouse ID(s)	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PM/PM10/PM2.5 Emissions (grains/hr)	PM/PM10/PM2.5 Emission Rate before Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate before Controls (tons/yr)	PM/PM10/PM2.5 Emission Rate after Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate after Controls (tons/yr)
P450WW2	P450-8	INTDC21	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P450WW3	P450-20	INTDC22	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P450WW4	P450-11	INTDC23	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P450WW5	P450-1	INTDC24	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P450WW6	P450-RT1	INTDC25	99.0%	0.00020	650	8	0.11	0.49	0.001	0.005
Totals							**0.19**	**0.82**	**0.002**	**0.008**

Methodology
Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
Emission Rate in lbs/hr (before controls) = Emission Rate (after controls)(lbs/hr) / (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
PM/PM10/PM2.5 Emissions (grains/hr) = Grain Loading (gr/acf) * Air Flow (acf/min) * 60 (min/hr)
PM/PM10/PM2.5 Emissions (lbs/hr) = PM/PM10/PM2.5 Emissions (grains/hr)* (1 lb/7000 grains)
PM/PM10/PM2.5 Emissions (tons/yr) = PM/PM10/PM2.5 Emissions (lbs/hr) * 8760 hrs/yr *2000 lbs/ton

* The baghouse controlling emissions for the woodworking operation have been determined by IDEM to be integral to the process. Therefore only the potential emissions after controls are considered when determining the permit level.

Actual Grain Loading Determination for Portable Dust Collectors

Process	Units	ID	Dust Collector ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
P450WW2	One (1) Cut Off Saw	P450-8	INTDC21	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P450WW3	One (1) Cut Off Saw	P450-20	INTDC22	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P450WW4	One (1) Cut Off Saw	P450-11	INTDC23	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P450WW5	One (1) Cut Off Saw	P450-1	INTDC24	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P450WW6	One (1) Double Edge Router	P450-RT1	INTDC25	1000	0.25	0.375	50	4.69	0.024	0.11	0.49
									Total Emissions	**0.19**	**0.82**

Methodology
Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
AC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Woodworking Operation
Plant 831 Woodworking Operations - (P831WW1 - P831WW5)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Woodworking Operations

Process ID(s)	Equipment ID(s)	Baghouse ID(s)	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PM/PM10/PM2.5 Emissions (grains/hr)	PM/PM10/PM2.5 Emission Rate before Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate before Controls (tons/yr)	PM/PM10/PM2.5 Emission Rate after Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate after Controls (tons/yr)
P831WW1	P831-5	INTDC15	99.0%	0.00002	1,280	1	0.02	0.08	0.000	0.001
P831WW2	P831-4	INTDC16	99.0%	0.00002	1,280	1	0.02	0.08	0.000	0.001
P831WW3	P831-3	INTDC17	99.0%	0.00002	1,280	1	0.02	0.08	0.000	0.001
P831WW4	P831-1	INTDC18	99.0%	0.00002	1,280	1	0.02	0.08	0.000	0.001
P831WW5	P831-TS1	INTDC19	99.0%	0.00003	1,280	2	0.03	0.12	0.000	0.001
Totals							**0.10**	**0.45**	**0.001**	**0.005**

Methodology
Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
Emission Rate in lbs/hr (before controls) = Emission Rate (after controls)(lbs/hr) / (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
PM/PM10/PM2.5 Emissions (grains/hr) = Grain Loading (gr/acf) * Air Flow (acf/min) * 60 (min/hr)
PM/PM10/PM2.5 Emissions (lbs/hr) = PM/PM10/PM2.5 Emissions (grains/hr)* (1 lb/7000 grains)
PM/PM10/PM2.5 Emissions (tons/yr) = PM/PM10/PM2.5 Emissions (lbs/hr) * 8760 hrs/yr *2000 lbs/ton

* The baghouse controlling emissions for the woodworking operation have been determined by IDEM to be integral to the process. Therefore only the potential emissions after controls are considered when determining the permit level.

Actual Grain Loading Determination for Portable Dust Collectors

Process	Units	ID	Dust Collector ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
P831WW1	One (1) Cut Off Saw	P831-5	INTDC15	500	0.125	0.25	25	0.78	0.024	0.02	0.08
P831WW2	One (1) Cut Off Saw	P831-4	INTDC16	500	0.125	0.25	25	0.78	0.024	0.02	0.08
P831WW3	One (1) Cut Off Saw	P831-3	INTDC17	500	0.125	0.25	25	0.78	0.024	0.02	0.08
P831WW4	One (1) Cut Off Saw	P831-1	INTDC18	500	0.125	0.25	25	0.78	0.024	0.02	0.08
P831WW5	One (1) Table Saw	P831-TS1	INTDC19	500	0.125	0.375	25	1.17	0.024	0.03	0.12
									Total Emissions	**0.10**	**0.45**

Methodology
Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
AC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Plant 831 Routing Operation - Roof/Floor/Sidewall Routing

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Process	ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	*Percent PM <100 u	*Material Density (lb/in^3)	Total Material Loss (lb/hr)	PM Loss < 100u (lb/hr)	PM/PM10/PM2.5 Emissions (ton/year)
Sidewall Routing	P831SWR1	1,200	0.1875	0.190	3,040.67	108.32	5.40%	0.056	6.07	0.33	1.43
Sidewall Routing	P831SWR2	1,200	0.1875	0.190	3,040.67	108.32	5.40%	0.056	6.07	0.33	1.43
Sidewall Routing	P831SWR3	1,200	0.1875	0.190	3,040.67	108.32	5.40%	0.056	6.07	0.33	1.43
Roof Routing	P831RR1	3,640	0.1875	0.240	3,378.00	152.01	1.30%	0.052	7.90	0.10	0.45
Floor Routing	P831FR1	1,860	0.1875	0.481	687.00	61.96	1.30%	0.052	3.22	0.04	0.18
Floor Routing	P831FR2	1,860	0.1875	0.481	687.00	61.96	1.30%	0.052	3.22	0.04	0.18
								Total Emissions	**32.55**	**1.17**	**5.12**

Methodology

*Material Density (lb/in^3) and Weight % PM <100u Based Upon Laboratory Testing
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Total Material Loss (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
PM Loss < 100u (lb/hr) = Total Material Loss (lb/hr) * Percent PM <100 u (%)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
PM= PM10 & PM2.5
AER - 326 IAC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Plant 36-836 Miscellaneous Woodworking Operation - (MC-P836)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Miscellaneous Woodworking Operations

Process	Units	ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
MC-836	One (1) Cut Off Saw	P836-COS1	250	0.125	0.25	25	0.78	0.024	0.02	0.08
								Total Emissions	**0.02**	**0.08**

Methodology

Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
AC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Plant 36-836 Woodworking Operation - (P836WW1)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Woodworking Operations

Process ID(s)	Equipment ID(s)	Baghouse ID(s)	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PM/PM10/PM2.5 Emissions (grains/hr)	PM/PM10/PM2.5 Emission Rate before Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate before Controls (tons/yr)	PM/PM10/PM2.5 Emission Rate after Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate after Controls (tons/yr)
P836WW1	P836-TS1	INTDC20	99.0%	0.00003	1,200	2	0.03	0.12	0.0003	0.001
Totals							**0.03**	**0.12**	**0.0003**	**0.001**

Methodology
Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
Emission Rate in lbs/hr (before controls) = Emission Rate (after controls)(lbs/hr) / (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
PM/PM10/PM2.5 Emissions (grains/hr) = Grain Loading (gr/acf) * Air Flow (acf/min) * 60 (min/hr)
PM/PM10/PM2.5 Emissions (lbs/hr) = PM/PM10/PM2.5 Emissions (grains/hr)* (1 lb/7000 grains)
PM/PM10/PM2.5 Emissions (tons/yr) = PM/PM10/PM2.5 Emissions (lbs/hr) * 8760 hrs/yr *2000 lbs/ton

* The baghouse controlling emissions for the woodworking operation have been determined by IDEM to be integral to the process. Therefore only the potential emissions after controls are considered when determining the permit level.

Actual Grain Loading Determination for Portable Dust Collectors

Process	Units	ID	Dust Collector ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
P836WW1	One (1) Table Saw	P836-TS1	INTDC20	500	0.125	0.375	25	1.17	0.024	0.03	0.12
									Total Emissions	**0.03**	**0.12**

Methodology
Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
AC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Plant 1-850 Miscellaneous Woodworking Operation - (MC-P850)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Miscellaneous Woodworking Operations

Process	Units	ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
MC-850	One (1) Double Head Drill Press	P850-DHD1	500	0.125	0.125	50	0.78	0.024	0.02	0.08
	One (1) Single Head Drill Press	P850-SHD1	500	0.125	0.125	50	0.78	0.024	0.02	0.08
								Total Emissions	**0.04**	**0.16**

Methodology

Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3

Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)

AC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Plant 1-850 Woodworking Operations - (P850WW2 - P850WW14)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Woodworking Operations

Process ID(s)	Equipment ID(s)	Baghouse ID(s)	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PM/PM10/PM2.5 Emissions (grains/hr)	PM/PM10/PM2.5 Emission Rate before Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate before Controls (tons/yr)	PM/PM10/PM2.5 Emission Rate after Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate after Controls (tons/yr)
P850WW2	P850-57, P850-50	INTDC2	99.0%	0.00004	1,200	3	0.04	0.16	0.000	0.002
P850WW3	P850-59, P850-BS1	INTDC3	99.0%	0.00004	1,200	3	0.04	0.16	0.000	0.002
P850WW4	P850-46	INTDC4	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P850WW5	P850-39	INTDC5	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P850WW6	P850-41	INTDC6	99.0%	0.00005	1,200	4	0.06	0.25	0.001	0.002
P850WW7	P850-35, P850-60	INTDC7	99.0%	0.00004	1,200	3	0.04	0.16	0.000	0.002
P850WW8	P850-43	INTDC8	99.0%	0.00007	650	3	0.04	0.16	0.000	0.002
P850WW9	P850-27	INTDC9	99.0%	0.00007	650	3	0.04	0.16	0.000	0.002
P850WW10	P850-6	INTDC10	99.0%	0.00007	650	3	0.04	0.16	0.000	0.002
P850WW11	P850-TS1	INTDC11	99.0%	0.00010	650	4	0.06	0.25	0.001	0.002
P850WW12	P850-48	INTDC12	99.0%	0.00007	650	3	0.04	0.16	0.000	0.002
P850WW13	P850-47	INTDC13	99.0%	0.00007	650	3	0.04	0.16	0.000	0.002
P850WW14	P850-COS1	INTDC14	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
Totals							**0.47**	**2.05**	**0.005**	**0.021**

Methodology
Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
Emission Rate in lbs/hr (before controls) = Emission Rate (after controls)(lbs/hr) / (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
PM/PM10/PM2.5 Emissions (grains/hr) = Grain Loading (gr/acf) * Air Flow (acf/min) * 60 (min/hr)
PM/PM10/PM2.5 Emissions (lbs/hr) = PM/PM10/PM2.5 Emissions (grains/hr)* (1 lb/7000 grains)
PM/PM10/PM2.5 Emissions (tons/yr) = PM/PM10/PM2.5 Emissions (lbs/hr) * 8760 hrs/yr *2000 lbs/ton

* The baghouse controlling emissions for the woodworking operation have been determined by IDEM to be integral to the process. Therefore only the potential emissions after controls are considered when determining the permit level.

Actual Grain Loading Determination for Portable Dust Collectors

Process	Units	ID	Dust Collector ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^2/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
P850WW2	One (1) Cut Off Saw and One (1) Table Saw	P850-57, P850-50	INTDC2	500	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW3	One (1) Cut Off Saw and One (1) Belt Sander	P850-59, P850-BS1	INTDC3	500	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW4	One (1) Cut off saw	P850-46	INTDC4	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P850WW5	One (1) Cut off saw	P850-39	INTDC5	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P850WW6	One (1) Table Saw	P850-41	INTDC6	500	0.125	0.375	50	2.34	0.024	0.06	0.25
P850WW7	Two (2) Cut Off Saws	P850-35, P850-60	INTDC7	500	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW8	One (1) Cut off saw	P850-43	INTDC8	250	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW9	One (1) Cut Off Saw	P850-27	INTDC9	250	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW10	One (1) Cut Off Saw	P850-6	INTDC10	250	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW11	One (1) Table Saw	P850-TS1	INTDC11	250	0.125	0.375	50	2.34	0.024	0.06	0.25
P850WW12	One (1) Cut Off Saw	P850-48	INTDC12	250	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW13	One (1) Cut Off Saw	P850-47	INTDC13	250	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW14	One (1) Cut Off Saw	P850-COS1	INTDC14	250	0.125	0.25	25	0.78	0.024	0.02	0.08
									Total Emissions	**0.47**	**2.05**

Methodology
Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
AC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations
Plant 1-850 Touch Up Painting (P850TP)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-46065-00017
Administrative Amendment No.: 039-46311-00017
Reviewer: Andrew Belt

Plant 850 Touchup Painting

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Maximum (gal/day)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Transfer Efficiency	Substrate	Application Method
Touch Up Painting																	
BC200 Black	7.58	97.00%	0.00%	97.00%	0.00%	0.0750	1.50	2.70	7.35	7.35	0.83	19.85	3.62	0.03	75%	Plastic	HVLP
UR50 Reducer	7.29	100.00%	0.00%	100.00%	0.00%	0.0375	1.50	1.35	7.29	7.29	0.41	9.84	1.80	0.00	75%	Plastic	HVLP
BCH2 Hardener	7.99	64.00%	0.00%	64.00%	0.00%	0.0125	1.50	0.45	5.11	5.11	0.10	2.30	0.42	0.06	75%	Plastic	HVLP
Clean Up Solvents																	
Acetone	6.61	100.00%	100.00%	0.00%	100.00%	0.0250	1.50	0.90	0.00	0.00	0.00	0.00	0.00	0.00	100%	Cleaner	Manual
							Total	5.40	**Total Potential to Emit**		**1.33**	**31.99**	**5.84**	**0.09**			

METHODOLOGY
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Ethylbenzene	Weight % Isocyanates	Xylene (ton/yr)	Toluene (ton/yr)	Ethylbenzene (ton/yr)	Isocyanates (ton/yr)	Total HAP (ton/yr)
Touch Up Painting												
BC200 Black	7.58	0.0750	1.50	20.00%	0.00%	5.00%	0.00%	0.75	0.00	0.19	0.00	0.93
UR50 Reducer	7.29	0.0375	1.50	0.00%	0.00%	0.20%	0.00%	0.00	0.00	0.00	0.00	0.00
BCH2 Hardener	7.99	0.0125	1.50	0.00%	20.00%	0.00%	1.00%	0.00	0.13	0.00	0.007	0.14
Acetone	6.61	0.0250	1.50	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
							Totals	**0.75**	**0.13**	**0.19**	**0.007**	**1.08**

METHODOLOGY
HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

From: Kevin Parks
To: Spahn, Madison R
Cc: Darrick Parker
Subject: Re: IDEM OAQ Contact Information for Application No. 039-47470-00017 for Thor Wakarusa, LLC
Date: Friday, June 7, 2024 6:14:34 PM

Dear Madison:

The amount is high because a unit is a Motor Home. They are about 50,000 pounds each which is 4 per hour.

Please let me know if you have any questions.

Kevin Parks
Sent from my iPhone

> On Jun 7, 2024, at 3:22 PM, Spahn, Madison R <MSpahn@idem.in.gov> wrote:
>
> Good Afternoon,
>
> I am in the process of drafting the permit documents for you to review. I did have a clarification question; the process rate of Paint Line A is listed as 100 tons/hr and we thought that this seemed a bit high. I wanted to make sure that this process rate was correct before proceeding.
>
> I am hoping to have these documents ready for you next week, I am out of the office late next week and was hoping to have applicant review ready before I leave.
>
> Thanks,
>
> <image001.png>
> Indiana Department of Environmental Management
> **Madison Spahn**
> *Environmental Manager 2*
> *Office of Air Quality*
> (317)233-3031
> mspahn@IDEM.in.gov
> *Protecting Hoosiers and Our Environment*
>
> <image002.png>
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| <image004.png> | <image005.png> | <image006.png> | www.idem.IN.gov

<image007.png>

From: Kevin Parks <kparks@dbesi.com>
Sent: Monday, February 5, 2024 2:56 PM
To: Spahn, Madison R <MSpahn@idem.IN.gov>; Darrick Parker <dparker@thorindustries.com>
Subject: RE: IDEM OAQ Contact Information for Application No. 039-47470-00017 for Thor Wakarusa, LLC

Dear Madison:

Please find attached the calculations from Permit 46065 for THOR Wakarusa, LLC.

Thank you.

PLEASE NOTE MY NEW EMAIL ADDRESS: kparks@dbesi.com

Sincerely,

Kevin A Parks

Senior Project Manager
D&B Environmental Consulting, LLC
401 Lincoln Way West
Osceola, IN 46561
(574) 674-0161
Fax (574) 674-2778
Mobile (574) 215-6902

From: Spahn, Madison R <MSpahn@idem.IN.gov>
Sent: Monday, February 5, 2024 8:55 AM
To: Kevin Parks <kparks@dbesi.com>; Darrick Parker <dparker@thorindustries.com>
Subject: IDEM OAQ Contact Information for Application No. 039-47470-00017 for Thor

Wakarusa, LLC

Dear Darrick Parker,

I am the permit writer assigned to the current application No. 039-47470-00017 for Thor Wakarusa, LLC. I would like to extend to you my contact information so that we may have continued communication until your new permit is issued. Please keep this information at hand. It is common for questions to arise, and oftentimes, further clarification is needed during the permit review process.

To expedite the review process, please e-mail me the electronic copy of your calculations (preferably in excel format) and other supporting documents used as part of your application.

IDEM, OAQ will notify you when a draft permit has been submitted for public notice and/or when a final permit has been issued. As part of the notification, IDEM, OAQ will provide information on how to access the draft and/or final permit electronically on IDEM's website. If Thor Wakarusa, LLC would prefer to receive paper copies of the entire draft and/or final permit, please let me know prior to the end of the applicant review period. If you prefer to receive paper copies of the entire permit, IDEM, OAQ will mail a paper copy of the draft permit and/or original signed final permit to the source contact. If you do not request to receive paper copies of the entire permit, IDEM, OAQ will only mail a paper copy of the original signed final permit signature page to the source contact.

Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief (Brian Williams) may be contacted at 317-234-5375 or bwilliam@idem.in.gov.

Thank you in advance for your time and assistance. I look forward to working with you.

Sincerely,

<image001.png>

Indiana Department of Environmental Management

Madison Spahn
Environmental Manager 2
Office of Air Quality
(317)233-3031
mspahn@IDEM.in.gov
Protecting Hoosiers and Our Environment

<image002.png>
|
<image003.png>
|

From: Spahn, Madison R
To: Darrick Parker; Kevin Parks
Subject: Applicant Review for Thor Wakarusa, LLC No. 039-47470-0017 for Thor Wakarusa, LLC
Date: Tuesday, June 11, 2024 11:10:00 AM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png
image006.png
image007.png
47470tsd.docx
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Importance: High

Dear Darrick Parker:

Attached is the draft TV Renewal and supporting documents for review. As a courtesy, this draft is being provided to you for an opportunity to review and provide comments prior to posting the public notice on IDEM's website. This supplemental step of providing you the draft permit does not take away your legal right to provide comments during the thirty (30) day comment period.

The time clock for TV Renewal No.: 039-47470-00017 will be stopped during your review until you either provide comments or indicate that you do not have any comments. Due to permit accountability and IDEM's intention to public notice the permit in a timely manner, you are being allotted two (2) weeks from today to provide comments in writing, email is sufficient. If you have any conflicts or special circumstances that would impede your review process during the time allotted, please notify me directly at the email address or phone number listed below as soon as possible. If you have not responded on or before June 25, 2024, IDEM will assume that you have no comments pertaining to this draft and all files will be forwarded for public notice.

During this review period, I will be available to address your concerns, answer any questions that you may have, or make necessary revisions to this draft.

Please send a reply email to me immediately confirming that you have received this draft version of the permit for review and that you are able to access these files in their current format.

The following documents are not included in this review but will be included during the public notice period:

Attachment A: 40 CFR 60 Subpart IIII
Attachment B: 40 CFR 63 Subpart MMMM
Attachment C: 40 CFR 63 Subpart PPPP
Attachment D: 40 CFR 63 Subpart ZZZZ

Pursuant to 326 IAC 2-1.1-7, the fee for this permitting action is expected to be $0, which is based on the following:

$0	TV Renewal

Please note: This is not a bill. This represents the anticipated fee and is subject to change if additional review is required or the permit level changes for some reason (e.g. an additional NESHAP review is required). You will receive a final bill from the OAQ Permits Administration and Support Section.

Sincerely,

Indiana Department of Environmental Management
Madison Spahn
Environmental Manager 2
Office of Air Quality
(317)233-3031
mspahn@IDEM.in.gov
Protecting Hoosiers and Our Environment

| | | | | www.idem.**IN**.gov

Help us improve!
IDEM values your feedback

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit Renewal

Source Description and Location

Source Name:	**Thor Wakarusa, LLC**
Source Location:	**606Nelsons Parkway Wakarusa, IN 46573**
County:	**Elkhart**
SIC Code:	**3716 (Motor Homes)** **3792 (Travel Trailers and Campers)**
Permit Renewal No.:	**T 039-47470-00017**
Permit Reviewer:	**Madison Spahn**

On January 29, 2024, Thor Wakarusa, LLC submitted an application to the Office of Air Quality (OAQ) requesting to renew its operating permit. OAQ has reviewed the operating permit renewal application from Thor Wakarusa, LLC relating to the operation of a stationary multi-plant complex which assembles and paints high-quality recreational vehicles that vary in floor plan and length. Thor Wakarusa, LLC, was issued its third Part 70 Operating Permit Renewal (T 039-40858-00017) on December 9, 2019.

Source Definition

Pursuant to CP 039-8662-00017, issued on January 9, 1998, Thor Wakarusa, LLC's Nelsons Parkway Complex consists of the following plants:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting)
(b) Plant 2-35 (final paint plant)
(c) Plant 20-820 (welding and sidewall lamination)
(d) Plant 22-822 (welding operations)
(e) Plant 23-823 (normal maintenance operations)
(f) Plant 24-824 (normal maintenance operations)
(g) Plant 25-825 (warehouse)
(h) Plant 26-826 (white glove inspection area and dispatch)
(i) Plant 28 (warehouse)
(j) Plant 29-829 (Diesel Service Center)
(k) Plant 32-7/8 (welding) and Plant 32A (warehouse)
(l) Plant 33-833 (compressor building)
(m) Plant 34-834 (warehouse)
(n) Plant 35-833E (fire pump Southeast of Plant 2)
(o) Plant 36-836 (welding operations)
(p) Plant 854 (Gasoline Service Center)
(q) Plant 55-5 (warehouse)
(r) Plant 56-5 (warehouse and welding)
(s) Plant 831 (flow coat lamination)

Thor Wakarusa, LLC also owns a motor home assembly operation, identified as Plant 450 (Plant ID# 039-00692), at 1060 East Waterford Street, Wakarusa, Indiana, 46573.

Since these twenty (20) plants are located on contiguous or adjacent properties, belong to the same industrial grouping, and are under common control of the same entity, they are considered one (1) source as defined by 326 IAC 2-7-1(22). This conclusion was initially determined under CP 039-8662-00017, issued on January 9, 1998, incorporated into Part 70 Operating Permit Renewal (T039-26937-00017) on August 19, 2010, and modified by Minor Source Modification No. 039-38507-00017.

Existing Approvals

The source was issued Part 70 Operating Permit Renewal No. T 039-40858-00017 on December 9, 2019. The source has since received the following approval:

(a) Part 70 Minor Source Modification No. 039-40858-00017, issued on March 23, 2023; and

(b) Part 70 Administrative Amendment No. 039-46311-00017, issued on March 2023.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(1) One (1) woodworking mill room, identified as D1-01, with a maximum capacity of 3260 pounds of wood per hour, using tools including (but not limited to) saws, routers, and planers, using a bagfilter collector as particulate control, constructed in 1997, and exhausting to stack DV1-01 when exhausting to the atmosphere. Sawdust is collected in a silo using a cyclone separator, with all air recirculated through the bagfilter collector. The unit can exhaust to the atmosphere or operate as a return air unit.

(2) One (1) sidewall adhesive application process, identified as SV1-6, with a maximum capacity of 1.5 vehicles per hour, using hand held non-atomizing applicators, with emissions uncontrolled, constructed in 1997. There is no direct exhaust route for this unit. A general ceiling vent, identified as SV1-6, is located in the vicinity.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the sidewall adhesive application process, identified as SV1-6 is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the sidewall adhesive application process, identified as SV1-6 is considered a part of an existing source.

(3) Three (3) manual assembly lines applying sealants, caulks, and cleaners, identified as Assembly Lines 1-Red, 2-Blue, and 3-White, with a maximum capacity of 3.5 vehicles per hour, each, using various hand tools, identified as D1-04, with emissions uncontrolled, all constructed in 1997, and exhausting to general ventilation vent GV1-01.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the manual assembly lines, identified as D1-04 are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the manual assembly lines, identified as D1-04 are considered considered a part of an existing source.

(4) One (1) double head drill press, identified as P850-DHD1, constructed in 2020, with a maximum capacity of 500 lb/hr, using no controls, and exhausting indoors.

(5) One (1) single head drill press, identified as P850-SHD1, constructed in 2020, with a maximum capacity of 500 lb/hr, using no controls, and exhausting indoors.

(6) Four (4) cut off saws, identified as P850-57, P850-59, P850-35, and P850-60, constructed in 2020, with a maximum capacity of 500 lb/hr, each, equipped with integral dust collectors for particulate control, and exhausting indoors.

(7) Two (2) table saws, identified as P850-50 and P850-41, constructed in 2020, with a maximum capacity of 500 lb/hr, each, equipped with integral dust collectors for particulate control, and exhausting indoors.

(8) One (1) belt sander, identified as P850-BS1, constructed in 2020, with a maximum capacity of 500 lbs/hr, equipped with an integral dust collector for particulate control, and exhausting indoors.

(9) Eight (8) cut off saws, identified as P850-46, P850-39, P850-43, P850-27, P850-6, P850-47, P850-48, P850-COS1, constructed in 2020, with a maximum capacity of 250 lb/hr, each, equipped with integral dust collectors for particulate control, and exhausting indoors.

(10) One (1) table saw, identified as P850-TS1, constructed in 2020, with a maximum capacity of 250 lbs/hr, equipped with an integral dust collector for particulate control, and exhausting indoors.

(11) One (1) touch-up painting operation, identified as P850TP, constructed in 2020, with a maximum capacity of 1.50 units/hr, using no controls, and exhausting indoors.

Under 40 CFR 63, Subpart PPPP, this is considered a part of an existing source.

(b) Plant 2-35 (final paint plant) contains:

(1) One (1) full paint line, identified as Paint Line A, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-27, one (1) clearcoat booth, identified as SV2-28, and one (1) clearcoat/bake booth, identified as SV2-29, with a total maximum capacity of 10 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively; and

(B) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS using HVLP equipment or its equivalent, and controlled by dry filters; and

(C) One (1) natural gas-fired bake oven, identified as SV2-37, with a maximum heat input capacity of 4.0 MMBtu per hour; and

(D) Two (2) natural gas-fired air make-up units, each with a maximum heat input capacity of 4.0 MMBtu per hour.

(2) One (1) full paint line, identified as Paint Line B, consisting of:

(A) One (1) slideout paint and clear booth, identified as SV2-20, one (1) seal and base booth, identified as SV2-21, and one (1) paint stripe booth, identified as SV2-22, with an aggregate maximum capacity of 5 vehicles

and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-20, SV2-21, and SV-22, respectively; and

(B) One (1) prep and repair booth, identified as SV2-23, one (1) clear and bake booth, identified as SV2-24, one (1) sand and repair station, identified as SV2-25, and one (1) reclear and bake booth, identified as SV2-26, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-23A and SV2-23B, SV2-24A and SV2-24B, SV2-25A and SV2-25B, and SV2-26A and SV2-26B, respectively.

(3) One (1) full paint line, identified as Paint Line C, consisting of:

(A) One (1) slideout paint and clear booth, identified as SV2-13, one (1) seal and base booth, identified as SV2-14, and one (1) paint stripe booth, identified as SV2-15, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-13, SV2-14, and SV2-15 respectively; and

(B) One (1) prep and repair booth, identified as SV2-16, one (1) clear and bake booth, identified as SV2-17, one (1) sand and repair station, identified as SV2-18, and one (1) reclear and bake booth, identified as SV2-19, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-16A and SV2-16B, SV2-17A and SV2-17B, SV2-18A and SV2-18B, and SV2-19A and SV2-19B, respectively.

(4) One (1) full paint line, identified as Paint Line D, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-7, and one (1) repair and stripe booth, identified as SV2-8, with a maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-7 and SV2-8, respectively; and

(B) One (1) slideout booth, identified as SV2-9, one (1) repair and clear booth, identified as SV2-10, one (1) sand and repair station, identified as SV2-11, and one (1) reclear booth, identified as SV2-12, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-9A and SV2-9B, SV2-10A and SV2-10B, SV2-11A and SV2-11B, and SV2-12A and SV2-12B, respectively.

(5) One (1) full paint line, identified as Paint Line E, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-1, and one (1) repair and stripe booth, identified as SV2-2, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day,

using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-1 and SV2-2, respectively; and

(B) One (1) slideout booth, identified as SV2-3, one (1) repair and clear booth, identified as SV2-4, one (1) sand and repair station, identified as SV2-5, and one (1) reclear booth, identified as SV2-6, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-3A and SV2-3B, SV2-4A and SV2-4B, SV2-5A and SV2-5B, and SV2-6A and SV2-6B, respectively.

(6) One (1) repair line, consisting of:

(A) Three (3) paint repair booths, identified as SV2-30, SV2-31, and SV2-32, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, all using air-atomized spray applicators and dry filters as particulate control, all constructed in 1998, exhausting to stacks SV2-30, SV2-31, and SV2-32, respectively; and

(B) Two (2) paint repair booths, identified as SV2-33 and SV2-34, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, both using air-atomized spray applicators and dry filters as particulate control, both constructed in 2003, and exhausting to stacks SV2-33 and SV2-34, respectively.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 2-35 paint lines are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 2-35 paint lines are considered considered a part of an existing source.

(7) Seven (7) paint gun cleaners, identified as PGC1 through PGC7,

(c) Plant 20-820 (welding and sidewall lamination) contains:

(1) One (1) adhesive applicator, using roll coating to apply hot melt adhesives.

(2) One (1) sidewall welding operation, identified as EU20-B (formerly EU1-8), consisting of twenty-four (24) welding stations, with a maximum capacity of 3 pounds of wire per station per hour, with emissions uncontrolled, constructed prior to 1981, and exhausting to general ventilation stacks GV20-2A.

(d) Plant 26-826 (white glove inspection area and dispatch) contains:

Four (4) inspection bays for final vehicle inspection, with a maximum capacity of 3.5 vehicles per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, constructed prior to 1981, with emissions exhausting through general ventilation to stacks GV26-1 through GV26-4.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 26-826 inspection bays are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 26-826 inspection bays are considered considered a part of an existing source.

(e) Plant 29-829 (diesel service center):

(1) Thirteen (13) diesel-engine motor home service bays, constructed prior to 1989, modified in 2000 and 2017, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the diesel service center is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the diesel service center is considered a part of an existing source.

(f) Plant 450 (motor home assembly)

(1) One (1) woodworking operation, identified as P450WW, constructed in 2017, with a maximum capacity of 2,500 pounds of wood per hour, equipped with an integral dust collector for particulate control, and exhausting to stack P450DC1S or indoors.

(2) One (1) motor home assembly line applying sealants, caulks, and cleaners, identified as P450AO, formerly L1-Gold, constructed in 2012 and modified in 2017, with a maximum capacity of 1.5 vehicles per hour, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, P450AO is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, P450AO is considered a part of an existing source.

(3) Four (4) cut off saws, identified as P450-1, P450-8, P450-11, and P450-20, constructed in 2020, with a maximum capacity of 250 lbs/hr, each, equipped with integral dust collectors for particulate control, and exhausting indoors.

(4) One (1) double edge router, identified as P450-RT1, constructed in 2020, with a maximum capacity of 1,000 lbs/hr, equipped with an integral dust collector for particulate control, and exhausting indoors.

(g) Plant 854 (gasoline service center)

(1) One (1) gasoline-engine motor home service operation, constructed in 2017, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the gasoline-engine motor home service operation is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the gasoline-engine motor home service operation is considered a part of an existing source.

(h) Plant 831 (lamination):

(1) Four (4) cut off saws, identified as P831-1, P831-3, P831-4, and P831-5, constructed in 2020, with a maximum capacity of 500 lbs/hr, each, equipped with integral dust collectors for particulate control, and exhausting indoors.

(2) One (1) table saw, identified as P831-TS1, constructed in 2020, with a maximum capacity of 500 lbs/hr, equipped with an integral dust collector for particulate control, and exhausting indoors.

(3) Three (3) sidewall routers, identified as P831SWR1, P831SWR2, and P831SWR3, constructed in 2020, with a maximum capacity of 1,200 lbs/hr, each, using no controls, and exhausting indoors.

(4) One (1) roof routers, identified as P831RR1, constructed in 2020, with a maximum capacity of 3,640 lbs/hr, using no controls, and exhausting indoors.

(5) Two (2) floor routers, identified as P831FR1 and P831FR2, constructed in 2020, with a maximum capacity of 1,860 lbs/hr, each, using no controls, and exhausting indoors.

(i) Plant 36-836 (woodworking operations) contains:

(1) One (1) cut off saw, identified as P836-COS1, constructed in 2020, with a maximum capacity of 250 lb/hr, using no controls, and exhausting indoors.

(2) One (1) table saw, identified as P836-TS1, constructed in 2020, with a maximum capacity of 500 lb/hr, equipped with an integral dust collector for particulate control, and exhausting indoors.

Insignificant Activities

The source also consists of the following insignificant activities:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(1) Emergency generators as follows:

(A) One (1) Cummins Onan natural gas-fired emergency generator, with a maximum capacity of 60 kW and 80 hp, with emissions uncontrolled, constructed on or before January 28, 2004, and exhausting to stack SV1-7.

This unit is considered an existing affected source under 40 CFR 63, Subpart ZZZZ.

(2) Fiberglass cap windshield setting operations and repairs, with a maximum capacity of 3.5 vehicles per hour, using adhesives, with emissions uncontrolled, and exhausting to stack GV31-2.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the fiberglass cap windshield setting operations and repairs are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the fiberglass cap windshield setting operations and repairs are considered considered a part of an existing source.

(b) Plant 2-35 (final paint plant) contains:

(1) Two (2) paint prep areas, with a total maximum capacity of 4.5 vehicles and recreational vehicle components per hour, using solvents, cleaners, composites, and hand-sanding equipment for cleaning and body repair, using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, exhausting through general ventilation stacks GV2-3 through GV2-7.

(2) One (1) paint storage and mixing area, with a maximum capacity of 4.5 vehicles and recreational vehicle components per hour, with emissions uncontrolled, and exhausting to vents SV2-15 and SV2-16.

(3) One (1) final inspection area, consisting of two (2) lines, with a maximum capacity of 3.5 vehicles and recreational vehicle components per hour, using hand-held applicators to apply solvents, cleaners, sealants, adhesives, and paint, with emissions uncontrolled, constructed in 1998, and exhausting through general ventilation to stacks GV2-1 and GV2-2.

(4) One (1) adhesive applicator, using roll coating to apply hot melt adhesives.

(5) One (1) automatic paint gun cleaner, identified as PGC1, with a maximum capacity of five gallons.

(6) Six (6) manual paint gun cleaners, identified as PGC2 through PGC7, with a maximum capacity of five gallons, each.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 2-35 insignificant activities are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 2-35 insignificant activities are considered considered a part of an existing source.

(c) Plant 20-820 (welding and sidewall lamination) contains:

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(A) One (1) natural gas-fired air makeup unit, identified as P820AM1, constructed in 2017, with a maximum heat input capacity of 0.028 MMBtu/hr, using no controls, and exhausting to stack P820AM1S.

(B) One (1) natural gas-fired thermo-cycler, identified as P820TC1, constructed in 2017, with a maximum heat input capacity of 0.58 MMBtu/hr, using no controls, and exhausting to stack P820TC1S.

(d) Plant 22-822 (welding operations), located at Plant 2-35 on June 21, 2004, contains:

(1) One (1) welding operation, identified as 22-822W, consisting of six (6) welding stations (formerly located in Plant 32-7/8), with a maximum capacity of 3 pounds of wire per station per hour, constructed in 1998, with emissions uncontrolled and exhausting indoors.

(e) Plant 26-826 (white glove inspection area and dispatch) contains:

(1) White glove inspection, with a maximum capacity of 1 vehicle per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, and exhausting to stacks GV26-1 through GV26-4.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 26-826 white glove inspection operations are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the white glove inspection operations are considered considered a part of an existing source.

(f) Plant 32-7/8 (welding and warehouse) contains:

(1) Welding operations consisting of four (4) MIG welding stations (formerly located in Plant 20), with a maximum capacity of 3 pounds of wire per welder per hour, constructed in 1998, with emissions uncontrolled and exhausting indoors.

(g) Plant 35-833E (fire pump southeast of Plant 2-35) contains:

(1) One (1) diesel fire pump located southeast of Plant 2, with a maximum capacity of 140 HP, constructed in 1998.

Under 40 CFR 63, Subpart ZZZZ, this is considered a limited use existing source.

(h) Plant 56-5 (warehouse and welding) contains:

(1) Welding operations consisting of five (5) MIG welding stations, with a maximum capacity of 3 pounds of wire per welder per hour, with emissions uncontrolled, approved in 2012 for construction, and exhausting indoors.

(i) Plant 450 (motor home assembly):

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(A) One (1) natural gas-fired space heater, identified as OH1, constructed in 2017, with a maximum heat input capacity of 0.12 MMBtu/hr, using no controls, and exhausting to stack OH1S.

(B) Two (2) natural gas-fired thermo-cyclers, identified as TC1 and TC2, constructed in 2017, with a maximum heat input capacity of 0.58 MMBtu/hr, each, using no controls, and exhausting to stacks TC1S and TC2S.

(C) One (1) natural gas-fired air makeup unit, identified as AM1, constructed in 2017, with a maximum heat input capacity of 0.97 MMBtu/hr, using no controls, and exhausting to stack AM1S.

(j) Plant 831 (lamination):

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(A) Five (5) natural gas-fired thermo-cyclers, identified as P831TC1-P831TC5, constructed in 2017, with a maximum heat input capacity of 0.72 MMBtu/hr, each, using no controls, and exhausting to stacks P831TC1S-P831TC5S.

(B) One (1) natural gas-fired thermo-cycler, identified as P831TC6, constructed in 2017, with a maximum heat input capacity of 0.58 MMBtu/hr, using no controls, and exhausting to stack P831TC6S.

(C) One (1) natural gas-fired furnace, identified as P831SH1, constructed in 2017, with a maximum heat input capacity of 0.075 MMBtu/hr, using no controls, and exhausting to stack P831SH1S.

(D) Two (2) natural gas-fired furnaces, identified as P831SH2 and P831SH3, constructed in 2017, with a maximum heat input capacity of 0.09

MMBtu/hr, each, using no controls, and exhausting to stacks P831SH2S and P831SH3S.

(E) One (1) natural gas-fired furnace, identified as P831SH4, constructed in 2017, with a maximum heat input capacity of 0.11 MMBtu/hr, using no controls, and exhausting to stack P831SH4S.

(2) Emergency generators as follows:

(A) One (1) diesel emergency generator, identified as EG2, constructed in 2017, with a maximum engine output of 480 horsepower, using no controls, and exhausting to stack EG2S.

Under the NSPS, 40 CFR 60, Subpart IIII, the diesel emergency generator, identified as EG2, is an affected source.

Under the NESHAP, 40 CFR 63, Subpart ZZZZ, the diesel emergency generator, identified as EG2, is a new stationary RICE located at a major source of HAP emissions.

(3) Flow coat lamination machines as follows:

(A) One (1) flow coat lamination machine, identified as FCL1, permitted in 2010 and modified in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting to stack GV1-1

(B) One (1) flow coat lamination machine, identified as FCL2, permitted in 2015 and modified in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(C) One (1) flow coat lamination machine, identified as FCL3 (formerly GV32-1), permitted in 2010 and modified in 2017, with a maximum capacity of 3.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(D) Six (6) flow coat laminating machines, identified as FCL4-FCL9, constructed in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, each, using no controls and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the flow coat laminating machines, identified as FCL1-FCL9, are part of an existing affected source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the flow coat laminating machines, identified as FCL1-FCL9, are part of an existing affected source.

(k) Plant 20-820 (welding and sidewall lamination) contains:

(1) Welding operations as follows:

(A) Welding operations consisting of ten (10) welding stations, with a maximum capacity of 3 pounds of wire per welder per hour, with emissions uncontrolled, constructed in 1998, and exhausting to general ventilation stacks GV20-2 through GV20-10.

(B) Welding operations consisting of fifteen (15) MIG welding stations (formerly located in Plant 31), with a maximum capacity of 3 pounds of wire per welder per hour, constructed in 1998, with emissions

uncontrolled and exhausting to general ventilation stacks GV20-2 through GV20-10.

(C) Nine (9) steel welding stations, identified as EU20-820CS, constructed in 2017, with a maximum capacity of 3 pounds of wire per hour, each, using no controls and exhausting indoors.

(D) Sixteen (16) aluminum welding stations, identified as EU20-820CA, constructed in 2017, with a maximum capacity of 3 pounds of wire per hour, each, using no controls and exhausting indoors.

(l) Plant 28-828 (warehouse) contains:

(1) One (1) wire harness assembly operation, identified as WHA, permitted in 2016, with a maximum capacity of 0.025 pounds of solder per hour, and 0.0039 pounds of flux per hour, and exhausting to stack WHAS.

(m) Plant 36-836 (welding operations) contains:

(1) Welding operations consisting of forty-four (44) MIG welding stations, with a maximum capacity of 3 pounds of wire per welder per hour, constructed in 1998, with emissions uncontrolled and exhausting indoors.

(n) Plant 450 (motor home assembly):

(1) Fuel dispensing activities as follows:

(A) A gasoline fuel transfer dispensing operation handling less than or equal to one thousand three hundred (1,300) gallons per day and filling storage tanks having a capacity equal to or less than ten thousand five hundred (10,500) gallons, as follows:

(i) One (1) gasoline storage tank, identified as GT1, constructed in 2017, with a maximum capacity of 1,000 gallons and a maximum throughput of 25,000 gallons per year, using no control and exhausting to stack GT1S.

(B) A petroleum fuel other than gasoline dispensing facility, having a storage tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand five hundred (3,500) gallons per day or less, as follows:

(i) One (1) diesel fuel storage tank, identified as DT1, constructed in 2017, with a maximum capacity of 300 gallons and a maximum throughput of 25,000 gallons per year, using no control and exhausting to stack DT1S.

