

APPENDIX I

**TECHNICAL SUPPLEMENT TO THE DECEMBER 10, 2014
PROPOSAL OF THE DALLAS-FORT WORTH ATTAINMENT
DEMONSTRATION STATE IMPLEMENTATION PLAN
REVISION FOR THE 2008 EIGHT-HOUR OZONE
STANDARD NONATTAINMENT AREA**

TECHNICAL SUPPLEMENT TO THE DECEMBER 10, 2014 PROPOSAL OF THE DALLAS-FORT WORTH ATTAINMENT DEMONSTRATION STATE IMPLEMENTATION PLAN REVISION FOR THE 2008 EIGHT-HOUR OZONE STANDARD NONATTAINMENT AREA

This supplement provides additional technical information applicable to the December 10, 2014 proposal of the attainment demonstration revision to the State Implementation Plan (SIP) for the Dallas-Fort Worth (DFW) area. This supplement reflects updates to anthropogenic emissions inventory inputs and calculation of future ozone design values based on results from photochemical modeling. The Texas Commission on Environmental Quality (TCEQ) is taking comment from December 26, 2014 through February 11, 2015 on this proposal for the DFW attainment demonstration SIP revision.

Introduction

After technical work for the December 10, 2014 proposal date, the following updated information has become available affecting both anthropogenic emissions inventory estimates, modeling inputs, and calculation of future ozone design values:

1. The United States Environmental Protection Agency (EPA) made MOVES2014 available on July 31, 2014; officially released the MOVES2014 version of the model as a replacement to MOVES2010b for SIP applications on October 7, 2014 (70 FR 60343); and released an update to the model on October 27, 2014. The October 27, 2014 update fixed a significant error in the new non-road portion of MOVES2014; addressed a number of minor issues with the on-road portion of MOVES2014; improved the installation process; and included small performance improvements. The October 27, 2014 version of MOVES2014 was used for all on-road updates provided in this supplement. The on-road emissions inventories included with the photochemical modeling included in the proposed SIP revision were developed with the older MOVES2010b model.
2. On December 3, 2014, the EPA released *Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze*. The major update in this guidance recommends future ozone design value (DV_F) calculations per monitor on the 10 days of the baseline episode with the highest modeled ozone values. The proposed SIP revision was based on the previous modeling guidance for the 1997 eight-hour ozone standard that recommended DV_F calculations per monitor on all baseline episode days modeled above a specific threshold such as 75 parts per billion (ppb). The revised guidance includes additional minor changes, but these do not affect the modeling inputs or DV_F calculations.
3. Version 1.6.1 of the Texas NONROAD (TexN) emissions model for estimation of non-road emissions estimates became available on July 30, 2014. The non-road emissions inventories included with the proposed SIP revision were developed with version 1.6 of TexN.
4. A study contracted to Eastern Research Group (ERG) was completed on August 1, 2014 that updated emission rates for hydraulic pump engines and mud degassing activities associated with oil and gas production. The oil and gas emissions estimates included with the proposed SIP revision were developed with older emission factors for this type

of activity. In addition, revised 2013 historical production data became available from the Railroad Commission of Texas (RRC), which impacted 2018 projections of emissions from natural gas compressor engines.

The changes in the anthropogenic emissions estimates resulting from these updates are discussed below for nitrogen oxides (NO_x), volatile organic compounds (VOC), and carbon monoxide (CO). The photochemical model was run for both 2006 and 2018 using these updated emissions inventory inputs. The 2018 DV_F calculations are provided using both the older methodology for all modeled days above 75 ppb and the new guidance methodology of using only the 10 highest days.

A brief overview of the changes is provided below followed by a list of electronic resources readily available for interested parties. For reference purposes, summaries are provided of the applicable tables within the SIP narrative that would change as a result of this updated information.

Update of On-Road Emissions Inventories

The on-road emissions inventories included with the proposed SIP revision were based on the MOVES2010b model. Table 1: *SIP Narrative References for On-Road Emissions Estimates* summarizes the locations within the SIP narrative where these inventories are referenced.