(2) One (1) set of miscellaneous RV manufacturing processes, identified as P450MO, constructed in 2017, as follows:

(A) Two (2) woodworking drill machines, identified as DM1 and DM2, with a maximum capacity of 100 pounds of wood stock per hour, each.

(B) Two (2) woodworking band saws, identified as BS1 and BS2, with a maximum capacity of 100 pounds of wood stock per hour, each.

(C) One (1) aluminum-cutting band saw, identified as BS3, with a maximum capacity of 100 pounds of aluminum stock per hour.

(D) Five (5) aluminum-cutting chop saws, identified as CS1 - CS5, with a maximum capacity of 100 pounds of aluminum stock per hour, each.

(E) One (1) aluminum-cutting abrasive saw, identified as AS1, with a maximum capacity of 100 pounds of aluminum stock per hour.

(o) Plant 831 (lamination):

(1) Storage tanks with capacity less than or equal to one thousand (1,000) gallons and annual throughputs equal to or less than twelve thousand (12,000) gallons, as follows.

(A) One (1) diesel fuel tank, identified as EG2DT, constructed in 2017, with a maximum storage capacity of 450 gallons, using no controls, and exhausting to stack EG2DTS.

"Integral Part of the Process" Determination

In October 1993 a Final Order Granting Summary Judgment was signed by Administrative Law Judge ("ALJ") Garrettson resolving an appeal filed by Kimball Hospitality Furniture Inc. (Cause Nos. 92-A-J-730 and 92-A-J-833) related to the method by which IDEM calculated potential emissions from woodworking operations. In his findings, the ALJ determined that particulate controls are necessary for the facility to produce its normal product and are integral to the normal operation of the facility, and therefore, potential emissions should be calculated after controls. Based on this ruling, the potential to emit particulate matter from the woodworking operations was calculated after control for purposes of determining permitting level and applicability of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC (Prevention of Significant Deterioration PSD)).

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

County Attainment Status

The source is located in Elkhart County.

Pursuant to amendments to Indiana Code IC 13-17-3-14, effective July 1, 2023, a federal regulation that classifies or amends a designation of attainment, nonattainment, or unclassifiable for any area in Indiana under the federal Clean Air Act is effective and enforceable in Indiana on the effective date of the federal regulation.

Pollutant	Designation
SO_2	Unclassifiable or attainment effective April 9, 2018, for the 2010 primary 1-hour SO_2 standard. Better than national secondary standards effective March 3, 1978.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective January 16, 2018, for the 2015 8-hour ozone standard.
$PM_{2.5}$	Unclassifiable or attainment effective April 15, 2015, for the 2012 annual $PM_{2.5}$ standard.
$PM_{2.5}$	Unclassifiable or attainment effective December 13, 2009, for the 2006 24-hour $PM_{2.5}$ standard.
PM_{10}	Unclassifiable effective November 15, 1990.

Pollutant	Designation
NO_2	Unclassifiable or attainment effective January 29, 2012, for the 2010 NO_2 standard.
Pb	Unclassifiable or attainment effective December 31, 2011, for the 2008 lead standard.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements of Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Elkhart County has been classified as attainment for $PM_{2.5}$. Therefore, direct $PM_{2.5}$, SO_2, and NOx emissions were reviewed pursuant to the requirements of Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
Elkhart County has been classified as attainment or unclassifiable in Indiana for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this type of operation is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-1(22)(B), and there is no applicable New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70 Permit applicability and source status under Section 112 of the Clean Air Act (CAA).

Greenhouse Gas (GHG) Emissions

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

	Unrestricted Potential Emissions (ton/year)							
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_X**	**VOC**	**CO**	**Pb**
Total PTE of Entire Source Excluding Fugitive Emissions*	264.93	265.41	265.41	1.55	31.40	715.19	142.46	9.80E-05
Title V Major Source Thresholds	NA	100	100	100	100	100	100	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	--

[1]Under the Part 70 Permit program (40 CFR 70), PM_{10} and $PM_{2.5}$, not particulate matter (PM), are each considered as a "regulated air pollutant."

[2]$PM_{2.5}$ listed is direct $PM_{2.5}$.

[3]Single highest source-wide HAP

*Fugitive HAP emissions are always included in the source-wide emissions.

Appendix A of this TSD reflects the detailed unrestricted potential emissions of the source.

(a) The potential to emit (as defined in 326 IAC 2-7-1(30)) of PM10, PM2.5, and VOC is equal to or greater than one hundred (100) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

(b) The potential to emit (as defined in 326 IAC 2-7-1(30)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(30)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. The source will be issued a Part 70 Operating Permit Renewal.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, because the source met the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)							
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_X**	**VOC**	**CO**	**PB**
Total PTE of Entire Source Excluding Fugitive Emissions*	86.54	87.02	87.02	1.55	31.40	812.46	12.46	9.80E-05
Title V Major Source Thresholds	NA	100	100	100	100	100	100	10

	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)							
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_X**	**VOC**	**CO**	**PB**
PSD Major Source Thresholds	250	250	250	250	250	250	250	--

[1]Under the Part 70 Permit program (40 CFR 70), PM_{10} and $PM_{2.5}$, not particulate matter (PM), are each considered as a "regulated air pollutant."

[2]$PM_{2.5}$ listed is direct $PM_{2.5}$.

[3]Single highest source-wide HAP.

*Fugitive HAP emissions are always included in the source-wide emissions.

Appendix A of this TSD reflects the detailed potential to emit of the entire source after issuance.

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a PSD regulated pollutant, VOC, is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This source is a major source of HAP, as defined in 40 CFR 63.2, because HAP emissions are equal to or greater than ten (10) tons per year for a single HAP and equal to or greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

Federal Rule Applicability

Federal rule applicability for this source has been reviewed as follows:

New Source Performance Standards (NSPS):

(a) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, 40 CFR 60, Subpart Kb and 326 IAC 12, are not included in the permit for the one (1) gasoline storage tank (GT1), the one (1) diesel fuel storage tank (DT1), and the one (1) diesel fuel tank (EG2DT), because the capacity of each of the tanks is less than 75 m^3 (19,800 gallons).

(b) The requirements of the New Source Performance Standard for Automobile and Light Duty Truck Surface Coating Operations, 40 CFR 60, Subpart MM and 326 IAC 12, are not included in the permit, because the source does not coat automobiles or light duty trucks.

(c) The requirements of the New Source Performance Standard for Bulk Gasoline Terminals, 40 CFR 60, Subpart XX and 326 IAC 12, are not included in the permit for the gasoline storage tank, identified as GT1, because the unit is not a bulk gasoline terminal as defined at 40 CFR 60.501. The tank is not a gasoline facility which receives gasoline by pipeline, ship or barge.

(d) The requirements of the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII)(326 IAC 12) are included in the permit for the one (1) diesel emergency generator (EG2), because the engine is a stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions.

The units subject to this rule include the following:

(1) One (1) diesel emergency generator, identified as EG2, constructed in 2017, with a maximum engine output of 480 horsepower, using no controls, and exhausting to stack EG2S.

Emergency generator EG2 is subject to the following portions of Subpart IIII.

(1) 40 CFR 60.4200(a)(2)(i)
(2) 40 CFR 60.4205(b)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(b)
(5) 40 CFR 60.4209
(6) 40 CFR 60.4211(a), (c), (f)(1), (f)(2)(i), (f)(3), and (g)(2)
(7) 40 CFR 60.4211
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214(b)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 8 to Subpart IIII of Part 60

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to emergency generator EG2 except as otherwise specified in 40 CFR 60, Subpart IIII.

(e) The requirements of the New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines (40 CFR 60, Subpart JJJJ) are not included in the permit for the one (1) Cummins Onan natural gas-fired emergency generator, located at Plant 1, because it was constructed before the applicability date, June 12, 2006.

(f) There are no other New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP):

a) The requirements of the National Emission Standards for Hazardous Air Pollutants for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)(40 CFR 60, Subpart R)(326 IAC 20-10) are not included in the permit for the gasoline storage tank, identified as GT1, because the unit is not a bulk gasoline terminal as defined at 40 CFR 63.421. The tank is not a gasoline facility which receives gasoline by pipeline, ship or barge.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (40 CFR 60, Subpart CC)(326 IAC 20-16) are not included in the permit for the one (1) gasoline storage tank, identified as GT1, because the unit is not a petroleum refining process unit as defined at 40 CFR 63.641. The source is not an establishment primarily engaged in petroleum refining as defined in the Standard Industrial Classification code for petroleum refining (2911).

(c) The requirements of the National Emission Standards for Hazardous Air Pollutants for Surface Coating of Automobiles and Light Duty Trucks (40 CFR 63, Subpart IIII)(326 IAC 20-85) are not included in the permit, because the source does not coat new automobiles or new light duty trucks.

(d) The requirements of the National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (40 CFR 63, Subpart MMMM)(326 IAC 20-80) are included in the permit because the surface coating operations use more than one hundred (100) gallons per year of coating containing HAPs coatings and is located at a major source of HAPs.

The emission units subject to this rule are as follows:

(1) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(B) One (1) sidewall adhesive application process, identified as SV1-6, with a maximum capacity of 1.5 vehicles per hour, using hand held non-atomizing applicators, with emissions uncontrolled, constructed in 1997. There is no direct exhaust route for this unit. A general ceiling vent, identified as SV1-6, is located in the vicinity.

(C) Three (3) manual assembly lines applying sealants, caulks, and cleaners, identified as Assembly Lines 1-Red, 2-Blue, and 3-White, with a maximum capacity of 3.5 vehicles per hour, each, using various hand tools, identified as D1-04, with emissions uncontrolled, all constructed in 1997, and exhausting to general ventilation vent GV1-01.

(4) One (1) undercoating operation for coating metal chassis, consisting of (2) paint bays, with a maximum capacity of 3.5 vehicles per hour, using non-atomized spray applicators, constructed in 1998, was located in Plant 2-35 in June 21, 2004 and moved from Plant 2-35 in 2014 to Plant 22 and then from Plant 22 in 2019 to Plant 1-850, and venting inside of the building.

(2) Plant 2-35 (final paint plant) contains:

(A) One (1) full paint line, identified as Paint Line A, consisting of:

(i) One (1) primer/basecoat booth, identified as SV2-27, one (1) clearcoat booth, identified as SV2-28, and one (1) clearcoat/bake booth, identified as SV2-29, with a total maximum capacity of 10 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively; and

(ii) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS using HVLP equipment or its equivalent, and controlled by dry filters; and

(B) One (1) full paint line, identified as Paint Line B, consisting of:

(i) One (1) slideout paint and clear booth, identified as SV2-20, one (1) seal and base booth, identified as SV2-21, and one (1) paint stripe booth, identified as SV2-22, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-20, SV2-21, and SV-22, respectively; and

(ii) One (1) prep and repair booth, identified as SV2-23, one (1) clear and bake booth, identified as SV2-24, one (1) sand and repair station, identified as SV2-25, and one (1) reclear and bake booth, identified as SV2-26, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-23A and SV2-23B, SV2-24A and SV2-24B, SV2-25A and SV2-25B, and SV2-26A and SV2-26B, respectively.

(C) One (1) full paint line, identified as Paint Line C, consisting of:

(i) One (1) slideout paint and clear booth, identified as SV2-13, one (1) seal and base booth, identified as SV2-14, and one (1) paint stripe booth,

identified as SV2-15, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-13, SV2-14, and SV2-15 respectively; and

(ii) One (1) prep and repair booth, identified as SV2-16, one (1) clear and bake booth, identified as SV2-17, one (1) sand and repair station, identified as SV2-18, and one (1) reclear and bake booth, identified as SV2-19, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-16A and SV2-16B, SV2-17A and SV2-17B, SV2-18A and SV2-18B, and SV2-19A and SV2-19B, respectively.

(D) One (1) full paint line, identified as Paint Line D, consisting of:

(i) One (1) primer/basecoat booth, identified as SV2-7, and one (1) repair and stripe booth, identified as SV2-8, with a maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-7 and SV2-8, respectively; and

(ii) One (1) slideout booth, identified as SV2-9, one (1) repair and clear booth, identified as SV2-10, one (1) sand and repair station, identified as SV2-11, and one (1) reclear booth, identified as SV2-12, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-9A and SV2-9B, SV2-10A and SV2-10B, SV2-11A and SV2-11B, and SV2-12A and SV2-12B, respectively.

(E) One (1) full paint line, identified as Paint Line E, consisting of:

(i) One (1) primer/basecoat booth, identified as SV2-1, and one (1) repair and stripe booth, identified as SV2-2, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-1 and SV2-2, respectively; and

(ii) One (1) slideout booth, identified as SV2-3, one (1) repair and clear booth, identified as SV2-4, one (1) sand and repair station, identified as SV2-5, and one (1) reclear booth, identified as SV2-6, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-3A and SV2-3B, SV2-4A and SV2-4B, SV2-5A and SV2-5B, and SV2-6A and SV2-6B, respectively.

(F) One (1) repair line, consisting of:

(i) Three (3) paint repair booths, identified as SV2-30, SV2-31, and SV2-32, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, all using air-atomized spray applicators

and dry filters as particulate control, all constructed in 1998, exhausting to stacks SV2-30, SV2-31, and SV2-32, respectively; and

(ii) Two (2) paint repair booths, identified as SV2-33 and SV2-34, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, both using air-atomized spray applicators and dry filters as particulate control, both constructed in 2003, and exhausting to stacks SV2-33 and SV2-34, respectively.

(3) Plant 26-826 (white glove inspection area and dispatch) contains:

(A) Four (4) inspection bays for final vehicle inspection, with a maximum capacity of 3.5 vehicles per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, constructed prior to 1981, with emissions exhausting through general ventilation to stacks GV26-1 through GV26-4.

(4) Plant 29-829 (diesel service center):

(A) Thirteen (13) diesel-engine motor home service bays, constructed prior to 1989, modified in 2000, approved in 2017 for modification, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

(5) Plant 450 (motor home assembly)

(A) One (1) motor home assembly line applying sealants, caulks, and cleaners, identified as P450AO, formerly L1-Gold, constructed in 2012, approved in 2017 for modification, with a maximum capacity of 1.5 vehicles per hour, and exhausting indoors.

(6) Plant 854 (gasoline service center)

(A) One (1) gasoline-engine motor home service operation, approved in 2017 for construction, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Insignificant Activities:

(1) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(A) Fiberglass cap windshield setting operations and repairs, with a maximum capacity of 3.5 vehicles per hour, using adhesives, with emissions uncontrolled, and exhausting to stack GV31-2.

(2) Plant 2-35 (final paint plant) contains:

(A) Two (2) paint prep areas, with a total maximum capacity of 4.5 vehicles and recreational vehicle components per hour, using solvents, cleaners, composites, and hand-sanding equipment for cleaning and body repair, using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, exhausting through general ventilation stacks GV2-3 through GV2-7.

(B) One (1) paint storage and mixing area, with a maximum capacity of 4.5 vehicles and recreational vehicle components per hour, with emissions uncontrolled, and exhausting to vents SV2-15 and SV2-16.

(C) One (1) final inspection area, consisting of two (2) lines, with a maximum capacity of 3.5 vehicles per hour, using hand-held applicators to apply solvents,

cleaners, sealants, adhesives, and paint, with emissions uncontrolled, constructed in 1998, and exhausting through general ventilation to stacks GV2-1 and GV2-2.

(3) Plant 26-826 (white glove inspection area and dispatch) contains:

(A) White glove inspection, with a maximum capacity of 1 vehicle per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, and exhausting to stacks GV26-1 through GV26-4.

(4) Plant 831 (lamination):

(A) Flow coat lamination machines as follows:

(i) One (1) flow coat lamination machine, identified as FCL1, permitted in 2010, approved in 2017 for modification, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting to stack GV1-1

(ii) One (1) flow coat lamination machine, identified as FCL2, permitted in 2015, approved in 2017 for modification, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(iii) One (1) flow coat lamination machine, identified as FCL3 (formerly GV32-1), permitted in 2010, approved in 2017 for modification, with a maximum capacity of 3.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(iv) Six (6) flow coat laminating machines, identified as FCL4-FCL9, approved in 2017 for construction, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, each, using no controls and exhausting indoors.

These units are subject to the following portions of 40 CFR 63, Subpart MMMM:

(1) 40 CFR 63.3880
(2) 40 CFR 63.3881(a)(1) through (3), (b), (c)(1), (c)(2), (c)(3), (c)(6), (e)
(3) 40 CFR 63.3882
(4) 40 CFR 63.3883
(5) 40 CFR 63.3890(a)(1), (a)(2), (b)(1), (b)(2), (c)
(6) 40 CFR 63.3891(a), (b)
(7) 40 CFR 63.3892(a)
(8) 40 CFR 63.3893(a)
(9) 40 CFR 63.3900(a)(1), (b)
(10) 40 CFR 63.3901
(11) 40 CFR 63.3910(a), (b), (c)(1) through (8), (c)(10), (c)(11)
(12) 40 CFR 63.3920(a)(1) through (6)
(13) 40 CFR 63.3930(a), (b), (c)(1), (c)(2), (c)(3), (c)(4)(v), (d), (e), (f), (g), (h), (j)
(14) 40 CFR 63.3931
(15) 40 CFR 63.3940
(16) 40 CFR 63.3941
(17) 40 CFR 63.3942
(18) 40 CFR 63.3950
(19) 40 CFR 63.3951
(20) 40 CFR 63.3952
(21) 40 CFR 63.3963(a), (b), (j)
(22) 40 CFR 63.3980

(23) 40 CFR 63.3981
(24) Table 2
(25) Table 3
(26) Table 4

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to this source, except as otherwise specified in 40 CFR 63, Subpart MMMM.

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Miscellaneous Metal Parts and Products, 40 CFR 63, Subpart MMMM and 326 IAC 20-81 are not included in the permit for the one (1) touch-up painting operation, identified as P850TP, because it does not coat miscellaneous metal parts and products.

(e) The requirements of the National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Parts and Products (40 CFR 63, Subpart PPPP)(326 IAC 20-81) are included in the permit because the source uses more than 250 gallons of coating per year containing HAPs, coats miscellaneous plastic parts and products, and is a major source of HAPs.

The emission units subject to this rule are as follows:

(1) Plant 1-850 (motorized vehicle assembly and tile floor setting):

(A) One (1) sidewall adhesive application process, identified as SV1-6, with a maximum capacity of 1.5 vehicles per hour, using hand held non-atomizing applicators, with emissions uncontrolled, constructed in 1997. There is no direct exhaust route for this unit. A general ceiling vent, identified as SV1-6, is located in the vicinity.

(B) Three (3) manual assembly lines applying sealants, caulks, and cleaners, identified as Assembly Lines 1-Red, 2-Blue, and 3-White, with a maximum capacity of 3.5 vehicles per hour, each, using various hand tools, identified as D1-04, with emissions uncontrolled, all constructed in 1997, and exhausting to general ventilation vent GV1-01.

(C) One (1) touch-up painting operation, identified as P850TP, constructed in 2020, with a maximum capacity of 1.50 units/hr, using no controls, and exhausting indoors.

(2) Plant 2-35 (final paint plant) contains:

(A) One (1) full paint line, identified as Paint Line A, consisting of:

(i) One (1) primer/basecoat booth, identified as SV2-27, one (1) clearcoat booth, identified as SV2-28, and one (1) clearcoat/bake booth, identified as SV2-29, with a total maximum capacity of 10 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively; and

(ii) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS using HVLP equipment or its equivalent, and controlled by dry filters; and

(B) One (1) full paint line, identified as Paint Line B, consisting of:

(i) One (1) slideout paint and clear booth, identified as SV2-20, one (1) seal and base booth, identified as SV2-21, and one (1) paint stripe booth, identified as SV2-22, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-20, SV2-21, and SV-22, respectively; and

(ii) One (1) prep and repair booth, identified as SV2-23, one (1) clear and bake booth, identified as SV2-24, one (1) sand and repair station, identified as SV2-25, and one (1) reclear and bake booth, identified as SV2-26, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-23A and SV2-23B, SV2-24A and SV2-24B, SV2-25A and SV2-25B, and SV2-26A and SV2-26B, respectively.

(C) One (1) full paint line, identified as Paint Line C, consisting of:

(i) One (1) slideout paint and clear booth, identified as SV2-13, one (1) seal and base booth, identified as SV2-14, and one (1) paint stripe booth, identified as SV2-15, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-13, SV2-14, and SV2-15 respectively; and

(ii) One (1) prep and repair booth, identified as SV2-16, one (1) clear and bake booth, identified as SV2-17, one (1) sand and repair station, identified as SV2-18, and one (1) reclear and bake booth, identified as SV2-19, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-16A and SV2-16B, SV2-17A and SV2-17B, SV2-18A and SV2-18B, and SV2-19A and SV2-19B, respectively.

(D) One (1) full paint line, identified as Paint Line D, consisting of:

(i) One (1) primer/basecoat booth, identified as SV2-7, and one (1) repair and stripe booth, identified as SV2-8, with a maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-7 and SV2-8, respectively; and

(ii) One (1) slideout booth, identified as SV2-9, one (1) repair and clear booth, identified as SV2-10, one (1) sand and repair station, identified as SV2-11, and one (1) reclear booth, identified as SV2-12, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-9A and SV2-9B, SV2-10A and SV2-10B, SV2-11A and SV2-11B, and SV2-12A and SV2-12B, respectively.

(E) One (1) full paint line, identified as Paint Line E, consisting of:

(i) One (1) primer/basecoat booth, identified as SV2-1, and one (1) repair and stripe booth, identified as SV2-2, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-1 and SV2-2, respectively; and

(ii) One (1) slideout booth, identified as SV2-3, one (1) repair and clear booth, identified as SV2-4, one (1) sand and repair station, identified as SV2-5, and one (1) reclear booth, identified as SV2-6, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-3A and SV2-3B, SV2-4A and SV2-4B, SV2-5A and SV2-5B, and SV2-6A and SV2-6B, respectively.

(F) One (1) repair line, consisting of:

(i) Three (3) paint repair booths, identified as SV2-30, SV2-31, and SV2-32, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, all using air-atomized spray applicators and dry filters as particulate control, all constructed in 1998, exhausting to stacks SV2-30, SV2-31, and SV2-32, respectively; and

(ii) Two (2) paint repair booths, identified as SV2-33 and SV2-34, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, both using air-atomized spray applicators and dry filters as particulate control, both constructed in 2003, and exhausting to stacks SV2-33 and SV2-34, respectively.

(3) Plant 26-826 (white glove inspection area and dispatch) contains:

(A) Four (4) inspection bays for final vehicle inspection, with a maximum capacity of 3.5 vehicles per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, constructed prior to 1981, with emissions exhausting through general ventilation to stacks GV26-1 through GV26-4.

(4) Plant 29-829 (diesel service center):

(A) Thirteen (13) diesel-engine motor home service bays, constructed prior to 1989, modified in 2000, approved in 2017 for modification, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

(5) Plant 450 (motor home assembly)

(A) One (1) motor home assembly line applying sealants, caulks, and cleaners, identified as P450AO, formerly L1-Gold, constructed in 2012, approved in 2017 for modification, with a maximum capacity of 1.5 vehicles per hour, and exhausting indoors.

(6) Plant 854 (gasoline service center)

(A) One (1) gasoline-engine motor home service operation, approved in 2017 for construction, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Insignificant Activities:

(1) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(A) Fiberglass cap windshield setting operations and repairs, with a maximum capacity of 3.5 vehicles per hour, using adhesives, with emissions uncontrolled, and exhausting to stack GV31-2.

(2) Plant 2-35 (final paint plant) contains:

(A) Two (2) paint prep areas, with a total maximum capacity of 4.5 vehicles and recreational vehicle components per hour, using solvents, cleaners, composites, and hand-sanding equipment for cleaning and body repair, using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, exhausting through general ventilation stacks GV2-3 through GV2-7.

(B) One (1) paint storage and mixing area, with a maximum capacity of 4.5 vehicles and recreational vehicle components per hour, with emissions uncontrolled, and exhausting to vents SV2-15 and SV2-16.

(C) One (1) final inspection area, consisting of two (2) lines, with a maximum capacity of 3.5 vehicles per hour, using hand-held applicators to apply solvents, cleaners, sealants, adhesives, and paint, with emissions uncontrolled, constructed in 1998, and exhausting through general ventilation to stacks GV2-1 and GV2-2.

(3) Plant 26-826 (white glove inspection area and dispatch) contains:

(A) White glove inspection, with a maximum capacity of 1 vehicle per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, and exhausting to stacks GV26-1 through GV26-4.

(4) Plant 831 (lamination):

(A) Flow coat lamination machines as follows:

(i) One (1) flow coat lamination machine, identified as FCL1, permitted in 2010, approved in 2017 for modification, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting to stack GV1-1

(ii) One (1) flow coat lamination machine, identified as FCL2, permitted in 2015, approved in 2017 for modification, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(iii) One (1) flow coat lamination machine, identified as FCL3 (formerly GV32-1), permitted in 2010, approved in 2017 for modification, with a maximum capacity of 3.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(iv) Six (6) flow coat laminating machines, identified as FCL4-FCL9, approved in 2017 for construction, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, each, using no controls and exhausting indoors.

This emission units are subject to the following portions of Subpart PPPP:

(1) 40 CFR 63.4480

(2) 40 CFR 63.4481
(3) 40 CFR 63.4482(a), (b), and (e)
(4) 40 CFR 63.4483
(5) 40 CFR 63.4490(b)(1), (c)(1), and (c)(2)
(6) 40 CFR 63.4491(a) and (b)
(7) 40 CFR 63.4492(a)
(8) 40 CFR 63.4493(a)
(9) 40 CFR 63.4500(a)(1)
(10) 40 CFR 63.4510(c)(1) through (11)
(11) 40 CFR 63.4520(a)
(12) 40 CFR 63.4530(a), (b), (c), (d), (e), (f), and (g)
(13) 40 CFR 63.4531
(14) 40 CFR 63.4540
(15) 40 CFR 63.4541
(16) 40 CFR 63.4542
(17) 40 CFR 63.4550
(18) 40 CFR 63.4551
(19) 40 CFR 63.4552
(20) 40 CFR 63.4580
(21) 40 CFR 63.4581

The provisions of 40 CFR 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to this source, except when otherwise specified in 40 CFR 63, Subpart PPPP.

(f) The requirements of the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ)(326 IAC 20-82) are included in the permit, because the one (1) Cummins Onan natural gas-fired emergency generator is considered an existing (constructed before June 12, 2006) stationary reciprocating internal combustion engine at a major source of HAPs. The one (1) diesel fire pump is considered a limited use existing source. The one (1) diesel emergency generator, identified as EG2, is considered a new (constructed after January 18, 2008) stationary reciprocating internal combustion engines at a major source of HAPs.

The units subject to this rule include the following:

(1) Plant 1-850 (motorized vehicle assembly and tile floor setting):

(A) Emergency generators, as follows:

(i) One (1) Cummins Onan natural gas-fired emergency generator, with a maximum capacity of 60 kW, and 80 hp, with emissions uncontrolled, constructed on or before January 28, 2004, and exhausting to stack SV1-7.

(2) Plant 35-833E (fire pump southeast of Plant 2-35) contains:

(A) One (1) diesel fire pump located southeast of Plant 2, with a maximum capacity of 140 HP, constructed in 1998.

(3) Plant 831 (lamination):

(A) Emergency generators as follows:

(i) One (1) diesel emergency generator, identified as EG2, approved in 2017 for construction, with a maximum engine output of 480 horsepower, using no controls, and exhausting to stack EG2S.

These units are subject to the following portions of 40 CFR 63, Subpart ZZZZ:

(a) Cummins Onan natural gas-fired emergency generator and diesel fire pump:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a), (b)
(3) 40 CFR 63.6590(a)(1)(ii)
(4) 40 CFR 63.6595(a)(1), (c)
(5) 40 CFR 63.6602
(6) 40 CFR 63.6605
(7) 40 CFR 63.6625(e)(1), (e)(2), (f)(1),(2)(i),(3), (h), (i), (j)
(8) 40 CFR 63.6640(a), (b), (f)(1), (2)(i), and (3)
(9) 40 CFR 63.6645(a)(1)
(10) 40 CFR 63.6650(f)
(11) 40 CFR 63.6655(a)(1), (a)(2), (a)(4), (d), (e)(1), (e)(2), (f)(1)
(12) 40 CFR 63.6660
(13) 40 CFR 63.6665
(14) 40 CFR 63.6670
(15) 40 CFR 63.6675
(16) Table 2c-(1), (6)
(17) Table 6, 7, 8 and 9

(b) Diesel emergency generator, identified as EG2:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(2)(ii)
(4) 40 CFR 63.6590(c)(6)
(5) 40 CFR 63.6595(a)(5) and (c)
(6) 40 CFR 63.6640(f)(1), (2)(i), and (3)
(7) 40 CFR 63.6665
(8) 40 CFR 63.6670
(9) 40 CFR 63.6675

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1, apply to the source except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

(g) The requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR 63, Subpart DDDDD)(326 IAC 20-95) are not included in the permit for the natural gas-fired units since the units are not boilers or process heaters as defined at 40 CFR 63.7575.

(h) The requirements of the National Emission Standards for Hazardous Air Pollutants for Miscellaneous Coating Manufacturing (40 CFR 63, Subpart HHHHH)(326 IAC 20-88) are not included in the permit because the source does not manufacture coating.

(i) The requirements of the National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities (40 CFR 63, Subpart CCCCCC) are not included in the permit for gasoline storage tank GT1 because the source is a major source of HAP emissions.

(j) There are no other National Emission Standards for Hazardous Air Pollutants under 40 CFR 63, 326 IAC 14 and 326 IAC 20 included in the permit.

Compliance Assurance Monitoring (CAM):

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each existing pollutant-specific emission unit that meets the following criteria:

(1) has a potential to emit before controls equal to or greater than the major source threshold for the regulated pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant (or a surrogate thereof); and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

(b) Pursuant to 40 CFR 64.2(b)(1)(i), emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act are exempt from the requirements of CAM. Therefore, an evaluation was not conducted for any emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act.

The following table is used to identify the applicability of CAM to each emission unit and each emission limitation or standard for a specified pollutant based on the criteria specified under 40 CFR 64.2:

Emission Unit/Pollutant	Control Device	Applicable Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Plant 1-850						
One (1) woodworking mill room (D1-01) - **PM**	bagfilter collector	326 IAC 6-3-2	<100	<100	N [2]	N
One (1) woodworking mill room (D1-01) – **PM10**	bagfilter collector	None	<100	<100	N [2]	N
One (1) woodworking mill room (D1-01) – **PM2.5**	bagfilter collector	None	<100	<100	N [2]	N
One (1) undercoating operation - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
One (1) undercoating operation – **PM10**	dry filters	None	<100	<100	N [1]	N
One (1) undercoating operation – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Plant 2-35						
Paint Line A: one (1) primer/ basecoat booth (SV2-27); one (1) clearcoat booth (SV2-28); one (1) clearcoat/bake booth (SV2-29) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Paint Line A: one (1) primer/ basecoat booth (SV2-27); one (1) clearcoat booth (SV2-28); one (1) clearcoat/bake booth (SV2-29) – **PM10**	dry filters	None	<100	<100	N [1]	N
Paint Line A: one (1) primer/ basecoat booth (SV2-27); one (1) clearcoat booth (SV2-28); one (1) clearcoat/bake booth (SV2-29) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Paint Line A: two (2) coating booths (SV2-35 & SV2-36) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Paint Line A: two (2) coating booths (SV2-35 & SV2-36) – **PM10**	dry filters	None	<100	<100	N [1]	N
Paint Line A: two (2) coating booths (SV2-35 & SV2-36) – **PM2.5**	dry filters	None	<100	<100	N [1]	N

Emission Unit/Pollutant	Control Device	Applicable Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Paint Line B: one (1) slideout paint and clear booth (SV2-20); one (1) seal and base booth (SV2-21); one (1) paint stripe booth (SV2-22) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Paint Line B: one (1) slideout paint and clear booth (SV2-20); one (1) seal and base booth (SV2-21); one (1) paint stripe booth (SV2-22) – **PM10**	dry filters	None	<100	<100	N [1]	N
Paint Line B: one (1) slideout paint and clear booth (SV2-20); one (1) seal and base booth (SV2-21); one (1) paint stripe booth (SV2-22) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Paint Line B: one (1) prep and repair booth (SV2-23); one (1) clear and bake booth (SV2-24); one (1) sand and repair station (SV2-25); one (1) reclear and bake booth (SV2-26) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Paint Line B: one (1) prep and repair booth (SV2-23); one (1) clear and bake booth (SV2-24); one (1) sand and repair station (SV2-25); one (1) reclear and bake booth (SV2-26) – **PM10**	dry filters	None	<100	<100	N [1]	N
Paint Line B: one (1) prep and repair booth (SV2-23); one (1) clear and bake booth (SV2-24); one (1) sand and repair station (SV2-25); one (1) reclear and bake booth (SV2-26) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Paint Line C: one (1) slideout paint and clear booth (SV2-13); one (1) seal and base booth (SV2-14); one (1) paint stripe booth (SV2-15) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Paint Line C: one (1) slideout paint and clear booth (SV2-13); one (1) seal and base booth (SV2-14); one (1) paint stripe booth (SV2-15) – **PM10**	dry filters	None	<100	<100	N [1]	N
Paint Line C: one (1) slideout paint and clear booth (SV2-13); one (1) seal and base booth (SV2-14); one (1) paint stripe booth (SV2-15) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Paint Line C: one (1) prep and repair booth, (SV2-16); one (1) clear and bake booth (SV2-17); one (1) sand and repair station (SV2-18); one (1) reclear and bake booth (SV2-19) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Paint Line C: one (1) prep and repair booth, (SV2-16); one (1) clear and bake booth (SV2-17); one (1) sand and repair station (SV2-18); one (1) reclear and bake booth (SV2-19) – **PM10**	dry filters	None	<100	<100	N [1]	N

Emission Unit/Pollutant	Control Device	Applicable Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Paint Line C: one (1) prep and repair booth, (SV2-16); one (1) clear and bake booth (SV2-17); one (1) sand and repair station (SV2-18); one (1) reclear and bake booth (SV2-19) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Paint Line D: one (1) primer/ basecoat booth (SV2-7); one (1) repair and stripe booth (SV2-8) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Paint Line D: one (1) primer/ basecoat booth (SV2-7); one (1) repair and stripe booth (SV2-8) – **PM10**	dry filters	None	<100	<100	N [1]	N
Paint Line D: one (1) primer/ basecoat booth (SV2-7); one (1) repair and stripe booth (SV2-8) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Paint Line D: one (1) slideout booth (SV2-9); one (1) repair and clear booth (SV2-10); one (1) sand and repair station (SV2-11); one (1) reclear booth (SV2-12) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Paint Line D: one (1) slideout booth (SV2-9); one (1) repair and clear booth (SV2-10); one (1) sand and repair station (SV2-11); one (1) reclear booth (SV2-12) – **PM10**	dry filters	None	<100	<100	N [1]	N
Paint Line D: one (1) slideout booth (SV2-9); one (1) repair and clear booth (SV2-10); one (1) sand and repair station (SV2-11); one (1) reclear booth (SV2-12) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Paint Line E: one (1) primer/ basecoat booth (SV2-1); one (1) repair and stripe booth (SV2-2) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Paint Line E: one (1) primer/ basecoat booth (SV2-1); one (1) repair and stripe booth (SV2-2) – **PM10**	dry filters	None	<100	<100	N [1]	N
Paint Line E: one (1) primer/ basecoat booth (SV2-1); one (1) repair and stripe booth (SV2-2) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Paint Line E: one (1) slideout booth (SV2-3); one (1) repair and clear booth (SV2-4); one (1) sand and repair station (SV2-5); one (1) reclear booth (SV2-6) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Paint Line E: one (1) slideout booth (SV2-3); one (1) repair and clear booth (SV2-4); one (1) sand and repair station (SV2-5); one (1) reclear booth (SV2-6) – **PM10**	dry filters	None	<100	<100	N [1]	N

Emission Unit/Pollutant	Control Device	Applicable Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Paint Line E: one (1) slideout booth (SV2-3); one (1) repair and clear booth (SV2-4); one (1) sand and repair station (SV2-5); one (1) reclear booth (SV2-6) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Repair Line: three (3) paint repair booths (SV2-30, SV2-31, & SV2-32) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Repair Line: three (3) paint repair booths (SV2-30, SV2-31, & SV2-32) – **PM10**	dry filters	None	<100	<100	N [1]	N
Repair Line: three (3) paint repair booths (SV2-30, SV2-31, & SV2-32) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Repair Line: two (2) paint repair booths (SV2-33 & SV2-34) - **PM**	dry filters	326 IAC 6-3-2	<100	<100	N [1]	N
Repair Line: two (2) paint repair booths (SV2-33 & SV2-34) – **PM10**	dry filters	None	<100	<100	N [1]	N
Repair Line: two (2) paint repair booths (SV2-33 & SV2-34) – **PM2.5**	dry filters	None	<100	<100	N [1]	N
Paint Prep Areas: Partial (paint line A) and Full (paint lines B through E)—**PM**	dry filters	326 IAC 6-3-2	>100	<100	Y	N
Paint Prep Areas: Partial (paint line A) and Full (paint lines B through E)—**PM10**	dry filters	None	>100	<100	N [1]	N
Paint Prep Areas: Partial (paint line A) and Full (paint lines B through E)—**PM2.5**	dry filters	None	>100	<100	N [1]	N
Plant 450						
One (1) woodworking operation (P450WW) - **PM**	dust collector	326 IAC 6-3-2	<100	<100	N [2]	N
One (1) woodworking operation (P450WW) – **PM10**	dust collector	None	<100	<100	N [2]	N
One (1) woodworking operation (P450WW) – **PM2.5**	dust collector	None	<100	<100	N [2]	N
Plant 450 Woodworking Operations (P450WW2 - P450WW6) / **PM, PM10,** and **PM2.5**	dust collector	--	--	--	N [1]	--
Plant 831 Woodworking Operations (P831WW1 - P831WW5) / **PM, PM10**, and **PM2.5**	dust collector	--	--	--	N [1]	--
Plant 36-836 Miscellaneous Woodworking Operation (MC-P836) / **PM, PM10**, and **PM2.5**	dust collector	--	--	--	N [1]	--
Plant 36-836 Woodworking Operation (P836WW1) / **PM, PM10**, and **PM2.5**	dust collector	--	--	--	N [1]	--
Plant 1-850 Miscellaneous Woodworking Operation (MC-P850) / **PM, PM10**, and **PM2.5**	dust collector	--	--	--	N [1]	--

Emission Unit/Pollutant	Control Device	Applicable Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Plant 1-850 Woodworking Operations (P850WW2 - P850WW14) / **PM**, **PM10**, and **PM2.5**	dust collector	--	--	--	N [1]	--
Uncontrolled PTE (tpy) and controlled PTE (tpy) are evaluated against the Major Source Threshold for each pollutant. Major Source Threshold for criteria pollutants (PM10, PM2.5, SO2, NOX, VOC and CO) is 100 tpy, for a single HAP ten (10) tpy, and for total HAPs twenty-five (25) tpy. Under the Part 70 Permit program (40 CFR 70), PM is not a regulated pollutant.						
PM* For limitations under 326 IAC 6-3-2, 326 IAC 6.5, and 326 IAC 6.8, IDEM OAQ uses PM as a surrogate for the regulated air pollutant PM10. Therefore, uncontrolled PTE and controlled PTE reflect the emissions of the regulated air pollutant PM10.						
N [1] CAM does not apply for PM, PM10, PM2.5 because the uncontrolled PTE of PM, PM10, PM2.5 is less than the major source threshold.						
N [2] Pursuant to 40 CFR Part 64.1, the control devices are considered to be inherent process equipment. Therefore, based on the evaluation, the requirements of 40 CFR Part 64, CAM, are not applicable.						
Controls: BH = Baghouse, C = Cyclone, DC = Dust Collection System, RTO = Regenerative or Recuperative Thermal Oxidizer, WS = Wet Scrubber, ESP = Electrostatic Preciptator						
Emission units without air pollution controls are not subject to CAM. Therefore, they are not listed.						

Inherent Process Equipment (Woodworking)
Pursuant to 40 CFR Part 64.1, the definition of inherent process equipment is "equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations. Equipment that must be operated at an efficiency higher than that achieved during normal process operations in order to comply with the applicable emission limitation or standard is not inherent process equipment. For the purposes of this part, inherent process equipment is not considered subject to CAM."

The woodworking baghouse controls are determined to be necessary for the normal and proper operation of the woodworking operations *(see the "Integral Part of the Process" Determination" section above for more detail)*. Therefore, the woodworking baghouses meet the criteria for inherent to the process for the purpose of determining CAM applicability, and are not considered control devices. Therefore, the requirements of 40 CFR Part 64.2, CAM, do not apply to the woodworking operations.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM, are applicable to the two (2) paint prep areas located at Plant 2-35 for PM. A CAM plan was submitted as part of a previous permit application and the Compliance Determination and Monitoring Requirements section includes a detailed description of the CAM requirements.

State Rule Applicability - Entire Source

State rule applicability for this source has been reviewed as follows:

326 IAC 1-6-3 (Preventive Maintenance Plan)
The source is subject to 326 IAC 1-6-3.

326 IAC 1-5-2 (Emergency Reduction Plans)
The source is subject to 326 IAC 1-5-2.

326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset)
PSD and Emission Offset applicability is discussed under the Potential to Emit After Issuance section of this document.

PSD Minor Source Limits

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration PSD)) not applicable, the Permittee shall comply with the following:

Pursuant to CP 039-7335-00017 (issued July 24, 1997), SSM 039-12758-00017 (issued May 15, 2001), and as revised by T039-7559-00017 (issued June 21, 2004) and T039-26937-00017 (issued August 19, 2010), the total VOC emissions from the emission units listed in the following table shall be restricted such that the VOC emissions shall not exceed 240.19 tons of VOC per twelve (12) consecutive month period, with compliance determined at the end of each month.

Plant	Emission Units (June 21, 2004)
Emission Units and Pollution Control Equipment Summary	
1-850	D1-01
	SV1-6
	D1-04
20-820	EU-20B
26-826	Four (4) inspection bays
	GV26-1 through GV26-4
29-829	Diesel service center Thirteen (13) inspection bays
	GV29-1 through GV29-4
Insignificant Activities	
1-850	Fiberglass cap windshield GV31-2
831	FCL1 (formerly GV1-1)
	FCL2
	FCL3 (formerly GV32-1)
20-820	25 Weld Stations GV20-2 through GV20-10
22-822	6 Weld Stations
26-826	White Glove Inspection GV26-1 through GV26-4
32-7/8	4 Weld Stations
Combustion Facilities	
1-850	Emergency Generator SV1-7
35-833E	Fire Pump

Compliance with this limit, in combination with the potential VOC emissions from all listed combustion and welding facilities at the source on June 21, 2004, shall limit the VOC emissions to less than 250 tons per twelve (12) consecutive month period and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the above listed emissions units.