Table 1: SIP Narrative References for On-Road Emissions Estimates

Table	Page	Calendar Year(s)
ES-1	ES-1	2006 and 2018
3-10	3-23	2006
3-19	3-28	2006
3-20	3-29	2006
3-24	3-34	2018
3-34	3-40	2018
3-35	3-41	2006 and 2018
4-2	4-14	2018

Table 2: 2006 DFW Area Changes in On-Road Emissions Estimates and Table 3: 2018 DFW Area Changes in On-Road Emissions Estimates compare the on-road emissions inventories estimated with both the older MOVES2010b model and the newer MOVES2014 version for 2006 and 2018, respectively. At the time the original proposal work was done, the on-road emissions inventory inputs were a combination of both emission rates from the latest version of the MOVES model and the most recently available transportation activity data sets. For both 2006 and 2018, estimated vehicle miles traveled (VMT) were higher at the time that the MOVES2014 inventories were prepared. The 2018 figures presented in Table 3 for MOVES2010b represent the motor vehicle emissions budget (MVEB) included in Table 4-2: *2018 Attainment Demonstration MVEB for the 10-County DFW Area*, page 4-14 of the proposed SIP revision. Incorporation of the MOVES2014 updates would change the 2018 attainment demonstration MVEB from 113.36 NO_x tpd to 131.97 NO_x tpd and from 55.63 VOC tpd to 63.79 VOC tpd as shown in Tables 2 and 3.

Table 2: 2006 DFW Area Changes in On-Road Emissions Estimates

MOVES Model Version	Vehicle Miles Traveled	NO _x (tpd)	VOC (tpd)	CO (tpd)
MOVES2010b	154,045,613	265.87	113.15	1,237.75
MOVES2014	158,530,371	280.99	113.90	1,290.62
Difference	4,484,758	15.12	0.75	52.87
Change	2.91%	5.69%	0.66%	4.27%

Table 3: 2018 DFW Area Changes in On-Road Emissions Estimates

MOVES Model Version	Vehicle Miles Traveled	NO _x (tpd)	VOC (tpd)	CO (tpd)
MOVES2010b	197,875,806	113.36	55.63	671.77
MOVES2014	220,770,222	131.97	63.79	980.84
Difference	22,894,416	18.61	8.16	309.07
Change	11.57%	16.42%	14.67%	46.01%

On-road emissions inventory development involves additional fleet and activity inputs such as distribution of VMT by vehicle type, age distribution of the fleet, number of vehicle starts per day, number of hours spent in extended idle mode, etc. In Table 18: *Links for Files Containing Detailed Information* at the end of this supplement, links are provided for the full sets of 2006 and 2018 input, output, and summary files for both the MOVES2010b and MOVES2014 inventories that were modeled. The MOVES2010b inventories for the remaining parts of Texas and the United States were also replaced with MOVES2014 updates. Links for those data sets are also provided for review in Table 18.

Update of Non-Road Emissions Inventories

The non-road emissions inventories included with the proposed SIP revision were based on version 1.6 of the TexN model. Table 4: *SIP Narrative References for Non-Road Emissions Estimates* summarizes the locations within the SIP narrative where these inventories are referenced.

Table 4: SIP Narrative References for Non-Road Emissions Estimates

Table	Page	Calendar Year(s)
ES-1	ES-1	2006 and 2018
3-11	3-24	2006
3-19	3-28	2006
3-20	3-29	2006
3-25	3-35	2018
3-34	3-40	2018
3-35	3-41	2006 and 2018

For all 254 Texas counties, TexN runs EPA's version of the NONROAD model for 25 different equipment sub-categories. The version of NONROAD did not change between versions 1.6 and 1.6.1 of TexN. The only change was in the non-road equipment population estimates for both

2006 and 2018. Table 5: *2006 DFW Area Changes in Non-Road Emissions Estimates* summarizes these changes for 2006, while Table 6: *2006 DFW Area Changes in Non-Road Emissions Estimates* summarizes them for 2018. Even though the total non-road equipment population estimates for the 10-county DFW area increased only 0.4% in 2006, emissions estimates increased by 10.5% for NO_x, 1.3% for VOC, and 0.4% for CO. For 2018, the non-road equipment population projection increased by 0.5%, and the emissions estimates increased by 5.7% for NO_x, 0.7% for VOC, and 0.1% for CO. The change in non-road equipment population was confined strictly to the diesel-fueled construction and mining equipment portion of the total non-road inventory.

Table 5: 2006 DFW Area Changes in Non-Road Emissions Estimates

TexN Version	Equipment Population	NO _x (tpd)	VOC (tpd)	CO (tpd)
TexN 1.6	1,933,542	88.75	63.84	802.52
TexN 1.6.1	1,940,938	98.06	64.69	806.01
Difference	7,396	9.31	0.85	3.49
Change	0.38%	10.49%	1.33%	0.43%

Table 6: 2018 DFW Area Changes in Non-Road Emissions Estimates

TexN Version	Equipment Population	NO _x (tpd)	VOC (tpd)	CO (tpd)
TexN 1.6	2,417,776	39.87	32.8	577.61
TexN 1.6.1	2,429,928	42.13	33.02	578.11
Difference	12,152	2.26	0.22	0.5
Change	0.50%	5.67%	0.67%	0.09%

Links are provided at the end of this supplement for the full sets of 2006 and 2018 input, output, and summary files for both the TexN 1.6 and TexN 1.6.1 inventories that were modeled.

Update of 2018 Projection for Oil and Gas Production Emissions

Table 7: *SIP References for 2018 Oil and Gas Production Emissions* summarizes the tables and page numbers within the SIP narrative where the 2018 projections for emissions from oil and gas production are referenced.

Table 7: SIP References for 2018 Oil and Gas Production Emissions

Table	Page	Calendar Year
ES-1	ES-1	2018
3-32	3-37	2018
3-34	3-40	2018
3-35	3-41	2018

Since the time that oil and gas production emissions inventories were developed for the proposed attainment demonstration SIP revision, new information became available that increased the overall 2018 projections for this category by 1.16 NO_x tpd and 0.45 VOC tpd. An aggregate summary of the changes for these 2018 emissions estimates is provided in Table 8:

SIP References for 2018 Oil and Gas Production Emissions covering the 44 types of oil and gas production equipment, which are referenced by source classification code (SCC).

Table 8: 2018 DFW Area Changes in Oil and Gas Production Emissions

2018 Oil and Gas Production Emissions Inventory Description for 10-County DFW Area	NO _x (tpd)	VOC (tpd)	CO (tpd)
Oil and Gas Production Emissions Inventory by 44 SCCs (Table 3-32 on Page 3-37)	7.15	23.79	5.41
Revised Oil and Gas Production Emissions Inventory for 44 SCCs	8.31	24.24	5.80
Difference in Emissions for 10-County DFW Area	1.16	0.45	0.40
Relative Change in Emissions for 10-County DFW Area	16.2%	1.9%	7.3%

Section 3.5.4.4: *Area Sources* on page 3-36 of the proposed SIP revision discussed how historical oil and gas production data from the RRC were projected to 2018. Revised RRC production data became available for the full 2013 calendar year. This additional information resulted in a 3.6% increase (0.25 tpd) of NO_x over the previous 2018 projection of natural gas compressor emissions of 6.99 NO_x tpd.

In August 2014, a contracted study *Specified Oil and Gas Well Activities Emissions Inventory Update*, by ERG was completed. A primary focus of this study was to revise emission factors specific to shale basins within Texas for hydraulic pump engines and mud degassing activities. The net result on the 2018 emissions inventory projection was to increase emissions estimates for hydraulic pump engines by 0.88 NO_x tpd and 0.06 VOC tpd. The net result on the 2018 emissions projections for mud degassing activities is an increase of 0.56 VOC tpd.

This ERG study also revised emission factors for specific types of equipment that will be affected by full implementation in 2015 and later of the New Source Performance Standards (NSPS) Subpart OOOO (*Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution*) on completions of new wells. For the remaining types of oil and gas equipment that were affected, these updated emission rates resulted in a net increase to the 2018 projected emissions of 0.03 NO_x tpd and a net decrease of 0.18 VOC tpd.

Table 9: *2018 Changes in Oil and Gas Emissions by Equipment Type* provides the 2018 change in emissions estimates for 28 of the 44 oil and gas production SCCs. Additional detail on these changes is included within reports and electronic files referenced at the end of this supplement.