2004 Modification

Pursuant to PSD/SSM 039-15620-00017, issued on December 11, 2002; 326 IAC 2-2 (PSD); 326 IAC 8-1-6 (BACT); and as revised by T039-7559-00017, issued on June 21, 2004, PSD BACT for VOC have been determined to be the following:

(a) All facilities located at Plant 2-35 (previously identified as Plant 2) on June 21, 2004, must comply with the following requirements:

(1) Lacquer thinners and preparation cleaners and solvents used on vehicle exteriors will be hand-wiped and contain a maximum 6.5 pounds VOC per gallon of coating as applied.

(2) Except as provided below, primers will be applied using high volume-low pressure (HVLP) spray equipment, or the equivalent, and contain a maximum of 3.5 pounds VOC per gallon of coating as applied.

(3) Except as provided below, base coats will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 6.5 pounds VOC per gallon of coating as applied.

(4) Except as provided below, clear coats will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 3.5 pounds VOC per gallon of coating as applied.

(5) Except as provided below, sealers will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 3.5 pounds VOC per gallon of coating as applied.

(6) As an alternative to complying with the individual VOC content limitations for base coats and clear coats, compliance may be determined by averaging the emissions from base coat and clear coat operations across affected lines. The average VOC content for the base coat/clear coat system shall be limited to less than or equal to 4.5 pounds VOC per gallon of coating as applied. This limitation is based on a ratio of two parts clear coat to one part base coat. Compliance will be demonstrated monthly based on the actual VOC content as applied of each coating and actual usage of base coats and clear coats during the month.

(7) Good housekeeping practices will be employed to minimize leaks, spills, and evaporative losses. These include: sealing lids on all containers not in use or in storage, the purging of guns and lines into approved containers, maintaining an organized spill response and clean-up operation, performing routine maintenance on spray equipment and pumps to prevent drips and seal leaks, the use of solvent recovery systems to recover reusable solvents for on-site or off-site recycling, and using aqueous, exempt solvents or citric cleaners where effective and practical.

(8) All coating materials, including primers, base coats, and clear coats, used in the repair booths will be applied with air-atomized spray equipment, or the equivalent.

(9) When necessary, vehicle exteriors will be hand-wiped with cleaning solvent prior to painting.

(10) Collected solvents will be recycled on-site and off-site to recover reusable solvents and minimize waste.

(11) Vehicles will be undercoated with a waterborne-low VOC coating.

(b) The surface coating operations in Partial Paint Line A and Full Paint Lines B through E shall use, in aggregate, less than 539 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per twelve (12) consecutive month period with compliance determined at the end of each month.

The VOC usage limit, in conjunction with the usage of low VOC/high solids coatings and high transfer application methods listed in (1) through (11) above and the VOC emissions from the insignificant natural gas fired air-make-up units, has been incorporated to limit the potential to

emit VOC from Plant 2-35 (previously Identified as Plant 2) to less than 540.4 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these requirements and limits will satisfy the requirements of 326 IAC 2-2 (PSD) and 326 IAC 8-1-6 (BACT).

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The provisions of 326 IAC 2-4.1 apply to any owner or operator who constructs or reconstructs a major source of hazardous air pollutants (HAP), as defined in 40 CFR 63.41, after July 27, 1997, unless the major source has been specifically regulated under or exempted from regulation under a NESHAP that was issued pursuant to Section 112(d), 112(h), or 112(j) of the Clean Air Act (CAA) and incorporated under 40 CFR 63. On and after June 29, 1998, 326 IAC 2-4.1 is intended to implement the requirements of Section 112(g)(2)(B) of the Clean Air Act (CAA).

The operation of woodworking, routing, and touch-up painting emission units will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)
This source is subject to the requirements of 326 IAC 2-6 (Emission Reporting), since it has the potential to emit and has the potential to emit VOC equal to or greater than two hundred fifty (250) tons per year. Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit annually, by July 1, an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 2-7-6(5) (Annual Compliance Certification)
The U.S. EPA Federal Register 79 FR 54978 notice does not exempt Title V Permittees from the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D), but the submittal of the Title V annual compliance certification to IDEM satisfies the requirement to submit the Title V annual compliance certifications to EPA. IDEM does not intend to revise any permits since the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D) still apply, but Permittees can note on their Title V annual compliance certifications that submission to IDEM has satisfied reporting to EPA per Federal Register 79 FR 54978. This only applies to Title V Permittees and Title V compliance certifications.

326 IAC 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2(1)

326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
Pursuant to 326 IAC 6.5-1-1(a), this source (located in Elkhart County) is not subject to the requirements of 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

326 IAC 6.8 (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-1(a), this source (located in Elkhart County) is not subject to the requirements of 326 IAC 6.8 because it is not located in Lake County.

State Rule Applicability – Individual Facilities

State rule applicability has been reviewed as follows:

326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating)
(a) Pursuant to 326 IAC 6-2-1(d), indirect heating facilities which received permit to construct after September 21, 1983 are subject to the requirements of 326 IAC 6-2-4.

The particulate matter emissions (Pt) shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu).

Q = Total source maximum operating capacity rating in MMBtu/hr heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation.

Pursuant to 326 IAC 6-2-4(a), for Q less than 10 MMBtu/hr, Pt shall not exceed 0.6 lb/MMBtu.

Indirect Heating Units Which Began Operation After September 21, 1983						
Facility	Construction Date (Removal Date)	Operating Capacity (MMBtu/hr)	Q (MMBtu/hr)	Calculated Pt (lb/MMBtu)	Particulate Limitation, (Pt) (lb/MMBtu)	PM PTE based on AP-42 (lb/MMBtu)
Bake Oven (SV2-37)	1997	4.0	12.0	0.57	0.57	0.002
Air Make-Up	1997	2 * 4.0	12.0	0.57	0.57	0.002
Air Make-Up (P820AM1)	2017	0.028	19.4	0.50	0.50	0.002
Thermo-Cycler (P820TC1)	2017	0.58	19.4	0.50	0.50	0.002
Space Heater (OH1)	2017	0.12	19.4	0.50	0.50	0.002
Thermo-Cyclers (TC1 & TC2)	2017	2 * 0.58	19.4	0.50	0.50	0.002
Air Make-Up (AM1)	2017	0.97	19.4	0.50	0.50	0.002
Thermo-Cyclers (P831TC1-P831TC5)	2017	5 * 0.72	19.4	0.50	0.50	0.002
Thermo-Cycler (P831TC6)	2017	0.58	19.4	0.50	0.50	0.002
Furnace (P831SH1)	2017	0.075	19.4	0.50	0.50	0.002
Furnaces (P831SH2 & P831SH3)	2017	2 * 0.09	19.4	0.50	0.50	0.002
Furnace (P831SH4)	2017	0.11	19.4	0.50	0.50	0.002

Indirect Heating Units Which Began Operation After September 21, 1983						
Facility	Construction Date (Removal Date)	Operating Capacity (MMBtu/hr)	Q (MMBtu/hr)	Calculated Pt (lb/MMBtu)	Particulate Limitation, (Pt) (lb/MMBtu)	PM PTE based on AP-42 (lb/MMBtu)
Where: Q = Includes the capacity (MMBtu/hr) of the new unit(s) and the capacities for those unit(s) which were in operation at the source at the time the new unit(s) was constructed. Note: Emission units shown in strikethrough were subsequently removed from the source. The effect of removing these units on "Q" is shown in the year the boiler was removed..						

(b) Pursuant to 326 IAC 6-2-1, the requirements of 326 IAC 6-2 are not applicable to the one (1) Cummins Onan natural gas-fired emergency generator and the one (1) diesel-fired emergency generator (EG2) because they are not considered combustion for indirect heating as defined in 326 IAC 1-2-19.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting)

Process Description	Emission Unit	326 IAC 6-3-2
sidewall adhesive application process	SV1-6	Exempt from 326 IAC 6-3-2
three (3) manual assembly lines applying sealants, caulks, and cleaners	Assembly Lines 1-Red, 2-Blue, and 3-White	Exempt from 326 IAC 6-3-2
undercoating operation for coating metal chassis		Exempt from 326 IAC 6-3-2
woodworking mill room	D1-01	Subject to 326 IAC 6-3-2(e)
emergency generator	Cummins Onan natural gas-fired emergency generator	Exempt from 326 IAC 6-3-2

(1) IDEM, OAQ has determined that application of the material listed below at this source, when using non-atomizing HVLP spray guns, does not have the potential to emit particulate emissions. This adhesive is applied as a sticky, stretchy, stringy, web-like material. Therefore, this adhesive operation does not meet the definition of “surface coating” under 326 IAC 6-3-1.5 and is not subject to the requirements of 326 IAC 6-3-2.

- ADHESIVE PRO-BOND
- ADHESIVE SPRAY STAPUT
- ADHESIVE SUPER TAK HIGH PERF
- ADHESIVE STICK-UP
- ADHESIVE RED WHISPER SPRAY
- FOAM SEAL BLACK RESIN "A"
- FOAM SEAL BLACK RESIN "B"
- ENERFOAM NBS

(2) Pursuant to 326 IAC 6-3-1(b)(5), (6), (7), (8), SV1-6, the three (3) manual assembly lines (Assembly Lines 1-Red, 2-Blue, and 3-White), and the one (1) undercoating operation for coating metal chassis, are exempt from 326 IAC 6-3 because coatings are applied by hand using various hand tools such as brushes.

(3) Pursuant to 326 IAC 6-3-1(a), the requirements of 326 IAC 6-3-2 are applicable to the one (1) woodworking mill room (D1-01), since it is a manufacturing process not exempted from this rule under 326 IAC 6-3-1(b) and is not subject to a particulate matter limitation that is as stringent as or more stringent than the particulate limitation established in this rule as specified in 326 IAC 6-3-1(c).

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the one (1) woodworking mill room (D1-01), shall not exceed 5.69 pounds per hour when operating at a process weight rate of 1.63 tons per hour. The pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

Summary of Process Weight Rate Limits			
Process / Emission Unit	**P (ton/hr)**	**E (lb/hr)**	**Equation Used**
D1-01	1.63	5.69	(a)

Based on calculations, the bagfilter collector is not needed to comply with this limit.

(4) Liquid and gaseous fuels and combustion air are excluded from the definition of process weight as defined in 326 IAC 1-2-59(a). Therefore, the one (1) Cummins Onan natural gas-fired emergency generator is not subject to the requirements of 326 IAC 6-3-2.

(5) Pursuant to 326 IAC 6-3-1(b)(14), Plant 850 miscellaneous woodworking operation (MC-P850) and Plant 850 woodworking operations (P850WW2 through P850WW14) are not subject to the requirements of 326 IAC 6-3, because these are manufacturing processes with uncontrolled potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour, each.

(6) Pursuant to 326 IAC 6-3-1(b)(15), the one (1) touch-up painting operation, identified as P850TP, is not subject to the requirements of 326 IAC 6-3, because it is a surface coating manufacturing process that uses less than five (5) gallons per day.

(b) Plant 2-35 (final paint plant)

Process Description	Emission Unit	326 IAC 6-3-2
full paint line - paint line A	SV2-27, SV2-28, SV2-29, SV2-35, SV2-35	Subject to 326 IAC 6-3-2(d)
full paint line - paint line B	SV2-20, SV2-21, SV2-22, SV2-23, SV2-24, SV2-25, SV2-26	Subject to 326 IAC 6-3-2(d)
full paint line - paint line C	SV2-13, SV2-14, SV2-15, SV2-16, SV2-17, SV2-18, SV2-19	Subject to 326 IAC 6-3-2(d)
full paint line - paint line D	SV2-7, SV2-8, SV2-9, SV2-10, SV2-11, SV2-12	Subject to 326 IAC 6-3-2(d)
full paint line - paint line E	SV2-1, SV2-2, SV2-3, SV2-4, SV2-5, and SV2-6	Subject to 326 IAC 6-3-2(d)
repair line	SV2-30, SV2-31,SV2-32, SV2-33, SV2-34	Subject to 326 IAC 6-3-2(d)
two (2) paint prep areas (insignificant activity)	Partial (Paint Line A) full (Paint line A), Full (Paint Lines B through E)	Subject to 326 IAC 6-3-2(e)
Paint storage and mixing area (insignificant activity)		Exempt pursuant to 326 IAC 6-3-2(b)(15)
final inspection area (insignificant activity)		

(1) Pursuant to 326 IAC 6-3-1(a), the requirements of 326 IAC 6-3-2(d) are applicable to Paint Line A, Paint Line B, Paint Line C, Paint Line D, Paint Line E, and the Repair Line since they have the potential to use more than five (5) gallons of coating per day. Pursuant to 326 IAC 6-3-2(d), particulate from the units above shall be controlled by a dry particulate filter, waterwash, or an equivalent control device, and the source shall operate the control device in accordance with manufacturer's specifications.

(2) Pursuant to 326 IAC 6-3-1(a), the requirements of 326 IAC 6-3-2 are applicable to the two (2) paint prep areas, identified as Partial (Paint Line A) and Full (Paint Lines B through E), since they are a manufacturing process not exempted from this rule under 326 IAC 6-3-1(b) and is not subject to a particulate matter limitation that is as stringent as or more stringent than the particulate limitation established in this rule as specified in 326 IAC 6-3-1(c).

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the full (paint line A) paint prep area (insignificant activity) and the full (paint lines B through E) paint prep area (insignificant activity), shall not exceed 51.28 pounds per hour when operating at a process weight rate of 100.00 tons per hour. The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

Summary of Process Weight Rate Limits			
Process / Emission Unit	**P (ton/hr)**	**E (lb/hr)**	**Equation Used**
full (paint line A) paint prep area (insignificant activity)	100.00	51.28	(b)
full (paint lines B through E) paint prep area (insignificant activity)	100.00	51.28	(b)

Based on calculations, the dry filter is not needed to comply with this limit.

(3) Pursuant to 326 IAC 6-3-1(b)(15), surface coating manufacturing processes that use less than five (5) gallons per day are exempt from the requirements of 326 IAC 6-3-2. Therefore, the paint storage and mixing area and the final inspection area (insignificant activities) are not subject to the requirements of 326 IAC 6-3-2.

(c) Plant 20-820 (welding and sidewall lamination)

Process Description	Emission Unit	326 IAC 6-3-2
adhesive applicator		Exempt from 326 IAC 6-3-2
sidewall welding operation	EU20-B	Exempt pursuant to 326 IAC 6-3-2(b)(9)
welding operations (insignificant activity)		Exempt pursuant to 326 IAC 6-3-2(b)(9)
Natural gas combustion units		Exempt from 326 IAC 6-3-2

(1) Pursuant to 326 IAC 6-3-1(b)(5), (6), (7), (8), coating applied using hand application methods, such as roll, flow and wipe, are exempt from 326 IAC 6-3. Most of the coatings used in the adhesive applicator are applied using a roll, wipe and flow coating method. Lubricant Spray Silicone MC-43 is applied using aerosol. This would cause the unit to be subject to 326 IAC 6-3, but pursuant to 326 IAC 6-3-1(b)(15) any surface coating not exempt by 326 IAC 6-3-1(b)(5), (6), (7), or (8) that use less the 5 gal/day. The source uses 1.92 gallons of MC-43 per day. Therefore, the adhesive applicator is exempt from 326 IAC 6-3.

(2) Pursuant to 326 IAC 6-3-1(b)(9), welding operations that consume less than 625 pounds of rod or wire per day are exempt from 326 IAC 6-3-2. Therefore, the sidewall welding operation and the welding operations (insignificant activity) are not subject to the requirements of 326 IAC 6-3-2.

(3) Liquid and gaseous fuels and combustion air are excluded from the definition of process weight as defined in 326 IAC 1-2-59(a). Therefore, the insignificant natural gas-fired units are not subject to the requirements of 326 IAC 6-3-2.

(d) Plant 22-822 (welding operations)

(1) Pursuant to 326 IAC 6-3-1(b)(9), welding operations that consume less than 625 pounds of rod or wire per day are exempt from 326 IAC 6-3-2. Therefore, the insignificant welding operation is not subject to the requirements of 326 IAC 6-3-2.

(e) Plant 26-826 (white glove inspection area and dispatch)

Process Description	Emission Unit	326 IAC 6-3-2
four (4) inspection bays		Exempt from 326 IAC 6-3-2
white glove inspection (insignificant activity)		Exempt from 326 IAC 6-3-2

(1) IDEM, OAQ has determined that application of the material listed below in inspection bays and white glove inspection at this source, when using non-atomizing HVLP spray guns, does not have the potential to emit particulate emissions. This adhesive is applied as a sticky, stretchy, stringy, web-like material. Therefore, this adhesive operation does not meet the definition of “surface coating” under 326 IAC 6-3-1.5 and is not subject to the requirements of 326 IAC 6-3-2.

- RESIN/SEALANT COMP "B"/FOAMSEAL
- SEALANT COMP "A"/FOAMSEAL BLUE
- SEALANT FILLER FOAM SPRAY/DASH
- UNDERCOATING AQUASEAL EMULSION
- 404335 RUB. UNDERCOAT SPRAY (PITT PEN)

(2) Pursuant to 326 IAC 6-3-1(b)(5), (6), (7), (8), coating applied using hand application methods, such as roll, tube and wipe, are exempt from 326 IAC 6-3. Most of the coatings used in the adhesive applicator are applied using a roll, wipe and flow coating method. The material listed below in the inspection bays and white glove inspection at this source is applied using aerosol, spray. This would cause the unit to be subject to 326 IAC 6-3, but pursuant to 326 IAC 6-3-1(b)(15) any surface coating not exempt by 326 IAC 6-3-1(b)(5), (6), (7), or (8) that use less the 5 gal/day. The source uses less than 3.84 gal/day. Therefore, the adhesive applicator is exempt from 326 IAC 6-3.

- SEALANT SILICONE BLACK/WHITE
- CLOPHANE WINDOW CLEANER

(f) Plant 29-829 (diesel service center)

Process Description	Emission Unit	326 IAC 6-3-2
thirteen (13) service bays		Exempt from 326 IAC 6-3-2

(1) IDEM, OAQ has determined that application of the material listed below in the thirteen (13) service bays at this source, when using non-atomizing HVLP spray guns, does not have the potential to emit particulate emissions. This adhesive is applied as a sticky,

stretchy, stringy, web-like material. Therefore, this adhesive operation does not meet the definition of "surface coating" under 326 IAC 6-3-1.5 and is not subject to the requirements of 326 IAC 6-3-2.

- ADH SPRAY STAPUT
- VULTRAFOAM 16-L-716 PART A
- VULTRAFOAM 16-L-716 PART B
- SEALANT FILLER FOAM SPRAY

(2) Pursuant to 326 IAC 6-3-2(b)(5), (6), (7), (8), coating applied using hand application methods, such as roll, flow and wipe, are exempt from 326 IAC 6-3. Most of the coatings used in the thirteen (13) service bays are applied using a brush, wipe and flow coating method. A few coatings are applied using spray and aerosol. These would cause the unit to be subject to 326 IAC 6-3, but pursuant to 326 IAC 6-3-2(b)(15) any surface coating not exempt by 326 IAC 6-3-2(b)(5), (6), (7), or (8) that use less the 5 gal/day. The sources uses 2.22 gallons per day. Therefore, the thirteen (13) service bays are exempt from 326 IAC 6-3.

- PAINT SPRAY BLACK BROMA
- PRIMER FOURSEAL; 48-9001 and 7865
- LUBRICANT SPRAY SILICONE
- CLEANER SPRAYON GLASS
- SEALANT SILICONE WHITE
- SEALANT SILICONE BLACK

(g) Plant 32-7/8 (welding and warehouse)

(1) Pursuant to 326 IAC 6-3-1(b)(9), welding operations that consume less than 625 pounds of rod or wire per day are exempt from 326 IAC 6-3-2. Therefore, the insignificant welding operation is not subject to the requirements of 326 IAC 6-3-2.

(h) Plant 35-833E (fire pump southeast of Plant 2-35)

(1) Liquid and gaseous fuels and combustion air are excluded from the definition of process weight as defined in 326 IAC 1-2-59(a). Therefore, the one (1) diesel fire pump is not subject to the requirements of 326 IAC 6-3-2.

(i) Plant 36-836 (welding operations)

(1) Pursuant to 326 IAC 6-3-1(b)(9), welding operations that consume less than 625 pounds of rod or wire per day are exempt from 326 IAC 6-3-2. Therefore, the insignificant welding operation is not subject to the requirements of 326 IAC 6-3-2.

(2) Pursuant to 326 IAC 6-3-1(b)(14), Plant 836 miscellaneous woodworking operation (P836WW1) is not subject to the requirements of 326 IAC 6-3, because these are manufacturing processes with uncontrolled potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour, each.

(j) Plant 56-5 (warehouse and welding)

(1) Pursuant to 326 IAC 6-3-1(b)(9), welding operations that consume less than 625 pounds of rod or wire per day are exempt from 326 IAC 6-3-2. Therefore, the insignificant welding operation is not subject to the requirements of 326 IAC 6-3-2.

(k) Plant 450 (motor home assembly)

Process Description	Emission Unit	326 IAC 6-3-2
woodworking operation	P450WW	Exempt from 326 IAC 6-3-2
motor home assembly line	P450AO	Exempt from 326 IAC 6-3-2
miscellaneous RV manufacturing processes	P450MO	Exempt from 326 IAC 6-3-2
fuel dispensing	gasoline storage tank (GT1), diesel fuel storage tank (DT1)	Exempt from 326 IAC 6-3-2

(1) Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pound per hour are exempt from the requirements of 326 IAC 6-3-2. Therefore, the one (1) woodworking operation (P450WW) is not subject to the requirements of 326 IAC 6-3-2 since it has potential emissions less than 0.551 pound per hour after consideration of the integral control device However, since this facility has potential emissions greater than 0.551 pound per hour prior to consideration of the integral control device(s), in order to assure the facility is not subject to the requirements of 326 IAC 6-3-2, the integral control device(s) shall be in operation and control emissions from the associated facility at all times the facility is in operation.

(2) Pursuant to 326 IAC 6-3-1(b)(5), (6), (7), (8), coating applied using hand application methods, such as roll, tube and wipe, are exempt from 326 IAC 6-3. Most of the coatings used in the one (1) motor home assembly line, identified as P450AO, are applied using a roll, wipe and flow coating method. The material listed below in the motor home assembly line at this source is applied using aerosol, spray. This would cause the unit to be subject to 326 IAC 6-3, but pursuant to 326 IAC 6-3-1(b)(15) any surface coating not exempt by 326 IAC 6-3-1(b)(5), (6), (7), or (8) that use less the 5 gal/day. The source uses less than 2.88 gal/day. Therefore, the one (1) motor home assembly line is exempt from 326 IAC 6-3.

(3) Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pound per hour are exempt from the requirements of 326 IAC 6-3-2. Therefore, the one (1) set of miscellaneous RV manufacturing processes are not subject to the requirements of 326 IAC 6-3-2.

(4) Liquid and gaseous fuels and combustion air are excluded from the definition of process weight as defined in 326 IAC 1-2-59(a). Therefore, the natural gas-fired units are not subject to the requirements of 326 IAC 6-3-2.

(5) Pursuant to 326 IAC 6-3-1(b)(14), the Plant 450 woodworking operations (P450WW2 through P450WW6) is not subject to the requirements of 326 IAC 6-3, because these are manufacturing processes with uncontrolled potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour, each.

(l) Plant 831 (lamination)

(1) Liquid and gaseous fuels and combustion air are excluded from the definition of process weight as defined in 326 IAC 1-2-59(a). Therefore, the natural gas-fired units and the diesel emergency generator (EG2) are not subject to the requirements of 326 IAC 6-3-2.

(2) Pursuant to 326 IAC 6-3-1(b)(14), Plant 831 woodworking operations (P831WW1 through P831WW5) are not subject to the requirements of 326 IAC 6-3, because these are manufacturing processes with uncontrolled potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour, each.

(3) Pursuant to 326 IAC 6-3-1(b)(14), the three (3) sidewall routers, identified as P831SWR1, P831SWR2, and P831SWR3, the one (1) roof routers, identified as P831RR1, and the

two (2) floor routers, identified as P831FR1 and P831FR2, are not subject to the requirements of 326 IAC 6-3, because these are manufacturing processes with uncontrolled potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour, each.

(m) Plant 854 (gasoline service center)

one (1) gasoline-engine motor home service operation	Exempt from 326 IAC 6-3-2

(1) IDEM, OAQ has determined that application of the material listed below in the one (1) gasoline-engine motor home service operation at this source, when using non-atomizing HVLP spray guns, does not have the potential to emit particulate emissions. This adhesive is applied as a sticky, stretchy, stringy, web-like material. Therefore, this adhesive operation does not meet the definition of "surface coating" under 326 IAC 6-3-1.5 and is not subject to the requirements of 326 IAC 6-3-2.

- ADH SPRAY STAPUT
- VULTRAFOAM 16-L-716 PART A
- VULTRAFOAM 16-L-716 PART B
- SEALANT FILLER FOAM SPRAY

(2) Pursuant to 326 IAC 6-3-2(b)(5), (6), (7), (8), coating applied using hand application methods, such as roll, flow and wipe, are exempt from 326 IAC 6-3. Most of the coatings used one (1) gasoline-engine motor home service operation are applied using a brush, wipe and flow coating method. A few coatings are applied using spray and aerosol. These would cause the unit to be subject to 326 IAC 6-3, but pursuant to 326 IAC 6-3-2(b)(15) any surface coating not exempt by 326 IAC 6-3-2(b)(5), (6), (7), or (8) that use less the 5 gal/day. The sources uses 2.11 gallons per day. Therefore, one (1) gasoline-engine motor home service operation is exempt from 326 IAC 6-3.

- PAINT SPRAY BLACK BROMA
- PRIMER FOURSEAL; 48-9001 and 7865
- LUBRICANT SPRAY SILICONE
- CLEANER SPRAYON GLASS
- SEALANT SILICONE WHITE
- SEALANT SILICONE BLACK

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Emission units that are constructed after January 1, 1980, and have unlimited VOC potential emissions equal to or greater than twenty-five (25) tons per year,and are not regulated by other rules in 326 IAC 8, are subject to 326 IAC 8-1-6.

(a) There are a number of units at the source that coat more than one type of substrate. Some substrates, such as metal and wood, are regulated under a different Article 8 rule, but there may be times when the units are coating substrates not covered under any Article 8 rules. When this happens, 326 IAC 8-1-6 would apply. However, none of these units have the potential to emit more than 25 tons of VOC per year when coating any substrate not covered under an Article 8 rule. Therefore, the following units are not subject to 326 IAC 8-1-6.

Plant	Emission Units	Process Description
1-850	Fiberglass cap windshield setting operations and repairs	
	SV1-6	one (1) sidewall adhesive application process (uses only Adhesive Hot Melt Pur-Fect Lok & Morad Water Reactive Urethane materials)
20-820	adhesive applicator	
26-826	four (4) inspection bays	
	white glove inspection	
29-829	thirteen (13) diesel-engine motor home service bays	
450	motor home assembly line	
831	FCL1-FCL9	flow coat lamination machines
854	one (1) gasoline-engine motor home service operation	

(b) The following units did have to potential to emit of greater than 25 tons per year when installed. 326 IAC 8-1-6 is "once-in-always-in" so the units remain subject to the requirements of 326 IAC 8-1-6 (BACT), even if the potential to emit VOC is currently less than 25 tons per year.

(i) Pursuant to PSD/SSM 039-15620-00017, issued on December 11, 2002; 326 IAC 2-2-3 (PSD BACT); 326 IAC 8-1-6 (BACT); and as revised by T039-7559-00017, issued on June 21, 2004, the following emissions units are subject to 326 IAC 8-1-6 and PSD BACT for VOC.

T039-7559-00017 Plant 2-35 (previously Plant 2) Emission Units (June 21, 2004)
SV2-27
SV2-28
SV2-29
SV2-20
SV2-21
SV2-22
SV2-23
SV2-24
SV2-25
SV2-26
SV2-13
SV2-14
SV2-15
SV2-16
SV2-17
SV2-18
SV2-19
SV2-7
SV2-8
SV2-9
SV2-10
SV2-11
SV2-12
SV2-1
SV2-2
SV2-3
SV2-4
SV2-5
SV2-6
SV2-30
SV2-31
SV2-32
SV2-33
SV2-34
SV2-35
SV2-36

T039-7559-00017 Plant 2-35 (previously Plant 2) Emission Units (June 21, 2004)
SV2-37
Undercoating operation (now in plant 1-850)
Insignificant Activities:
Paint prep
Paint storage and mixing
Final inspection
Adhesive Applicator

Pursuant to 326 IAC 2-2-3 (PSD BACT) and 326 IAC 8-1-6 (BACT), BACT for the above units has been determined to be the following:

(1) Lacquer thinners and preparation cleaners and solvents used on vehicle exteriors will be hand-wiped and contain a maximum 6.5 pounds VOC per gallon of coating as applied.

(2) Except as provided below, primers will be applied using high volume-low pressure (HVLP) spray equipment, or the equivalent, and contain a maximum of 3.5 pounds VOC per gallon of coating as applied.

(3) Except as provided below, base coats will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 6.5 pounds VOC per gallon of coating as applied.

(4) Except as provided below, clear coats will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 3.5 pounds VOC per gallon of coating as applied.

(5) Except as provided below, sealers will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 3.5 pounds VOC per gallon of coating as applied.

(6) As an alternative to complying with the individual VOC content limitations for base coats and clear coats, compliance may be determined by averaging the emissions from base coat and clear coat operations across affected lines. The average VOC content for the base coat/clear coat system shall be limited to less than or equal to 4.5 pounds VOC per gallon of coating as applied. This limitation is based on a ratio of two parts clear coat to one part base coat. Compliance will be demonstrated monthly based on the actual VOC content as applied of each coating and actual usage of base coats and clear coats during the month.

(7) Good housekeeping practices will be employed to minimize leaks, spills, and evaporative losses. These include: sealing lids on all containers not in use or in storage, the purging of guns and lines into approved containers, maintaining an organized spill response and clean-up operation, performing routine maintenance on spray equipment and pumps to prevent drips and seal leaks, the use of solvent recovery systems to recover reusable solvents for on-site or off-site recycling, and using aqueous, exempt solvents or citric cleaners where effective and practical.

(8) All coating materials, including primers, base coats, and clear coats, used in the repair booths will be applied with air-atomized spray equipment, or the equivalent.

(9) When necessary, vehicle exteriors will be hand-wiped with cleaning solvent prior to painting.

(10) Collected solvents will be recycled on-site and off-site to recover reusable solvents and minimize waste.

(11) Vehicles will be undercoated with a waterborne-low VOC coating.

(ii) The surface coating operations in Partial Paint Line A and Full Paint Lines B through E shall use, in aggregate, less than 539 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per twelve (12) consecutive month period with compliance determined at the end of each month.

The VOC usage limit, in conjunction with the usage of low VOC/high solids coatings and high transfer application methods listed in (1) through (11) above and the VOC emissions from the insignificant natural gas fired air-make-up units, has been incorporated to limit the potential to emit VOC from Plant 2-35 (previously Identified as Plant 2) to less than 540.4 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(c) The manual assembly lines (D1-04) was constructed after January 1, 1980, and its unlimited VOC potential emissions are equal to or greater than twenty-five (25) tons per year. In order to render 326 IAC 8-1-6 not applicable, the source must limit the potential to emit VOC from the manual assembly line (D1-04) to less than twenty-five (25) tons per twelve (12) consecutive month period each when coating substrates not otherwise regulated under Article 8.

In order to render the requirements of 326 IAC 8-1-6 not applicable, Permittee shall comply with the following when coating substrates not otherwise regulated under Article 8:

(1) The total VOC input, including adhesives, coatings, dilution solvents, and cleaning solvents, to each of the three (3) manual assembly lines (D1-04) shall be less than twenty-five (25) tons, each, per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits will render the requirements of 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) not applicable to the three (3) manual assembly lines (D1-04).

(d) Even though, the one (1) touch-up painting operation, identified as P850TP, was constructed after January 1, 1980, it is not subject to the requirements of 326 IAC 8-1-6 because its unlimited VOC potential emissions are less than twenty-five (25) tons per year.

326 IAC 8-2-9 (Miscellaneous metal and plastic parts coating operations)
Various emission units at the source are subject to 326 IAC 8-2-9 because the units coat metal and/or plastic parts or products under the Standard Industrial Classification Code #37. Pursuant to 326 IAC 8-2-1(a)(2) and 326 IAC 8-2-1(a)(4) and 326 IAC 8-2-9, this rule applies to facilities constructed after November 1, 1980 located in any county and with potential VOC emissions of greater than twenty-five (25) tons per year, or facilities constructed after July 1, 1990 located in any county and with actual VOC emissions of greater than fifteen (15) pounds per day before add-on controls. Any unit constructed before 1980 is not subject to 326 IAC 8-2-9. Emission units possibly subject to 326 IAC 8-2-9 are located in the following plants:

Plant	Emission Units	Year Constructed	Type of Substrates Coated	VOC PTE (TPY)	326 IAC 8-2-9 Applicable?
Plant 1-850 (motorized vehicle assembly and tile floor setting)	Sidewall adhesive application process (SV1-6)	1997	metal	< 15	N
	Manual assembly lines (D1-04)	1997	metal	> 15	Y
	Undercoating operation for coating metal chassis	1998	metal	< 15	N
	Fiberglass end cap setting (Insig.)	not available	plastic/glass	< 15	N

Plant	Emission Units	Year Constructed	Type of Substrates Coated	VOC PTE (TPY)	326 IAC 8-2-9 Applicable?
	Touch-up Painting Operation (P850TP)	2023	various	<15	N
Plant 2-35 (final paint plant)	Paint lines (A-E) and Repair booths	after 1996	metal/various	> 15	Y
	Paint prep areas (Insig.)	1997	metal/various	< 15	N
	Paint storage and mixing area (Insig.)	1997	metal/various	< 15	N
	Final inspection area (Insig.)	1998	metal/various	< 15	N
Plant 20-820 (welding and sidewall lamination)	Adhesive applicator	1980	metal	< 100	N
Plant 26-826 (white glove inspection area and dispatch)	Inspection bays	1981	metal/plastic	> 15	Y
Plant 29-829 (diesel service center)	diesel-engine motor home service bays	1989	metal/plastic	< 25	N
Plant 450 (motor home assembly)	Motor home assembly line	2012	metals/various	> 15	Y
Plant 831 (lamination)	Flow coat lamination machines (FCL1-FCL9) (Insig.)	after 2010	wood panels	< 15	N
Plant 854 (gasoline service center)	Gasoline-engine motor home service operation	2017	metals	> 15	Y

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting)

(1) Three (3) manual assembly lines:

(i) Pursuant to 326 IAC 8-2-1(a) and 326 IAC 8-2-9(a), three (3) manual assembly lines are subject to the requirements of 326 IAC 8-2-9, since they were constructed in 1997, located in Elkhart County, and have the unlimited PTE of VOC equal to or greater than fifteen (15) pounds per day before add-on controls, and this source performs miscellaneous metal surface coating under the Standard Industrial Classification Code #37.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the three (3) manual assembly lines shall each not exceed three and five tenths (3.5) pounds of VOC per gallon of coating less water.

(ii) The three (3) manual assembly lines are also subject to the work practices specified under 326 IAC 8-2-9(f).

(iii) 326 IAC 8-1-2 (Compliance Methods)
Pursuant to 326 IAC 8-1-2(a)(7), when using non-compliant coatings in the three (3) manual assembly lines, the source shall demonstrate compliance with the applicable 326 IAC 8-2-9 VOC content limitation(s), using a daily volume-weighted average of all coatings applied on a daily basis in the three (3) manual assembly lines.

(2) One (1) sidewall adhesive application process (SV1-6), one (1) undercoating operation for coating metal chassis and one (1) fiberglass cap windshield setting operation and repair:

(i) Pursuant to 326 IAC 8-2-1(a), 326 IAC 8-2-9(a), and 326 IAC 8-2-9(b), the one (1) sidewall adhesive application process (SV1-6), the one (1) undercoating operation for coating metal chassis and the one (1) fiberglass cap windshield setting operation and repair are not subject to the requirements of 326 IAC 8-2-9 because they each have a potential to emit less than fifteen (15) pounds of VOC per day before add-on controls

(b) Plant 2-35 (final paint plant)

(1) The five (5) full paint lines (Paint Lines A-E) and the one (1) repair line:

(i) Pursuant to 326 IAC 8-2-1(a) and 326 IAC 8-2-9(a), the five (5) full paint lines (Paint Lines A-E) and the one (1) repair line are subject to the requirements of 326 IAC 8-2-9, since they were constructed after 1996, located in Elkhart County, and have the unlimited PTE of VOC equal to or greater than fifteen (15) pounds per day before add-on controls, and this source performs miscellaneous metal surface coating under the Standard Industrial Classification Code #37.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations), the volatile organic compound (VOC) content of coating delivered to each applicator at the five (5) full paint lines (Paint Lines A-E) and the one (1) repair line shall each not exceed three and five tenths (3.5) pounds of VOC per gallon of coating less water.

(ii) The five (5) full paint lines (Paint Lines A-E) and the one (1) repair line are also subject to the work practices specified under 326 IAC 8-2-9(f).

(iii) 326 IAC 8-1-2 (Compliance Methods)
Pursuant to 326 IAC 8-1-2(a)(7), when using non-compliant coatings in the five (5) full paint lines (Paint Lines A-E) and the one (1) repair line, the source shall demonstrate compliance with the applicable 326 IAC 8-2-9 VOC content limitation(s), using a daily volume-weighted average of all coatings applied on a daily basis in the five (5) full paint lines (Paint Lines A-E) and the one (1) repair line.

(2) The two (2) paint prep areas, one (1) paint storage and mixing area, and the one (1) final inspection area:

(i) Pursuant to 326 IAC 8-2-1(a), 326 IAC 8-2-9(a), and 326 IAC 8-2-9(b), the two (2) paint prep areas, one (1) paint storage and mixing area, and the one (1) final inspection area are not subject to the requirements of 326 IAC 8-2-9 because they each have a potential to emit less than fifteen (15) pounds of VOC per day before add-on controls

(c) Plant 20-820 (welding and sidewall lamination)

(1) One (1) adhesive applicator:

(i) Pursuant to 326 IAC 8-2-1(a), 326 IAC 8-2-9(a), and 326 IAC 8-2-9(b), the one (1) adhesive applicator is not subject to the requirements of 326 IAC 8-2-9 because it has a potential to emit less than one hundred (100) tons per year of VOC.

(d) Plant 26-826 (white glove inspection area and dispatch)

(1) Four (4) inspection bays for final vehicle inspection and the one (1) white glove inspection:

(i) Pursuant to 326 IAC 8-2-1(a) and 326 IAC 8-2-9(a), the four (4) inspection bays for final vehicle inspection and the one (1) white glove inspection are subject to the requirements of 326 IAC 8-2-9, since they were in existence on July 1, 1990, located in Elkhart County, and have the unlimited PTE of VOC equal to or greater than fifteen (15) pounds per day before add-on controls, and this source performs miscellaneous metal surface coating under the Standard Industrial Classification Code #37.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations), the volatile organic compound (VOC) content of coating delivered to each applicator at the four (4) inspection bays for final vehicle inspection and the one (1) white glove inspection shall each not exceed three and five tenths (3.5) pounds of VOC per gallon of coating less water.

(ii) The four (4) inspection bays for final vehicle inspection and the one (1) white glove inspection are also subject to the work practices specified under 326 IAC 8-2-9(f).

(iii) 326 IAC 8-1-2 (Compliance Methods)
Pursuant to 326 IAC 8-1-2(a)(7), when using non-compliant coatings in the four (4) inspection bays for final vehicle inspection and the one (1) white glove inspection, the source shall demonstrate compliance with the applicable 326 IAC 8-2-9 VOC content limitation(s), using a daily volume-weighted average of all coatings applied on a daily basis in the four (4) inspection bays for final vehicle inspection and the one (1) white glove inspection.

(e) Plant 29-829 (diesel service center)

(1) Thirteen (13) diesel-engine motor home service bays:

(i) Pursuant to 326 IAC 8-2-1(a), 326 IAC 8-2-9(a), and 326 IAC 8-2-9(b), the thirteen (13) diesel-engine motor home service bays are not subject to the requirements of 326 IAC 8-2-9 because they have a potential to emit less than twenty-five (25) tons per year of VOC.

(f) Plant 450 (motor home assembly)

(1) One (1) motor home assembly line:

(i) Pursuant to 326 IAC 8-2-1(a) and 326 IAC 8-2-9(a), the one (1) motor home assembly line is subject to the requirements of 326 IAC 8-2-9, since it was constructed after 1996, located in Elkhart County, and has the unlimited PTE of VOC equal to or greater than fifteen (15) pounds per day before add-on controls, and this source performs miscellaneous metal surface coating under the Standard Industrial Classification Code #37.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations), the volatile organic compound (VOC) content of coating delivered to each applicator at the one (1) motor home assembly line shall each not exceed three and five tenths (3.5) pounds of VOC per gallon of coating less water.

(ii) The one (1) motor home assembly line is also subject to the work practices specified under 326 IAC 8-2-9(f).

(iii) 326 IAC 8-1-2 (Compliance Methods)
Pursuant to 326 IAC 8-1-2(a)(7), when using non-compliant coatings in the one (1) motor home assembly line, the source shall demonstrate compliance with the applicable 326 IAC 8-2-9 VOC content limitation(s), using a daily volume-weighted average of all coatings applied on a daily basis in the one (1) motor home assembly line.

(g) Plant 831 (lamination)

(1) Flow coat lamination machines (FCL1-FCL9):

(i) Pursuant to 326 IAC 8-2-1(a), 326 IAC 8-2-9(a), and 326 IAC 8-2-9(b), the flow coat lamination machines (FCL1-FCL9) are not subject to the requirements of 326 IAC 8-2-9 because they have a potential to emit less than fifteen (15) pounds of VOC per day before add-on controls.

(h) Plant 854 (gasoline service center)

(1) One (1) gasoline-engine motor home service operation:

(i) Pursuant to 326 IAC 8-2-1(a) and 326 IAC 8-2-9(a), the one (1) gasoline-engine motor home service operation is subject to the requirements of 326 IAC 8-2-9, since it was constructed in 2017, located in Elkhart County, and has the unlimited PTE of VOC equal to or greater than fifteen (15) pounds per day before add-on controls, and this source performs miscellaneous metal surface coating under the Standard Industrial Classification Code #37.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the one (1) gasoline-engine motor home service operation shall not exceed three and five tenths (3.5) pounds of VOC per gallon of coating less water.

(ii) One (1) gasoline-engine motor home service operation is also subject to the work practices specified under 326 IAC 8-2-9(f).

(iii) 326 IAC 8-1-2 (Compliance Methods)
Pursuant to 326 IAC 8-1-2(a)(7), when using non-compliant coatings in the one (1) gasoline-engine motor home service operation, the source shall demonstrate compliance with the applicable 326 IAC 8-2-9 VOC content limitation(s), using a daily volume-weighted average of all coatings applied on a daily basis in the one (1) gasoline-engine motor home service operation.