Table 9: 2018 Changes in Oil and Gas Emissions by Equipment Type

10-Digit Code	Oil and Gas Production Equipment Source Classification Description	NO _x (tpd)	VOC (tpd)	CO (tpd)
2310000660	Oil and Gas Production - Hydraulic Fracturing Pumps	0.88	0.06	0.19
2310021302	Natural Gas 4-Cycle Rich Burn Compressors 50 To 499 HP	0.19	0.00	0.07
2310021402	Natural Gas 4-Cycle Rich Burn Compressors 50 To 499 HP - NSCR	0.03	0.00	0.05
2310021403	Natural Gas 4-Cycle Rich Burn Compressors 500+ HP - NSCR	0.02	0.00	0.04
2310000330	Oil Production - Artificial Lift	0.02	0.00	0.03
2310021301	Natural Gas 4-Cycle Rich Burn Compressors <50 HP	0.02	0.00	0.00

10-Digit Code	Oil and Gas Production Equipment Source Classification Description	NO _x (tpd)	VOC (tpd)	CO (tpd)
2310121100	Natural Gas Exploration - Mud Degassing	0.00	0.59	0.00
2310121401	Natural Gas Exploration - Well Pneumatic Pumps	0.00	0.29	0.00
2310021010	Natural Gas Condensate - Storage Tanks	0.00	0.15	0.00
2310021506	Natural Gas Fugitives - Other	0.00	0.11	0.00
2310021505	Natural Gas Fugitives - Valves	0.00	0.09	0.00
2310011020	Crude Oil Storage Tanks	0.00	0.07	0.00
2310021600	Natural Gas Well Venting	0.00	0.06	0.00
2310021400	Natural Gas Well Dehydrators	0.00	0.05	0.01
2310011450	Oil Production - Wellhead	0.00	0.03	0.00
2310010300	Oil Well Pneumatic Devices	0.00	0.02	0.00
2310021502	Natural Gas Fugitives - Flanges	0.00	0.01	0.00
2310021501	Natural Gas Fugitives - Connectors	0.00	0.01	0.00
2310021503	Natural Gas Fugitives - Open Ended Lines	0.00	0.01	0.00
2310021030	Natural Gas Condensate - Tank Truck/Railcar Loading	0.00	0.01	0.00
2310011506	Oil Production Fugitives - Other	0.00	0.01	0.00
2310011201	Crude Oil Truck/Railcar Loading	0.00	0.01	0.00
2310111401	Oil Well Pneumatic Pumps	0.00	0.01	0.00
2310021504	Natural Gas Fugitives - Pumps	0.00	0.01	0.00
2310011505	Oil Production Fugitives - Valves	0.00	0.01	0.00
2310111100	Oil Exploration - Mud Degassing	0.00	-0.03	0.00
2310121700	Natural Gas Exploration - Well Completion, All Processes	0.00	-0.27	0.00
2310021300	Natural Gas Well Pneumatic Devices	0.00	-0.87	0.00
	Remaining 16 Oil and Gas Production SCCs	0.01	0.01	0.01
	Total for 44 Oil and Gas Production SCCs	1.16	0.45	0.40

Summary of Anthropogenic Emissions Inventory Changes

Table 10: 2006 DFW Area Changes in Anthropogenic Emissions and Table 11: 2018 DFW Area Changes in Anthropogenic Emissions summarize the 2006 and 2018 changes to the on-road, non-road, and oil and gas production emissions inventories discussed above.

Table 10: 2006 DFW Area Changes in Anthropogenic Emissions

DFW Area Source Type	2006 NO _x (tpd)	2006 VOC (tpd)	2006 CO (tpd)
On-Road	15.12	0.75	52.87
Non-Road	9.31	0.85	3.49
Oil and Gas - Production	NA	NA	NA
2006 Total Change	24.43	1.60	56.36

Table 11: 2018 DFW Area Changes in Anthropogenic Emissions

DFW Area Source Type	2018 NO _x (tpd)	2018 VOC (tpd)	2018 CO (tpd)
On-Road	18.61	8.16	309.07
Non-Road	2.26	0.22	0.50
Oil and Gas - Production	1.16	0.45	0.40
2018 Total Change	22.03	8.83	309.97

Table ES-1: *Summary of 2006 Baseline and 2018 Future Year Anthropogenic Modeling Emissions for DFW* and Table 3-35: *2006 Baseline and 2018 Future Modeling Emissions for DFW Area* on pages ES-1 and 3-41, respectively, of the SIP narrative present 10-county anthropogenic emissions inventory summaries by source type for both 2006 and 2018. Table 12: *2006 and 2018 DFW Area Anthropogenic Emissions Summary* is a revised summary of that information based on the revisions discussed above. The figures that have changed are bolded for emphasis.