326 IAC 8-2-12 (Wood furniture and cabinet coating)
This section applies to surface coated wood furnishings which include cabinets and any other coated furnishings made of solid wood, wood composition, or simulated wood. The nine (9) flow coat lamination machines, identified as FCL1-FCL9, located at Plant 831, coat wood paneling. Pursuant to 326 IAC 8-2-1(a)(4), the nine (9) flow coat lamination machines, identified as FCL1-FCL9, are not subject to this rule because the units were constructed after July 1, 1990, but do not have actual emissions of greater than fifteen (15) pounds of VOC per day before add-on controls.

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
Pursuant to 326 IAC 8-4-3(a), the units listed in the table below are not subject to the requirements of 326 IAC 8-4-3 because the capacity of each tank is less than one hundred fifty thousand (150,000) liters (thirty-nine thousand (39,000) gallons). The capacities of the tanks are shown in the table below.

Unit	Capacity (gallons)
Plant 831 emergency generator diesel tank (EG2DT)	450
Plant 450 gasoline tank (GT1)	1,000
Plant 450 diesel fuel tank (DT1)	300

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
Pursuant to 326 IAC 8-9-1(a), the storage tanks EG2DT, GT1, and DT1 not subject to the requirements of 326 IAC 8-9 because the source is not located in Clark, Floyd, Lake, or Porter County. The source is located in Elkhart County.

326 IAC 8-22 (Miscellaneous Industrial Adhesives)
Pursuant to 326 IAC 8-22-1(a)(1), the source is not subject to the requirements of 326 IAC 8-22 because the source is not located in Lake or Porter County. The source is located in Elkhart County.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to assure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The Compliance Determination Requirements applicable to this source are as follows:

(a) Particulate Matter

Plant	Emission Unit	Control	Frequency
1-850	D1-01	bagfilter collector	When in operation
2-35	Two (2) paint prep areas	dry filters	
	Paint Line A		
	Paint Line B		
	Paint Line C		
	Paint Line D		
	Paint Line E		
	Repair Line		
450	woodworking (P450WW)	integral dust collector	

(b) Volatile Organic Compounds (VOC)

(1) The compliance determination requirements for the units listed below shall be determined by using the following equation:

VOC Emissions (tons/month) = Total VOC input to the surface coating operations in all plants except for Plant 2-35, including coatings, dilution solvents, and cleaning

Plant	Emission Units (June 21, 2004)
Emission Units and Pollution Control Equipment Summary	
1-850	D1-01
	SV1-6
	D1-04
20-820	EU-20B
26-826	Four (4) inspection bays
	GV26-1 through GV26-4
29-829	Diesel service center Thirteen (13) inspection bays
	GV29-1 through GV29-4
Insignificant Activities	
1-850	Fiberglass cap windshield GV31-2
831	FCL1 (formerly GV1-1)
	FCL2
	FCL3 (formerly GV32-1)
20-820	25 Weld Stations GV20-2 through GV20-10
22-822	6 Weld Stations
26-826	White Glove Inspection GV26-1 through GV26-4
32-7/8	4 Weld Stations
Combustion Facilities	
1-850	Emergency Generator SV1-7
35-833E	Fire Pump

(2) The compliance with the VOC content limitations on the following units shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Plant	Emission Units
1-850	D1-01
	D1-04
	Undercoating Operation
	Fiberglass cap windshield GV31-2
	Emergency Generator SV1-7
20-820	EU-20B
	25 Weld Stations GV20-2 through GV20-10

Plant	Emission Units
2-35	Paint Line A
	Paint Line B
	Paint Line C
	Paint Line D
	Paint Line E
	Repair Line
	Two (2) paint prep areas
	Paint Storage and Mixing Area
	Final Inspection Area
22-822	6 Weld Stations
26-826	Four (4) inspection bays
	White Glove Inspection
29-829	Thirteen (13) inspection bays
	GV29-1 through GV29-4
35-833E	Fire Pump
450	Motor home assembly line (formerly L1-Gold)
831	FCL1 (formerly GV1-1)
	FCL2
	FCL3 (formerly GV32-1)
854	gasoline-engine motor home service operation

(3) 326 IAC 8-1-2 (Compliance Methods)
Pursuant to 326 IAC 8-1-2(a)(7), when using non-compliant coatings in the following operations, the source shall demonstrate compliance with the applicable 326 IAC 8-2-9 VOC content limitation(s), using a daily volume-weighted average of all coatings applied on a daily basis in the following operations.

Plant	Emission Units
1-850	D1-04
2-35	Paint Line A
	Paint Line B
	Paint Line C
	Paint Line D
	Paint Line E
26-826	Four (4) inspection bays
	White Glove Inspection
450	Motor home assembly line (formerly L1-Gold)
854	gasoline-engine motor home service operation

The compliance monitoring requirements applicable to this source are as follows:

Emission Unit	Control	Parameter	Frequency	Range	Excursions and Exceedances
Two (2) Paint Prep Areas located in Plant 2-35 DV1-01 located in Plant 1-850 P450DC1 located in Plant 450	Dry Filters / Bagfilter Collector / Dust Collector	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Paint lines A - E, Repair line located in Plant 2-35	Dry Filters	Placement, integrity, and particle loading	Daily		
		Overspray	Weekly while in operation		
		Overspray	Monthly inspections of rooftops and ground		

These monitoring conditions are necessary because the bagfilter collector, dry filters, and integral dust collector for D1-01 located in Plant 1-850, the two paint prep areas located in Plant 2-35, woodworking operation in Plant 450, and paint lines A through E located in Plant 2-35 must operate properly to assure compliance with 326 IAC 6-3-2, 326 IAC 2-2 (PSD Minor Limits), and/or 40 CFR 64 (CAM).

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on January 29, 2024.

The operation of this stationary multiple-plant complex which assembles and paints high-quality recreational vehicles that vary in floor plan and length shall be subject to the conditions of the attached proposed Part 70 Operating Permit Renewal No. 039-47470-00017.

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal be approved.

IDEM Contact

(a) If you have any questions regarding this permit, please contact Madison Spahn, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 233-3031 or (800) 451-6027, and ask for Madison Spahn or (317) 233-3031.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: https://www.in.gov/idem/airpermit/public-participation/; and the Citizens' Guide to IDEM on the Internet at: https://www.in.gov/idem/resources/citizens-guide-to-idem/.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
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Eric J. Holcomb
Governor
Brian C. Rockensuess
Commissioner

DRAFT

Part 70 Operating Permit Renewal
OFFICE OF AIR QUALITY

Thor Wakarusa, LLC
606 Nelsons Parkway
Wakarusa, Indiana 46573

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 039-47470-00017 Master Agency Interest ID: 100043	
Issued by: Brian Willams, Section Chief Permits Branch Office of Air Quality	Issuance Date: Expiration Date:

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary multiple-plant complex which assembles and paints high-quality recreational vehicles that vary in floor plan and length.

Source Address:	606 Nelsons Parkway, Wakarusa, Indiana 46573
General Source Phone Number:	(574) 361-3777
SIC Code:	3716 (Motor Homes) 3792 (Travel Trailers and Campers)
County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD and Emission Offset Rules Major Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

Pursuant to CP 039-8662-00017, issued on January 9, 1998, Thor Wakarusa, LLC's Nelsons Parkway Complex consists of the following plants:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting)
(b) Plant 2-35 (final paint plant)
(c) Plant 20-820 (welding and sidewall lamination)
(d) Plant 22-822 (welding operations)
(e) Plant 23-823 (normal maintenance operations)
(f) Plant 24-824 (normal maintenance operations)
(g) Plant 25-825 (warehouse)
(h) Plant 26-826 (white glove inspection area and dispatch)
(i) Plant 28 (warehouse)
(j) Plant 29-829 (Diesel Service Center)
(k) Plant 32-7/8 (welding) and Plant 32A (warehouse)
(l) Plant 33-833 (compressor building)
(m) Plant 34-834 (warehouse)
(n) Plant 35-833E (fire pump Southeast of Plant 2)
(o) Plant 36-836 (woodworking and welding operations)
(p) Plant 854 (Gasoline Service Center)
(q) Plant 55-5 (warehouse)
(r) Plant 56-5 (warehouse and welding)
(s) Plant 831 (flow coat lamination)

Thor Wakarusa, LLC also owns a motor home assembly operation, identified as Plant 450 (Plant ID# 039-00692), at 1060 East Waterford Street, Wakarusa, Indiana, 46573.

Since these twenty (20) plants are located on contiguous or adjacent properties, belong to the same industrial grouping, and are under common control of the same entity, they are considered one (1) source as defined by 326 IAC 2-7-1(22). This conclusion was initially determined under

CP 039-8662-00017, issued on January 9, 1998, incorporated into Part 70 Operating Permit Renewal (T039-26937-00017) on August 19, 2010, and modified by Minor Source Modification No. 039-38507-00017.

A.3 Emission Units and Pollution Control Equipment Summary
[326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

This source consists of the following emission units and pollution control devices:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(1) One (1) woodworking mill room, identified as D1-01, with a maximum capacity of 3260 pounds of wood per hour, using tools including (but not limited to) saws, routers, and planers, using a bagfilter collector as particulate control, constructed in 1997, and exhausting to stack DV1-01 when exhausting to the atmosphere. Sawdust is collected in a silo using a cyclone separator, with all air recirculated through the bagfilter collector. The unit can exhaust to the atmosphere or operate as a return air unit.

(2) One (1) sidewall adhesive application process, identified as SV1-6, with a maximum capacity of 1.5 vehicles per hour, using hand held non-atomizing applicators, with emissions uncontrolled, constructed in 1997. There is no direct exhaust route for this unit. A general ceiling vent, identified as SV1-6, is located in the vicinity.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the sidewall adhesive application process, identified as SV1-6 is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the sidewall adhesive application process, identified as SV1-6 is considered a part of an existing source.

(3) Three (3) manual assembly lines applying sealants, caulks, and cleaners, identified as Assembly Lines 1-Red, 2-Blue, and 3-White, with a maximum capacity of 3.5 vehicles per hour, each, using various hand tools, identified as D1-04, with emissions uncontrolled, all constructed in 1997, and exhausting to general ventilation vent GV1-01.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the manual assembly lines, identified as D1-04 are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the manual assembly lines, identified as D1-04 are considered considered a part of an existing source.

(4) One (1) double head drill press, identified as P850-DHD1, constructed in 2020, with a maximum capacity of 500 lb/hr, using no controls, and exhausting indoors.

(5) One (1) single head drill press, identified as P850-SHD1, constructed in 2020, with a maximum capacity of 500 lb/hr, using no controls, and exhausting indoors.

(6) Four (4) cut off saws, identified as P850-57, P850-59, P850-35, and P850-60, constructed in 2020, with a maximum capacity of 500 lb/hr, each, equipped with integral dust collectors for particulate control, and exhausting indoors.

(7) Two (2) table saws, identified as P850-50 and P850-41, constructed in 2020, with

a maximum capacity of 500 lb/hr, each, equipped with integral dust collectors for particulate control, and exhausting indoors.

(8) One (1) belt sander, identified as P850-BS1, constructed in 2020, with a maximum capacity of 500 lbs/hr, equipped with an integral dust collector for particulate control, and exhausting indoors.

(9) Eight (8) cut off saws, identified as P850-46, P850-39, P850-43, P850-27, P850-6, P850-47, P850-48, P850-COS1, constructed in 2020, with a maximum capacity of 250 lb/hr, each, equipped with integral dust collectors for particulate control, and exhausting indoors.

(10) One (1) table saw, identified as P850-TS1, constructed in 2020, with a maximum capacity of 250 lbs/hr, equipped with an integral dust collector for particulate control, and exhausting indoors.

(11) One (1) touch-up painting operation, identified as P850TP, constructed in 2020, with a maximum capacity of 1.50 units/hr, using no controls, and exhausting indoors.

Under 40 CFR 63, Subpart PPPP, this is considered a part of an existing source.

(b) Plant 2-35 (final paint plant) contains:

(1) One (1) full paint line, identified as Paint Line A, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-27, one (1) clearcoat booth, identified as SV2-28, and one (1) clearcoat/bake booth, identified as SV2-29, with a total maximum capacity of 10 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively; and

(B) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS using HVLP equipment or its equivalent, and controlled by dry filters; and

(C) One (1) natural gas-fired bake oven, identified as SV2-37, with a maximum heat input capacity of 4.0 MMBtu per hour; and

(D) Two (2) natural gas-fired air make-up units, each with a maximum heat input capacity of 4.0 MMBtu per hour.

(2) One (1) full paint line, identified as Paint Line B, consisting of:

(A) One (1) slideout paint and clear booth, identified as SV2-20, one (1) seal and base booth, identified as SV2-21, and one (1) paint stripe booth, identified as SV2-22, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-20, SV2-21, and SV-22, respectively; and

(B) One (1) prep and repair booth, identified as SV2-23, one (1) clear and bake booth, identified as SV2-24, one (1) sand and repair station, identified as SV2-25, and one (1) reclear and bake booth, identified as SV2-26, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-23A and SV2-23B, SV2-24A and SV2-24B, SV2-25A and SV2-25B, and SV2-26A and SV2-26B, respectively.

(3) One (1) full paint line, identified as Paint Line C, consisting of:

(A) One (1) slideout paint and clear booth, identified as SV2-13, one (1) seal and base booth, identified as SV2-14, and one (1) paint stripe booth, identified as SV2-15, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-13, SV2-14, and SV2-15 respectively; and

(B) One (1) prep and repair booth, identified as SV2-16, one (1) clear and bake booth, identified as SV2-17, one (1) sand and repair station, identified as SV2-18, and one (1) reclear and bake booth, identified as SV2-19, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-16A and SV2-16B, SV2-17A and SV2-17B, SV2-18A and SV2-18B, and SV2-19A and SV2-19B, respectively.

(4) One (1) full paint line, identified as Paint Line D, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-7, and one (1) repair and stripe booth, identified as SV2-8, with a maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-7 and SV2-8, respectively; and

(B) One (1) slideout booth, identified as SV2-9, one (1) repair and clear booth, identified as SV2-10, one (1) sand and repair station, identified as SV2-11, and one (1) reclear booth, identified as SV2-12, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-9A and SV2-9B, SV2-10A and SV2-10B, SV2-11A and SV2-11B, and SV2-12A and SV2-12B, respectively.

(5) One (1) full paint line, identified as Paint Line E, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-1, and one (1) repair and stripe booth, identified as SV2-2, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-1 and SV2-2, respectively; and

(B) One (1) slideout booth, identified as SV2-3, one (1) repair and clear booth, identified as SV2-4, one (1) sand and repair station, identified as SV2-5, and one (1) reclear booth, identified as SV2-6, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-3A and SV2-3B, SV2-4A and SV2-4B, SV2-5A and SV2-5B, and SV2-6A and SV2-6B, respectively.

(6) One (1) repair line, consisting of:

(A) Three (3) paint repair booths, identified as SV2-30, SV2-31, and SV2-32, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, all using air-atomized spray applicators and dry filters as particulate control, all constructed in 1998, exhausting to stacks SV2-30, SV2-31, and SV2-32, respectively; and

(B) Two (2) paint repair booths, identified as SV2-33 and SV2-34, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, both using air-atomized spray applicators and dry filters as particulate control, both constructed in 2003, and exhausting to stacks SV2-33 and SV2-34, respectively.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 2-35 paint lines are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 2-35 paint lines are considered considered a part of an existing source.

(7) Seven (7) paint gun cleaners, identified as PGC1 through PGC7,

(c) Plant 20-820 (welding and sidewall lamination) contains:

(1) One (1) adhesive applicator, using roll coating to apply hot melt adhesives.

(2) One (1) sidewall welding operation, identified as EU20-B (formerly EU1-8), consisting of twenty-four (24) welding stations, with a maximum capacity of 3 pounds of wire per station per hour, with emissions uncontrolled, constructed prior to 1981, and exhausting to general ventilation stacks GV20-2A.

(d) Plant 26-826 (white glove inspection area and dispatch) contains:

Four (4) inspection bays for final vehicle inspection, with a maximum capacity of 3.5 vehicles per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, constructed prior to 1981, with emissions exhausting through general ventilation to stacks GV26-1 through GV26-4.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 26-826 inspection bays are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 26-826 inspection bays are considered considered a part of an existing source.

(e) Plant 29-829 (diesel service center):

(1) Thirteen (13) diesel-engine motor home service bays, constructed prior to 1989, modified in 2000 and 2017, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the diesel service center is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the diesel service center is considered a part of an existing source.

(f) Plant 450 (motor home assembly)

(1) One (1) woodworking operation, identified as P450WW, constructed in 2017, with a maximum capacity of 2,500 pounds of wood per hour, equipped with an integral dust collector for particulate control, and exhausting to stack P450DC1S or indoors.

(2) One (1) motor home assembly line applying sealants, caulks, and cleaners, identified as P450AO, formerly L1-Gold, constructed in 2012 and modified in 2017, with a maximum capacity of 1.5 vehicles per hour, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, P450AO is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, P450AO is considered a part of an existing source.

(3) Four (4) cut off saws, identified as P450-1, P450-8, P450-11, and P450-20, constructed in 2020, with a maximum capacity of 250 lbs/hr, each, equipped with integral dust collectors for particulate control, and exhausting indoors.

(4) One (1) double edge router, identified as P450-RT1, constructed in 2020, with a maximum capacity of 1,000 lbs/hr, equipped with an integral dust collector for particulate control, and exhausting indoors.

(g) Plant 854 (gasoline service center)

(1) One (1) gasoline-engine motor home service operation, constructed in 2017, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the gasoline-engine motor home service operation is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the gasoline-engine motor home service operation is considered a part of an existing source.

(h) Plant 831 (lamination):

(1) Four (4) cut off saws, identified as P831-1, P831-3, P831-4, and P831-5, constructed in 2020, with a maximum capacity of 500 lbs/hr, each, equipped with integral dust collectors for particulate control, and exhausting indoors.

(2) One (1) table saw, identified as P831-TS1, constructed in 2020, with a maximum capacity of 500 lbs/hr, equipped with an integral dust collector for particulate control, and exhausting indoors.

(3) Three (3) sidewall routers, identified as P831SWR1, P831SWR2, and P831SWR3, constructed in 2020, with a maximum capacity of 1,200 lbs/hr, each, using no controls, and exhausting indoors.

(4) One (1) roof routers, identified as P831RR1, constructed in 2020, with a maximum capacity of 3,640 lbs/hr, using no controls, and exhausting indoors.

(5) Two (2) floor routers, identified as P831FR1 and P831FR2, constructed in 2020, with a maximum capacity of 1,860 lbs/hr, each, using no controls, and exhausting indoors.

(i) Plant 36-836 (woodworking operations) contains:

(1) One (1) cut off saw, identified as P836-COS1, constructed in 2020, with a maximum capacity of 250 lb/hr, using no controls, and exhausting indoors.

(2) One (1) table saw, identified as P836-TS1, constructed in 2020, with a maximum capacity of 500 lb/hr, equipped with an integral dust collector for particulate control, and exhausting indoors.

A.4 Specifically Regulated Insignificant Activities
[326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

This source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(1) Emergency generators as follows:

(A) One (1) Cummins Onan natural gas-fired emergency generator, with a maximum capacity of 60 kW and 80 hp, with emissions uncontrolled, constructed on or before January 28, 2004, and exhausting to stack SV1-7.

This unit is considered an existing affected source under 40 CFR 63, Subpart ZZZZ.

(2) Fiberglass cap windshield setting operations and repairs, with a maximum capacity of 3.5 vehicles per hour, using adhesives, with emissions uncontrolled, and exhausting to stack GV31-2.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the fiberglass cap windshield setting operations and repairs are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the fiberglass cap windshield setting operations and repairs are considered considered a part of an existing source.

(b) Plant 2-35 (final paint plant) contains:

(1) Two (2) paint prep areas, with a total maximum capacity of 4.5 vehicles and recreational vehicle components per hour, using solvents, cleaners, composites, and hand-sanding equipment for cleaning and body repair, using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, exhausting

through general ventilation stacks GV2-3 through GV2-7.

(2) One (1) paint storage and mixing area, with a maximum capacity of 4.5 vehicles and recreational vehicle components per hour, with emissions uncontrolled, and exhausting to vents SV2-15 and SV2-16.

(3) One (1) final inspection area, consisting of two (2) lines, with a maximum capacity of 3.5 vehicles and recreational vehicle components per hour, using hand-held applicators to apply solvents, cleaners, sealants, adhesives, and paint, with emissions uncontrolled, constructed in 1998, and exhausting through general ventilation to stacks GV2-1 and GV2-2.

(4) One (1) adhesive applicator, using roll coating to apply hot melt adhesives.

(5) One (1) automatic paint gun cleaner, identified as PGC1, with a maximum capacity of five gallons.

(6) Six (6) manual paint gun cleaners, identified as PGC2 through PGC7, with a maximum capacity of five gallons, each.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 2-35 insignificant activities are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 2-35 insignificant activities are considered considered a part of an existing source.

(c) Plant 20-820 (welding and sidewall lamination) contains:

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(A) One (1) natural gas-fired air makeup unit, identified as P820AM1, constructed in 2017, with a maximum heat input capacity of 0.028 MMBtu/hr, using no controls, and exhausting to stack P820AM1S.

(B) One (1) natural gas-fired thermo-cycler, identified as P820TC1, constructed in 2017, with a maximum heat input capacity of 0.58 MMBtu/hr, using no controls, and exhausting to stack P820TC1S.

(d) Plant 22-822 (welding operations), located at Plant 2-35 on June 21, 2004, contains:

(1) One (1) welding operation, identified as 22-822W, consisting of six (6) welding stations (formerly located in Plant 32-7/8), with a maximum capacity of 3 pounds of wire per station per hour, constructed in 1998, with emissions uncontrolled and exhausting indoors.

(e) Plant 26-826 (white glove inspection area and dispatch) contains:

(1) White glove inspection, with a maximum capacity of 1 vehicle per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, and exhausting to stacks GV26-1 through GV26-4.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 26-826 white glove inspection operations are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the white glove inspection

operations are considered considered a part of an existing source.

(f) Plant 32-7/8 (welding and warehouse) contains:

(1) Welding operations consisting of four (4) MIG welding stations (formerly located in Plant 20), with a maximum capacity of 3 pounds of wire per welder per hour, constructed in 1998, with emissions uncontrolled and exhausting indoors.

(g) Plant 35-833E (fire pump southeast of Plant 2-35) contains:

(1) One (1) diesel fire pump located southeast of Plant 2, with a maximum capacity of 140 HP, constructed in 1998.

Under 40 CFR 63, Subpart ZZZZ, this is considered a limited use existing source.

(h) Plant 56-5 (warehouse and welding) contains:

(1) Welding operations consisting of five (5) MIG welding stations, with a maximum capacity of 3 pounds of wire per welder per hour, with emissions uncontrolled, approved in 2012 for construction, and exhausting indoors.

(i) Plant 450 (motor home assembly):

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(A) One (1) natural gas-fired space heater, identified as OH1, constructed in 2017, with a maximum heat input capacity of 0.12 MMBtu/hr, using no controls, and exhausting to stack OH1S.

(B) Two (2) natural gas-fired thermo-cyclers, identified as TC1 and TC2, constructed in 2017, with a maximum heat input capacity of 0.58 MMBtu/hr, each, using no controls, and exhausting to stacks TC1S and TC2S.

(C) One (1) natural gas-fired air makeup unit, identified as AM1, constructed in 2017, with a maximum heat input capacity of 0.97 MMBtu/hr, using no controls, and exhausting to stack AM1S.

(j) Plant 831 (lamination):

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(A) Five (5) natural gas-fired thermo-cyclers, identified as P831TC1-P831TC5, constructed in 2017, with a maximum heat input capacity of 0.72 MMBtu/hr, each, using no controls, and exhausting to stacks P831TC1S-P831TC5S.

(B) One (1) natural gas-fired thermo-cycler, identified as P831TC6, constructed in 2017, with a maximum heat input capacity of 0.58 MMBtu/hr, using no controls, and exhausting to stack P831TC6S.

(C) One (1) natural gas-fired furnace, identified as P831SH1, constructed in 2017, with a maximum heat input capacity of 0.075 MMBtu/hr, using no

controls, and exhausting to stack P831SH1S.

(D) Two (2) natural gas-fired furnaces, identified as P831SH2 and P831SH3, constructed in 2017, with a maximum heat input capacity of 0.09 MMBtu/hr, each, using no controls, and exhausting to stacks P831SH2S and P831SH3S.

(E) One (1) natural gas-fired furnace, identified as P831SH4, constructed in 2017, with a maximum heat input capacity of 0.11 MMBtu/hr, using no controls, and exhausting to stack P831SH4S.

(2) Emergency generators as follows:

(A) One (1) diesel emergency generator, identified as EG2, constructed in 2017, with a maximum engine output of 480 horsepower, using no controls, and exhausting to stack EG2S.

Under the NSPS, 40 CFR 60, Subpart IIII, the diesel emergency generator, identified as EG2, is an affected source.

Under the NESHAP, 40 CFR 63, Subpart ZZZZ, the diesel emergency generator, identified as EG2, is a new stationary RICE located at a major source of HAP emissions.

(3) Flow coat lamination machines as follows:

(A) One (1) flow coat lamination machine, identified as FCL1, permitted in 2010 and modified in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting to stack GV1-1

(B) One (1) flow coat lamination machine, identified as FCL2, permitted in 2015 and modified in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(C) One (1) flow coat lamination machine, identified as FCL3 (formerly GV32-1), permitted in 2010 and modified in 2017, with a maximum capacity of 3.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(D) Six (6) flow coat laminating machines, identified as FCL4-FCL9, constructed in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, each, using no controls and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the flow coat laminating machines, identified as FCL1-FCL9, are part of an existing affected source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the flow coat laminating machines, identified as FCL1-FCL9, are part of an existing affected source.

A.5 Specifically Regulated Insignificant Activities
[326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Plant 20-820 (welding and sidewall lamination) contains:

(1) Welding operations as follows:

(A) Welding operations consisting of ten (10) welding stations, with a maximum capacity of 3 pounds of wire per welder per hour, with emissions uncontrolled, constructed in 1998, and exhausting to general ventilation stacks GV20-2 through GV20-10.

(B) Welding operations consisting of fifteen (15) MIG welding stations (formerly located in Plant 31), with a maximum capacity of 3 pounds of wire per welder per hour, constructed in 1998, with emissions uncontrolled and exhausting to general ventilation stacks GV20-2 through GV20-10.

(C) Nine (9) steel welding stations, identified as EU20-820CS, constructed in 2017, with a maximum capacity of 3 pounds of wire per hour, each, using no controls and exhausting indoors.

(D) Sixteen (16) aluminum welding stations, identified as EU20-820CA, constructed in 2017, with a maximum capacity of 3 pounds of wire per hour, each, using no controls and exhausting indoors.

(b) Plant 28-828 (warehouse) contains:

(1) One (1) wire harness assembly operation, identified as WHA, permitted in 2016, with a maximum capacity of 0.025 pounds of solder per hour, and 0.0039 pounds of flux per hour, and exhausting to stack WHAS.

(c) Plant 36-836 (welding operations) contains:

(1) Welding operations consisting of forty-four (44) MIG welding stations, with a maximum capacity of 3 pounds of wire per welder per hour, constructed in 1998, with emissions uncontrolled and exhausting indoors.

(d) Plant 450 (motor home assembly):

(1) Fuel dispensing activities as follows:

(A) A gasoline fuel transfer dispensing operation handling less than or equal to one thousand three hundred (1,300) gallons per day and filling storage tanks having a capacity equal to or less than ten thousand five hundred (10,500) gallons, as follows:

(i) One (1) gasoline storage tank, identified as GT1, constructed in 2017, with a maximum capacity of 1,000 gallons and a maximum throughput of 25,000 gallons per year, using no control and exhausting to stack GT1S.

(B) A petroleum fuel other than gasoline dispensing facility, having a storage

tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand five hundred (3,500) gallons per day or less, as follows:

(i) One (1) diesel fuel storage tank, identified as DT1, constructed in 2017, with a maximum capacity of 300 gallons and a maximum throughput of 25,000 gallons per year, using no control and exhausting to stack DT1S.

(2) One (1) set of miscellaneous RV manufacturing processes, identified as P450MO, constructed in 2017, as follows:

(A) Two (2) woodworking drill machines, identified as DM1 and DM2, with a maximum capacity of 100 pounds of wood stock per hour, each.

(B) Two (2) woodworking band saws, identified as BS1 and BS2, with a maximum capacity of 100 pounds of wood stock per hour, each.

(C) One (1) aluminum-cutting band saw, identified as BS3, with a maximum capacity of 100 pounds of aluminum stock per hour.

(D) Five (5) aluminum-cutting chop saws, identified as CS1 - CS5, with a maximum capacity of 100 pounds of aluminum stock per hour, each.

(E) One (1) aluminum-cutting abrasive saw, identified as AS1, with a maximum capacity of 100 pounds of aluminum stock per hour.

(e) Plant 831 (lamination):

(1) Storage tanks with capacity less than or equal to one thousand (1,000) gallons and annual throughputs equal to or less than twelve thousand (12,000) gallons, as follows.

(A) One (1) diesel fuel tank, identified as EG2DT, constructed in 2017, with a maximum storage capacity of 450 gallons, using no controls, and exhausting to stack EG2DTS.

A.6 Part 70 Permit Applicability [326 IAC 2-7-2]

This source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, T 039-47470-00017, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit or of permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control).

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(35).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region 5
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee’s control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance

causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ or Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable

requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T 039-47470-00017 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the

document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12] [40 CFR 72]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region 5
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b)(1) and (c)(1). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1) and (c)(1).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(37)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

(f) This condition does not apply to emission trades of SO_2 or NO_X under 326 IAC 21.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-8590 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least

thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(c).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(d).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to

thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][40 CFR 64][326 IAC 3-8]

(a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) For existing units:
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance to begin such monitoring. If, due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. The analog instrument shall be capable of measuring values outside of the normal range.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.13 Risk Management Plan [326 IAC 2-7-5(11)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.14 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5] [326 IAC 2-7-6]

(I) Upon detecting an excursion where a response step is required by the D Section, or an exceedance of a limitation, not subject to CAM, in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

(II)

(a) CAM *Response to excursions or exceedances.*

(1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary,

submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a Quality Improvement Plan (QIP). The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.

(d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8(b)(2).

(e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:

(1) Failed to address the cause of the control device performance problems; or

(2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(h) *CAM recordkeeping requirements.*

(1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(c) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

(2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(33) (“Regulated pollutant, which is used only for purposes of Section 19 of this rule”) from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:
    (AA) All calibration and maintenance records.
    (BB) All original strip chart recordings for continuous monitoring instrumentation.
    (CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following, where applicable:
    (AA) The date, place, as defined in this permit, and time of sampling or measurements.
    (BB) The dates analyses were performed.

(CC) The company or entity that performed the analyses.
(DD) The analytical techniques or methods used.
(EE) The results of such analyses.
(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

(c) If there is a reasonable possibility (as defined in 326 IAC 2-2-8 (b)(6)(A), 326 IAC 2-2-8 (b)(6)(B), 326 IAC 2-3-2 (l)(6)(A), and/or 326 IAC 2-3-2 (l)(6)(B)) that a "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(pp)(2)(A)(iii) and/or 326 IAC 2-3-1 (kk)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 326 IAC 2-2-8 (b)(6)(A) and/or 326 IAC 2-3-2 (l)(6)(A)) that a "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [40 CFR 64][326 IAC 3-8]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C - Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (oo) and/or 326 IAC 2-3-1 (jj)) *at an existing emissions unit*, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (ww) and/or 326 IAC 2-3-1 (pp), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

(f) The report for project at an existing emissions *unit* shall be submitted no later than sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction projection.

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Source-Wide Operations

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Prevention of Significant Deterioration (PSD) - VOC [326 IAC 2-2]

Pursuant to CP 039-7335-00017 (issued July 24, 1997), SSM 039-12758-00017 (issued May 15, 2001), and as revised by T039-7559-00017 (issued June 21, 2004) and T039-26937-00017 (issued August 19, 2010), the total VOC emissions from the emission units listed in the following table shall be restricted such that the VOC emissions shall not exceed 240.19 tons of VOC per twelve (12) consecutive month period, with compliance determined at the end of each month.

Plant	Emission Units (June 21, 2004)
Emission Units and Pollution Control Equipment Summary	
1-850	D1-01
	SV1-6
	D1-04
20-820	EU-20B
26-826	Four (4) inspection bays
	GV26-1 through GV26-4
29-829	Diesel service center Thirteen (13) inspection bays
	GV29-1 through GV29-4
Insignificant Activities	
1-850	Fiberglass cap windshield GV31-2
831	FCL1 (formerly GV1-1)
	FCL2
	FCL3 (formerly GV32-1)
20-820	25 Weld Stations GV20-2 through GV20-10
22-822	6 Weld Stations
26-826	White Glove Inspection GV26-1 through GV26-4
32-7/8	4 Weld Stations
Combustion Facilities	
1-850	Emergency Generator SV1-7
35-833E	Fire Pump

Compliance with this limit, in combination with the potential VOC emissions from all listed combustion and welding facilities at the source on June 21, 2004, shall limit the VOC emissions to less than 250 tons per twelve (12) consecutive month period and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the above listed emissions units.

D.1.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A preventive maintenance plan is required for these facilities and their control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.1.3 VOC Emissions [326 IAC 2-2]

Compliance with the VOC emission limit in condition D.1.1 shall be determined by using the following equation:

VOC Emissions (tons/month) = Total VOC input to the surface coating operations in all plants except for Plant 2-35, including coatings, dilution solvents, and cleaning

D.1.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]

Compliance with the VOC content and usage limitations contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.1.5 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content limits established in Condition D.1.1.

(1) The VOC content of each coating material and solvent used less water.

(2) The amount of coating material and solvent used on a monthly basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(3) The total VOC usage for each month.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.6 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.1.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(1) One (1) woodworking mill room, identified as D1-01, with a maximum capacity of 3260 pounds of wood per hour, using tools including (but not limited to) saws, routers, and planers, using a bagfilter collector as particulate control, constructed in 1997, and exhausting to stack DV1-01 when exhausting to the atmosphere. Sawdust is collected in a silo using a cyclone separator, with all air recirculated through the bagfilter collector. The unit can exhaust to the atmosphere or operate as a return air unit.

(3) Three (3) manual assembly lines applying sealants, caulks, and cleaners, identified as Assembly Lines 1-Red, 2-Blue, and 3-White, with a maximum capacity of 3.5 vehicles per hour, each, using various hand tools, identified as D1-04, with emissions uncontrolled, all constructed in 1997, and exhausting to general ventilation vent GV1-01.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the manual assembly lines, identified as D1-04 are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the manual assembly lines, identified as D1-04 are considered considered a part of an existing source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

In order to render the requirements of 326 IAC 8-1-6 not applicable, Permittee shall comply with the following when coating substrates not otherwise regulated under Article 8:

(1) The total VOC input, including adhesives, coatings, dilution solvents, and cleaning solvents, to each of the three (3) manual assembly lines (D1-04) shall be less than twenty-five (25) tons, each, per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits will render the requirements of 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) not applicable to the three (3) manual assembly lines (D1-04).

D.2.2 Volatile Organic Compounds [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations), the Permittee shall not allow the discharge into the atmosphere from the units listed in the table below of VOC in excess of three and five-tenths (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator when coating metals.

Plant	Description	Unit ID
1-850	manual assembly lines 1-Red, 2-Blue, and 3-White	D1-04

D.2.3 Volatile Organic Compounds (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not be limited to, the following:

(a) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.

(b) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.

(c) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.

(d) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.

(e) Minimize VOC emissions from the cleaning application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

D.2.4 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emissions rate from the following operations shall not exceed the pound per hour limit (E) when operating at the associated process weight rate as listed in the table below:

Process Description	Process Weight Rate (ton/hr)	E 326 IAC 6-3-2 Limit (lb/hr)
D1-01	1.63	5.69

These pound per hour limitations were calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

Where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.2.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.2.6 Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]

Compliance with the VOC content and usage limitations contained in Condition D.2.1 and D.2.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with

the analytical procedures specified in 326 IAC 8-1-4.

D.2.7 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Compliance with the VOC content limit in Condition D.2.2, when using non-compliant coatings, shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a volume weighted average of coatings on a daily basis for each unit listed in the table below:

Plant	Description	Unit ID
1-850	manual assembly lines 1-Red, 2-Blue, and 3-White	D1-04

This volume weighted average shall be determined by the following equation:

$$A = [\sum (C \times U) / \sum U]$$

Where:

A is the volume weighted average in pounds VOC per gallon less water as applied;

C is the VOC content of the coating in pounds VOC per gallon less water as applied; and

U is the usage rate of the coating in gallons per day.

D.2.8 Particulate Control

In order to assure compliance with Condition D.2.4, the bagfilter collector for particulate emission control shall be in operation and control emissions from the one (1) woodworking mill room, identified as D1-01, at all times the one (1) woodworking mill room, identified as D1-01, is in operation.

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.2.9 Broken or Failed Bag Detection - Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.2.10 Visible Emissions Notations

(a) Visible emission notations of the one (1) woodworking mill room's stack exhaust (stack DV1-01) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.2.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.1 and D.2.2, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content and usage limits established in Condition D.2.1 and D.2.2.

(1) The VOC content of each coating material and solvent used, less water.

(2) The amount of coating material and solvent used on a daily basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.

(3) The cleanup solvent usage for each month.

(4) The total VOC usage for each month and each compliance period.

(5) The VOC content of each coating less water as applied.

(6) The volume weighted average VOC content less water of the coatings used for each day for each unit.

(b) To document the compliance status with Condition D.2.10, the Permittee shall maintain daily records of the visible emission notations of the one (1) woodworking mill room's stack exhaust (stack DV1-01). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of a visible emission notation (e.g., the process did not operate that day).

(c) Section C - General Record Keeping Requirements, contains the Permittee's obligations with regard to the records required by this condition.

D.2.12 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.2.1 shall be submitted no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(b) Plant 2-35 (final paint plant) contains:

(1) One (1) full paint line, identified as Paint Line A, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-27, one (1) clearcoat booth, identified as SV2-28, and one (1) clearcoat/bake booth, identified as SV2-29, with a total maximum capacity of 10 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively; and

(B) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS using HVLP equipment or its equivalent, and controlled by dry filters; and

(C) One (1) natural gas-fired bake oven, identified as SV2-37, with a maximum heat input capacity of 4.0 MMBtu per hour; and

(D) Two (2) natural gas-fired air make-up units, each with a maximum heat input capacity of 4.0 MMBtu per hour.

(2) One (1) full paint line, identified as Paint Line B, consisting of:

(A) One (1) slideout paint and clear booth, identified as SV2-20, one (1) seal and base booth, identified as SV2-21, and one (1) paint stripe booth, identified as SV2-22, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-20, SV2-21, and SV-22, respectively; and

(B) One (1) prep and repair booth, identified as SV2-23, one (1) clear and bake booth, identified as SV2-24, one (1) sand and repair station, identified as SV2-25, and one (1) reclear and bake booth, identified as SV2-26, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-23A and SV2-23B, SV2-24A and SV2-24B, SV2-25A and SV2-25B, and SV2-26A and SV2-26B, respectively.

(3) One (1) full paint line, identified as Paint Line C, consisting of:

(A) One (1) slideout paint and clear booth, identified as SV2-13, one (1) seal and base booth, identified as SV2-14, and one (1) paint stripe booth, identified as SV2-15, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-13, SV2-14, and SV2-15 respectively; and

(B) One (1) prep and repair booth, identified as SV2-16, one (1) clear and bake booth, identified as SV2-17, one (1) sand and repair station, identified as SV2-18, and one (1) reclear and bake booth, identified as SV2-19, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-16A and SV2-16B, SV2-17A and SV2-17B, SV2-18A and SV2-18B, and SV2-19A and SV2-19B, respectively.

(4) One (1) full paint line, identified as Paint Line D, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-7, and one (1) repair and stripe booth, identified as SV2-8, with a maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-7 and SV2-8, respectively; and

(B) One (1) slideout booth, identified as SV2-9, one (1) repair and clear booth, identified as SV2-10, one (1) sand and repair station, identified as SV2-11, and one (1) reclear booth, identified as SV2-12, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-9A and SV2-9B, SV2-10A and SV2-10B, SV2-11A and SV2-11B, and SV2-12A and SV2-12B, respectively.

(5) One (1) full paint line, identified as Paint Line E, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-1, and one (1) repair and stripe booth, identified as SV2-2, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-1 and SV2-2, respectively; and

(B) One (1) slideout booth, identified as SV2-3, one (1) repair and clear booth, identified as SV2-4, one (1) sand and repair station, identified as SV2-5, and one (1) reclear booth, identified as SV2-6, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-3A and SV2-3B, SV2-4A and SV2-4B, SV2-5A and SV2-5B, and SV2-6A and SV2-6B, respectively.

(6) One (1) repair line, consisting of:

(A) Three (3) paint repair booths, identified as SV2-30, SV2-31, and SV2-32, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, all using air-atomized spray applicators and dry filters as particulate control, all constructed in 1998, exhausting to stacks SV2-30, SV2-31, and SV2-32, respectively; and

(B) Two (2) paint repair booths, identified as SV2-33 and SV2-34, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle

components per hour, both using air-atomized spray applicators and dry filters as particulate control, both constructed in 2003, and exhausting to stacks SV2-33 and SV2-34, respectively.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 2-35 paint lines are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 2-35 paint lines are considered considered a part of an existing source.

Insignificant Activities:

(b) Plant 2-35 (final paint plant) contains:

(1) Two (2) paint prep areas, with a total maximum capacity of 4.5 vehicles and recreational vehicle components per hour, using solvents, cleaners, composites, and hand-sanding equipment for cleaning and body repair, using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, exhausting through general ventilation stacks GV2-3 through GV2-7.

(2) One (1) paint storage and mixing area, with a maximum capacity of 4.5 vehicles and recreational vehicle components per hour, with emissions uncontrolled, and exhausting to vents SV2-15 and SV2-16.

(3) One (1) final inspection area, consisting of two (2) lines, with a maximum capacity of 3.5 vehicles and recreational vehicle components per hour, using hand-held applicators to apply solvents, cleaners, sealants, adhesives, and paint, with emissions uncontrolled, constructed in 1998, and exhausting through general ventilation to stacks GV2-1 and GV2-2.

(4) One (1) adhesive applicator, using roll coating to apply hot melt adhesives.

(5) One (1) automatic paint gun cleaner, identified as PGC1, with a maximum capacity of five gallons.

(6) Six (6) manual paint gun cleaners, identified as PGC2 through PGC7, with a maximum capacity of five gallons, each.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 2-35 insignificant activities are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 2-35 insignificant activities are considered considered a part of an existing source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Best Available Control Technology (BACT) - VOC [326 IAC 2-2][326 IAC 8-1-6]

Pursuant to PSD/SSM 039-15620-00017, issued on December 11, 2002; 326 IAC 2-2 (PSD); 326 IAC 8-1-6 (BACT); and as revised by T039-7559-00017, issued on June 21, 2004, PSD BACT for VOC have been determined to be the following:

(a) All facilities located at Plant 2-35 (previously identified as Plant 2) on June 21, 2004, must comply with the following requirements:

(1) Lacquer thinners and preparation cleaners and solvents used on vehicle exteriors will be hand-wiped and contain a maximum 6.5 pounds VOC per gallon of coating as applied.