Table 12: 2006 and 2018 DFW Area Anthropogenic Emissions Summary

DFW Area Source Type	2006 NO _x (tpd)	2018 NO _x (tpd)	2006 VOC (tpd)	2018 VOC (tpd)
On-Road	280.99	131.97	113.90	63.79
Non-Road	98.06	42.13	64.69	33.02
Area Sources	29.02	30.76	290.46	284.94
Off-Road – Locomotives	29.97	18.90	1.72	0.93
Off-Road – Airports	12.78	13.06	4.46	3.55
Oil and Gas – Production	61.84	8.31	43.72	24.24
Oil and Gas – Drill Rigs	18.23	2.82	1.16	0.21
Point – Oil and Gas	11.53	16.37	21.82	26.02
Point – EGUs (Ozone Season Average)	9.63	16.91	1.03	4.44
Point – Cement Kilns	22.08	17.64	1.94	0.78
Point - Other	14.31	6.62	25.65	20.43
Total	588.44	305.49	570.55	462.35

Revised Future Year Attainment Test Calculations

The attainment test calculations for the proposed SIP revision were performed in accordance with the *EPA Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze*, April 2007. This is discussed in more detail in Sections 3.7.1: *2006 Baseline Modeling* and 3.7.2: *Future Baseline Modeling* of the SIP narrative on pages 3-65 through 3-69. The April 2007 guidance recommends that the relative change in modeled ozone between the baseline and future years be calculated for all episode days modeled above a threshold such as 75 ppb. Table 13: *SIP References for 2018 Future Ozone Design Values* summarizes the table and page numbers within the SIP narrative that include the 2018 future-year design values for 19 ozone monitors within the greater DFW area.

Table 13: SIP References for 2018 Future Ozone Design Values

Table/Figure	Page
Table ES-2	ES-2
Table 3-43	3-68
Figure 3-30	3-69

The EPA recently released updated guidance entitled *Draft Modeling Guidance for Demonstration Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze*, December 2014. This new guidance recommends that the attainment test calculations should be based on the 10 days at each monitor with the highest modeled baseline ozone values. Table 14: *DV_F Calculations with Proposed SIP Revision Emissions Inventories* presents a comparison of the 2018 DV_F results for each monitor using all days above 75 ppb and using the 10 highest days.

Table 14: 2018 DV_F Calculations with Proposed SIP Revision Emissions Inventories

2006 DFW Area Monitor and CAMS Code	DFW Area Monitor Alpha Code	Episode Days Modeled > 75 ppb	2018 DV _F for All Days > 75 ppb	2018 DV _F for 10 Highest Days
Denton Airport South - C56	DENT	37	76.67	75.43
Eagle Mountain Lake - C75	EMTL	31	75.90	75.13
Grapevine Fairway - C70	GRAP	35	75.78	73.80
Keller - C17	KELC	32	74.96	73.32
Fort Worth Northwest - C13	FWMC	30	73.48	73.00
Frisco - C31	FRIC	37	73.10	72.36
Dallas North #2 - C63	DALN	32	71.54	70.45
Parker County - C76	WTFD	20	71.18	71.37
Dallas Executive Airport - C402	REDB	29	70.84	70.42
Cleburne Airport - C77	CLEB	19	70.26	69.02
Arlington Municipal Airport - C61	ARLA	31	69.39	68.50
Dallas Hinton Street - C401	DHIC	33	68.54	67.08
Granbury - C73	GRAN	20	67.84	67.62
Midlothian Tower - C94	MDLT	26	67.45	66.58
Pilot Point - C1032	PIPT	33	66.60	65.79
Rockwall Heath - C69	RKWL	26	65.64	65.57
Midlothian OFW - C52	MDLO	28	62.99	61.77
Greenville - C1006	GRVL	18	62.46	62.24
Kaufman - C71	KAUF	19	62.18	62.72

Table 15: *2018 DV_F Changes with Proposed SIP Revision Emissions Inventories* shows the net change in the 2018 DV_F results by monitor by using the newer approach recommended by EPA based on the 10 highest days. The final step in the attainment test calculation is to round the DV_F to one decimal place and then truncate the result to obtain an integer value. The last two columns of Table 15 compare the results from this final step for both attainment test methodologies.