(2) Except as provided below, primers will be applied using high volume-low pressure (HVLP) spray equipment, or the equivalent, and contain a maximum of 3.5 pounds VOC per gallon of coating as applied.

(3) Except as provided below, base coats will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 6.5 pounds VOC per gallon of coating as applied.

(4) Except as provided below, clear coats will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 3.5 pounds VOC per gallon of coating as applied.

(5) Except as provided below, sealers will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 3.5 pounds VOC per gallon of coating as applied.

(6) As an alternative to complying with the individual VOC content limitations for base coats and clear coats, compliance may be determined by averaging the emissions from base coat and clear coat operations across affected lines. The average VOC content for the base coat/clear coat system shall be limited to less than or equal to 4.5 pounds VOC per gallon of coating as applied. This limitation is based on a ratio of two parts clear coat to one part base coat. Compliance will be demonstrated monthly based on the actual VOC content as applied of each coating and actual usage of base coats and clear coats during the month.

(7) Good housekeeping practices will be employed to minimize leaks, spills, and evaporative losses. These include: sealing lids on all containers not in use or in storage, the purging of guns and lines into approved containers, maintaining an organized spill response and clean-up operation, performing routine maintenance on spray equipment and pumps to prevent drips and seal leaks, the use of solvent recovery systems to recover reusable solvents for on-site or off-site recycling, and using aqueous, exempt solvents or citric cleaners where effective and practical.

(8) All coating materials, including primers, base coats, and clear coats, used in the repair booths will be applied with air-atomized spray equipment, or the equivalent.

(9) When necessary, vehicle exteriors will be hand-wiped with cleaning solvent prior to painting.

(10) Collected solvents will be recycled on-site and off-site to recover reusable solvents and minimize waste.

(11) Vehicles will be undercoated with a waterborne-low VOC coating.

(b) The surface coating operations in Partial Paint Line A and Full Paint Lines B through E shall use, in aggregate, less than 539 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per twelve (12) consecutive month period with compliance

determined at the end of each month.

The VOC usage limit, in conjunction with the usage of low VOC/high solids coatings and high transfer application methods listed in (1) through (11) above and the VOC emissions from the insignificant natural gas fired air-make-up units, has been incorporated to limit the potential to emit VOC from Plant 2-35 (previously Identified as Plant 2) to less than 540.4 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these requirements and limits will satisfy the requirements of 326 IAC 2-2 (PSD) and 326 IAC 8-1-6 (BACT).

D.3.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emissions rate from the following operations shall not exceed the pound per hour limit (E) when operating at the associated process weight rate as listed in the table below:

Process Description	Process Weight Rate (ton/hr)	E 326 IAC 6-3-2 Limit (lb/hr)
Full (Paint Line A) Paint Prep Area	100.00	51.28
Full (Paint Lines B through E) Paint Prep Area	100.00	51.28

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

D.3.3 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d), particulate from Paint Line A, Paint Line B, Paint Line C, Paint Line D, Paint Line E, and Repair Line shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

D.3.4 VOC [326 IAC 8-2-9]

(a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), when surface coating miscellaneous metal parts or products:

(1) The Permittee shall not cause, allow, or permit the discharge into the atmosphere of any VOC in excess of the following:

Forty-two hundredths (0.42) kilogram per liter (three and five-tenths (3.5) pounds per gallon) of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings.

(2) Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not be limited to, the following:

(A) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.

(B) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.

(C) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.

(D) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.

(E) Minimize VOC emissions from the cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

D.3.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.3.6 Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]

Compliance with the VOC content limitations contained in Conditions D.3.1 and D.3.4 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing, or obtaining from the manufacturer, copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.3.7 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Compliance with the VOC content limit in Condition D.3.4, when using non-compliant coatings, shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a volume weighted average of coatings on a daily basis for each unit listed in the table below:

Plant	Description
2-35	Paint Line A
	Paint Line B
	Paint Line C
	Paint Line D
	Paint Line E

This volume weighted average shall be determined by the following equation:

$$A = [\sum (C \times U) / \sum U]$$

Where:

A is the volume weighted average in pounds VOC per gallon less water as applied;

C is the VOC content of the coating in pounds VOC per gallon less water as applied; and

U is the usage rate of the coating in gallons per day.

D.3.8 Particulate Control

In order to comply with Condition D.3.2, dry filters shall be used to control particulate emissions at all times the Paint Line A, Paint Line B, Paint Line C, Paint Line D, Paint Line E, and Repair Line, are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.3.9 Visible Emissions Notations [40 CFR Part 64]

(a) Visible emission notations of the two (2) paint prep areas stack exhausts (stacks GV2-3 through GV2-7) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.3.10 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the Paint Line A, Paint Line B, Paint Line C, Paint Line D, Paint Line E, and Repair Line stacks while one or more of the booths are in operation. If a condition exists which should result in a response, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response required by this condition. Failure to take a reasonable response shall be considered a deviation from this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is observed, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response required by this condition. Failure to take a reasonable response shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.3.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.3.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content and usage limits established in Condition D.3.1. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.

(1) The VOC content of each coating material and solvent used less water.

(2) The amount of coating material and solvent used on a monthly basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.

(3) The total VOC usage for each month.

(b) To document the compliance status with Condition D.3.4, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content limits established in Condition D.3.4.

(1) The VOC content of each coating material and solvent used, less water.

(2) The amount of coating material and solvent used on a daily basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.

(3) The VOC content of each coating less water as applied.

(4) The volume weighted average VOC content less water of the coatings used for each day for each unit.

(c) To document the compliance status with Condition D.3.9, the Permittee shall maintain daily records of the visible emission notations of the two (2) paint prep areas stack exhausts (stacks GV2-3 through GV2-7). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of a visible emission notation (e.g., the process did not operate that day).

(d) To document the compliance status with Condition D.3.3 and D.3.10, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections.

(e) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.3.12 Reporting Requirements

(a) A quarterly report of VOC usage and a quarterly summary of the information to document the compliance status with Condition D.3.1(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(b) Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(d) Plant 26-826 (white glove inspection area and dispatch) contains:

Four (4) inspection bays for final vehicle inspection, with a maximum capacity of 3.5 vehicles per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, constructed prior to 1981, with emissions exhausting through general ventilation to stacks GV26-1 through GV26-4.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 26-826 inspection bays are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 26-826 inspection bays are considered considered a part of an existing source.

(f) Plant 450 (motor home assembly)

(2) One (1) motor home assembly line applying sealants, caulks, and cleaners, identified as P450AO, formerly L1-Gold, constructed in 2012 and modified in 2017, with a maximum capacity of 1.5 vehicles per hour, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, P450AO is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, P450AO is considered a part of an existing source.

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(g) Plant 854 (gasoline service center)

(1) One (1) gasoline-engine motor home service operation, constructed in 2017, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the gasoline-engine motor home service operation is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the gasoline-engine motor home service operation is considered a part of an existing source.

Insignificant Activities:

(e) Plant 26-826 (white glove inspection area and dispatch) contains:

(1) White glove inspection, with a maximum capacity of 1 vehicle per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, and exhausting to stacks GV26-1 through GV26-4.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 26-826 white glove inspection operations are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the white glove inspection operations are considered considered a part of an existing source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations), for the units listed in the table below,

Plant	Description	Unit ID
26-826	four (4) inspection bays	-
	white glove inspection	insignificant activity
450	motor home assembly line	P450AO
854	gasoline-engine motor home service operation	-

when coating metal parts and products the Permittee shall not allow the discharge into the atmosphere VOC in excess of:

(a) Fifty-two hundredths (0.52) kilogram per liter (four and three-tenths (4.3) pounds per gallon) of coating, excluding water, delivered to a coating applicator that applies clear coatings.

(b) Forty-two hundredths (0.42) kilogram per liter (three and five-tenths (3.5) pounds per gallon) of coating, excluding water, delivered to a coating applicator in a coating application system that is air dried or forced warm air dried at temperatures up to ninety (90) degrees Celsius (one hundred ninety-four (194) degrees Fahrenheit).

(c) Forty-two hundredths (0.42) kilogram per liter (three and five-tenths (3.5) pounds per gallon) of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings.

(d) Thirty-six hundredths (0.36) kilogram per liter (three (3) pounds per gallon) of coating, excluding water, delivered to a coating applicator for all other coatings and coating application systems.

Pursuant to 326 IAC 8-2-9(e), if more than one (1) of these emission limitations applies to a specific coating, then the least stringent emission limitation shall apply.

D.4.2 Volatile Organic Compounds (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not be limited to, the following:

(a) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.

(b) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.

(c) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.

(d) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.

(e) Minimize VOC emissions from the cleaning application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.4.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]

Compliance with the VOC content and usage limitations contained in Condition D.4.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.4.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Compliance with the VOC content limit in Condition D.4.1, when using non-compliant coatings, shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a volume weighted average of coatings on a daily basis for each unit listed in the table below:

Plant	Description	Unit ID
26-826	Four (4) inspection bays	-
	white glove inspection	-
450	motor home assembly line	P450AO
854	gasoline-engine motor home service operation	-

This volume weighted average for each unit shall be determined by the following equation:

$$A = [\sum (C \times U) / \sum U]$$

Where:

A is the volume weighted average in pounds VOC per gallon less water as applied;

C is the VOC content of the coating in pounds VOC per gallon less water as applied; and

U is the usage rate of the coating in gallons per day.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.4.6 Record Keeping Requirements

(a) To document the compliance status with Condition D.4.1, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content limits established in Condition D.4.1.

(1) The VOC content of each coating material and solvent used less water.

(2) The amount of coating material and solvent used on a daily basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.

(3) The VOC content of each coating less water as applied.

(4) The volume weighted average VOC content less water of the coatings used for each day for each unit.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(f) Plant 450 (motor home assembly)

(1) One (1) woodworking operation, identified as P450WW, constructed in 2017, with a maximum capacity of 2,500 pounds of wood per hour, equipped with an integral dust collector for particulate control, and exhausting to stack P450DC1S or indoors.

(2) One (1) motor home assembly line applying sealants, caulks, and cleaners, identified as P450AO, formerly L1-Gold, constructed in 2012 and modified in 2017, with a maximum capacity of 1.5 vehicles per hour, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, P450AO is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, P450AO is considered a part of an existing source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations), for the motor home assembly line, identified as P450AO, the Permittee shall not allow the discharge into the atmosphere VOC in excess of three and five-tenths (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator.

D.5.2 Volatile Organic Compounds (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not be limited to, the following:

(a) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.

(b) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.

(c) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.

(d) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.

(e) Minimize VOC emissions from the cleaning application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

D.5.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.5.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]

Compliance with the VOC content and usage limitations contained in Condition D.5.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.5.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Compliance with the VOC content limit in Condition D.5.1, when using non-compliant coatings, shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a volume weighted average of coatings on a daily basis for each unit listed in the table below:

Plant	Description
450	Motor home assembly line (formerly L1-Gold)

This volume weighted average shall be determined by the following equation:

$$A = [\sum (C \times U) / \sum U]$$

Where:

A is the volume weighted average in pounds VOC per gallon less water as applied;

C is the VOC content of the coating in pounds VOC per gallon less water as applied; and

U is the usage rate of the coating in gallons per day.

D.5.6 Particulate Control

In order to assure that the woodworking operation (P450WW) is not subject to the requirements of 326 IAC 6-3-2, the integral dust collector (P450DC1) for particulate control shall be in operation and control emissions from the woodworking operation (P450WW) at all times the woodworking operation (P450WW) is in operation.

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.5.7 Visible Emissions Notations

(a) Visible emission notations of dust collector (P450DC1) stack exhausts shall be performed once per day during normal daylight operations when exhausting outdoors. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or

expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.5.8 Broken or Failed Bag Detection

(a) For a single compartment filter controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.5.9 Baghouse Inspections

The Permittee shall perform semi-annual inspections when exhausting indoors of the dust collector controlling particulate from woodworking operation P450WW to verify that it is being operated and maintained in accordance with the manufacturer's specifications. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.5.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.5.1, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content limits established in Condition D.5.1.

(1) The VOC content of each coating material and solvent used less water.

(2) The amount of each coating material and solvent used on daily basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvent.

(3) The VOC content of each coating less water as applied.

(4) The volume weighted average VOC content less water of the coatings used for each day.

(b) To document the compliance status with Condition D.5.7, the Permittee shall maintain records of daily visible emission notations of the baghouse(s) stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(c) To document the compliance status with Condition D.5.9, the Permittee shall maintain records of the dates and results of the inspections.

(d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(b) Plant 2-35 (final paint plant) contains:

(C) One (1) natural gas-fired bake oven, identified as SV2-37, with a maximum heat input capacity of 4.0 MMBtu per hour;

Insignificant Activities:

(c) Plant 20-820 (welding and sidewall lamination) contains:

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(A) One (1) natural gas-fired air makeup unit, identified as P820AM1, constructed in 2017, with a maximum heat input capacity of 0.028 MMBtu/hr, using no controls, and exhausting to stack P820AM1S.

(B) One (1) natural gas-fired thermo-cycler, identified as P820TC1, constructed in 2017, with a maximum heat input capacity of 0.58 MMBtu/hr, using no controls, and exhausting to stack P820TC1S.

(i) Plant 450 (motor home assembly):

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(A) One (1) natural gas-fired space heater, identified as OH1, constructed in 2017, with a maximum heat input capacity of 0.12 MMBtu/hr, using no controls, and exhausting to stack OH1S.

(B) Two (2) natural gas-fired thermo-cyclers, identified as TC1 and TC2, constructed in 2017, with a maximum heat input capacity of 0.58 MMBtu/hr, each, using no controls, and exhausting to stacks TC1S and TC2S.

(C) One (1) natural gas-fired air makeup unit, identified as AM1, constructed in 2017, with a maximum heat input capacity of 0.97 MMBtu/hr, using no controls, and exhausting to stack AM1S.

(j) Plant 831 (lamination):

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(A) Five (5) natural gas-fired thermo-cyclers, identified as P831TC1-P831TC5, constructed in 2017, with a maximum heat input capacity of 0.72 MMBtu/hr, each, using no controls, and exhausting to stacks P831TC1S-P831TC5S.

(B) One (1) natural gas-fired thermo-cycler, identified as P831TC6, constructed in 2017, with a maximum heat input capacity of 0.58 MMBtu/hr, using no controls, and exhausting to stack P831TC6S.

(C) One (1) natural gas-fired furnace, identified as P831SH1, constructed in 2017, with a maximum heat input capacity of 0.075 MMBtu/hr, using no controls, and exhausting to stack P831SH1S.

(D) Two (2) natural gas-fired furnaces, identified as P831SH2 and P831SH3, constructed in 2017, with a maximum heat input capacity of 0.09 MMBtu/hr, each, using no controls, and exhausting to stacks P831SH2S and P831SH3S.

(E) One (1) natural gas-fired furnace, identified as P831SH4, constructed in 2017, with a maximum heat input capacity of 0.11 MMBtu/hr, using no controls, and exhausting to stack P831SH4S.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the following units shall be limited to Pt pounds per MMBtu heat input, as follows:

Emission Unit	Unit ID	Pt (lb/MMBtu)
Bake Oven	SV-37	0.6
Air makeup unit	P820AM1	0.6
Thermo-cycler	P820TC1	0.6
Space heater	OH1	0.6
Thermo-cycler	TC1	0.6
Thermo-cycler	TC2	0.6
Air makeup unit	AM1	0.6
Thermo-cycler	P831TC1	0.6
Thermo-cycler	P831TC2	0.6
Thermo-cycler	P831TC3	0.6
Thermo-cycler	P831TC4	0.6
Thermo-cycler	P831TC5	0.6
Thermo-cycler	P831TC6	0.6
Space heater	P831SH1	0.6
Space heater	P831SH2	0.6
Space heater	P831SH3	0.6
Space heater	P831SH4	0.6

D.6.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

SECTION E.1 NSPS

Emissions Unit Description:

(j) Plant 831 (lamination):

(2) Emergency generators as follows:

(A) One (1) diesel emergency generator, identified as EG2, constructed in 2017, with a maximum engine output of 480 horsepower, using no controls, and exhausting to stack EG2S.

Under the NSPS, 40 CFR 60, Subpart IIII, the diesel emergency generator, identified as EG2, is an affected source.

Under the NESHAP, 40 CFR 63, Subpart ZZZZ, the diesel emergency generator, identified as EG2, is a new stationary RICE located at a major source of HAP emissions.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

E.1.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart IIII.

(b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.1.2 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines NSPS [326 IAC 12] [40 CFR Part 60, Subpart IIII]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart IIII (included as Attachment A to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

(1) 40 CFR 60.4200(a)(2)(i)
(2) 40 CFR 60.4205(b)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(b)
(5) 40 CFR 60.4209
(6) 40 CFR 60.4211(a), (c), (f)(1), (f)(2)(i), (f)(3), and (g)(2)
(7) 40 CFR 60.4211
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214(b)

(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 8 to Subpart IIII of Part 60

SECTION E.2 NESHAP

Emissions Unit Description:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(2) One (1) sidewall adhesive application process, identified as SV1-6, with a maximum capacity of 1.5 vehicles per hour, using hand held non-atomizing applicators, with emissions uncontrolled, constructed in 1997. There is no direct exhaust route for this unit. A general ceiling vent, identified as SV1-6, is located in the vicinity.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the sidewall adhesive application process, identified as SV1-6 is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the sidewall adhesive application process, identified as SV1-6 is considered a part of an existing source.

(3) Three (3) manual assembly lines applying sealants, caulks, and cleaners, identified as Assembly Lines 1-Red, 2-Blue, and 3-White, with a maximum capacity of 3.5 vehicles per hour, each, using various hand tools, identified as D1-04, with emissions uncontrolled, all constructed in 1997, and exhausting to general ventilation vent GV1-01.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the manual assembly lines, identified as D1-04 are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the manual assembly lines, identified as D1-04 are considered considered a part of an existing source.

(b) Plant 2-35 (final paint plant) contains:

(1) One (1) full paint line, identified as Paint Line A, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-27, one (1) clearcoat booth, identified as SV2-28, and one (1) clearcoat/bake booth, identified as SV2-29, with a total maximum capacity of 10 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively; and

(B) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS using HVLP equipment or its equivalent, and controlled by dry filters; and

(2) One (1) full paint line, identified as Paint Line B, consisting of:

(A) One (1) slideout paint and clear booth, identified as SV2-20, one (1) seal and base booth, identified as SV2-21, and one (1) paint stripe booth, identified as SV2-22, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-20, SV2-21, and SV-22, respectively; and

(B) One (1) prep and repair booth, identified as SV2-23, one (1) clear and bake booth, identified as SV2-24, one (1) sand and repair station, identified as SV2-25, and one (1) reclear and bake booth, identified as SV2-26, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-23A and SV2-23B, SV2-24A and SV2-24B, SV2-25A and SV2-25B, and SV2-26A and SV2-26B, respectively.

(3) One (1) full paint line, identified as Paint Line C, consisting of:

(A) One (1) slideout paint and clear booth, identified as SV2-13, one (1) seal and base booth, identified as SV2-14, and one (1) paint stripe booth, identified as SV2-15, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-13, SV2-14, and SV2-15 respectively; and

(B) One (1) prep and repair booth, identified as SV2-16, one (1) clear and bake booth, identified as SV2-17, one (1) sand and repair station, identified as SV2-18, and one (1) reclear and bake booth, identified as SV2-19, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-16A and SV2-16B, SV2-17A and SV2-17B, SV2-18A and SV2-18B, and SV2-19A and SV2-19B, respectively.

(4) One (1) full paint line, identified as Paint Line D, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-7, and one (1) repair and stripe booth, identified as SV2-8, with a maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-7 and SV2-8, respectively; and

(B) One (1) slideout booth, identified as SV2-9, one (1) repair and clear booth, identified as SV2-10, one (1) sand and repair station, identified as SV2-11, and one (1) reclear booth, identified as SV2-12, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-9A and SV2-9B, SV2-10A and SV2-10B, SV2-11A and SV2-11B, and SV2-12A and SV2-12B, respectively.

(5) One (1) full paint line, identified as Paint Line E, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-1, and one (1) repair and stripe booth, identified as SV2-2, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-1 and SV2-2, respectively; and

(B) One (1) slideout booth, identified as SV2-3, one (1) repair and clear booth,

identified as SV2-4, one (1) sand and repair station, identified as SV2-5, and one (1) reclear booth, identified as SV2-6, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-3A and SV2-3B, SV2-4A and SV2-4B, SV2-5A and SV2-5B, and SV2-6A and SV2-6B, respectively.

(6) One (1) repair line, consisting of:

(A) Three (3) paint repair booths, identified as SV2-30, SV2-31, and SV2-32, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, all using air-atomized spray applicators and dry filters as particulate control, all constructed in 1998, exhausting to stacks SV2-30, SV2-31, and SV2-32, respectively; and

(B) Two (2) paint repair booths, identified as SV2-33 and SV2-34, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, both using air-atomized spray applicators and dry filters as particulate control, both constructed in 2003, and exhausting to stacks SV2-33 and SV2-34, respectively.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 2-35 paint lines are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 2-35 paint lines are considered considered a part of an existing source.

(d) Plant 26-826 (white glove inspection area and dispatch) contains:

Four (4) inspection bays for final vehicle inspection, with a maximum capacity of 3.5 vehicles per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, constructed prior to 1981, with emissions exhausting through general ventilation to stacks GV26-1 through GV26-4.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 26-826 inspection bays are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 26-826 inspection bays are considered considered a part of an existing source.

(e) Plant 29-829 (diesel service center):

(1) Thirteen (13) diesel-engine motor home service bays, constructed prior to 1989, modified in 2000 and 2017, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the diesel service center is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the diesel service center is considered a part of an existing source.

(f) Plant 450 (motor home assembly)

(2) One (1) motor home assembly line applying sealants, caulks, and cleaners, identified as P450AO, formerly L1-Gold, constructed in 2012 and modified in 2017, with a maximum capacity of 1.5 vehicles per hour, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, P450AO is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, P450AO is considered a part of an existing source.

(g) Plant 854 (gasoline service center)

(1) One (1) gasoline-engine motor home service operation, constructed in 2017, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the gasoline-engine motor home service operation is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the gasoline-engine motor home service operation is considered a part of an existing source.

Insignificant Activities:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(2) Fiberglass cap windshield setting operations and repairs, with a maximum capacity of 3.5 vehicles per hour, using adhesives, with emissions uncontrolled, and exhausting to stack GV31-2.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the fiberglass cap windshield setting operations and repairs are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the fiberglass cap windshield setting operations and repairs are considered considered a part of an existing source.

(b) Plant 2-35 (final paint plant) contains:

(1) Two (2) paint prep areas, with a total maximum capacity of 4.5 vehicles and recreational vehicle components per hour, using solvents, cleaners, composites, and hand-sanding equipment for cleaning and body repair, using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, exhausting through general ventilation stacks GV2-3 through GV2-7.

(2) One (1) paint storage and mixing area, with a maximum capacity of 4.5 vehicles and recreational vehicle components per hour, with emissions uncontrolled, and exhausting to vents SV2-15 and SV2-16.

(3) One (1) final inspection area, consisting of two (2) lines, with a maximum capacity of 3.5 vehicles and recreational vehicle components per hour, using hand-held applicators to apply solvents, cleaners, sealants, adhesives, and paint, with emissions uncontrolled, constructed in 1998, and exhausting through general ventilation to stacks GV2-1 and GV2-2.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 2-35 insignificant activities are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 2-35 insignificant activities are considered considered a part of an existing source.

(e) Plant 26-826 (white glove inspection area and dispatch) contains:

(1) White glove inspection, with a maximum capacity of 1 vehicle per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, and exhausting to stacks GV26-1 through GV26-4.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 26-826 white glove inspection operations are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the white glove inspection operations are considered considered a part of an existing source.

(j) Plant 831 (lamination):

(3) Flow coat lamination machines as follows:

(A) One (1) flow coat lamination machine, identified as FCL1, permitted in 2010 and modified in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting to stack GV1-1

(B) One (1) flow coat lamination machine, identified as FCL2, permitted in 2015 and modified in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(C) One (1) flow coat lamination machine, identified as FCL3 (formerly GV32-1), permitted in 2010 and modified in 2017, with a maximum capacity of 3.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(D) Six (6) flow coat laminating machines, identified as FCL4-FCL9, constructed in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, each, using no controls and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the flow coat laminating machines, identified as FCL1-FCL9, are part of an existing affected source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the flow coat laminating machines, identified as FCL1-FCL9, are part of an existing affected source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.2.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 63, Subpart MMMM.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.2.2 Surface Coating of Miscellaneous Metal Parts and Products NESHAP [40 CFR Part 63, Subpart MMMM] [326 IAC 20-80]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart MMMM (included as Attachment B to the operating permit), which are incorporated by reference as 326 IAC 20-80, for the emission unit(s) listed above:

(1) 40 CFR 63.3880
(2) 40 CFR 63.3881(a)(1) through (3), (b), (c)(1), (c)(2), (c)(3), (c)(6), (e)
(3) 40 CFR 63.3882
(4) 40 CFR 63.3883
(5) 40 CFR 63.3890(a)(1), (a)(2), (b)(1), (b)(2), (c)
(6) 40 CFR 63.3891(a), (b)
(7) 40 CFR 63.3892(a)
(8) 40 CFR 63.3893(a)
(9) 40 CFR 63.3900(a)(1), (b)
(10) 40 CFR 63.3901
(11) 40 CFR 63.3910(a), (b), (c)(1) through (8), (c)(10), (c)(11)
(12) 40 CFR 63.3920(a)(1) through (6) and (f)
(13) 40 CFR 63.3930(a), (b), (c)(1), (c)(2), (c)(3), (c)(4)(v), (d), (e), (f), (g), (h), (j)
(14) 40 CFR 63.3931
(15) 40 CFR 63.3940
(16) 40 CFR 63.3941
(17) 40 CFR 63.3942
(18) 40 CFR 63.3950
(19) 40 CFR 63.3951
(20) 40 CFR 63.3952
(21) 40 CFR 63.3963(a), (b), (j)
(22) 40 CFR 63.3980
(23) 40 CFR 63.3981
(24) Table 2
(25) Table 3
(26) Table 4

SECTION E.3 NESHAP

Emissions Unit Description:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(2) One (1) sidewall adhesive application process, identified as SV1-6, with a maximum capacity of 1.5 vehicles per hour, using hand held non-atomizing applicators, with emissions uncontrolled, constructed in 1997. There is no direct exhaust route for this unit. A general ceiling vent, identified as SV1-6, is located in the vicinity.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the sidewall adhesive application process, identified as SV1-6 is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the sidewall adhesive application process, identified as SV1-6 is considered a part of an existing source.

(3) Three (3) manual assembly lines applying sealants, caulks, and cleaners, identified as Assembly Lines 1-Red, 2-Blue, and 3-White, with a maximum capacity of 3.5 vehicles per hour, each, using various hand tools, identified as D1-04, with emissions uncontrolled, all constructed in 1997, and exhausting to general ventilation vent GV1-01.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the manual assembly lines, identified as D1-04 are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the manual assembly lines, identified as D1-04 are considered considered a part of an existing source.

(11) One (1) touch-up painting operation, identified as P850TP, constructed in 2020, with a maximum capacity of 1.50 units/hr, using no controls, and exhausting indoors.

Under 40 CFR 63, Subpart PPPP, this is considered a part of an existing source.

(b) Plant 2-35 (final paint plant) contains:

(1) One (1) full paint line, identified as Paint Line A, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-27, one (1) clearcoat booth, identified as SV2-28, and one (1) clearcoat/bake booth, identified as SV2-29, with a total maximum capacity of 10 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively; and

(B) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS using HVLP equipment or its equivalent, and controlled by dry filters; and

(2) One (1) full paint line, identified as Paint Line B, consisting of:

(A) One (1) slideout paint and clear booth, identified as SV2-20, one (1) seal and base booth, identified as SV2-21, and one (1) paint stripe booth, identified as SV2-22, with an aggregate maximum capacity of 5 vehicles and recreational

vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-20, SV2-21, and SV-22, respectively; and

(B) One (1) prep and repair booth, identified as SV2-23, one (1) clear and bake booth, identified as SV2-24, one (1) sand and repair station, identified as SV2-25, and one (1) reclear and bake booth, identified as SV2-26, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-23A and SV2-23B, SV2-24A and SV2-24B, SV2-25A and SV2-25B, and SV2-26A and SV2-26B, respectively.

(3) One (1) full paint line, identified as Paint Line C, consisting of:

(A) One (1) slideout paint and clear booth, identified as SV2-13, one (1) seal and base booth, identified as SV2-14, and one (1) paint stripe booth, identified as SV2-15, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-13, SV2-14, and SV2-15 respectively; and

(B) One (1) prep and repair booth, identified as SV2-16, one (1) clear and bake booth, identified as SV2-17, one (1) sand and repair station, identified as SV2-18, and one (1) reclear and bake booth, identified as SV2-19, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, and exhausting to stacks SV2-16A and SV2-16B, SV2-17A and SV2-17B, SV2-18A and SV2-18B, and SV2-19A and SV2-19B, respectively.

(4) One (1) full paint line, identified as Paint Line D, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-7, and one (1) repair and stripe booth, identified as SV2-8, with a maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-7 and SV2-8, respectively; and

(B) One (1) slideout booth, identified as SV2-9, one (1) repair and clear booth, identified as SV2-10, one (1) sand and repair station, identified as SV2-11, and one (1) reclear booth, identified as SV2-12, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-9A and SV2-9B, SV2-10A and SV2-10B, SV2-11A and SV2-11B, and SV2-12A and SV2-12B, respectively.

(5) One (1) full paint line, identified as Paint Line E, consisting of:

(A) One (1) primer/basecoat booth, identified as SV2-1, and one (1) repair and stripe booth, identified as SV2-2, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray

applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-1 and SV2-2, respectively; and

(B) One (1) slideout booth, identified as SV2-3, one (1) repair and clear booth, identified as SV2-4, one (1) sand and repair station, identified as SV2-5, and one (1) reclear booth, identified as SV2-6, with an aggregate maximum capacity of 5 vehicles and recreational vehicle components per day, using HVLP spray applicators (or their equivalent), using dry filters as particulate control, constructed in 2003, and exhausting to stacks SV2-3A and SV2-3B, SV2-4A and SV2-4B, SV2-5A and SV2-5B, and SV2-6A and SV2-6B, respectively.

(6) One (1) repair line, consisting of:

(A) Three (3) paint repair booths, identified as SV2-30, SV2-31, and SV2-32, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, all using air-atomized spray applicators and dry filters as particulate control, all constructed in 1998, exhausting to stacks SV2-30, SV2-31, and SV2-32, respectively; and

(B) Two (2) paint repair booths, identified as SV2-33 and SV2-34, with an aggregate maximum capacity of 3.5 vehicles and recreational vehicle components per hour, both using air-atomized spray applicators and dry filters as particulate control, both constructed in 2003, and exhausting to stacks SV2-33 and SV2-34, respectively.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 2-35 paint lines are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 2-35 paint lines are considered considered a part of an existing source.

(d) Plant 26-826 (white glove inspection area and dispatch) contains:

Four (4) inspection bays for final vehicle inspection, with a maximum capacity of 3.5 vehicles per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, constructed prior to 1981, with emissions exhausting through general ventilation to stacks GV26-1 through GV26-4.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 26-826 inspection bays are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 26-826 inspection bays are considered considered a part of an existing source.

(e) Plant 29-829 (diesel service center):

(1) Thirteen (13) diesel-engine motor home service bays, constructed prior to 1989, modified in 2000 and 2017, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the diesel service center is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the diesel service center is considered a part of an existing source.

(f) Plant 450 (motor home assembly)

(2) One (1) motor home assembly line applying sealants, caulks, and cleaners, identified as P450AO, formerly L1-Gold, constructed in 2012 and modified in 2017, with a maximum capacity of 1.5 vehicles per hour, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, P450AO is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, P450AO is considered a part of an existing source.

(g) Plant 854 (gasoline service center)

(1) One (1) gasoline-engine motor home service operation, constructed in 2017, with a maximum capacity of 250 vehicles per year, and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the gasoline-engine motor home service operation is considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the gasoline-engine motor home service operation is considered a part of an existing source.

Insignificant Activities:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(2) Fiberglass cap windshield setting operations and repairs, with a maximum capacity of 3.5 vehicles per hour, using adhesives, with emissions uncontrolled, and exhausting to stack GV31-2.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the fiberglass cap windshield setting operations and repairs are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the fiberglass cap windshield setting operations and repairs are considered considered a part of an existing source.

(b) Plant 2-35 (final paint plant) contains:

(1) Two (2) paint prep areas, with a total maximum capacity of 4.5 vehicles and recreational vehicle components per hour, using solvents, cleaners, composites, and hand-sanding equipment for cleaning and body repair, using dry filters as particulate control, constructed in 1997 and reconstructed in 2003, exhausting through general ventilation stacks GV2-3 through GV2-7.

(2) One (1) paint storage and mixing area, with a maximum capacity of 4.5 vehicles and recreational vehicle components per hour, with emissions uncontrolled, and exhausting to vents SV2-15 and SV2-16.

(3) One (1) final inspection area, consisting of two (2) lines, with a maximum capacity of 3.5 vehicles and recreational vehicle components per hour, using hand-held applicators to apply solvents, cleaners, sealants, adhesives, and paint, with emissions

uncontrolled, constructed in 1998, and exhausting through general ventilation to stacks GV2-1 and GV2-2.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 2-35 insignificant activities are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the Plant 2-35 insignificant activities are considered considered a part of an existing source.

(e) Plant 26-826 (white glove inspection area and dispatch) contains:

(1) White glove inspection, with a maximum capacity of 1 vehicle per hour, using hand-applied cleaners, sealants, touch-up paints, and adhesives, with emissions uncontrolled, and exhausting to stacks GV26-1 through GV26-4.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the Plant 26-826 white glove inspection operations are considered a part of an existing source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the white glove inspection operations are considered considered a part of an existing source.

(j) Plant 831 (lamination):

(3) Flow coat lamination machines as follows:

(A) One (1) flow coat lamination machine, identified as FCL1, permitted in 2010 and modified in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting to stack GV1-1

(B) One (1) flow coat lamination machine, identified as FCL2, permitted in 2015 and modified in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(C) One (1) flow coat lamination machine, identified as FCL3 (formerly GV32-1), permitted in 2010 and modified in 2017, with a maximum capacity of 3.50 panels (42 ft x 8 ft, maximum) per hour, using no controls and exhausting indoors.

(D) Six (6) flow coat laminating machines, identified as FCL4-FCL9, constructed in 2017, with a maximum capacity of 10.50 panels (42 ft x 8 ft, maximum) per hour, each, using no controls and exhausting indoors.

Under the NESHAP, 40 CFR 63, Subpart MMMM, the flow coat laminating machines, identified as FCL1-FCL9, are part of an existing affected source.

Under the NESHAP, 40 CFR 63, Subpart PPPP, the flow coat laminating machines, identified as FCL1-FCL9, are part of an existing affected source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.3.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 63, Subpart PPPP.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.3.2 Surface Coating of Plastic Parts and Products NESHAP [40 CFR Part 63, Subpart PPPP] [326 IAC 20-81]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart PPPP (included as Attachment C to the operating permit), which are incorporated by reference as 326 IAC 20-81, for the emission unit(s) listed above:

(1) 40 CFR 63.4480
(2) 40 CFR 63.4481
(3) 40 CFR 63.4482(a), (b), and (e)
(4) 40 CFR 63.4483
(5) 40 CFR 63.4490(b)(1), (c)(1), and (c)(2)
(6) 40 CFR 63.4491(a) and (b)
(7) 40 CFR 63.4492(a)
(8) 40 CFR 63.4493(a)
(9) 40 CFR 63.4500(a)(1)
(10) 40 CFR 63.4510(c)(1) through (11)
(11) 40 CFR 63.4520(a) and (f)
(12) 40 CFR 63.4530(a), (b), (c), (d), (e), (f), and (g)
(13) 40 CFR 63.4531
(14) 40 CFR 63.4540
(15) 40 CFR 63.4541
(16) 40 CFR 63.4542
(17) 40 CFR 63.4550
(18) 40 CFR 63.4551
(19) 40 CFR 63.4552
(20) 40 CFR 63.4580
(21) 40 CFR 63.4581

SECTION E.3 NESHAP

Emissions Unit Description:

(a) Plant 1-850 (motorized vehicle assembly and tile floor setting) contains:

(1) Emergency generators as follows:

(A) One (1) Cummins Onan natural gas-fired emergency generator, with a maximum capacity of 60 kW and 80 hp, with emissions uncontrolled, constructed on or before January 28, 2004, and exhausting to stack SV1-7.

This unit is considered an existing affected source under 40 CFR 63, Subpart ZZZZ.

(g) Plant 35-833E (fire pump southeast of Plant 2-35) contains:

(1) One (1) diesel fire pump located southeast of Plant 2, with a maximum capacity of 140 HP, constructed in 1998.

Under 40 CFR 63, Subpart ZZZZ, this is considered a limited use existing source.

(j) Plant 831 (lamination):

(2) Emergency generators as follows:

(A) One (1) diesel emergency generator, identified as EG2, constructed in 2017, with a maximum engine output of 480 horsepower, using no controls, and exhausting to stack EG2S.

Under the NSPS, 40 CFR 60, Subpart IIII, the diesel emergency generator, identified as EG2, is an affected source.

Under the NESHAP, 40 CFR 63, Subpart ZZZZ, the diesel emergency generator, identified as EG2, is a new stationary RICE located at a major source of HAP emissions.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.4.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1][40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality

100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.4.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ][326 IAC 20-82]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment D to the operating permit), which are incorporated by reference as 326 IAC 20-82:

(a) Cummins Onan natural gas-fired emergency generator and diesel fire pump:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a), (b)
(3) 40 CFR 63.6590(a)(1)(ii)
(4) 40 CFR 63.6595(a)(1), (c)
(5) 40 CFR 63.6602
(6) 40 CFR 63.6605
(7) 40 CFR 63.6625(e)(1), (e)(2), (f)(1),(2)(i),(3), (h), (i), (j)
(8) 40 CFR 63.6640(a), (b), (f)(1)-(3)
(9) 40 CFR 63.6645(a)(1)
(10) 40 CFR 63.6650(f)
(11) 40 CFR 63.6655(a)(1), (a)(2), (a)(4), (d), (e)(1), (e)(2), (f)(1)
(12) 40 CFR 63.6660
(13) 40 CFR 63.6665
(14) 40 CFR 63.6670
(15) 40 CFR 63.6675
(16) Table 2c-(1), (6)
(17) Table 6, 7, 8 and 9

(b) Diesel emergency generator, identified as EG2:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(2)(ii)
(4) 40 CFR 63.6590(c)(6)
(5) 40 CFR 63.6595(a)(5) and (c)
(6) 40 CFR 63.6640(f)(1). (2)(i), and (3)
(7) 40 CFR 63.6665
(8) 40 CFR 63.6670
(9) 40 CFR 63.6675

E.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Thor Wakarusa, LLC
Source Address: 606 Nelsons Parkway, Wakarusa, Indiana 46573
Part 70 Permit No.: T 039-47470-00017

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify) _____

☐ Report (specify) _____

☐ Notification (specify) _____

☐ Affidavit (specify) _____

☐ Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.	
Signature:	
Printed Name:	
Title/Position:	
Email Address:	Phone:
Date:	

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Thor Wakarusa, LLC
Source Address: 606 Nelsons Parkway, Wakarusa, Indiana 46573
Part 70 Permit No.: T 039-47470-00017

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone:_____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
Part 70 Quarterly Report

Source Name: Thor Wakarusa, LLC
Source Address: 606 Nelsons Parkway, Wakarusa, Indiana 46573
Part 70 Permit No.: T039-40858-00017
Facility:

Plant	Emission Units (June 21, 2004)
Emission Units and Pollution Control Equipment Summary	
1-850	D1-01
	SV1-6
	D1-04
20-820	EU-20B
26-826	Four (4) inspection bays
	GV26-1 through GV26-4
29-829	Diesel service center Thirteen (13) inspection bays
	GV29-1 through GV29-4
Insignificant Activities	
1-850	Fiberglass cap windshield GV31-2
831	FCL1 (formerly GV1-1)
	FCL2
	FCL3 (formerly GV32-1)
20-820	25 Weld Stations GV20-2 through GV20-10
22-822	6 Weld Stations
26-826	White Glove Inspection GV26-1 through GV26-4
32-7/8	4 Weld Stations
Combustion Facilities	
1-850	Emergency Generator SV1-7
35-833E	Fire Pump

Parameter: VOC
Limit: Total VOC emissions from the emission units listed in the following table shall be restricted such that the VOC emissions shall not exceed 240.19 tons of VOC per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER : _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Thor Wakarusa, LLC
Source Address: 606 Nelsons Parkway, Wakarusa, Indiana 46573
Part 70 Permit No.: T039-40858-00017
Facility: Plant 2-35: Partial Paint Line A, Full Paint Lines B through E, repair line, cap assembly and undercoating, and the following insignificant activities paint prep, paint storage/mixing, final inspection and adhesive applicator
Parameter: VOC
Limit: The surface coating operations shall use, in aggregate, less than 539 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER:_____YEAR:_____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Thor Wakarusa, LLC
Source Address: 606 Nelsons Parkway, Wakarusa, Indiana 46573
Part 70 Permit No.: T 039-47470-00017

Months: _____ to _____ Year: _____

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

□ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

□ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

Appendix A: Emissions Calculations
Emissions Summary

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

	Uncontrolled Potential to Emit (tons/yr)							
Emission Unit	**PM**	**PM10**	**PM2.5[7]**	**SO_2**	**NOx**	**VOC**	**CO**	**Pb**
Plant 1-850 (Motorized Vehicle Assembly, Tile Floor Setting, and Sidewall Lamination)								
Woodworking Mill Room (D1-01)	23.09	23.09	23.09	-	-	-	-	-
Surface Coating: Surface Coating Booths, Sidewall Adhesive Application Process (SV1-6), and Manual Assembly Lines (D1-04) (Assembly Lines 1-Red, 2-Blue[8], and 3-White)	12.33	12.33	12.33	-	-	80.54	-	-
Cap assembly	-	-	-	-	-	2.22	-	-
Undercoating bays[6]	-	-	-	-	-	-	-	-
Cummins Onan Natural Gas-fired Emergency Generator	1.44E-03	2.95E-03	2.95E-03	8.94E-05	0.34	4.50E-03	0.57	-
Miscellaneous Woodworking (MC-850)	0.16	0.16	0.16	-	-	-	-	-
Woodworking (P850WW2 through P850WW14)	0.02	0.02	0.02	-	-	-	-	-
Touch-Up Painting (P850TP)	0.09	0.09	0.09	-	-	5.84	-	-
Plant 2-35 (Final Paint Plant)								
Surface Coating: Partial Paint Line (Paint Line A)	22.58	22.58	22.58	-	-	142.39	-	-
Surface Coating: Full Paint Lines (Paint Lines B through E)	16.27	16.27	16.27	-	-	306.31	-	-
Surface Coating: Repair Line and Undercoating Operation	0.43	0.43	0.43	-	-	93.28	-	-
Natural Gas Combustion: Paint Line A	0.10	0.39	0.39	0.03	5.15	0.28	4.33	-
Surface Coating: Two (2) Paint Prep Areas	4.56	4.56	4.56	-	-	2.74	-	-
Sanding: Two (2) Paint Prep Areas	142.35	142.35	142.35	-	-	-	-	-
Paint Storage and Mixing Area	4.56	4.56	4.56	-	-	2.74	-	-
Final Inspection Area	4.56	4.56	4.56	-	-	2.74	-	-
Adhesive Applicator	2.28	2.28	2.28	-	-	1.37	-	-
Plant 20-820 (Assembly and Welding)								
Adhesive Application (former EU1-7, former EU20-A)	0.07	0.07	0.07	-	-	24.89	-	-
Welding Operations (EU20-B + insignificant activities)	10.51	10.51	10.51	-	-	-	-	-
Welding Operations (EU20-C)	4.43	4.43	4.43	-	-	-	-	-
Natural Gas Combustion	4.96E-03	1.98E-02	1.98E-02	1.57E-03	0.26	0.01	0.22	1.31E-06
Plant 22-822 (Welding Operations)								
Welding Operations (22-822W)	0.43	0.43	0.43	-	-	-	-	-
Plant 26-826 (White Glove Inspection Area and Dispatch)								
Surface Coating: Inspection Area	1.04	1.04	1.04	-	-	18.91	-	-
Plant 28-828 (Warehouse and Wire Harness Assembly)								
wire harness assembly	8.21E-05	8.21E-05	8.21E-05	-	-	8.49E-03	-	8.21E-05
Service Operations								
Plant 29-829 Diesel Service Center	0.53	0.53	0.53			3.79		
Plant 854 Gasoline Service Center	0.51	0.51	0.51	-	-	3.60	-	-
Plant 32-7/8 and Plant 32A (Welding and Warehouse)								
Welding	0.29	0.29	0.29	-	-	-	-	-
Plant 35-833E (Fire Pump Southeast of Plant 2-35)								
Diesel Fire Pump	1.35	1.35	1.35	1.26	19.01	1.54	4.10	-
Plant 36-836 (Welding and Woodworking Operations)								
Welding Operations	3.18	3.18	3.18	-	-	-	-	-
Miscellaneous Woodworking (MC-836)	0.08	0.08	0.08	-	-	-	-	-
Woodworking Operation (P836WW1)	1.23E-03	1.23E-03	1.23E-03	-	-	-	-	-
Plant 56-5 (Warehouse and Welding)								
Welding	0.34	0.34	0.34	-	-	-	-	-
Plant 450 (Motor Home Assembly)								
Assembly (P450AO)[9]	1.17	1.17	1.17	-	-	21.21	-	-
Woodworking (P450WW)	0.38	0.38	0.38	-	-	-	-	-
Woodworking (P450WW2 through P450WW6)	8.21E-03	8.21E-03	8.21E-03	-	-	-	-	-
Miscellaneous operations (P450MO)	1.77	1.77	1.77	-	-	-	-	-
Natural gas combustion (P450NGC)	0.02	0.07	0.07	5.80E-03	0.97	5.31E-02	0.81	4.83E-06
Gasoline tank (GT1)	-	-	-	-	-	0.30	-	-
Diesel fuel tank (DT1)	-	-	-	-	-	6.25E-04	-	-
Plant 831 (Lamination)								
Lamination (FCL1, FCL2, and FCL3)[10]	-	-	-	-	-	2.35E-06	-	-
Lamination (FCL4 - FCL9)	-	-	-	-	-	6.05E-06	-	-
Emergency generator (EG2)	0.26	0.26	0.26	0.25	3.72	0.30	0.80	-
Diesel tank (EG2DT)	-	-	-	-	-	5.09E-04	-	-
Natural Gas Combustion	0.04	0.15	0.15	0.01	1.95	0.11	1.64	9.76E-06
Woodworking (P831WW1 - P831WW5)	4.52E-03	4.52E-03	4.52E-03	-	-	-	-	-
Routing Operations (P831SWR1 through P831SWR3, P831RR1, P831FR1, and P831FR2)	5.12	5.12	5.12	-	-	-	-	-
Total of surface coating operations not determined to be insignificant for PSD	-	-	-	-	-	***130.35***	-	-
Total of Plant 2-35 surface coating operations	-	-	-	-	-	***551.86***	-	-
Total	**264.93**	**265.41**	**265.41**	**1.55**	**31.40**	**715.19**	**12.46**	**9.80E-05**

See notes below Potential to Emit After Issuance table

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Potential to Emit after Control (tons/yr)								
Emission Unit	**PM**	**PM10**	**PM2.5[3]**	**SO_2**	**NOx**	**VOC**	**CO**	**Pb**
Plant 1-850 (Motorized Vehicle Assembly, Tile Floor Setting, and Sidewall Lamination)								
Woodworking Mill Room (D1-01)	23.09	23.09	23.09	-	-	-	-	-
Surface Coating: Surface Coating Booths, Sidewall Adhesive Application Process (SV1-6), and Manual Assembly Lines (D1-04) (Assembly Lines 1-Red, 2-Blue[8], and 3-White)	0.62	0.62	0.62	-	-	80.54	-	-
Cap assembly	-	-	-	-	-	2.22	-	-
Undercoating bays[6]	-	-	-	-	-	-	-	-
Cummins Onan Natural Gas-fired Emergency Generator	1.44E-03	2.95E-03	2.95E-03	8.94E-05	0.34	4.50E-03	0.57	-
Miscellaneous Woodworking (MC-850)	0.16	0.16	0.16	-	-	-	-	-
Woodworking (P850WW2 through P850WW14)	0.02	0.02	0.02	-	-	-	-	-
Touch-Up Painting (P850TP)	0.09	0.09	0.09	-	-	5.84	-	-
Plant 2-35 (Final Paint Plant)								
Surface Coating: Partial Paint Line (Paint Line A)	0.94	0.94	0.94	-	-	142.39	-	-
Surface Coating: Full Paint Lines (Paint Lines B through E)	0.81	0.81	0.81	-	-	306.31	-	-
Surface Coating: Repair Line and Undercoating Operation	0.02	0.02	0.02	-	-	93.28	-	-
Natural Gas Combustion: Paint Line A	0.10	0.39	0.39	0.03	5.15	0.28	4.33	-
Surface Coating: Two (2) Paint Prep Areas	4.56	4.56	4.56	-	-	2.74	-	-
Sanding: Two (2) Paint Prep Areas	14.24	14.24	14.24	-	-	-	-	-
Paint Storage and Mixing Area	4.56	4.56	4.56	-	-	2.74	-	-
Final Inspection Area	4.56	4.56	4.56	-	-	2.74	-	-
Adhesive Applicator	2.28	2.28	2.28	-	-	1.37	-	-
Plant 20-820 (Assembly and Welding)								
Adhesive Application (former EU1-7, former EU20-A)	3.50E-03	3.50E-03	3.50E-03	-	-	24.89	-	-
Welding Operations (EU20-B + insignificant activities)	10.51	10.51	10.51	-	-	-	-	-
Welding Operations (EU20-C)	4.43	4.43	4.43	-	-	-	-	-
Natural Gas Combustion	4.96E-03	1.98E-02	1.98E-02	1.57E-03	2.61E-01	1.44E-02	2.19E-01	1.31E-06
Plant 22-822 (Welding Operations)								-
Welding Operations (22-822W)	0.43	0.43	0.43	-	-	-	-	-
Plant 26-826 (White Glove Inspection Area and Dispatch)								
Surface Coating: Inspection Area	5.20E-02	5.20E-02	5.20E-02	-	-	18.91	-	-
Plant 28-828 (Warehouse and Wire Harness Assembly)								
wire harness assembly	8.21E-05	8.21E-05	8.21E-05	-	-	8.49E-03	-	8.21E-05
Service Operations								
Plant 29-829 Diesel Service Center	0.53	0.53	0.53	-	-	3.79	-	-
Plant 854 Gasoline Service Center	0.51	0.51	0.51	-	-	3.60	-	-
Plant 32-7/8 and Plant 32A (Welding and Warehouse)								
Welding	0.29	0.29	0.29	-	-	-	-	-
Plant 35-833E (Fire Pump Southeast of Plant 2-35)								
Diesel Fire Pump	1.35	1.35	1.35	1.26	19.01	1.54	4.10	-
Plant 36-836 (Welding and Woodworking Operations)								
Welding Operations	3.18	3.18	3.18	-	-	-	-	-
Miscellaneous Woodworking (MC-836)	0.08	0.08	0.08	-	-	-	-	-
Woodworking Operation (P836WW1)	1.23E-03	1.23E-03	1.23E-03	-	-	-	-	-
Plant 56-5 (Warehouse and Welding)								
Welding	0.34	0.34	0.34	-	-	-	-	-
Plant 450 (Motor Home Assembly)								
Assembly (P450AO)[9]	1.17	1.17	1.17	-	-	21.21	-	-
Woodworking (P450WW)	0.38	0.38	0.38	-	-	-	-	-
Woodworking (P450WW2 through P450WW6)	8.21E-03	8.21E-03	8.21E-03	-	-	-	-	-
Miscellaneous operations (P450MO)	1.77	1.77	1.77	-	-	-	-	-
Natural gas combustion (P450NGC)	1.84E-02	7.34E-02	7.34E-02	5.80E-03	0.97	5.31E-02	0.81	4.83E-06
Gasoline tank (GT1)	-	-	-	-	-	0.30	-	-
Diesel fuel tank (DT1)	-	-	-	-	-	6.25E-04	-	-
Plant 831 (Lamination)								
Lamination (FCL1, FCL2, and FCL3)[10]	-	-	-	-	-	2.35E-06	-	-
Lamination (FCL4 - FCL9)	-	-	-	-	-	6.05E-06	-	-
Emergency generator (EG2)	0.26	0.26	0.26	0.25	3.72	0.30	0.80	-
Diesel tank (EG2DT)	-	-	-	-	-	5.09E-04	-	-
Natural Gas Combustion	0.04	0.15	0.15	0.01	1.95	0.11	1.64	9.76E-06
Woodworking (P831WW1 - P831WW5)	4.52E-03	4.52E-03	4.52E-03	-	-	-	-	-
Routing Operations (P831SWR1 through P831SWR3, P831RR1, P831FR1, and P831FR2)	5.12	5.12	5.12	-	-	-	-	-
Total of surface coating operations not determined to be insignificant for PSD	-	-	-	-	-	***130.35***	-	-
Total of Plant 2-35 surface coating operations	-	-	-	-	-	***551.86***	-	-
Total	**86.54**	**87.02**	**87.02**	**1.55**	**31.40**	**715.19**	**12.46**	**9.80E-05**

See notes below Potential to Emit After Issuance table

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Potential to Emit after Issuance[1,2] (tons/yr)								
Emission Unit	**PM**	**PM10**	**PM2.5[3]**	**SO_2**	**NOx**	**VOC**	**CO**	**Pb**
Plant 1-850 (Motorized Vehicle Assembly, Tile Floor Setting, and Sidewall Lamination)								
Woodworking Mill Room (D1-01)	23.09	23.09	23.09	-	-		-	-
Surface Coating: Surface Coating Booths, Sidewall Adhesive Application Process (SV1-6), and Manual Assembly Lines (D1-04) (Assembly Lines 1-Red, 2-Blue[8], and 3-White)	0.62	0.62	0.62	-	-	note 4	-	-
Cap assembly	-	-	-	-	-		-	-
Undercoating bays[6]	-	-	-	-	-	note 5	-	-
Cummins Onan Natural Gas-fired Emergency Generator	1.44E-03	2.95E-03	2.95E-03	8.94E-05	0.34	4.50E-03	0.57	-
Miscellaneous Woodworking (MC-850)	0.16	0.16	0.16	-	-	-	-	-
Woodworking (P850WW2 through P850WW14)	0.02	0.02	0.02	-	-	-	-	-
Touch-Up Painting (P850TP)	0.09	0.09	0.09	-	-	5.84	-	-
Plant 2-35 (Final Paint Plant)								
Surface Coating: Partial Paint Line (Paint Line A)	0.94	0.94	0.94	-	-		-	-
Surface Coating: Full Paint Lines (Paint Lines B through E)	0.81	0.81	0.81	-	-	note 5	-	-
Surface Coating: Repair Line and Undercoating Operation	0.02	0.02	0.02	-	-		-	-
Natural Gas Combustion: Paint Line A	0.10	0.39	0.39	0.03	5.15	0.28	4.33	
Surface Coating: Two (2) Paint Prep Areas	4.56	4.56	4.56	-	-		-	-
Sanding: Two (2) Paint Prep Areas	14.24	14.24	14.24	-	-		-	-
Paint Storage and Mixing Area	4.56	4.56	4.56	-	-	note 5	-	-
Final Inspection Area	4.56	4.56	4.56	-	-		-	-
Adhesive Applicator	2.28	2.28	2.28	-	-		-	-
Plant 20-820 (Assembly and Welding)								
Adhesive Application (former EU1-7, former EU20-A)	3.50E-03	3.50E-03	3.50E-03	-	-	note 4	-	-
Welding Operations (EU20-B + insignificant activities)	10.51	10.51	10.51	-	-	-	-	-
Welding Operations (EU20-C)	4.43	4.43	4.43	-	-	-	-	-
Natural Gas Combustion	4.96E-03	1.98E-02	1.98E-02	1.57E-03	0.26	1.44E-02	0.22	1.31E-06
Plant 22-822 (Welding Operations)								
Welding Operations (22-822W)	0.43	0.43	0.43	-	-	-	-	-
Plant 26-826 (White Glove Inspection Area and Dispatch)								
Surface Coating: Inspection Area	5.20E-02	5.20E-02	5.20E-02	-	-	note 4	-	-
Plant 28-828 (Warehouse and Wire Harness Assembly)								
wire harness assembly	8.21E-05	8.21E-05	8.21E-05	-	-	8.49E-03	-	8.21E-05
Service Operations								
Plant 29-829 Diesel Service Center	0.53	0.53	0.53	-	-	note 4	-	-
Plant 854 Gasoline Service Center	0.51	0.51	0.51	-	-	3.60	-	-
Plant 32-7/8 and Plant 32A (Welding and Warehouse)								
Welding	0.29	0.29	0.29	-	-	-	-	-
Plant 35-833E (Fire Pump Southeast of Plant 2-35)								
Diesel Fire Pump	1.35	1.35	1.35	1.26	19.01	1.54	4.10	-
Plant 36-836 (Welding and Woodworking Operations)								
Welding Operations	3.18	3.18	3.18	-	-	-	-	-
Miscellaneous Woodworking (MC-836)	0.08	0.08	0.08	-	-	-	-	-
Woodworking Operation (P836WW1)	1.23E-03	1.23E-03	1.23E-03	-	-	-	-	-
Plant 56-5 (Warehouse and Welding)								
Welding	0.34	0.34	0.34	-	-	-	-	-
Plant 450 (Motor Home Assembly)								
Assembly (P450AO)[9]	1.17	1.17	1.17	-	-	21.21	-	-
Woodworking (P450WW)	0.38	0.38	0.38	-	-	-	-	-
Woodworking (P450WW2 through P450WW6)	8.21E-03	8.21E-03	8.21E-03	-	-	-	-	-
Miscellaneous operations (P450MO)	1.77	1.77	1.77	-	-	-	-	-
Natural gas combustion (P450NGC)	1.84E-02	7.34E-02	7.34E-02	5.80E-03	0.97	5.31E-02	0.81	4.83E-06
Gasoline tank (GT1)	-	-	-	-	-	0.30	-	-
Diesel fuel tank (DT1)	-	-	-	-	-	6.25E-04	-	-
Plant 831 (Lamination)								
Lamination (FCL1, FCL2, and FCL3)[10]	-	-	-	-	-	note 4	-	-
Lamination (FCL4 - FCL9)	-	-	-	-	-	6.05E-06	-	-
Emergency generator (EG2)	0.26	0.26	0.26	0.25	3.72	0.30	0.80	-
Diesel tank (EG2DT)	-	-	-	-	-	5.09E-04	-	-
Natural Gas Combustion	3.71E-02	0.15	0.15	0.01	1.95	0.11	1.64	9.76E-06
Woodworking (P831WW1 - P831WW5)	4.52E-03	4.52E-03	4.52E-03	-	-	-	-	-
Routing Operations (P831SWR1 through P831SWR3, P831RR1, P831FR1, and P831FR2)	5.12	5.12	5.12	-	-	-	-	-
Total of surface coating operations limited or not otherwise determined to be insignificant for PSD[4]	-	-	-	-	-	***240.19***	-	-
Total of Plant 2-35 surface coating operations[5]	-	-	-	-	-	***539.00***	-	-
Total	**86.54**	**87.02**	**87.02**	**1.55**	**31.40**	**812.46**	**12.46**	**9.80E-05**

Notes:
1. The shaded cells indicate where limits are included.
2. Pursuant to 326 IAC 6-3-2(d), the particulate emissions from surface coating operations shall be controlled by dry particulate filters and the Permittee shall operate the control devices in accordance with the manufacturer's specifications. Compliance with this standard, in conjuction with a conservative assumption of 95% capture and control, shall limit PM, PM10, and PM2.5 emissions from the surface coating operations to the values shown.
3. PM2.5 listed is direct PM2.5
4. Total VOC emissions from surface coating operations except units in Plant 2-35 on June 21, 2004 is limited to 240.19 tons per 12 consecutive months. Operations limited pursuant to CP 039-7335-00017, issued July 24, 1997 and SSM 039-12758-00017, issued May 15, 2001, as revised by Part 70 Operating Permit No. 039-7559-00017, issued June 21, 2004.
5. Total VOC emissions from surface coating operations for units in Plant 2-35 on June 21, 2004 is limited to 539 tons per 12 consecutive months. Operations limited pursuant to SSM No. 039-15620-00017, issued December 11, 2002.
6. Undercoating bays were relocated from Plant 2 (now Plant 2-35) in AA No. 039-34062-00017, issued March 18, 2014.
7. Booth SV20-1 in Plant 20 (now Plant 20-820) (formerly SV1-4) was relocated in SSM 039-31023-00017 and removed in AA No. 039-34062-00017.
8. Assembly Line 2-Blue was relocated from Plant 56-5 in SPM 039-39771-00017. The unit was originally constructed in Plant 1 (now Plant 1-850) in 1997 and relocated to Plant 56-5 in AA No. 039-34062-00017, issued March 18, 2014. Emissions have always been included in limits applicable to Plant 1-850.
9. Formerly L1-Gold, added in SSM 039-31023-00017, issued March 27, 2012.
10. FCL1, FCL2, and FCL3 were relocated to Plant 831 from Plant 1-850 in SPM 039-39771-00017 with no change to PTE.

HAPs

The potential to emit HAPs has not been calculated for all of the emissions units at the source because the Permittee is confident that the PTE for HAPs is greater than 25 tons per year for a combination of HAPs; the Permittee has elected to state that this source is major for HAPs rather than calculate the exact potential to emit for these pollutants.

Appendix A: Emissions Calculations
Plant 1 Woodworking
Mill Room D1-01

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Control Device	Outlet Grain Loading	Maximum Air Flow Rate	Uncontrolled PTE $PM/PM_{10}/PM_{2.5}$		Control Efficiency	Controlled PTE $PM/PM_{10}/PM_{2.5}$	
	grains/dscf	dscfm	lbs/hr	TPY	%	lbs/hr	TPY
bagfilter collector	0.030	20,500	10542.86	46177.71	99.95%	5.27	23.09

Methodology:

It is assumed that $PM=PM_{10}=PM_{2.5}$.

Conversion Factors: 7000 grains/pound; 60 minutes/hour; 8,760 hours/year; 2,000 pounds/ton

PTE of PM/PM_{10} after Control (lbs/hr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr

PTE of PM/PM_{10} after Control (tons/yr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr x 8760 hr/yr x 1 ton/2000 lbs

PTE of PM/PM_{10} before Control (tons/yr) = PTE of PM/PM_{10} after Control (tons/yr) / (1-Control Efficiency)

Appendix A: Emissions Calculations
Plant 1 -850 Assembly

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Includes VOC & Particulate emissions from: Sidewall Adhesive Application Process (SV1-6), and Manual Assembly Lines (Assembly Lines 1-Red and 3-White) in Plant 1-850, and Assembly Line 2 - Blue now located in Plant 56-5

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Particulate Emissions (lbs/hr)	Particulate Emissions (tons/yr)	Particulate Emissions after controls (tons/yr)
Adhesives*																			
DAP WELDWOOD CRPNTR'S GLUE #494	30207(494)	flow	9.17	0.02	0	2.40%	0	1.00	7,000	19.18	0.22	0.22	100%	0.18	4.22	0.77	0	0	0
ADHESIVE INDUSTRIAL 3M	1300	tube	7.34	0.62	0	62.00%	0	0.02	7,000	0.38	4.55	4.55	100%	0.07	1.75	0.32	0	0	0
ADHESIVE MULTI-PURPOSE	S-235	wipe	9.84	0.33	0	33.00%	0	0.02	7,000	0.38	3.25	3.25	100%	0.05	1.25	0.23	0	0	0
ADHESIVE PARR/5941 CONSTRUCTION 40	5927/40	tube	9.34	0.35	0	35.00%	0	0.85	7,000	16.30	3.27	3.27	100%	2.22	53.29	9.73	0	0	0
ADHESIVE PRO-BOND	AP 32	N.A Spray	7.42	0.99	0	98.50%	0	0.02	7,000	0.38	7.31	7.31	100%	0.12	2.80	0.51	0	0	0
ADHESIVE SIKAFLEX 221	221	tube	9.90	5.99%	0	5.99%	0	0.40	7,000	7.67	0.59	0.59	100%	0.19	4.55	0.83	0	0	0
ADHESIVE SPRAY STAPUT	97351	N.A Spray	10.00	0.95	0	95.00%	0	0.04	7,000	0.67	9.50	9.50	100%	0.27	6.38	1.16	0	0	0
ADHESIVE SUPER TAK HIGH PERF	SUPER TAK	N.A Spray	5.73	0.60	0	60.00%	0	0.25	7,000	4.79	3.44	3.44	100%	0.69	16.48	3.01	0	0	0
ADHESIVE STICK-UP	STICKUP	N.A Spray	7.50	0.52	0	52.00%	0	0.03	7,000	0.48	3.90	3.90	100%	0.08	1.87	0.34	0	0	0
ADHESIVE HOT MELT PUR-FECT LOK	34-9014	flow	8.88	0	0	0.00%	0	2.00	7,000	38.36	0	0	100%	0	0	0	0	0	0
ADHESIVE RED WHISPER SPRAY	LSC711700	N.A Spray	10.30	0.10	0	10.00%	0	1.50	7,000	28.77	1.03	1.03	75%	1.23	29.63	5.41	2.78	12.17	0.61
MORAD WATER REACTIVE URETHANE	M-642	rollcoat	9.26	0	0	0.00%	0	2.00	7,000	38.36	0	0	100%	0	0	0	0	0	0
Solvents/Cleaners																			
CLEANER CITRUS	CM-911	wipe	7.00	0	0	0.00%	0	0.25	7,000	4.79	0	0	100%	0	0	0	0	0	0
CLEANER FASTASTIC II	-	wipe	11.68	0.98	0	98.00%	0	0.02	7,000	0.31	11.45	11.45	100%	0.15	3.51	0.64	0	0	0
CLEANER NU PANEL DAP	14220	wipe	8.17	0.15	0	15.00%	0	0.03	7,000	0.63	1.23	1.23	100%	0.03	0.78	0.14	0	0	0
CLEANER SPRAYON GLASS	SPR00880	aerosol	8.10	0.11	0	11.00%	0	0.15	7,000	2.88	0.89	0.89	100%	0.11	2.56	0.47	0	0	0
CLEANER 3M NATURAL	3M	wipe	6.36	1.00	0	100.00%	0	0.10	7,000	1.92	6.36	6.36	100%	0.51	12.20	2.23	0	0	0
ACETONE HI-MOISTURE	UN-1090	wipe	6.60	0	0	0.00%	0	0.33	7,000	6.33	0	0	100%	0	0	0	0	0	0
LUBRICANT SPRAY SILICONE	MC-43	aerosol	4.74	0.92	0	92.00%	0	0.50	7,000	9.59	4.36	4.36	75%	1.74	41.82	7.63	0.04	0.17	8.30E-03
SHER-WILL-CLEAN	R7K156	wipe	6.39	1.00	0	100.00%	0	0.13	7,000	2.40	6.39	6.39	100%	0.64	15.32	2.80	0	0	0
SOLVENT METHY ETHYL KETONE	4-MEK-D	wipe	6.70	1.00	0	100.00%	0	0.10	7,000	1.92	6.70	6.70	100%	0.54	12.85	2.35	0	0	0
Paints																			
PAINT BLACK DIP ENAMEL - FRAME	5-209	dip	13.50	0.26	0	25.60%	0	13.50	7,000	258.90	3.46	3.46	100%	2.76	66.24	12.09	0	0	0
XYLENE (DIP TANK) - REDUCER	UN-1307	wipe	7.24	1.00	0	100.00%	0	7.24	7,000	138.85	7.24	7.24	100%	1.45	34.80	6.35	0	0	0
Sealants																			
SEALANT BLACK	R-900	tube	10.17	0.25	0	25.30%	0	0.25	7,000	4.79	2.57	2.57	100%	0.51	12.34	2.25	0	0	0
SEALANT SILICONE WHITE	795	aerosol	12.51	0.02	0	2.00%	0	1.00	7,000	19.18	0.25	0.25	100%	0.20	4.80	0.88	0	0	0
SEALANT MANUS BOND ALL COLORS	75-AM/76-AM	tube	22.50	0.12	0	12.00%	0	1.25	7,000	23.97	2.70	2.70	100%	2.70	64.73	11.81	0	0	0
SEALANT DURASHELL	R-3000	tube	9.59	0.40	0	39.60%	0	0.05	7,000	0.96	3.80	3.80	100%	0.15	3.64	0.66	0	0	0
SEALANT WET & DRY LEAK	10,570.00	tube	12.51	0.18	0	18.00%	0	0.10	7,000	1.92	2.25	2.25	100%	0.18	4.32	0.79	0	0	0
SILICONE BLACK	MS101C/88436	tube	8.46	0.30	0	30.00%	0	0.37	7,000	7.10	2.54	2.54	100%	0.75	18.01	3.29	0	0	0
SILICONE WHITE	MS101C/88437	tube	8.46	0.30	0	30.00%	0	0.37	7,000	7.10	2.54	2.54	100%	0.75	18.01	3.29	0	0	0
TAC FREE BODY FILLER	0297	brush	10.00	0.00%	0	0.00%	0	0.10	7,000	1.92	0	0	100%	0	0	0	0	0	0
VARISEAL	VT4	tube	5.84	0.95	0	95.00%	0	0.01	7,000	0.19	5.55	5.55	100%	0.04	1.06	0.19	0	0	0
FOAM SEAL BLACK RESIN "A"	FSA	N.A Spray	10.34	0	0	0.00%	0	0.50	7,000	9.59	0	0	100%	0	0	0	0	0	0
FOAM SEAL BLACK RESIN "B"	S7880	N.A Spray	9.84	2.00%	0	2.00%	0	0.50	7,000	9.59	0.20	0.20	100%	0.08	1.89	0.34	0	0	0
ENERFOAM NBS	ENER 42	N.A Spray	10.00	0.01	0	1.30%	0	0.10	7,000	1.92	0.13	0.13	100%	0.01	0.25	0.05	0	0	0

*The material being sprayed in the sidewall adhesive application process is very thick and the consistency of a spider web. The process therefore produces only negligible particulate emissions.

It is assumed that $PM=PM_{10}=PM_{2.5}$.

Methodology

Material Usage (gal/day) **672.46** **Potential to Emit:** **18.39** **441.33** **80.54** **2.82** **12.33** **0.62**

Total not applied by dip, flow, roll, or brush **28.77**

Transfer Efficiency - Hand or Manual Application = 100% and HVLP = 75%

Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water

VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)

VOC (lbs/gal) = Density (lb/gal) * Weight % Organics

VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)

VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/ day)

VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)

Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)

Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)

Appendix A: Emissions Calculations
1-850 Cap Assembly

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

1. VOC and PM

Material	Material ID Number	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per Gallon of Coating less Water & Exempts	Pounds VOC per gallon of coating	Potential VOC (lb/hour)	Potential VOC (lb/day)	Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Gallons of Coating (gal/day)	Application Method	Transfer Efficiency
SIKA PRIMER 207	532721	8.09	68.00%	0%	68.00%	0%	0.0150	3.50	5.50	5.50	0.29	6.93	1.27	0.00	1.26	brush	100%
SIKAFLEX 220	404965	9.93	5.00%	0%	5.00%	0%	0.1250	3.50	0.50	0.50	0.22	5.21	0.95	0.00	10.50	brush	100%
								Total or Worst Case Potential to Emit:			**0.51**	**12.14**	**2.22**	**0.00**			

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Natural Gas
4-Stroke Rich-Burn (4SRB) Engines
Plant 1-850 Emergency Generator

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Maximum Output Horsepower Rating (hp)	80
Brake Specific Fuel Consumption (BSFC) (Btu/hp-hr)	7600
Maximum Hours Operated per Year (hr/yr)	500
Potential Fuel Usage (MMBtu/yr)	304
High Heat Value (MMBtu/MMscf)	1020
Potential Fuel Usage (MMcf/yr)	0.30

	Pollutant						
Criteria Pollutants	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor (lb/MMBtu)	9.50E-03	1.94E-02	1.94E-02	5.88E-04	2.21E+00	2.96E-02	3.72E+00
Potential Emissions (tons/yr)	1.44E-03	2.95E-03	2.95E-03	8.94E-05	0.34	4.50E-03	0.57

*PM emission factor is for filterable PM-10. PM10 emission factor is filterable PM10 + condensable PM.
PM2.5 emission factor is filterable PM2.5 + condensable PM.

Hazardous Air Pollutants (HAPs)

Pollutant	Emission Factor (lb/MMBtu)	Potential Emissions (tons/yr)
Acetaldehyde	2.79E-03	4.24E-04
Acrolein	2.63E-03	4.00E-04
Benzene	1.58E-03	2.40E-04
1,3-Butadiene	6.63E-04	1.01E-04
Formaldehyde	2.05E-02	3.12E-03
Methanol	3.06E-03	4.65E-04
Total PAH**	1.41E-04	2.14E-05
Toluene	5.58E-04	8.48E-05
Xylene	1.95E-04	2.96E-05
	Total	**4.88E-03**

HAP pollutants consist of the nine highest HAPs included in AP-42 Table 3.2-3.
**PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

Methodology
Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-3
Potential Fuel Usage (MMBtu/yr) = [Maximum Output Horsepower Rating (hp)] * [Brake Specific Fuel Consumption (Btu/hp-hr)] * [Maximum Hours Operated per Year (hr/yr)] / [1000000 Btu/MMBtu]
Potential Emissions (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2000 lb/ton]

Appendix A: Emissions Calculations

Plant 2-35 (Line A) Surface Coating

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-47470-00017
Reviewer: Madison Spahn

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	Control Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Uncontrolled Particulate Emissions (lbs/hr)	Uncontrolled Particulate Emissions (tons/yr)	Controlled Particulate Emissions (tons/yr)
Solvents/Cleaners																				
ACETONE HI-MOISTURE	UN-1090	wipe	6.60	0	0	0	0	8.00E-03	5,000.00	0.11	0	0	100%	95%	0	0	0	0	0	0
CLEANER	DX533	wipe	9.76	1.00	0	1.00	0	8.00E-03		0.11	9.76	9.76	100%	95%	0.04	1.07	0.20	0	0	0
CLEANER AQUA MATE WB	W4K157	wipe	8.30	0.16	0	0.16	0	0.50		6.85	1.34	1.34	100%	95%	0.38	9.15	1.67	0	0	0
CLEANER LOW VOC (PAINT)	DX380	wipe	8.31	0.94	0	0.94	0	4.00E-03		0.05	7.81	7.81	100%	95%	0.02	0.43	0.08	0	0	0
CLEANER PRE-CLEAN	DX330	wipe	6.35	1.00	0	1.00	0	0.04		0.55	6.35	6.35	100%	95%	0.14	3.48	0.64	0	0	0
CLEANER SPRAYON GLASS	880	spray	8.10	0.11	0	0.11	0	8.00E-03		0.11	0.89	0.89	75%	95%	4.07E-03	0.10	0.02	8.23E-03	0.04	1.80E-03
GUN CLEANER 4-GCL	UN1263	wipe	6.78	0.90	0	0.90	0	0.08		1.10	6.10	6.10	100%	95%	0.28	6.69	1.22	0	0	0
THINNER ALL PURPOSE LACQUER	DTL10	wipe	7.00	0.69	0	0.69	0	0.02		0.22	4.82	4.82	100%	95%	0.04	1.06	0.19	0	0	0
THINNER	DTL151G	Not. Appl.	6.64	0.35	0	0.35	0	0.01		0.16	2.32	2.32	100%	95%	0.02	0.38	0.07	0	0	0
THINNER ALL PURPOSE	DTL16G	Not. Appl.	6.66	0.70	0	0.70	0	0.50		6.85	4.66	4.66	100%	95%	1.33	31.93	5.83	0	0	0
THINNER LACQUER	5033	Not. Appl.	7.10	0.82	0	0.82	0	0.16		2.19	5.82	5.82	100%	95%	0.53	12.76	2.33	0	0	0
SOLVENT REDUCER	DRR1185	wipe	7.42	0.96	0	0.96	0	0.50		6.85	7.15	7.15	100%	95%	2.04	48.99	8.94	0	0	0
PURE GRADE LACQUER THINNER	THINNER	Not. Appl.	7.50	0.91	0	0.91	0	1.50		20.55	6.80	6.80	100%	95%	5.82	139.78	25.51	0	0	0
Paints																				
ACTIVATOR	NCX255	spray (HVLP)	7.70	0.44	0	0.44	0	8.00E-03	5,000.00	0.11	3.35	3.35	75%	95%	0.02	0.37	0.07	4.97E-03	0.02	1.09E-03
ADDITIVE PAINT SUPERCHARGER	DFX7	spray (HVLP)	8.01	0.98	0	0.98	0	0.08		1.10	7.81	7.81	75%	95%	0.36	8.56	1.56	2.29E-03	0.01	5.01E-04
BLENDER ACRYLIC COLOR	DXA100	spray (HVLP)	7.11	0.74	0	0.74	0	8.00E-03		0.11	5.26	5.26	75%	95%	0.02	0.58	0.11	2.11E-03	9.24E-03	4.62E-04
BLENDER UNIVERSAL	DX830	spray (HVLP)	7.59	0.58	0	0.58	0	8.00E-03		0.11	4.39	4.39	75%	95%	0.02	0.48	0.09	3.65E-03	0.02	7.99E-04
CATALYST	DX84	spray (HVLP)	8.17	0.98	0	0.98	0	0.02		0.22	8.04	8.04	75%	95%	0.07	1.76	0.32	2.98E-04	1.31E-03	6.54E-05
CATALYST	DU5	spray (HVLP)	8.45	0.46	0	0.46	0	1.00E-03		0.01	3.89	3.89	75%	95%	0.00	0.05	9.72E-03	6.51E-04	2.85E-03	1.43E-04
CATALYST	NCX275	spray (HVLP)	8.26	0.41	0	0.41	0	4.00E-03		0.05	3.37	3.37	75%	95%	0.01	0.18	0.03	2.79E-03	0.01	6.11E-04
CATALYST DELTRON	DAU2	spray (HVLP)	7.85	0.95	0	0.95	0	8.00E-03		0.11	7.46	7.46	75%	95%	0.03	0.82	0.15	4.48E-04	1.96E-03	9.81E-05
CATALYST PRETREATMENT	NCX290	spray (HVLP)	8.33	0.39	0	0.39	0	0.01		0.16	3.21	3.21	75%	95%	0.02	0.53	0.10	8.77E-03	0.04	1.92E-03
CLEARCOAT COMPLIANT	DCD35	spray (HVLP)	8.24	0.40	0	0.40	0	1.25		17.12	3.27	3.27	75%	95%	2.33	56.02	10.22	8.86E-01	3.88	0.19
FISH EYE PREVENTER	DX77	spray (HVLP)	7.22	0.99	0	0.99	0	0.01		0.16	7.15	7.15	75%	95%	0.05	1.17	0.21	1.24E-04	5.42E-04	2.71E-05
HARDENER	DU4	spray (HVLP)	8.18	0.55	0	0.55	0	0.25		3.42	4.47	4.47	75%	95%	0.64	15.30	2.79	1.32E-01	0.58	0.03
PAINT	DBU	spray (HVLP)	9.50	0.37	0	0.37	0	2.00		27.40	3.50	3.50	75%	95%	3.99	95.78	17.48	1.71E+00	7.51	0.38
PAINT	DCU2020	spray (HVLP)	8.18	0.55	0	0.55	0	0.01		0.16	4.50	4.50	75%	95%	0.03	0.74	0.13	6.30E-03	0.03	1.38E-03
PAINT BROMA GLOSS SPRAY LACQUER	110/115/109	spray (HVLP)	8.21	0.41	0	0.41	0	0.02		0.22	3.33	3.33	75%	95%	0.03	0.73	0.13	1.12E-02	0.05	2.44E-03
PAINT DAU COLOR	DAU	spray (HVLP)	9.50	0.39	0	0.39	0	4.00E-03		0.05	3.66	3.66	75%	95%	0.01	0.20	0.04	3.33E-03	0.01	7.30E-04
PAINT DIU BASECOAT	DIU 1&2	spray (HVLP)	9.50	0.62	0	0.62	0	0.02		0.22	5.84	5.84	75%	95%	0.05	1.28	0.23	8.35E-03	0.04	1.83E-03
PAINT DURACRYL ACRYLIC LACQUER	DDL	spray (HVLP)	7.92	0.72	0	0.72	0	0.02		0.22	5.70	5.70	75%	95%	0.05	1.25	0.23	5.06E-03	0.02	1.11E-03
PRIMER	NCP250	spray (HVLP)	10.87	0.32	0	0.32	0	0.25		3.42	3.50	3.50	75%	95%	0.50	11.99	2.19	2.63E-01	1.15	0.06
REDUCER	DT860/DT870	spray (HVLP)	7.00	1.00	0	1.00	0	0.10		1.42	7.00	7.00	75%	95%	0.42	9.97	1.82	0.00E+00	0	0
REDUCER WARM TEMPERATURE	DT885	spray (HVLP)	7.21	0.98	0	0.98	0	0.25		3.42	7.03	7.03	75%	95%	1.00	24.07	4.39	6.43E-03	0.03	1.41E-03
SEALER 3.5 VOC	NCS1990	spray (HVLP)	12.51	0.24	0	0.24	0	0.50		6.85	3.04	3.04	75%	95%	0.87	20.82	3.80	6.76E-01	2.96	0.15
SOLVENT ANTI-STAT PREP	DX103	spray (HVLP)	6.26	1.00	0	1.00	0	0.06		0.77	6.26	6.26	75%	95%	0.20	4.80	0.88	0.00E+00	0	0
SV2-35	Basecoat	7.60	0.81	0.10%	0.81	0	0.28	4.20	1,400.00	16.11	6.15	6.15	75%	98%	4.13	99.05	18.08	0.24	1.06	0.02
SV2-36	Clear RTS	8.40	0.60	0.10%	0.60	0	0.40	8.70	1,400.00	33.37	5.03	5.03	75%	98%	7.00	167.90	30.64	1.17	5.12	0.10
									Material Usage (gal/day):	**162.04**				**Potential to Emit:**	**32.51**	**780.22**	**142.39**	**5.16**	**22.58**	**0.94**
									Total not applied by dip, flow, roll, or brush	**116.45**										

*Material in booths SV2-35 and SV2-36 are applied using HVLP guns.
It is assumed that PM=PM_{10}=$PM_{2.5}$.

Methodology

Transfer Efficiency - Hand or Manual Application = 100%, Aerosol = 50%, HVLP = 75%
Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water
VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
VOC (lbs/gal) = Density (lb/gal) * Weight % Organics
VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)
VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/ day)
VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)
Uncontrolled Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)
Uncontrolled Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)
Controlled Particulate Emissions (tons/yr) = Material Usage (gal/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs) * (1-Control Efficiency)

Appendix A: Emissions Calculations

Plant 2-35 (Line B - E) Surface Coating

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	Control Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Uncontrolled Particulate Emissions (lbs/hr)	Uncontrolled Particulate Emissions (tons/yr)	Controlled Particulate Emissions (tons/yr)
Paints																				
BC BASES & COLORS	DAB	spray (HVLP)	8.50	0.67	0	0.67	0	3.60		19.73	5.70	5.70	75%	95%	4.69	112.51	20.53	0.57	2.52	0.13
DIAMOND PRIMER	DP21	spray (HVLP)	12.50	0.28	0	0.28	0	0.04		0.19	3.50	3.50	75%	95%	0.03	0.67	0.12	0.02	0.08	3.94E-03
DIAMOND HS HARDENER	DH61/PH61	spray (HVLP)	8.27	0.59	0	0.59	0	0.04		0.19	4.85	4.85	75%	95%	0.04	0.93	0.17	6.82E-03	0.03	1.49E-03
ETCHING PRIMER	DE17	spray (HVLP)	9.34	0.58	0	0.58	0	0.10		0.55	5.39	5.39	75%	95%	0.12	2.95	0.54	0.02	0.10	4.94E-03
DIAMOND ETCHING ACTIVATOR	DA18	spray (HVLP)	6.74	0.96	0	0.96	0	1.00		5.48	6.50	6.50	75%	95%	1.48	35.60	6.50	0.01	0.06	3.03E-03
DIAMOND SPEED DRY CLEAR	DC95	spray (HVLP)	7.86	0.45	0	0.45	0	5.00		27.40	3.50	3.50	75%	95%	3.99	95.83	17.49	1.24	5.45	0.27
DIAMOND CLEAR HARDENER	DH49	spray (HVLP)	8.36	0.42	0	0.42	0	2.25		12.33	3.51	3.51	75%	95%	1.80	43.29	7.90	0.62	2.73	0.14
ACRYLIC LACQUER PRIMER & SEAL	131S	spray (HVLP)	8.06	0.60	0	0.60	0	0.60		3.29	4.80	4.80	75%	95%	0.66	15.79	2.88	0.11	0.49	0.02
UR40 UNIVERSAL LOW TEMP REDUCER	UR40	spray (HVLP)	7.40	1.00	0	1.00	0	0.50	2,000.00	2.74	7.40	7.40	75%	95%	0.84	20.27	3.70	0	0	0
UR50 UNIVERSAL MID TEMP REDUCER	UR50	spray (HVLP)	7.29	1.00	0	1.00	0	2.00		10.96	7.29	7.29	75%	95%	3.33	79.89	14.58	0	0	0
UR60 UNIVERSAL HIGH TEMP REDUCER	UR60	spray (HVLP)	7.55	0.99	0	0.99	0	0.33		1.78	7.50	7.50	75%	95%	0.56	13.35	2.44	9.80E-04	4.29E-03	2.15E-04
809 FISHEYE ELIMINATOR	809	spray (HVLP)	7.29	0.95	0	0.95	0	1.00E-03		5.48E-03	6.90	6.90	75%	95%	1.58E-03	0.04	6.90E-03	2.21E-05	9.66E-05	4.83E-06
811 CLEAR ADHESION PROMOTER	811	spray (HVLP)	7.03	0.14	0	0.14	0	0.25		1.37	1.00	1.00	75%	95%	0.06	1.37	0.25	0.09	0.38	0.02
891 FLEX AGENT	891	spray (HVLP)	7.30	0.81	0	0.81	0	0.03		0.16	5.90	5.90	75%	95%	0.04	0.97	0.18	2.40E-03	0.01	5.26E-04
DF25 DIAMOND FLEX	DF25	spray (HVLP)	8.82	0.30	0	0.30	0	0.06		0.33	2.60	2.60	75%	95%	0.04	0.86	0.16	0.02	0.09	4.66E-03
521-10 RAPID ADDITIVE	521-10	spray (HVLP)	7.33	1.00	0	1.00	0	0.01		0.05	7.30	7.30	75%	95%	0.02	0.40	0.07	1.67E-05	7.33E-05	3.67E-06
SRA REDUCER	5021/5022	spray (HVLP)	7.00	1.00	0	1.00	0	0.27		1.48	7.00	7.00	75%	95%	0.43	10.36	1.89	0	0	0
3M NO CLEANUP ROCKER GARD	8949	spray (HVLP)	7.51	0.62	0	0.62	0	0.03		0.14	4.64	4.64	75%	95%	0.03	0.64	0.12	4.09E-03	0.02	8.97E-04
Composites																				
DDM 9 CLEAR	DDM9	hand (layup)	9.04	0.06	0	0.06	0	0.35		1.92	0.52	0.52	100%	95%	0.04	1.01	0.18	0	0	0
B5504 ACRYL-R PIGMENTED SEAM	B5504	hand (layup)	8.23	0.45	0	0.45	0	0.02		0.08	3.73	3.73	100%	95%	0.01	0.31	0.06	0	0	0
UNSATURATED POLYESTER RESIN	-	hand (layup)	9.05	0.07	0	0.07	0	1.50		8.22	0.59	0.59	100%	95%	0.20	4.83	0.88	0	0	0
CORVETTE WHITE GEL-COAT	774-WT14154	spray	10.63	0.11	0	0.11	0	0.20		1.10	1.15	1.15	75%	95%	0.05	1.26	0.23	0.11	0.47	0.02
DURAGLAS PUTTY	NA	hand (layup)	13.99	0.16	0	0.16	0	0.02		0.11	2.18	2.18	100%	95%	9.97E-03	0.24	0.04	0	0	0
TAC FREE BODYFILLER	A297	hand (layup)	10.00	0.06	0	0.06	0	3.00		16.44	0.60	0.60	100%	95%	0.41	9.86	1.80	0	0	0
KAMBI PUTTY	K3005	hand (layup)	13.00	0.26	0	0.26	0	0.03		0.14	3.39	3.39	100%	95%	0.02	0.46	0.08	0	0	0
DYNASTY WHITE GELCOAT	GM15120	spray	11.43	0.10	0	0.10	0	1.50		8.22	1.19	1.19	75%	95%	0.41	9.77	1.78	0.88	3.84	0.19
STYPOL 040-4385	040-4385	hand (layup)	9.04	0.05	0	0.05	0	0.39		2.14	0.46	0.46	100%	95%	0.04	0.99	0.18	0	0	0
PATCHING AID RESIN SOLUTION	CR-0425	hand (layup)	8.27	0.09	0	0.09	0	0.12		0.66	0.73	0.73	100%	95%	0.02	0.48	0.09	0	0	0
370 POLYESTER FIBERGLAS REPAIR	370.00	hand (layup)	9.25	0.05	0	0.05	0	5.00E-03		0.03	0.48	0.48	100%	95%	5.49E-04	0.01	2.41E-03	0	0	0
Solvents/Cleaners																				
PURE GRADE LACQUER THINNER	THINNER	Not. Appl.	7.50	0.91	0	0.91	0	7.50		41.10	6.80	6.80	100%	95%	11.65	279.55	51.02	0	0	0
SOLVENT ANTI-STAT PREP	DX103	wipe	6.26	1.00	0	1.00	0	6.26		34.30	6.26	6.26	100%	95%	8.95	214.73	39.19	0	0	0
900 PRE-KLEANO	900.00	wipe	6.28	1.00	0	1.00	0	6.28		34.41	6.28	6.28	100%	95%	9.00	216.10	39.44	0	0	0
ACETONE	UN1090	wipe	6.56	0	0	0	0	6.56	2,000.00	35.95	0	0	100%	95%	0	0	0	0	0	0
SHER-WILL-CLEAN	R7K156	wipe	6.39	1.00	0	1.00	0	6.39		35.01	6.39	6.39	100%	95%	9.32	223.74	40.83	0	0	0
3M PERFECT-IT II RUBBING COMPOUND	5,973.00	wipe	8.97	0.21	0	0.21	0	8.97		49.15	1.88	1.88	100%	95%	3.86	92.59	16.90	0	0	0
3M RUBBING COMPOUND	5954/55/56	wipe	10.66	0.30	0	0.30	0	10.66		58.41	3.20	3.20	100%	95%	7.78	186.80	34.09	0	0	0

It is assumed that $PM=PM_{10}=PM_{2.5}$.

Total Material Usage (gal/day): **415.54**
Total not applied by dip, flow, roll, or brush **138.58**

Paint Lines B through E Total Surface Coating Potential to Emit: **69.93** **1,678.43** **306.31** **3.71** **16.27** **0.81**

Methodology

Transfer Efficiency - Hand or Manual Application = 100%, Aerosol = 50%, HVLP = 75%

Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water

VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)

VOC (lbs/gal) = Density (lb/gal) * Weight % Organics

VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)

VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/ day)

VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)

Uncontrolled Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)

Uncontrolled Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)

Controlled Particulate Emissions (tons/yr) = Material Usage (gal/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs) * (1-Control Efficiency)

Appendix A: Emissions Calculations

Plant 2-35 Repair & Undercoating Surface Coating

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	Control Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Uncontrolled Particulate Emissions (lbs/hr)[1]	Uncontrolled Particulate Emissions (tons/yr)	Controlled Particulate Emissions (tons/yr)
Cleaners/Solvents																				
SHER-WILL-CLEAN	R7K156	wipe	6.39	1.00	0	1.00	0	0.25		4.79	6.39	6.39	100%	95%	1.28	30.64	5.59	0	0	0
BRAKE CLEANER	4800	aerosol	6.71	0.96	0	0.96	0	0.18		3.45	6.41	6.41	75%	95%	0.92	22.12	4.04	0.01	0.05	2.38E-03
CITRUS CLEANER	CM-911	wipe	7.00	0	0	0	0	5.00E-03		0.10	0	0	100%	95%	0	0	0	0	0	0
FANTASTIC II	-	aerosol	11.68	0.98	0	0.98	0	5.00E-03		0.10	11.45	11.45	75%	95%	0.05	1.10	0.20	2.33E-04	1.02E-03	5.11E-05
NU PANEL DIP	14220	wipe	8.17	0.15	0	0.15	0	5.00E-03		0.10	1.23	1.23	75%	95%	4.90E-03	0.12	0.02	6.94E-03	0.03	1.52E-03
SPRAYON GLASS	SPR00880	aerosol	8.10	0.11	0	0.11	0	0.05	7,000.00	0.96	0.89	0.89	75%	95%	0.04	0.85	0.16	0.07	0.32	0.02
3M NATURAL	3M	aerosol	6.36	1.00	0	1.00	0	6.00E-03		0.12	6.36	6.36	75%	95%	0.03	0.73	0.13	0	0	0
ACETONE	UN-1090	wipe	6.60	0	0	0	0	0.05		0.96	0	0	100%	95%	0	0	0	0	0	0
LUBRICANT SPRAY SILICON	MC-43	aerosol	4.74	0.92	0	0.92	0	0.01		0.19	4.36	4.36	75%	95%	0.03	0.84	0.15	7.58E-04	3.32E-03	1.66E-04
TERP-A-CLEAN	-	wipe	7.85	0	0	0	0	0.10		1.92	0	0	100%	95%	0	0	0	0	0	0
BEA-TWEEN CARPET	-	aerosol	8.20	0	0	0	0	1.00E-03		0.02	0	0	75%	95%	0	0	0	1.64E-03	7.18E-03	3.59E-04
Paints																				
BROMA SPRAY	115/110	aerosol	8.21	0.41	0	0.41	0	5.00E-03	7,000.00	0.10	3.33	3.33	75%	95%	0.01	0.32	0.06	4.87E-03	0.02	1.07E-03
MOHAWK LACOVER 30	-	aerosol	7.34	0.90	0	0.90	0	5.00E-03		0.10	6.61	6.61	75%	95%	0.03	0.63	0.12	7.33E-04	3.21E-03	1.61E-04
Sealants																				
SEALANT SILICONE	795	aerosol	12.51	0.02	0	0.02	0	0.02	7,000.00	0.38	0.25	0.25	100%	95%	4.00E-03	0.10	0.02	0	0	0
SEALANT MANUS BOND ALL COLORS	75-AM/76-AM	wipe	22.50	0.12	0	0.12	0	0.08		1.53	2.70	2.70	100%	95%	0.17	4.14	0.76	0	0	0
Adhesives																				
MULTI-PURPOSE	S-235	wipe	9.84	0.33	0	0.33	0	5.00E-03	7,000.00	0.10	3.25	3.25	100%	95%	0.01	0.31	0.06	0	0	0
SUPER TAK HIGH PERFORM	SUPER TAK	wipe	5.73	0.60	0	0.60	0	0.02		0.29	3.44	3.44	100%	95%	0.04	0.99	0.18	0	0	0
Undercoating[2]																				
AQUA SEAL 2000 UNDERCOATING	2000	N.A. Spray	9.40	0.02	0	0.02	0	7.50	7,000.00	143.84	0.20	0.20	100%	95%	1.18	28.39	5.18	0	0	0
RUBBERIZED UNDERCOATING	735	N.A. Spray	7.93	0.44	0	0.44	0	6.26		120.05	3.50	3.50	100%	95%	17.49	419.85	76.62	0	0	0

Notes:

1. It is assumed that PM=PM $_{10}$=PM $_{2.5}$.

2. Undercoating operations moved to Plant 22, AA No. 039-34062-00017 issued March 18, 2014

Material Usage (gal/day) **279.08**

Total not applied by dip, flow, roll, or brush **5.22**

Potential to Emit: **21.30** **511.13** **93.28** **0.10** **0.43** **0.02**

Methodology

Transfer Efficiency - Hand or Manual Application = 100% and HVLP = 75%
Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water
VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
VOC (lbs/gal) = Density (lb/gal) * Weight % Organics
VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)
VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/ day)
VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)
Uncontrolled Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)
Uncontrolled Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)
Controlled Particulate Emissions (tons/yr) = Material Usage (gal/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs) * (1-Control Efficiency)

Appendix A: Emissions Calculations
Plant 2-35 Paint Prep

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Paint Lines	Maximum Throughput (units/hr)	Emission Factor (lbs/unit)	Control Efficiency*	Uncontrolled Particulate Emissions (lbs/hr)	Uncontrolled Particulate Emissions (tons/yr)	Controlled Particulate Emissions (lbs/hr)	Controlled Particulate Emissions (tons/yr)
Partial (Paint Line A)	2.50	5.00	0.90	12.50	54.75	1.25	5.48
Full (Paint Lines B through E)	1.00	20.00	0.90	20.00	87.60	2.00	8.76
Total				**32.50**	**142.35**	**3.25**	**14.24**

*Emissions are controlled by a general ventilation control system designed to achieve 90% collection efficiency, based on settling of large particles and capture of airborne particles in a filter at the
It is assumed that $PM=PM_{10}=PM_{2.5}$.

Methodology
Uncontrolled Particulate Emissions (lbs/hr) = Maximum Throughput (units/hr) * Emission Factor (lbs/unit)
Uncontrolled Particulate Emissions (tons/yr) = Maximum Throughput (units/hr) * Emission Factor (lbs/unit) * (8760 hr/yr) * (1 ton/2000 lbs)
Controlled Particulate Emissions (tons/yr) = Maximum Throughput (units/hr) * Emission Factor (lbs/unit) * (8760 hr/yr) * (1 ton/2000 lbs) * (1 - Control Efficiency)

Appendix A: Emissions Calculations
From Surface Coating Operations
Plant 2-35TU Touch Up Operation

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

1. VOC and PM

Manufacturer	Material	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per Gallon of	Pounds VOC per gallon of coating	Potential VOC (lb/hour)	Potential VOC (lb/day)	Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Gallons of Coating (gal/day)	Application Method	Transfer Efficiency	Substrate
Touch up coatings																		
BASF	CB bases and colors	10.98	43.70%	0%	43.70%	0%	0.0156	3.50	4.80	4.80	0.26	6.29	1.15	0.52	1.31	airless spray	65%	metal
BASF	DC5335 Glamour Clear	7.87	60.00%	15.00%	45.00%	17.88%	0.0078	3.50	4.31	3.54	0.10	2.32	0.42	0.13	0.66	airless spray	65%	metal
Cleaning solvents																		
-	lacquer thinner	7.07	100.00%	0%	100.00%	0%	0.0078	3.50	7.07	7.07	0.19	4.63	0.85	0	0.66	wipe	100%	metal
								Total or Worst Case Potential to Emit:			**0.55**	**13.24**	**2.42**	**0.65**				

METHODOLOGY
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

2. Hazardous Air Pollutants

Material ID	Density (lb/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % EB[1]	Weight % Methanol	Weight % Toluene	Weight % Xylene	EB Emissions (ton/yr)	Methanol Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylene Emissions (ton/yr)	Total HAP Emissions (ton/yr)
CB bases and colors[2]	10.98	0.0156	3.50	0.05%	0.00%	0.05%	0.10%	1.31E-03	0	1.31E-03	2.63E-03	5.25E-03
DC5335 Glamour Clear	7.87	0.0078	3.50	1.00%	0%	1.00%	3.00%	9.41E-03	0	9.41E-03	2.82E-02	4.71E-02
lacquer thinner	7.07	0.0078	3.50	0%	9.38%	66.28%	5.59%	0	7.93E-02	0.56	4.73E-02	0.69
Total Potential to Emit								**1.07E-02**	**7.93E-02**	**0.57**	**7.81E-02**	**0.74**

Notes
1. EB - ethylbenzene (CASRN 100-41-4)
2. HAP content based on default HAP concentrations for Stoddard Solvent (CASRN 80521-41-3) from Table 3, 40 CFR 63, Subpart MMMM and aliphatic groups from Table 4, 40 CFR 63, Subpart MMMM applied to heavy alkylate naphtha (CASRN 64741-65-7)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Paint Line A

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Unit	ID	Number	Capacity (MMBtu/hr) Unit	Total
Bake oven	SV2-37	1	4.00	4.00
Air Makeup Unit	--	2	4.00	8.00
			Total	**12.00**

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
12.00	1,020.00	103.06

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.90	7.60	7.60	0.60	100.00 **see below	5.50	84.00
Potential Emission in tons/yr	0.10	0.39	0.39	0.03	5.15	0.28	4.33

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.10E-03	1.20E-03	0.08	1.80	3.40E-03	
Potential Emission in tons/yr	1.08E-04	6.18E-05	3.86E-03	0.09	1.75E-04	**0.10**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.00E-04	1.10E-03	1.40E-03	3.80E-04	2.10E-03	
Potential Emission in tons/yr	2.58E-05	5.67E-05	7.21E-05	1.96E-05	1.08E-04	**2.82E-04**
Methodology is the same as above.					**Total HAPs**	**0.10**
The five highest organic and metal HAPs emission factors are provided above.					**Worst HAP**	**0.09**

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
from Surface Coating Operations
Plant 20-820 Adhesive Application

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Particulate Emissions (lbs/hr)	Particulate Emissions (tons/yr)	Particulate Emissions after Controls (tons/yr)
Adhesives																			
ADH MOR-AD	M-622	rollcoat	9.09	0.15	0	15.00%	0	0.50		9.59	1.36	1.36	100%	0.54	13.07	2.39	0	0	0
ADH RED NON-FLAM WHISPER G	LSC71700	rollcoat	10.30	0.75	0	10.00%	0	2.00		38.36	1.03	1.03	100%	1.65	39.51	7.21	0	0	0
GLUE URETHANE HOT MELT	70-7872	flow	8.80	0.02	0	2.00%	0	4.00	7,000.00	76.71	0.18	0.18	100%	0.56	13.50	2.46	0	0	0
PUR-FECT LOK	34-3182	flow	8.80	0.02	0	2.00%	0	4.00		76.71	0.18	0.18	100%	0.56	13.50	2.46	0	0	0
STIX 246	246	rollcoat	8.00	0	0	0.00%	0	0.10		1.92	0	0	100%	0	0	0	0	0	0
SUPER-TAK HP ADHESIVE	-	rollcoat	5.73	0.59	0	59.30%	0	0.01		0.19	3.40	3.40	100%	0.03	0.65	0.12	0	0	0
Solvents/Cleaners																			
METHYL ETHYL KETONE	MEK	wipe	6.70	1.00	0	100.00%	0	0.10		1.92	6.70	6.70	100%	0.54	12.85	2.35	0	0	0
ACETONE HI-MOISTURE	UN-1090	wipe	6.60	0	0	0.00%	0	0.25		4.79	0	0	100%	0	0	0	0	0	0
CLEANER MESAMOLL	L-235	wipe	8.80	0	0	0.00%	0	0.02	7,000.00	0.38	0	0	100%	0	0	0	0	0	0
DYNASOLVE	CU-5	wipe	8.84	1.00	0	100.00%	0	0.10		1.92	8.84	8.84	100%	0.71	16.95	3.09	0	0	0
ISOPROPYL ALCOHOL	IPA	wipe	6.55	1.00	0	100.00%	0	0.10		1.92	6.55	6.55	100%	0.52	12.56	2.29	0	0	0
LUBRICANT SPRAY SILICONE	MC-43	aerosol	8.00	0.90	0	90.00%	0	0.10		1.92	7.20	7.20	75%	0.58	13.81	2.52	0.02	0.07	3.50E-03

It is assumed that $PM=PM_{10}=PM_{2.5}$.

Material Usage (gal/day)	**216.33**	**Potential to Emit:**	**5.68**	**136.41**	**24.89**	**0.02**	**0.07**	**3.50E-03**
Total not applied by dip, flow, roll, or brush	**1.92**							

Methodology

Transfer Efficiency - Hand or Manual Application = 100%, Aerosol = 50%, HVLP = 75%

Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water

VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)

VOC (lbs/gal) = Density (lb/gal) * Weight % Organics

VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)

VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/ day)

VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)

Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)

Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 20-820

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				PM=PM10 =PM2.5	Mn	Ni	Cr	PM=PM10 =PM2.5	Mn	Ni	Cr	
Sidewall (Stick) Welding (E7018 electrode) (EU20-B, former EU1-8)	24	3	72.00	0.0211	0.0009			1.519	0.065	0.000	0	0.065
Metal Inert Gas (MIG)(carbon steel) (insignificant activity)	15	3	72.00	0.0055	0.0005			0.248	0.023	0.000	0	0.023
Stick (E7018 electrode) (insignificant activity)	10	3	72.00	0.0211	0.0009			0.633	0.027	0.000	0	0.027
EMISSION TOTALS												
Potential Emissions lbs/hr								2.40	0.11	0.00	0.00	0.11
Potential Emissions lbs/day								57.59	2.74	0.00	0.00	2.74
Potential Emissions tons/year								10.51	0.50	0.00	0.00	0.50

Methodology:

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 20-820C

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

PROCESS	Number of Stations	Max. electrode consumption per station		EMISSION FACTORS* (lb pollutant/lb electrode)					EMISSIONS (lbs/hr)					HAPS (lbs/hr)
WELDING		(lbs/hr)	(lb/day)	PM=PM10=PM2.5	Mn	Ni	Co	Cr	PM=PM10=PM2.5	Mn	Ni	Co	Cr	
Submerged Metal Arc (steel, E7018)[1] (EU20-820CA)	9	3	72	1.84E-02	1.03E-03	2.00E-06	1.00E-06	6.00E-06	0.497	2.78E-02	5.40E-05	2.70E-05	1.62E-04	2.81E-02
Metal Inert Gas (MIG)(aluminum, 4043)[2] (EU20-820CB)	16	3	72	0.0107	--	--	--	--	0.514	--	--	--	--	--
EMISSION TOTALS														
Potential Emissions lbs/hr									1.01	2.78E-02	5.40E-05	2.70E-05	1.62E-04	2.81E-02
Potential Emissions lbs/day									24.25	0.67	1.30E-03	6.48E-04	3.89E-03	0.67
Potential Emissions tons/year									4.43	0.12	2.37E-04	1.18E-04	7.10E-04	0.12

Notes:

1. Emission factors from Tables 12.19-1 and 12.19-2, AP-42 (1/95)

2. Emission factor for MIG welding with 4043 aluminum wire from internal IDEM guidance

Methodology:

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Description	ID	Number	Capacity (MMBtu/hr) Unit	Total
Air Makeup Unit	P820AM1	1	0.028	0.03
Thermo-cycler	P820TC1	1	0.58	0.58
Total				**0.61**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
0.61	1020	5.2

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.00	0.02	0.02	0.00	0.26	0.01	0.22

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	5.5E-06	3.1E-06	2.0E-04	0.00	8.9E-06	**0.00**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	1.3E-06	2.9E-06	3.7E-06	9.9E-07	5.5E-06	**1.4E-05**
					Total HAPs	**0.00**
					Worst HAP	**0.00**

Methodology is the same as above.
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 22-822 Welding Operations

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				PM=PM10=PM2.5	Mn	Ni	Cr	PM=PM10=PM2.5	Mn	Ni	Cr	
Metal Inert Gas (MIG)(carbon steel)	6	3.00	72.00	0.0055	0.0005			0.10	9.00E-03		0	9.00E-03
EMISSION TOTALS												
Potential Emissions lbs/hr								0.10	9.00E-03	0	0	9.00E-03
Potential Emissions lbs/day								2.38	0.22	0	0	0.22
Potential Emissions tons/year								0.43	3.94E-02	0	0	3.94E-02

Methodology:
*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lb

Appendix A: Emissions Calculations
from Surface Coating Operations
Plant 26-826 Inspection Area

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Material Name	Material ID Number	Application Method	Density (lbs/gal)	Weight % Volatiles (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Material Usage (gal/unit)	Production Capacity (units/yr)	Material Usage (gal/day)	VOC (lbs/gal) Less Water	VOC (lbs/gal)	Transfer Efficiency	VOC Emissions (lbs/hr)	VOC Emissions (lbs/day)	VOC Emissions (tons/yr)	Particulate Emissions (lbs/hr)	Particulate Emissions (tons/yr)	Particulate Emissions after Controls (tons/yr)
Solvents/Cleaners																			
ACETONE HI-MOISTURE	-	wipe	6.60	1.00	0	100.00%	0	0.10		1.92	6.60	6.60	100%	0.53	12.66	2.31	0	0	0
CLEANER	DX103	wipe	6.99	1.00	0	100.00%	0	0.02		0.38	6.99	6.99	100%	0.11	2.68	0.49	0	0	0
CLEANER WAX REMOVER	DX330	wipe	6.36	1.00	0	100.00%	0	0.04	7,000.00	0.77	6.36	6.36	100%	0.20	4.88	0.89	0	0	0
CLOPHANE WINDOW CLEANER	M028	aerosol	8.92	0.10	0	10.00%	0	0.10		1.92	0.89	0.89	100%	0.07	1.71	0.31	0	0	0
THINNER	DTL151	Not. Appl.	6.63	0.35	0	35.00%	0	0.10		1.92	2.32	2.32	100%	0.19	4.45	0.81	0	0	0
Foam Products																			
RESIN/SEALANT COMP "B"/FOAMSEAL	S7880	N.A Spray	9.84	0.29	0	29.00%	0	1.00		19.18	2.85	2.85	100%	2.28	54.73	9.99	0	0	0
SEALANT COMP "A"/FOAMSEAL BLUE	FSA-10	N.A Spray	10.34	0.05	0	5.00%	0	1.00	7,000.00	19.18	0.52	0.52	100%	0.41	9.92	1.81	0	0	0
SEALANT FILLER FOAM SPRAY/DASH	21551	N.A Spray	10.00	0.30	0	30.00%	0	0.03		0.48	3.00	3.00	100%	0.06	1.44	0.26	0	0	0
Sealants																			
SEALANT SILICONE BLACK/WHITE	795	aerosol	12.51	0.05	0	5.00%	0	0.10	7,000.00	1.92	0.63	0.63	75%	0.05	1.20	0.22	0.24	1.04	0.05
Undercoatings/Paints																			
UNDERCOATING AQUASEAL EMULSION	2000	N.A Spray	9.40	0.02	0	2.10%	0	2.50	7,000.00	47.95	0.20	0.20	100%	0.39	9.46	1.73	0	0	0
404335 RUB. UNDERCOAT SPRAY (PITT PEN)	-	N.A Spray	8.34	0.30	0	30.00%	0	0.01		0.19	2.50	2.50	100%	0.02	0.48	0.09	0	0	0

It is assumed that $PM=PM_{10}=PM_{2.5}$.

Material Usage (gal/day) **95.79** **Potential to Emit:** **4.32** **103.60** **18.91** **0.24** **1.04** **0.05**

Total not applied by dip, flow, roll, or brush **3.84**

Methodology

Weight % Organics = Weight % Volatiles (H20 & Organics) - Weight % Water

VOC (lbs/gal) Less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)

VOC (lbs/gal) = Density (lb/gal) * Weight % Organics

VOC Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (1 yr/8760 hrs)

VOC Emissions (lbs/day) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day)

VOC Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * Weight % Organics * (24 hrs/day) * (365 day/yr) * (1 ton/2000 lbs)

Particulate Emissions (lbs/hr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (1 yr/8760 hrs)

Particulate Emissions (tons/yr) = Material Usage (gal/unit) * Production Capacity (units/yr) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer Efficiency) * (8760 hrs/ yr) * (1 ton/ 2000 lbs)

Transfer Efficiency - Hand or Manual Application = 100%, Aerosol = 50%, HVLP = 75%

Appendix A: Emissions Calculations
VOC, Particulate, and HAPs (lead)
Plant 28-828 Wire Harness Assembly Operations (WHA)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Solder - Inorganic

Material	Material Usage Rate	Emission Factor	Potential to Emit of PM/PM10 and Lead		
	(lb/hr)	(lb/ton)	(lb/hr)	(lb/day)	(tons/yr)
SN60/PB40 Bar Solder	0.025	1.5	1.88E-05	4.50E-04	8.21E-05

PTE, PM/PM10/Lead (lb/hr) = Material Usage Rate (lb/hr) / 2,000 (lbs/ton) * Emission Factor (lb/ton)
PTE, PM/PM10/Lead (lb/day) = PTE, PM/PM10/Lead (lb/hr) * 24 hrs/day
PTE, PM/PM10/Lead (tons/yr) = PTE, PM/PM10/Lead (lb/hr) * 8,760 hrs/yr * 1 ton / 2,000 lbs

Flux - Organic

Material	Material Usage Rate	Density	VOC Content		PTE of VOC			HAP Content (Methanol CAS 67-56-1)		PTE of HAP (Methanol CAS 67-56-1)		
	(lb/hr)	(lb/gal)	(%)	(lb/gal)	(lb/hr)	(lb/day)	(tons/yr)	(%)	(lb/gal)	(lb/hr)	(lb/day)	(tons/yr)
1544 Rosin Soldering Flux	0.0039	7.76	49.7%	3.86	0.002	0.05	**8.49E-03**	2.5%	0.19	9.75E-05	2.34E-03	**4.27E-04**

	(lb/hr)	(lb/day)	(tons/yr)
PTE Total HAP(s) - Lead and Methanol	1.16E-04	2.79E-03	5.09E-04

PTE, VOC/HAP (lb/hr) = Material Usage Rate (lb/hr) * VOC/HAP Weight Content (%)
PTE, VOC/HAP (lb/day) = PTE, VOC/HAP (lb/hr) * 24 hr/day
PTE, VOC/HAP (tons/yr) = PTE, VOC/HAP (lb/hr) * 8,760 hrs/yr * 1 ton/ 2,000 lbs/ton

Notes: Lead emission factor from AP-42, Chapter 12.17 *Miscellaneous Lead Products*. Lead emissions are presumed to be equal to PM and PM10 emissions.

Appendix A: Emissions Calculations
From Surface Coating Operations
Plant 29-829 Diesel Service Center

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

1. VOC and PM

Material	Material ID Number	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per Gallon of Coating less Water & Exempts	Pounds VOC per gallon of coating	Potential VOC (lb/hour)	Potential VOC (lb/day)	Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Gallons of Coating (gal/day)	Application Method	Transfer Efficiency
Adhesives																	
ADH BLACK WELD ABS CEMENT P773GL	30271	7.17	90.00%	0%	90.00%	0%	0.2000	0.03	6.45	6.45	0.04	0.93	0.17	0.00	0.14	brush	100%
ADH PARR/5942 CONSTRUCTION 40	5927	10.00	30.00%	0%	30.00%	0%	0.5000	0.03	3.00	3.00	0.05	1.08	0.20	0.00	0.36	tube	100%
ADH SIKAFLEX	221	9.90	5.99%	0%	5.99%	0%	0.5000	0.03	0.59	0.59	0.01	0.21	0.04	0.00	0.36	tube	100%
ADH ARMSTRONG MULTIPURPOSE	S-235	9.84	3.50%	0%	3.50%	0%	0.3000	0.03	0.34	0.34	0.00	0.07	0.01	0.00	0.22	wipe	100%
ADH SIKAFLEX	252	9.70	9.77%	0%	9.77%	0%	0.2000	0.03	0.95	0.95	0.01	0.14	0.02	0.00	0.14	tube	100%
ADH SPRAY STAPUT	97,351.00	10.00	95.00%	0%	95.00%	0%	0.4000	0.03	9.50	9.50	0.11	2.74	0.50	0.01	0.29	N.A Spray	75%
ADH TITEBOND	3120	9.67	0.10%	0%	0.10%	0%	0.5000	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.36	tube	100%
VULTRAFOAM 16-L-716 PART A	16L716A	10.26	0.00%	0%	0.00%	0%	1.0000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.72	N.A Spray	100%
VULTRAFOAM 16-L-716 PART B	16L716B	9.01	0.00%	0%	0.00%	0%	1.0000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.72	N.A Spray	100%
Paints																	
PAINT SPRAY BLACK BROMA	115/110	8.30	83.00%	0%	83.00%	0%	0.2000	0.03	6.89	6.89	0.04	0.99	0.18	0.01	0.14	Spray	75%
PRIMER FOURSEAL	18-9001	10.44	35.88%	0%	35.88%	0%	0.3000	0.03	3.75	3.75	0.03	0.81	0.15	0.07	0.22	Spray	75%
PRIMER FOURSEAL	7865	7.00	80.00%	0%	80.00%	0%	0.3000	0.03	5.60	5.60	0.05	1.21	0.22	0.01	0.22	Spray	75%
Caulks/Sealants																	
SEALANT FILLER FOAM SPRAY	21551	10.00	30.00%	0%	30.00%	0%	0.3000	0.03	3.00	3.00	0.03	0.65	0.12	0.00	0.22	N.A Spray	100%
SEALANT MANUS BOND ALL COLORS	75-AM/76-AM	22.50	12.00%	0%	12.00%	0%	0.5000	0.03	2.70	2.70	0.04	0.97	0.18	0.00	0.36	wipe	100%
SEALANT SILICONE BLACK	795	12.51	2.00%	0%	2.00%	0%	0.5000	0.03	0.25	0.25	0.00	0.09	0.02	0.20	0.36	aerosol	75%
SEALANT SILICONE CLEAR	999	8.50	5.00%	0%	5.00%	0%	0.2000	0.03	0.43	0.43	0.00	0.06	0.01	0.00	0.14	tube	100%
SEALANT SILICONE WHITE	795	12.51	2.00%	0%	2.00%	0%	0.4000	0.03	0.25	0.25	0.00	0.07	0.01	0.16	0.29	aerosol	75%
Solvents/Cleaners																	
ACETONE	--	6.60	100.00%	0%	100.00%	0%	0.5000	0.03	6.60	6.60	0.10	2.38	0.43	0.00	0.36	wipe	100%
CLEANER AFTA	4005	6.50	96.00%	0%	96.00%	0%	0.1000	0.03	6.24	6.24	0.02	0.45	0.08	0.00	0.07	wipe	100%
CLEANER CAMPER	38-8815	8.51	0.00%	0%	0.00%	0%	0.1000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.07	wipe	100%
CLEANER NU PANEL DAP	14220	8.17	15.00%	0%	15.00%	0%	0.2000	0.03	1.23	1.23	0.01	0.18	0.03	0.00	0.14	wipe	100%
CLEANER/SOLVENT/ DEGREASER	BPK200	5.63	100.00%	0%	100.00%	0%	0.3000	0.03	5.63	5.63	0.05	1.22	0.22	0.00	0.22	wipe	100%
CLEANER SPRAYON GLASS	880	8.10	11.00%	0%	11.00%	0%	0.3000	0.03	0.89	0.89	0.01	0.19	0.04	0.07	0.22	spray	75%
LUBRICANT SPRAY SILICONE	MC-43	4.74	92.00%	0%	92.00%	0%	0.2000	0.03	4.36	4.36	0.03	0.63	0.11	0.00	0.14	aerosol	75%
SOLVENT FOR INSTANT ADHESIVES	76820	9.18	100.00%	0%	100.00%	0%	0.1000	0.03	9.18	9.18	0.03	0.66	0.12	0.00	0.07	wipe	100%
SOLVENT CLEAN SAFE	C-60/MC22	8.34	95.60%	0%	95.60%	0%	0.1000	0.03	7.97	7.97	0.02	0.57	0.10	0.00	0.07	wipe	100%
THINNER	DTL876	7.50	100.00%	0%	100.00%	0%	0.2200	0.03	7.50	7.50	0.05	1.19	0.22	0.00	0.16	Not. Appl.	100%
THINNER ALL PURPOSE	DTL16G	6.66	99.99%	0%	99.99%	0%	0.2200	0.03	6.66	6.66	0.04	1.05	0.19	0.00	0.16	Not. Appl.	100%
LACQUER THINNER	91665	7.01	100.00%	0%	100.00%	0%	0.4400	0.03	7.01	7.01	0.09	2.22	0.41	0.00	0.32	Not. Appl.	100%
									Total or Worst Case Potential to Emit:		**0.87**	**20.76**	**3.79**	**0.53**		

Gallons of Surface Coatings per Day Not Otherwise Exempted Under 326 IAC 6-3-1(b)(5)-(8) **2.22**

Appendix A: Emissions Calculations
From Surface Coating Operations
Plant 854 Gasoline Service Center

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

1. VOC and PM

Material	Material ID Number	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per Gallon of Coating less Water & Exempts	Pounds VOC per gallon of coating	Potential VOC (lb/hour)	Potential VOC (lb/day)	Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Gallons of Coating (gal/day)	Application Method	Transfer Efficiency
Adhesives																	
ADH BLACK WELD ABS CEMENT P773GL	30271	7.17	90.00%	0%	90.00%	0%	0.2000	0.03	6.45	6.45	0.04	0.88	0.16	0.00	0.14	brush	100%
ADH PARR/5942 CONSTRUCTION 40	5927	10.00	30.00%	0%	30.00%	0%	0.5000	0.03	3.00	3.00	0.04	1.03	0.19	0.00	0.34	tube	100%
ADH SIKAFLEX	221	9.90	5.99%	0%	5.99%	0%	0.5000	0.03	0.59	0.59	0.01	0.20	0.04	0.00	0.34	tube	100%
ADH ARMSTRONG MULTIPURPOSE	S-235	9.84	3.50%	0%	3.50%	0%	0.3000	0.03	0.34	0.34	0.00	0.07	0.01	0.00	0.21	wipe	100%
ADH SIKAFLEX	252	9.70	9.77%	0%	9.77%	0%	0.2000	0.03	0.95	0.95	0.01	0.13	0.02	0.00	0.14	tube	100%
ADH SPRAY STAPUT	97,351.00	10.00	95.00%	0%	95.00%	0%	0.4000	0.03	9.50	9.50	0.11	2.60	0.48	0.01	0.27	N.A Spray	75%
ADH TITEBOND	3120	9.67	0.10%	0%	0.10%	0%	0.5000	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.34	tube	100%
VULTRAFOAM 16-L-716 PART A	16L716A	10.26	0.00%	0%	0.00%	0%	1.0000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.68	N.A Spray	100%
VULTRAFOAM 16-L-716 PART B	16L716B	9.01	0.00%	0%	0.00%	0%	1.0000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.68	N.A Spray	100%
Paints																	
PAINT SPRAY BLACK BROMA	115/110	8.30	83.00%	0%	83.00%	0%	0.2000	0.03	6.89	6.89	0.04	0.94	0.17	0.01	0.14	Spray	75%
PRIMER FOURSEAL	18-9001	10.44	35.88%	0%	35.88%	0%	0.3000	0.03	3.75	3.75	0.03	0.77	0.14	0.06	0.21	Spray	75%
PRIMER FOURSEAL	7865	7.00	80.00%	0%	80.00%	0%	0.3000	0.03	5.60	5.60	0.05	1.15	0.21	0.01	0.21	Spray	75%
Caulks/Sealants																	
SEALANT FILLER FOAM SPRAY	21551	10.00	30.00%	0%	30.00%	0%	0.3000	0.03	3.00	3.00	0.03	0.62	0.11	0.00	0.21	N.A Spray	100%
SEALANT MANUS BOND ALL COLORS	75-AM/76-AM	22.50	12.00%	0%	12.00%	0%	0.5000	0.03	2.70	2.70	0.04	0.92	0.17	0.00	0.34	wipe	100%
SEALANT SILICONE BLACK	795	12.51	2.00%	0%	2.00%	0%	0.5000	0.03	0.25	0.25	0.00	0.09	0.02	0.19	0.34	aerosol	75%
SEALANT SILICONE CLEAR	999	8.50	5.00%	0%	5.00%	0%	0.2000	0.03	0.43	0.43	0.00	0.06	0.01	0.00	0.14	tube	100%
SEALANT SILICONE WHITE	795	12.51	2.00%	0%	2.00%	0%	0.4000	0.03	0.25	0.25	0.00	0.07	0.01	0.15	0.27	aerosol	75%
Solvents/Cleaners																	
ACETONE	--	6.60	100.00%	0%	100.00%	0%	0.5000	0.03	6.60	6.60	0.09	2.26	0.41	0.00	0.34	wipe	100%
CLEANER AFTA	4005	6.50	96.00%	0%	96.00%	0%	0.1000	0.03	6.24	6.24	0.02	0.43	0.08	0.00	0.07	wipe	100%
CLEANER CAMPER	38-8815	8.51	0.00%	0%	0.00%	0%	0.1000	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.07	wipe	100%
CLEANER NU PANEL DAP	14220	8.17	15.00%	0%	15.00%	0%	0.2000	0.03	1.23	1.23	0.01	0.17	0.03	0.00	0.14	wipe	100%
CLEANER/SOLVENT/ DEGREASER	BPK200	5.63	100.00%	0%	100.00%	0%	0.3000	0.03	5.63	5.63	0.05	1.16	0.21	0.00	0.21	wipe	100%
CLEANER SPRAYON GLASS	880	8.10	11.00%	0%	11.00%	0%	0.3000	0.03	0.89	0.89	0.01	0.18	0.03	0.07	0.21	spray	75%
LUBRICANT SPRAY SILICONE	MC-43	4.74	92.00%	0%	92.00%	0%	0.2000	0.03	4.36	4.36	0.02	0.60	0.11	0.00	0.14	aerosol	75%
SOLVENT FOR INSTANT ADHESIVES	76820	9.18	100.00%	0%	100.00%	0%	0.1000	0.03	9.18	9.18	0.03	0.63	0.11	0.00	0.07	wipe	100%
SOLVENT CLEAN SAFE	C-60/MC22	8.34	95.60%	0%	95.60%	0%	0.1000	0.03	7.97	7.97	0.02	0.55	0.10	0.00	0.07	wipe	100%
THINNER	DTL876	7.50	100.00%	0%	100.00%	0%	0.2200	0.03	7.50	7.50	0.05	1.13	0.21	0.00	0.15	Not. Appl.	100%
THINNER ALL PURPOSE	DTL16G	6.66	99.99%	0%	99.99%	0%	0.2200	0.03	6.66	6.66	0.04	1.00	0.18	0.00	0.15	Not. Appl.	100%
LACQUER THINNER	91665	7.01	100.00%	0%	100.00%	0%	0.4400	0.03	7.01	7.01	0.09	2.11	0.39	0.00	0.30	Not. Appl.	100%
									Total or Worst Case Potential to Emit:		**0.82**	**19.75**	**3.60**	**0.51**		

Gallons of Surface Coatings per Day Not Otherwise Exempted Under 326 IAC 6-3-1(b)(5)-(8) **2.11**

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 32-7/8 Welding Operations

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				PM=PM10=PM2.5	Mn	Ni	Cr	PM=PM10=PM2.5	Mn	Ni	Cr	
Metal Inert Gas (MIG)(carbon steel)	4	3.00	72.00	0.0055	0.0005			0.07	6.00E-03		0	6.00E-03
EMISSION TOTALS												
Potential Emissions lbs/hr								0.07	6.00E-03	0	0	6.00E-03
Potential Emissions lbs/day								1.58	0.14	0	0	0.14
Potential Emissions tons/year								0.29	2.63E-02	0	0	2.63E-02

Methodology:
*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)
Maximum Input Rate (<=4.2 MMBtu/hr)
Plant 35-833E (fire pump southeast of Plant 2-35)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Output Horsepower Rating (hp)	140.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	1,226,400

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	1.35	1.35	1.35	1.26	19.01	1.54	4.10

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	4.00E-03	1.76E-03	1.22E-03	1.68E-04	5.07E-03	3.29E-03	3.97E-04	7.21E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	**1.66E-02**

Methodology
Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 36-836 Welding Operations

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/hr)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Metal Inert Gas (MIG)(carbon steel)	44	3	72	0.0055	0.0005			0.726	6.60E-02	0	0	6.60E-02
EMISSION TOTALS												
Potential Emissions lbs/hr								0.73	6.60E-02	0	0	6.60E-02
Potential Emissions lbs/day								17.42	1.58	0	0	1.58
Potential Emissions tons/year								3.18	0.29	0	0	0.29

Methodology:

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
Welding and Thermal Cutting
Plant 56-5 Welding and Thermal Cutting (P56-WC)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				PM=PM10=PM2.5	Mn	Ni	Cr	PM=PM10=PM2.5	Mn	Ni	Cr	
Metal Inert Gas (MIG)(E70S)	5.00	3.00	72.00	5.20E-03	3.18E-04			7.80E-02	4.77E-03	0	0	4.77E-03
EMISSION TOTALS												
Potential Emissions lbs/hr								7.80E-02	4.77E-03	0	0	4.77E-03
Potential Emissions lbs/day								1.87	0.11	0	0	0.11
Potential Emissions tons/year								0.34	2.09E-02	0	0	2.09E-02

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Calculations
From Surface Coating Operations
Plant 450 Assembly Operations (P450AO)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

1. VOC and PM

Manufacturer	Material	Density	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Gal of Mat.	Maximum	Pounds VOC per Gallon of Coating less Water & Exempts	Pounds VOC per gallon of coating	Potential VOC			Particulate Potential	Gallons of Coating	Application Method	Transfer Efficiency	Substrate
		(lb/gal)					(gal/unit)	(unit/hour)			(lb/hour)	(lb/day)	(ton/yr)	(ton/yr)	(gal/day)			
Sealant	600 Clear	8.51	2.00%	0%	2.00%	0.00%	0.42	1.50	0.17	0.17	0.11	2.57	0.47	0.00	15.12	Manual	100%	Metal/Plastic
Sealant	600 Black	10.84	2.00%	0%	2.00%	0.00%	1.26	1.50	0.22	0.22	0.41	9.83	1.79	0.00	45.36	Manual	100%	Metal/Plastic
Sealant	600 White	11.18	3.00%	0%	3.00%	0.00%	0.61	1.50	0.34	0.34	0.31	7.37	1.34	0.00	21.96	Manual	100%	Metal/Plastic
Sealant	75-AM	14.18	0.53%	0%	0.53%	0.00%	7.71	1.50	0.08	0.08	0.87	20.86	3.81	0.00	277.56	Manual	100%	Metal/Plastic
Sealant	Glass/Metal Sealant	8.67	2.00%	0%	2.00%	0.00%	0.44	1.50	0.17	0.17	0.11	2.75	0.50	0.00	15.84	Manual	100%	Metal/Glass
Adhesive	Poly Foam	10.50	17.00%	0%	17.00%	0.00%	0.02	1.50	1.79	1.79	0.05	1.29	0.23	0.00	0.72	Manual	100%	Metal/Wood
Adhesive	3M Trim Adhesive	6.05	50.74%	23.50%	27.24%	21.51%	0.04	1.50	2.10	1.65	0.10	2.37	0.43	0.39	1.44	Aerosol	50%	Metal/Plastic
Adhesive	3M Fastbond	9.17	55.00%	51.60%	3.40%	56.74%	0.53	1.50	0.72	0.31	0.25	5.95	1.09	0.00	19.08	Flow	100%	Wood/Plastic
Adhesive	Sta-Put 2001M	5.87	75.70%	0%	75.70%	0.00%	0.08	1.50	4.44	4.44	0.53	12.80	2.34	0.00	2.88	Flow	100%	Wood/Plastic
Adhesive	Low VOC Adhesive	11.01	55.00%	51.21%	3.79%	67.60%	1.15	1.50	1.29	0.42	0.72	17.28	3.15	0.00	41.40	Manual	100%	Wood/Plastic
Coating	Spray Paint Gloss Black	5.80	90.92%	29.00%	61.92%	25.45%	0.04	1.50	4.82	3.59	0.22	5.17	0.94	0.07	1.44	Aerosol	50%	Wood/Plastic
Cleaner	Citrus Cleaner	9.37	100.00%	0%	100%	0.00%	0.03	1.50	9.37	9.37	0.42	10.12	1.85	0.00	1.08	Wiping	100%	NA
Cleaner	Glass Cleaner	8.17	99.90%	87.90%	12.00%	86.11%	0.03	1.50	7.06	0.98	0.04	1.06	0.19	0.00	1.08	Aerosol	50%	NA
Cleaner	Lacquer Thinner	7.07	100.00%	0%	100%	0.00%	0.02	1.50	7.07	7.07	0.21	5.09	0.93	0.00	0.72	Wiping	100%	NA
Lubricant	Silicone Lubricant	5.42	60.00%	0%	60.00%	0.00%	0.10	1.50	3.25	3.25	0.49	11.71	2.14	0.71	3.60	Aerosol	50%	Metal
								Total or Worst Case Potential to Emit:			**4.84**	**116.21**	**21.21**	**1.17**				

Worst-case PTE when Coating Metal:	**58.74**	**10.72**
Worst-case PTE when Coating Substrates not Otherwise Regulated by 326 IAC 8:	**57.46**	**10.49**

Gallons of Surface Coatings per Day Not Otherwise Exempted Under 326 IAC 6-3-1(b)(5)-(8) **2.88**

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

HAZARDOUS AIR POLLUTANTS

Material	Material ID	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Methanol	Weight % Toluene	Weight % Xylene	Methanol Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylene Emissions (ton/yr)	Total HAP Emissions (ton/yr)
	600 Clear	8.51	0.42	1.50	0%	0%	0%	0	0	0	0
	600 Black	10.84	1.26	1.50	0%	0%	0%	0	0	0	0
	600 White	11.18	0.61	1.50	0%	0%	0%	0	0	0	0
	75-AM	14.18	7.71	1.50	0%	0%	0%	0	0	0	0
	Glass/Metal Sealant	8.67	0.44	1.50	0%	0%	0%	0	0	0	0
	3M Trim Adhesive	6.05	0.04	1.50	0%	0%	0%	0	0	0	0
	3M Fastbond	9.17	0.53	1.50	2.50%	3.00%	0%	0.80	0.96	0	1.76
	Sta-Put 2001M	5.87	0.08	1.50	0%	0%	0%	0	0	0	0
	Low VOC Adhesive	11.01	1.15	1.50	0%	0%	0%	0	0	0	0
	Spray Paint Gloss Black	5.8	0.04	1.50	0%	14.00%	0%	0	0.21	0	0.21
	Citrus Cleaner	9.37	0.03	1.50	0%	0%	0%	0	0	0	0
	Glass Cleaner	8.17	0.03	1.50	0%	0%	0%	0	0	0	0
	Lacquer Thinner	7.07	0.02	1.50	9.38%	66.28%	5.59%	0.09	0.62	0.05	0.75
	Silicone Lubricant	5.42	0.10	1.50	0%	0%	0%	0	0	0	0
Potential Emissions								**0.89**	**1.79**	**0.05**	**2.72**

METHODOLOGY

*Reactive Components - 1% of Available Content is Actually Estimated to be Emitted
HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Plant 450 Woodworking (P450WW)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Unit ID	Control Device	Outlet Grain Loading (gr/dscf)	Maximum Air Flow Rate (dscfm)	Potential to Emit		Control Efficiency	Uncontrolled Emissions	
				(lb/hr)	(tons/yr)		(lb/hr)	(tons/yr)
P450WW	P450DC1	0.001	10000	8.57E-02	0.38	99%	8.57	37.54

Appendix A: Emissions Calculations
Plant 450 Miscellaneous Operations (P450MO)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Process	Description	Unit ID	Material Input (lb/hr)	Material Thickness (in)	Cutting Surface Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Potential to Emit PM = PM_{10} = $PM_{2.5}$ (lb/hr)	Potential to Emit PM = PM_{10} = $PM_{2.5}$ (tons/yr)
Woodworking	Two (2) drill machines	DM1, DM2	200	0.125	0.25	50	1.56	0.026	4.07E-02	0.18
Woodworking	Two (2) band saws	BS1, BS2	200	0.125	0.0625	50	0.39	0.026	1.02E-02	4.46E-02
Aluminum cutting	One (1) band saw	BS3	100	0.125	0.0625	25	0.20	0.095	1.86E-02	8.17E-02
Aluminum cutting	Five (5) chop saws	CS1 - CS5	500	0.125	0.1875	125	2.93	0.095	0.28	1.23
Aluminum cutting	One (1) abrasive saw	AS1	100	0.125	0.1875	25	0.59	0.095	5.59E-02	0.25
Total										**1.77**

Material densities	(lb/ft^3)	(lb/in^3)
Wood (Southern yellow pine, dry)	45	0.026
Aluminum	165	0.095

Source: Table, pg 655, T. Glover, Pocket Ref, 3rd ed., Sequoia Publishing, Inc., Littleton, CO, 2008
(lb/in^3) = (lb/ft^3) / 1,728 (in^3/ft^3)

Methodology
Material Loss (in^3/hr) = Material Thickness (in) x (Cutting Surface Thickness (in) x Process Rate (in/hr)
Potential to Emit (lb/hr) = Material Loss (in^3/hr) x Material Density (lb/in^3)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

Appendix A: Emissions Calculations
Plant 450 Natural Gas Combustion (P450NGC)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Description	Unit ID	Number of Units	Capacity (MMBtu/hr) Unit	Total
Space heater	OH1	1	0.12	0.12
Thermo-cycler	TC1, TC2	2	0.58	1.16
Air makeup unit	AM1	1	0.97	0.97
			Total	**2.25**

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
2.25	1020	19.3

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	1.84E-02	7.34E-02	7.34E-02	5.80E-03	0.97	5.31E-02	0.81

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	2.03E-05	1.16E-05	7.25E-04	1.74E-02	3.29E-05	**1.82E-02**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	4.83E-06	1.06E-05	1.35E-05	3.67E-06	2.03E-05	**5.29E-05**
					Total HAPs	**1.82E-02**
					Worst HAP	**1.74E-02**

Methodology is the same as above.
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Plant 450 Fuel Tanks

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation emission factors from AP-42 Chapter 5.2 Transportation And Marketing Of Petroleum Liquids were used. The total potential emission of VOC is as follows:

A. Gasoline Tank (GT1)

Gasoline Throughput = 25.00 kgal/yr

Volatile Organic Compounds (VOC)

Emission Source	Emission Factor (lb/kgal of throughput)*	PTE of VOC (tons/yr)
Filling storage tank (splash filling)	11.50	0.1438
Tank breathing and emptying	1.00	0.0125
Vehicle refueling (displaced losses - uncontrolled	11.00	0.1375
Spillage	0.70	0.0088
	Total	**0.303**

Methodology
The gasoline throughput was provided by the source.
*Emission Factors from AP-42 Chapter 5.2 Transportation And Marketing Of Petroleum Liquids (dated 6/08), Table 5.2-7
PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]

Hazardous Air Pollutants (HAPs)

Volatile Organic HAP	CAS#	Hazardous Air Pollutant (HAP) Content (vapor mass fraction)**	PTE of HAP (tons/yr)	
Benzene	71-43-2	0.37%	1.1E-03	
n-Hexane	110-54-3	0.34%	1.0E-03	
Toluene	108-88-3	0.40%	1.2E-03	
m-Xylenes	108-38-3	0.11%	3.3E-04	
	Total PTE of HAPs (tons/yr)		**3.7E-03**	
	PTE of Worst Single HAP (tons/yr)		**1.2E-03**	**(Toluene)**

Methodology
**Source: US EPA TANKS Version 4.09 program
PTE of Total HAPs (tons/yr) = [Total HAP Content (% by weight)] * [PTE of VOC (tons/yr)]
PTE of HAP (tons/yr) = [Hazardous Air Pollutant (HAP) Content (vapor mass fraction)] * [PTE of VOC (tons/yr)]

B. Diesel Fuel Tank (DT1)

Diesel Throughput = 25.01 kgal/yr

Volatile Organic Compounds (VOC)

Emission Source	Emission Factor (lb/kgal of throughput)*	PTE of VOC (tons/yr)
Filling storage tank (splash filling)	2.37E-02	2.97E-04
Tank breathing and emptying	2.07E-03	2.58E-05
Vehicle refueling (displaced losses - uncontrolled	2.27E-02	2.84E-04
Spillage	1.45E-03	1.81E-05
	Total	**6.25E-04**

Methodology
The diesel fuel throughput was provided by the source.
*Emission Factors from AP-42 Chapter 5.2 Transportation And Marketing Of Petroleum Liquids (dated 6/08), Table 5.2-7
scaled for the different liquid using Eqn 1, Chapter 5.2:

$$L_L = 12.46\ (SPM/T)$$

Where L_L = loading loss, lb/kgal
S = a scaling factor from Table 5.2-1, in this case S = 1.45 for splash loading in dedicated normal service
P = true vapor pressure of the liquid, psia
M = molecular weight of vapors, lb/lb-mole
T = temperature of the bulk liquid, °R

So for any two liquids, $(L_1/L_2) = [12.46\ S_1P_1M_1/T_1] / [(12.46\ S_2P_2M_2/T_2]$

which reduces to $(L_1/L_2) = (P_1M_1) / (P_2M_2)$ because S and T are the same for both liquids

or $L_1 = (P_1M_1) / (P_2M_2) \times L_2$

and the gasoline emission factors from Table 5.2-7 are scaled for diesel fuel using representative physical properties from AP-42, Table 7.1-2:

Product	P, psia at 70°F	M lb/lb-mole
Distillate fuel oil No.2	0.0065	130
Gasoline (RVP10)	6.2	66

PTE of VOC (tons/yr) = Diesel Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]
HAP emissions from diesl fuel are considered negligible

Appendix: Emissions Calculations
from Surface Coating Operations
Plant 831 Laminators

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

1. VOC and PM

Process	Manufacturer	Material	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempts	Weight % Organics	Volume % Water & Exempts	Volume % Non-Volatiles[1] (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hr)	Gallons of Coating per Day (gal/day)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential to Emit VOC[1,2] (lb/hr)	(lb/day)	(tons/yr)	Substrate
FCL1[3]	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL2	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL3[4]	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	3.50	168.00	0	0	7.68E-08	1.84E-06	3.36E-07	Metal/Plastic
Total of surface coating operations not determined to be insignificant for PSD														**5.38E-07**	**1.29E-05**	**2.35E-06**	
FCL4	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL5	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL6	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL7	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL8	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
FCL9	Henkel	Macroplast UR-8343	9.17	0%	0%	0%	0%	100%	2.00	10.50	504.00	0	0	2.30E-07	5.53E-06	1.01E-06	Metal/Plastic
Uncontrolled Potential VOC Emissions														**1.38E-06**	**3.32E-05**	**6.05E-06**	

Notes

1. VOC emissions taken to be equal to total HAP emissions because the SDS indicates that product does not contain VOC, see MDI Methodology, below.
2. Flowcoat-type application method does not generate PM so, pursuant to 326 IAC 6-3-1(b)(7), the processes are exempt from 326 IAC 6-3
3. FCL1 formerly identified as sidewall lamination operation exhausting to stack GV1-1
4. FCL3 formerly identified as sidewal lamination operation GV32-1 (formerly GV56-1, formerly GV54-1)

Methodology
PTE (lb/day) = PTE (lb/hr) x 24 (hr/day)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

2. Hazardous Air Pollutants

Process	Manufacturer	Material	Density (Lb/Gal)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Weight % MDI[1]	MDI Emissions[2] (tons/yr)	Total HAP Emissions (ton/yr)
FCL1	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL2	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL3	Henkel	Macroplast UR-8343	9.17	2.00	3.50	30.00%	3.36E-07	3.36E-07
FCL4	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL5	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL6	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL7	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL8	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
FCL9	Henkel	Macroplast UR-8343	9.17	2.00	10.50	30.00%	1.01E-06	1.01E-06
Uncontrolled Potential HAP Emissions							**8.41E-06**	**8.41E-06**

Notes:
1. MDI - methylene diphenyl diisocyanate (CASRN 101-68-8), does not include isomers, oligomers, or polymers.
2. Calculated MDI/HAP emissions based on Center for the Polyurethanes Industry methodology cited below.

METHODOLOGY
HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

MDI Methodology
Pure MDI is a solid at room temperature and has an extremely low vapor pressure (1.0×10^{-5} mm Hg @ 298.2 K). MDI is also a highly reactive chemical which readily undergoes a chemical reaction to form a non volatile polyurethane polymer.
Therefore, the potential VOC/HAP emissions are estimated by engineering calculations utilizing physical and chemical properties and fundamental relationships, such as, Raoult's law, Henry's law, and the ideal gas law.
The following formula, obtained from the cited reference, is used to estimate the potential MDI evaporative loss in a lamination process;

Appendix D, Equation 7.0, Calculating Emissions From Open Processes

$$W = 25.4 * VP_{MDI} * (M_W / T_{proc}) * u^{0.78} * S_A * t_{TF} * K_{MDI}$$

Where: W = Evaporative Losses, g/day
VP_{MDI} = MDI Vapor Pressure at process temperature, atm
= 1.023E-05 mm Hg, Table A-1, Reporting Guidelines
= 1.346E-08 atm
M_W = Molecular Weight
= 250.26 g/g-mole
T_{proc} = Process Temperature (Kelvin)
= 77 °F (ambient conditions)
= 298 K
u = Airflow speed, m/s
= 100 ft/min (assumed worst case for the work area)
= 0.51 m/s
S_A = Exposed Surface Area, m^2/day

worst-case:	336	ft^2/unit, based on maximum panel dimensions of 8 ft x 42 ft		
FCL1, FCL2	FCL3	FCL4-FCL-6		
10.50	3.50	10.50	unit/hr	
3528	1176	3528	ft^2/hr	
S_A = 84,672	28,224	84,672	ft^2/day	
= 7,866	2,622	7,866	m^2/day	

t_{TF} = Tack Free Time, sec
= 5.00 sec (default value)
K_{MDI} = Vapor Pressure Adjustment Factor for MDI Concentration
= 0.377 interpolated from Table B-1, Reporting Guidelines, 77ºF

	FCL1, FCL2	FCL3	FCL4-FCL-6	
Then W =	2.51E-03	8.36E-04	2.51E-03	g/day
=	1.04E-04	3.48E-05	1.04E-04	g/hr
MDI PTE =	2.30E-07	7.68E-08	2.30E-07	lb/hr
=	1.01E-06	3.36E-07	1.01E-06	tons/yr

METHODOLOGY REFERENCE
MDI Emissions Reporting Guidelines for the Polyurethanes Industry, American Chemistry Council, Center for the Polyurethanes Industry, Washington, DC, May 2012

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)
Maximum Input Rate (<=4.2 MMBtu/hr)
Plant 831 Emergency Generator (EG2)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Output Horsepower Rating (hp)	480.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	240,000

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.26	0.26	0.26	0.25	3.72	0.30	0.80

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	7.84E-04	3.44E-04	2.39E-04	3.28E-05	9.91E-04	6.44E-04	7.77E-05	1.41E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	**3.25E-03**

Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

Appendix A: Emission Calculations
Plant 831 Emergency Generator (EG2)
Diesel Fuel Tank (EG2DT)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Minor Source Modification No.: 039-47470-00017
Reviewer: Madison Spahn

References are to Chapter 7, AP-42 (11/06) except as noted

Indianapolis Meteorological Data (Tbl 7.1-7)

Average daily maximum ambient temperature, T_{AX} = 62.0 °F
Average daily minimum ambient temperature, T_{AN} = 42.2 °F
Daily total insolation, I = 1165 Btu/ft^2-day
average atmospheric pressure, P_A = 14.33 psia

from Table 7.1-6		color	condition	
α =	0.68	med gray	good	description provided by the source

Horizontal tank, capacity and dimensions provided by the source

V = 450 gal L = 8.5 ft D = 3 ft

Storage Losses (breathing losses)

Daily average ambient temperature, T_{AA} = 512.1 °R, Eqn 1-27, $T_{AA} = (T_{AX} + T_{AN})/2$
Liquid bulk temperature, T_B = 515.2 °R, Eqn 1-28, $T_B = T_{AA} + 6\,\alpha - 1$
Daily average liquid surface temperature, T_{LA} = 520.1 °R, Eqn 1-26, $T_{LA} = 0.44\,T_{AA} + 0.56\,T_B + 0.0079\,\alpha\,I$

Vapor molecular weight, M = 130 lb/lb-mole, Tbl 7.1-2, No 2 distillate fuel oil
Throughput, Q = 193596 gal/yr = 4609.4 bbl/yr *(note 1 bbl = 42 gal)*

A = 12.3 vapor pressure equation (Eqn 1-24) coefficients,
B = 9029 regression of data in Tbl 7.1-2, No 2 distillate fuel oil

Vapor pressure at daily average liquid surface temperature, P_{VA} = 0.01 psia, Eqn 1-24, Ch 7

Effective diameter, D_E = 5.70 ft Eqn 1-13, $D_E = ((LD)/(\pi/4))^{1/2}$
Effective height, H_E = 2.36 ft Eqn 1-14, $H_E = \pi D/4$
Vapor space outage, H_{VO} = 1.18 ft $H_E/2$, explanation of terms, Eqn 1-15

Maximum and minimum liquid surface temperature and vapor pressure

T_{LX} =	530.0 °R	T_{LN} =	510.2 °R	Eqn 1-26 applied at T_{AX} and T_{AN}, note 5 to Eqn 1-7
P_{VX} =	0.01 psia	P_{VN} =	0.00 psia	Eqn 1-24 applied at T_{AX} and T_{AN}, note 5 to Eqn 1-7

Daily vapor pressure range, ΔP_V = 0.00 psia, Eqn 1-9, $\Delta P_V = P_{VX} - P_{VN}$
Daily vapor temperature range, ΔT_V = 36.4 °R, eqn 1-8, $\Delta T_V = 0.72\,(T_{AX} - T_{AN}) + 0.028\,\alpha\,I$
Breather vent pressure setting range, ΔP_B = 0.06 psia, assumed, see note 3 to Eqn 1-7

Vapor space expansion factor, K_E = 0.07 Eqn 1-7, $K_E = (\Delta T_V/T_{LA}) + (\Delta P_V - \Delta P_B)/(P_A - P_{VA})$
Vented vapor saturation factor, K_S = 1.00 Eqn 1-20, $K_S = 1 / (1 + 0.053\,P_{VA}\,H_{VO})$
Stock vapor densiity, W_V = 0.0001 lb/ft^3, Eqn 1-21, $W_V = (M_V\,P_{VA}) / (R\,T_{LA})$
R = ideal gas law constant, 10.73 (psia ft^3)/(lb-mole ºR), Table 1-9, Perry's Chemical Engineers' Handbook, 6th ed.

Storage loss, $L_S = 365\,K_E\,(\pi D_E^2/4)\,H_{VO}\,K_S\,W_V$, Eqn 1-4

L_S = 0.11 lb/yr

Working Losses

turnovers = 430 per year, N = Q (gal/yr) / V (gal) *(note Eqn 1-30 gives N in terms of Q (bbl/yr) and V_{LX} (ft^3), presumed the same as this equation)*
Working loss turnover (saturation) factor, K_N = 0.24 Fig 7.1-18, explanation of terms, Eqn 1-29
Working loss product factor, K_P = 1 organic liquids other than crude oil, explanation of terms, Eqn 1-29

Working loss, $L_W = 0.0010\,M_V\,P_{VA}\,Q\,K_N\,K_P$, Eqn 1-29

L_W = 0.91 lb/yr, Eqn 1-29, AP-42 Ch 7

Total Losses

Total losses, $L_T = L_S + L_W$, Eqn 1-1

Potential to Emit		
	lb/yr	tons/yr
L_T =	1.02	5.09E-04

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Plant 831

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

			Capacity (MMBtu/hr)	
Description	ID	Number	Unit	Total
Thermo-cycler	P831TC1 - P831TC5	5	0.72	3.60
Thermo-cycler	P831TC6	1	0.58	0.58
Furnace	P831H1	1	0.075	0.08
Furnace	P831H2, P831H3	2	0.09	0.18
Furnace	P831H4	1	0.11	0.11
Total				**4.55**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
4.55	1020	39.0

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.04	0.15	0.15	0.01	1.95	0.11	1.64

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	4.1E-05	2.3E-05	1.5E-03	0.04	6.6E-05	**0.04**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	9.8E-06	2.1E-05	2.7E-05	7.4E-06	4.1E-05	**1.1E-04**
					Total HAPs	**0.04**
					Worst HAP	**0.04**

Methodology is the same as above.
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
Plant 450 Woodworking Operations - (P450WW2 - P450WW6)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Woodworking Operations

Process ID(s)	Equipment ID(s)	Baghouse ID(s)	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PM/PM10/PM2.5 Emissions (grains/hr)	PM/PM10/PM2.5 Emission Rate before Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate before Controls (tons/yr)	PM/PM10/PM2.5 Emission Rate after Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate after Controls (tons/yr)
P450WW2	P450-8	INTDC21	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P450WW3	P450-20	INTDC22	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P450WW4	P450-11	INTDC23	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P450WW5	P450-1	INTDC24	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P450WW6	P450-RT1	INTDC25	99.0%	0.00020	650	8	0.11	0.49	0.001	0.005
Totals							**0.19**	**0.82**	**0.002**	**0.008**

Methodology
Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
Emission Rate in lbs/hr (before controls) = Emission Rate (after controls)(lbs/hr) / (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
PM/PM10/PM2.5 Emissions (grains/hr) = Grain Loading (gr/acf) * Air Flow (acf/min) * 60 (min/hr)
PM/PM10/PM2.5 Emissions (lbs/hr) = PM/PM10/PM2.5 Emissions (grains/hr)* (1 lb/7000 grains)
PM/PM10/PM2.5 Emissions (tons/yr) = PM/PM10/PM2.5 Emissions (lbs/hr) * 8760 hrs/yr *2000 lbs/ton

* The baghouse controlling emissions for the woodworking operation have been determined by IDEM to be integral to the process. Therefore only the potential emissions after controls are considered when determining the permit level.

Actual Grain Loading Determination for Portable Dust Collectors

Process	Units	ID	Dust Collector ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
P450WW2	One (1) Cut Off Saw	P450-8	INTDC21	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P450WW3	One (1) Cut Off Saw	P450-20	INTDC22	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P450WW4	One (1) Cut Off Saw	P450-11	INTDC23	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P450WW5	One (1) Cut Off Saw	P450-1	INTDC24	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P450WW6	One (1) Double Edge Router	P450-RT1	INTDC25	1000	0.25	0.375	50	4.69	0.024	0.11	0.49
									Total Emissions	**0.19**	**0.82**

Methodology
Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
AC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Woodworking Operation
Plant 831 Woodworking Operations - (P831WW1 - P831WW5)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Woodworking Operations

Process ID(s)	Equipment ID(s)	Baghouse ID(s)	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PM/PM10/PM2.5 Emissions (grains/hr)	PM/PM10/PM2.5 Emission Rate before Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate before Controls (tons/yr)	PM/PM10/PM2.5 Emission Rate after Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate after Controls (tons/yr)
P831WW1	P831-5	INTDC15	99.0%	0.00002	1,280	1	0.02	0.08	0.000	0.001
P831WW2	P831-4	INTDC16	99.0%	0.00002	1,280	1	0.02	0.08	0.000	0.001
P831WW3	P831-3	INTDC17	99.0%	0.00002	1,280	1	0.02	0.08	0.000	0.001
P831WW4	P831-1	INTDC18	99.0%	0.00002	1,280	1	0.02	0.08	0.000	0.001
P831WW5	P831-TS1	INTDC19	99.0%	0.00003	1,280	2	0.03	0.12	0.000	0.001
Totals							**0.10**	**0.45**	**0.001**	**0.005**

Methodology
Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
Emission Rate in lbs/hr (before controls) = Emission Rate (after controls)(lbs/hr) / (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
PM/PM10/PM2.5 Emissions (grains/hr) = Grain Loading (gr/acf) * Air Flow (acf/min) * 60 (min/hr)
PM/PM10/PM2.5 Emissions (lbs/hr) = PM/PM10/PM2.5 Emissions (grains/hr)* (1 lb/7000 grains)
PM/PM10/PM2.5 Emissions (tons/yr) = PM/PM10/PM2.5 Emissions (lbs/hr) * 8760 hrs/yr *2000 lbs/ton

* The baghouse controlling emissions for the woodworking operation have been determined by IDEM to be integral to the process. Therefore only the potential emissions after controls are considered when determining the permit level.

Actual Grain Loading Determination for Portable Dust Collectors

Process	Units	ID	Dust Collector ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
P831WW1	One (1) Cut Off Saw	P831-5	INTDC15	500	0.125	0.25	25	0.78	0.024	0.02	0.08
P831WW2	One (1) Cut Off Saw	P831-4	INTDC16	500	0.125	0.25	25	0.78	0.024	0.02	0.08
P831WW3	One (1) Cut Off Saw	P831-3	INTDC17	500	0.125	0.25	25	0.78	0.024	0.02	0.08
P831WW4	One (1) Cut Off Saw	P831-1	INTDC18	500	0.125	0.25	25	0.78	0.024	0.02	0.08
P831WW5	One (1) Table Saw	P831-TS1	INTDC19	500	0.125	0.375	25	1.17	0.024	0.03	0.12
									Total Emissions	**0.10**	**0.45**

Methodology
Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
AC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Plant 831 Routing Operation - Roof/Floor/Sidewall Routing

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Process	ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	*Percent PM <100 u	*Material Density (lb/in^3)	Total Material Loss (lb/hr)	PM Loss < 100u (lb/hr)	PM/PM10/PM2.5 Emissions (ton/year)
Sidewall Routing	P831SWR1	1,200	0.1875	0.190	3,040.67	108.32	5.40%	0.056	6.07	0.33	1.43
Sidewall Routing	P831SWR2	1,200	0.1875	0.190	3,040.67	108.32	5.40%	0.056	6.07	0.33	1.43
Sidewall Routing	P831SWR3	1,200	0.1875	0.190	3,040.67	108.32	5.40%	0.056	6.07	0.33	1.43
Roof Routing	P831RR1	3,640	0.1875	0.240	3,378.00	152.01	1.30%	0.052	7.90	0.10	0.45
Floor Routing	P831FR1	1,860	0.1875	0.481	687.00	61.96	1.30%	0.052	3.22	0.04	0.18
Floor Routing	P831FR2	1,860	0.1875	0.481	687.00	61.96	1.30%	0.052	3.22	0.04	0.18
								Total Emissions	**32.55**	**1.17**	**5.12**

Methodology

*Material Density (lb/in^3) and Weight % PM <100u Based Upon Laboratory Testing
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Total Material Loss (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
PM Loss < 100u (lb/hr) = Total Material Loss (lb/hr) * Percent PM <100 u (%)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
PM= PM10 & PM2.5
AER - 326 IAC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Plant 36-836 Miscellaneous Woodworking Operation - (MC-P836)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Miscellaneous Woodworking Operations

Process	Units	ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
MC-836	One (1) Cut Off Saw	P836-COS1	250	0.125	0.25	25	0.78	0.024	0.02	0.08
								Total Emissions	**0.02**	**0.08**

Methodology

Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3

Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)

Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)

Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)

AC 6-3-2 limit = $E = 4.10\ P^{0.67}$

E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Plant 36-836 Woodworking Operation - (P836WW1)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Woodworking Operations

Process ID(s)	Equipment ID(s)	Baghouse ID(s)	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PM/PM10/PM2.5 Emissions (grains/hr)	PM/PM10/PM2.5 Emission Rate before Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate before Controls (tons/yr)	PM/PM10/PM2.5 Emission Rate after Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate after Controls (tons/yr)
P836WW1	P836-TS1	INTDC20	99.0%	0.00003	1,200	2	0.03	0.12	0.0003	0.001
Totals							**0.03**	**0.12**	**0.0003**	**0.001**

Methodology
Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
Emission Rate in lbs/hr (before controls) = Emission Rate (after controls)(lbs/hr) / (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
PM/PM10/PM2.5 Emissions (grains/hr) = Grain Loading (gr/acf) * Air Flow (acf/min) * 60 (min/hr)
PM/PM10/PM2.5 Emissions (lbs/hr) = PM/PM10/PM2.5 Emissions (grains/hr)* (1 lb/7000 grains)
PM/PM10/PM2.5 Emissions (tons/yr) = PM/PM10/PM2.5 Emissions (lbs/hr) * 8760 hrs/yr *2000 lbs/ton

* The baghouse controlling emissions for the woodworking operation have been determined by IDEM to be integral to the process. Therefore only the potential emissions after controls are considered when determining the permit level.

Actual Grain Loading Determination for Portable Dust Collectors

Process	Units	ID	Dust Collector ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
P836WW1	One (1) Table Saw	P836-TS1	INTDC20	500	0.125	0.375	25	1.17	0.024	0.03	0.12
									Total Emissions	**0.03**	**0.12**

Methodology
Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
AC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emission Calculations
Plant 1-850 Miscellaneous Woodworking Operation - (MC-P850)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Miscellaneous Woodworking Operations

Process	Units	ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
MC-850	One (1) Double Head Drill Press	P850-DHD1	500	0.125	0.125	50	0.78	0.024	0.02	0.08
	One (1) Single Head Drill Press	P850-SHD1	500	0.125	0.125	50	0.78	0.024	0.02	0.08
								Total Emissions	**0.04**	**0.16**

Methodology

Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3

Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)

Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)

Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)

AC 6-3-2 limit = $E = 4.10\ P^{0.67}$

E = rate of emission in pounds per hour and

P = process weight rate in tons per hour

Appendix A: Emission Calculations
Plant 1-850 Woodworking Operations - (P850WW2 - P850WW14)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Woodworking Operations

Process ID(s)	Equipment ID(s)	Baghouse ID(s)	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PM/PM10/PM2.5 Emissions (grains/hr)	PM/PM10/PM2.5 Emission Rate before Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate before Controls (tons/yr)	PM/PM10/PM2.5 Emission Rate after Controls (lb/hr)	PM/PM10/PM2.5 Emission Rate after Controls (tons/yr)
P850WW2	P850-57, P850-50	INTDC2	99.0%	0.00004	1,200	3	0.04	0.16	0.000	0.002
P850WW3	P850-59, P850-BS1	INTDC3	99.0%	0.00004	1,200	3	0.04	0.16	0.000	0.002
P850WW4	P850-46	INTDC4	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P850WW5	P850-39	INTDC5	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
P850WW6	P850-41	INTDC6	99.0%	0.00005	1,200	4	0.06	0.25	0.001	0.002
P850WW7	P850-35, P850-60	INTDC7	99.0%	0.00004	1,200	3	0.04	0.16	0.000	0.002
P850WW8	P850-43	INTDC8	99.0%	0.00007	650	3	0.04	0.16	0.000	0.002
P850WW9	P850-27	INTDC9	99.0%	0.00007	650	3	0.04	0.16	0.000	0.002
P850WW10	P850-6	INTDC10	99.0%	0.00007	650	3	0.04	0.16	0.000	0.002
P850WW11	P850-TS1	INTDC11	99.0%	0.00010	650	4	0.06	0.25	0.001	0.002
P850WW12	P850-48	INTDC12	99.0%	0.00007	650	3	0.04	0.16	0.000	0.002
P850WW13	P850-47	INTDC13	99.0%	0.00007	650	3	0.04	0.16	0.000	0.002
P850WW14	P850-COS1	INTDC14	99.0%	0.00003	650	1	0.02	0.08	0.000	0.001
Totals							**0.47**	**2.05**	**0.005**	**0.021**

Methodology
Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
Emission Rate in lbs/hr (before controls) = Emission Rate (after controls)(lbs/hr) / (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
PM/PM10/PM2.5 Emissions (grains/hr) = Grain Loading (gr/acf) * Air Flow (acf/min) * 60 (min/hr)
PM/PM10/PM2.5 Emissions (lbs/hr) = PM/PM10/PM2.5 Emissions (grains/hr)* (1 lb/7000 grains)
PM/PM10/PM2.5 Emissions (tons/yr) = PM/PM10/PM2.5 Emissions (lbs/hr) * 8760 hrs/yr *2000 lbs/ton

* The baghouse controlling emissions for the woodworking operation have been determined by IDEM to be integral to the process. Therefore only the potential emissions after controls are considered when determining the permit level.

Actual Grain Loading Determination for Portable Dust Collectors

Process	Units	ID	Dust Collector ID	Material Input (lb/hour)	Cutting Surface Thickness (in)	Material Thickness (in)	Process Rate (in/hr)	Material Loss (in^3/hr)	Material Density (lb/in^3)	Material Loss Emissions (lb/hr)	Material Loss Emissions (ton/year)
P850WW2	One (1) Cut Off Saw and One (1) Table Saw	P850-57, P850-50	INTDC2	500	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW3	One (1) Cut Off Saw and One (1) Belt Sander	P850-59, P850-BS1	INTDC3	500	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW4	One (1) Cut off saw	P850-46	INTDC4	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P850WW5	One (1) Cut off saw	P850-39	INTDC5	250	0.125	0.25	25	0.78	0.024	0.02	0.08
P850WW6	One (1) Table Saw	P850-41	INTDC6	500	0.125	0.375	50	2.34	0.024	0.06	0.25
P850WW7	Two (2) Cut Off Saws	P850-35, P850-60	INTDC7	500	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW8	One (1) Cut off saw	P850-43	INTDC8	250	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW9	One (1) Cut Off Saw	P850-27	INTDC9	250	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW10	One (1) Cut Off Saw	P850-6	INTDC10	250	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW11	One (1) Table Saw	P850-TS1	INTDC11	250	0.125	0.375	50	2.34	0.024	0.06	0.25
P850WW12	One (1) Cut Off Saw	P850-48	INTDC12	250	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW13	One (1) Cut Off Saw	P850-47	INTDC13	250	0.125	0.25	50	1.56	0.024	0.04	0.16
P850WW14	One (1) Cut Off Saw	P850-COS1	INTDC14	250	0.125	0.25	25	0.78	0.024	0.02	0.08
									Total Emissions	**0.47**	**2.05**

Methodology
Wood Material Density (lb/in^3) = 42 lb/ft^3 / 1728 in^3/ft^3
Material Loss (in^3/hr) = Surface thickness (in) * Material Thickness (in) * Process Rate (in/hr)
Material Loss Emissions (lb/hr) = Material Loss (in3/hr) * Material Density(lb/in3)
Emissions (ton/year) = Material Loss Emissions (lb/hr) * 8760 (hr/year) / 2000 (lb/ton)
AC 6-3-2 limit = $E = 4.10\ P^{0.67}$
E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations
Plant 1-850 Touch Up Painting (P850TP)

Company Name: Thor Wakarusa, LLC
Source Address: 606 Nelson's Parkway, Wakarusa, Indiana 46573
Permit No.: 039-47470-00017
Reviewer: Madison Spahn

Plant 850 Touchup Painting

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Maximum (gal/day)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Transfer Efficiency	Substrate	Application Method
Touch Up Painting																	
BC200 Black	7.58	97.00%	0.00%	97.00%	0.00%	0.0750	1.50	2.70	7.35	7.35	0.83	19.85	3.62	0.03	75%	Plastic	HVLP
UR50 Reducer	7.29	100.00%	0.00%	100.00%	0.00%	0.0375	1.50	1.35	7.29	7.29	0.41	9.84	1.80	0.00	75%	Plastic	HVLP
BCH2 Hardener	7.99	64.00%	0.00%	64.00%	0.00%	0.0125	1.50	0.45	5.11	5.11	0.10	2.30	0.42	0.06	75%	Plastic	HVLP
Clean Up Solvents																	
Acetone	6.61	100.00%	100.00%	0.00%	100.00%	0.0250	1.50	0.90	0.00	0.00	0.00	0.00	0.00	0.00	100%	Cleaner	Manual
							Total	5.40	**Total Potential to Emit**		**1.33**	**31.99**	**5.84**	**0.09**			

METHODOLOGY
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Ethylbenzene	Weight % Isocyanates	Xylene (ton/yr)	Toluene (ton/yr)	Ethylbenzene (ton/yr)	Isocyanates (ton/yr)	Total HAP (ton/yr)
Touch Up Painting												
BC200 Black	7.58	0.0750	1.50	20.00%	0.00%	5.00%	0.00%	0.75	0.00	0.19	0.00	0.93
UR50 Reducer	7.29	0.0375	1.50	0.00%	0.00%	0.20%	0.00%	0.00	0.00	0.00	0.00	0.00
BCH2 Hardener	7.99	0.0125	1.50	0.00%	20.00%	0.00%	1.00%	0.00	0.13	0.00	0.007	0.14
Acetone	6.61	0.0250	1.50	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
							Totals	**0.75**	**0.13**	**0.19**	**0.007**	**1.08**

METHODOLOGY
HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

From:	Kevin Parks
To:	Spahn, Madison R; Darrick Parker
Subject:	RE: Applicant Review for Thor Wakarusa, LLC No. 039-47470-0017 for Thor Wakarusa, LLC
Date:	Monday, June 24, 2024 3:43:20 PM
Attachments:	image001.png image002.png image003.png image004.png image005.png image006.png image007.png

Dear Madison:

There are no comments to the permit as drafted.

Thank you.

PLEASE NOTE MY NEW EMAIL ADDRESS: kparks@dbesi.com

Sincerely,

Kevin A Parks

Senior Project Manager
D&B Environmental Consulting, LLC
401 Lincoln Way West
Osceola, IN 46561
(574) 674-0161
Fax (574) 674-2778
Mobile (574) 215-6902

From: Spahn, Madison R <MSpahn@idem.IN.gov>
Sent: Tuesday, June 11, 2024 11:10 AM
To: Darrick Parker <dparker@thorindustries.com>; Kevin Parks <kparks@dbesi.com>
Subject: Applicant Review for Thor Wakarusa, LLC No. 039-47470-0017 for Thor Wakarusa, LLC
Importance: High

Dear Darrick Parker:

Attached is the draft TV Renewal and supporting documents for review. As a courtesy, this draft is being provided to you for an opportunity to review and provide comments prior to posting the public notice on IDEM's website. This supplemental step of providing you the draft permit does not take away your legal right to provide comments during the thirty (30) day comment period.

The time clock for TV Renewal No.: 039-47470-00017 will be stopped during your review until you either provide comments or indicate that you do not have any comments. Due to permit accountability and IDEM's

intention to public notice the permit in a timely manner, you are being allotted two (2) weeks from today to provide comments in writing, email is sufficient. If you have any conflicts or special circumstances that would impede your review process during the time allotted, please notify me directly at the email address or phone number listed below as soon as possible. If you have not responded on or before June 25, 2024, IDEM will assume that you have no comments pertaining to this draft and all files will be forwarded for public notice.

During this review period, I will be available to address your concerns, answer any questions that you may have, or make necessary revisions to this draft.

Please send a reply email to me immediately confirming that you have received this draft version of the permit for review and that you are able to access these files in their current format.

The following documents are not included in this review but will be included during the public notice period:

Attachment A: 40 CFR 60 Subpart IIII
Attachment B: 40 CFR 63 Subpart MMMM
Attachment C: 40 CFR 63 Subpart PPPP
Attachment D: 40 CFR 63 Subpart ZZZZ

Pursuant to 326 IAC 2-1.1-7, the fee for this permitting action is expected to be $0, which is based on the following:

$0	TV Renewal

Please note: This is not a bill. This represents the anticipated fee and is subject to change if additional review is required or the permit level changes for some reason (e.g. an additional NESHAP review is required). You will receive a final bill from the OAQ Permits Administration and Support Section.

Sincerely,

Indiana Department of Environmental Management
Madison Spahn
Environmental Manager 2
Office of Air Quality
(317)233-3031
mspahn@IDEM.in.gov
Protecting Hoosiers and Our Environment

www.idem.IN.gov

Help us improve!
IDEM values your feedback