Table 15: 2018 DV_F Changes with Proposed SIP Revision Emissions Inventories

2006 DFW Area Monitor and CAMS Code	DFW Area Monitor Alpha Code	DV _F Change for All Days to 10 Days	Truncated DV _F for All Days	Truncated DV _F for 10 Highest Days
Denton Airport South - C56	DENT	-1.24	76	75
Eagle Mountain Lake - C75	EMTL	-0.77	75	75
Grapevine Fairway - C70	GRAP	-1.98	75	73
Keller - C17	KELC	-1.64	75	73
Fort Worth Northwest - C13	FWMC	-0.48	73	73
Frisco - C31	FRIC	-0.74	73	72
Dallas North #2 - C63	DALN	-1.09	71	70
Parker County - C76	WTFD	0.19	71	71
Dallas Executive Airport - C402	REDB	-0.41	70	70
Cleburne Airport - C77	CLEB	-1.24	70	69
Arlington Municipal Airport - C61	ARLA	-0.90	69	68
Dallas Hinton Street - C401	DHIC	-1.46	68	67
Granbury - C73	GRAN	-0.23	67	67
Midlothian Tower - C94	MDLT	-0.87	67	66
Pilot Point - C1032	PIPT	-0.81	66	65
Rockwall Heath - C69	RKWL	-0.07	65	65
Midlothian OFW - C52	MDLO	-1.23	63	61
Greenville - C1006	GRVL	-0.22	62	62
Kaufman - C71	KAUF	0.54	62	62

The revised 2006 and 2018 anthropogenic emissions inventories discussed above were photochemically modeled. For an average summer weekday, these runs increased 2006 DFW area emissions by 24.43 NO_x tpd and 1.60 VOC tpd, and 2018 DFW area emissions by 22.03 NO_x tpd and 8.83 VOC tpd. The attainment test calculations were done using both the “all days” methodology and the “10 highest days” methodology. The results for both approaches are compared in Table 16: *2018 DV_F Calculations with Updated Emissions Inventories*.

Table 16: 2018 DV_F Calculations with Updated Emissions Inventories

2006 DFW Area Monitor and CAMS Code	DFW Area Monitor Alpha Code	Episode Days Modeled > 75 ppb	2018 DV _F for All Days > 75 ppb	2018 DV _F for 10 Highest Days
Denton Airport South - C56	DENT	36	77.46	76.13
Eagle Mountain Lake - C75	EMTL	28	76.57	75.53
Grapevine Fairway - C70	GRAP	33	76.40	74.75
Keller - C17	KELC	32	75.78	74.47
Fort Worth Northwest - C13	FWMC	29	74.38	73.47
Frisco - C31	FRIC	34	73.64	73.10
Dallas North #2 - C63	DALN	31	72.15	71.35

2006 DFW Area Monitor and CAMS Code	DFW Area Monitor Alpha Code	Episode Days Modeled > 75 ppb	2018 DV _F for All Days > 75 ppb	2018 DV _F for 10 Highest Days
Parker County - C76	WTFD	20	71.74	72.13
Dallas Executive Airport - C402	REDB	28	71.39	71.25
Cleburne Airport - C77	CLEB	17	70.54	69.15
Arlington Municipal Airport - C61	ARLA	31	70.01	69.25
Dallas Hinton Street - C401	DHIC	31	69.38	67.89
Granbury - C73	GRAN	19	68.14	67.82
Midlothian Tower - C94	MDLT	22	67.57	67.19
Pilot Point - C1032	PIPT	33	67.28	66.36
Rockwall Heath - C69	RKWL	26	66.14	66.09
Midlothian OFW - C52	MDLO	23	63.02	62.67
Greenville - C1006	GRVL	17	62.25	62.33
Kaufman - C71	KAUF	18	62.45	62.96

Table 17: *2018 DV_F Changes with Updated Emissions Inventories* shows the net change by monitor in the 2018 DV_F results based on the updated 2006 and 2018 emissions inventories and the recently released EPA guidance using the 10 highest days for the attainment test. The truncated results are also presented in the final two columns for both attainment test methodologies.

Table 17: 2018 DV_F Changes with Updated Emissions Inventories

2006 DFW Area Monitor and CAMS Code	DFW Area Monitor Alpha Code	DV _F Change for All Days to 10 Days	Truncated DV _F for All Days	Truncated DV _F for Highest 10
Denton Airport South - C56	DENT	-1.33	77	76
Eagle Mountain Lake - C75	EMTL	-1.04	76	75
Grapevine Fairway - C70	GRAP	-1.65	76	74
Keller - C17	KELC	-1.31	75	74
Fort Worth Northwest - C13	FWMC	-0.91	74	73
Frisco - C31	FRIC	-0.54	73	73
Dallas North #2 - C63	DALN	-0.80	72	71
Parker County - C76	WTFD	0.39	71	72
Dallas Executive Airport - C402	REDB	-0.14	71	71
Cleburne Airport - C77	CLEB	-1.39	70	69
Arlington Municipal Airport - C61	ARLA	-0.76	70	69
Dallas Hinton Street - C401	DHIC	-1.49	69	67
Granbury - C73	GRAN	-0.32	68	67
Midlothian Tower - C94	MDLT	-0.38	67	67
Pilot Point - C1032	PIPT	-0.92	67	66
Rockwall Heath - C69	RKWL	-0.05	66	66

2006 DFW Area Monitor and CAMS Code	DFW Area Monitor Alpha Code	DV _F Change for All Days to 10 Days	Truncated DV _F for All Days	Truncated DV _F for Highest 10
Midlothian OFW - C52	MDLO	-0.35	63	62
Greenville - C1006	GRVL	0.08	62	62
Kaufman - C71	KAUF	0.51	62	63

Electronic Resources with Additional Detailed Information

Table 18: *Links for Files Containing Detailed Information* provides a list of various electronic resources available for review related to the changes discussed within this supplement.

Table 18: Links for Files Containing Detailed Information

TCEQ Web Page, TCEQ FTP Directory, or Title of Report/Document	Electronic Address
TCEQ Air Quality Modeling Files and Information Page	https://www.tceq.texas.gov/airquality/airmod/ri der8/rider8Modeling
TCEQ FTP Directory for 2006 DFW Area On-Road Emissions	ftp://amdaftp.tceq.texas.gov/pub/Mobile_EI/DF W/eps3/2006/
TCEQ FTP Directory for 2006 Houston-Galveston-Brazoria (HGB) Area On-Road Emissions	ftp://amdaftp.tceq.texas.gov/pub/Mobile_EI/HG B/eps3/2006/
TCEQ FTP Directory for 2006 On-Road Emissions for Remaining Texas Counties	ftp://amdaftp.tceq.texas.gov/pub/Mobile_EI/Stat ewide/eps3/2006/
TCEQ FTP Directory for 2006 Non-Texas U.S. On-Road Emissions	ftp://amdaftp.tceq.texas.gov/pub/Mobile_EI/USA /eps3/2006/
TCEQ FTP Directory for 2018 DFW Area On-Road Emissions	ftp://amdaftp.tceq.texas.gov/pub/Mobile_EI/DF W/eps3/2018/
TCEQ FTP Directory for 2018 HGB Area On-Road Emissions	ftp://amdaftp.tceq.texas.gov/pub/Mobile_EI/HG B/eps3/2018/
TCEQ FTP Directory for 2018 On-Road Emissions for Remaining Texas Counties	ftp://amdaftp.tceq.texas.gov/pub/Mobile_EI/Stat ewide/eps3/2018/
TCEQ FTP Directory for 2018 Non-Texas U.S. On-Road Emissions	ftp://amdaftp.tceq.texas.gov/pub/Mobile_EI/USA /eps3/2018/
TCEQ FTP Directory for 2006 Non-Road Emissions for All Texas Counties	ftp://amdaftp.tceq.texas.gov/pub/Nonroad_EI/TE X/2006/
TCEQ FTP Directory for 2018 Non-Road Emissions for All Texas Counties	ftp://amdaftp.tceq.texas.gov/pub/Nonroad_EI/TE X/2018/
TCEQ FTP Directory for 2006 Oil-and-Gas Emissions for All Texas Counties	ftp://amdaftp.tceq.texas.gov/pub/Oil_Gas_EI/20 06/
TCEQ FTP Directory for 2018 Oil-and-Gas Emissions for All Texas Counties	ftp://amdaftp.tceq.texas.gov/pub/Oil_Gas_EI/20 18/
<i>Specified Oil and Gas Well Activities Emissions Inventory Update</i> , ERG, August 2014	https://www.tceq.texas.gov/assets/public/imple mentation/air/am/contracts/reports/ei/5821199 776FY1426-20140801-erg-oil_gas_ei_update.pdf
<i>Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air</i>	http://www.epa.gov/ttn/scram/guidance/guide/f inal-03-pm-rh-guidance.pdf

TCEQ Web Page, TCEQ FTP Directory, or Title of Report/Document	Electronic Address
<i>Quality Goals for Ozone, PM_{2.5}, and Regional Haze</i> , EPA, April 2007	
<i>Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze</i> , EPA, December 2014	http://www.epa.gov/ttn/scram/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf