Missouri Department of Natural Resources

APPENDIX F – DEVELOPMENT OF 2008 COMMERCIAL MARINE VESSEL, AIRCRAFT, LOCOMOTIVE EMISSIONS INVENTORY

Description of Columns

Cnty: County code (071 – Franklin; 099 – Jefferson; 183 – St. Charles; 189 – St. Louis; 510 – City of St. Louis)
Plant ID: Plant ID
Plant Name: Plant Name
EU ID (Base 4t): Emission unit ID from the Base 4 typical modeling emissions inventory files
EU ID (EIQ): Emission unit ID reported by facilities in their 2002 emission inventory questionnaires (EIQs)
Emission Unit Description: Description of emission unit
STK ID: Stack ID
SCC: Source Classification Code
NOx 02: Base year 2002 typical summer weekday NOx emissions in tons/day; reflects any NOx controls in place in 2002
VOC 02: Base year 2002 typical summer weekday VOC emissions in tons/day; reflects any VOC controls in place in 2002
GF: 2002-2008 growth factor from EGAS v. 5.0, REMI SCC configuration
NOx GR: 2008 NOx emissions in tons/day based on growth only (no control factors applied), calculated as follows:(NOx GR) = (NOx 02) x (GF)
VOC GR: 2008 VOC emissions in tons/day based on growth only (no control factors applied), calculated as follows: (VOC GR) = (VOC 02) x (GF)
NOx CE: Percent control efficiency for 2008 NOx control where applicable
NOx RE: Percent rule effectiveness for 2008 NOx control where applicable
NOx RP: Percent rule penetration for 2008 NOx control where applicable
VOC CE: Percent control efficiency for 2008 VOC control where applicable
VOC RE: Percent rule effectiveness for 2008 VOC control where applicable
VOC RP: Percent rule effectiveness for 2008 VOC control where applicable
NOx 08: 2008 NOx emissions in tons/day based on growth plus control where applicable, calculated as follows:
(NOx 08) = (NOx GR) x (1 – ((NOx CE) x (NOx RE) x (NOx RP) / 1,000,000))
VOC 08: 2008 VOC emissions in tons/day based on growth plus control where applicable, calculated as follows:
(VOC 08) = (VOC GR) x (1 – ((VOC CE) x (VOC RE) x (VOC RP) / 1,000,000))
Comments: Comments describing the control applied in 2008 or noting other assumptions used in calculating the 2008 emissions

Note: Where growth was applied without controls, control and rule effectiveness factors were set to zero.

Cnty	SCC	SCC Description	NOx 02 (TPD)	VOC 02 (TPD)	GF	NOx GR (TPD)	VOC GR (TPD)	NOx CE (%)	NOx RE (%)	NOx RP (%)	VOC CE (%)	VOC RE (%)	VOC RP (%)	NOx 08 (TPD)	VOC 08 (TPD)	Comments
071	2280002200	Mobile Sources; Marine Vessels, Commercial; Diesel; Underway emissions	0.06	0.00	1.0747	0.06	0.00	43.2	100	18.5	0	0	0	0.06	0.00	Federal CMV Standards
071	2285002006	Mobile Sources; Railroad Equipment; Diesel; Line Haul Locomotives: Class I Operations	2.57	0.13	0.7930	2.04	0.11	62	100	72.6	47	100	34	1.12	0.09	Federal Locomotive Standards
071	2285002008	Mobile Sources; Railroad Equipment; Diesel; Line Haul Locomotives: Passenger Trains (Amtrak)	0.05	0.00	0.7930	0.04	0.00	62	100	50	47	100	19.1	0.03	0.00	Federal Locomotive Standards
071	2285002010	Mobile Sources; Railroad Equipment; Diesel; Yard Locomotives	0.06	0.00	0.7930	0.04	0.00	58	100	25.9	50	100	6	0.04	0.00	Federal Locomotive Standards
099	2280002100	Mobile Sources; Marine Vessels, Commercial; Diesel; Port emissions	2.64	0.10	1.0747	2.84	0.11	43.7	100	17.4	0	0	0	2.63	0.11	Federal CMV Standards
099	2285002006	Mobile Sources; Railroad Equipment; Diesel; Line Haul	0.55	0.03	0.7930	0.44	0.02	62	100	72.6	47	100	34	0.24	0.02	Federal Locomotive

Cnty	SCC	SCC Description	NOx 02 (TPD)	VOC 02 (TPD)	GF	NOx GR (TPD)	VOC GR (TPD)	NOx CE (%)	NOx RE (%)	NOx RP (%)	VOC CE (%)	VOC RE (%)	VOC RP (%)	NOx 08 (TPD)	VOC 08 (TPD)	Comments
		Locomotives: Class I Operations														Standards
099	2285002008	Mobile Sources; Railroad Equipment; Diesel; Line Haul Locomotives: Passenger Trains (Amtrak)	0.05	0.00	0.7930	0.04	0.00	62	100	50	47	100	19.1	0.03	0.00	Federal Locomotive Standards
099	2285002010	Mobile Sources; Railroad Equipment; Diesel; Yard Locomotives	0.17	0.01	0.7930	0.13	0.01	58	100	25.9	50	100	6	0.11	0.01	Federal Locomotive Standards
183	2275050000	Mobile Sources; Aircraft; General Aviation; Total	0.00	0.00	1.2635	0.00	0.00	0	0	0	0	0	0	0.00	0.00	GROWTH ONLY (NO CONTROLS)
183	2275060000	Mobile Sources; Aircraft; Air Taxi; Total	0.00	0.00	1.2635	0.00	0.00	0	0	0	0	0	0	0.00	0.00	GROWTH ONLY (NO CONTROLS)
183	2280002100	Mobile Sources; Marine Vessels, Commercial; Diesel; Port emissions	0.13	0.01	1.0747	0.14	0.01	43.7	100	17.4	0	0	0	0.12	0.01	Federal CMV Standards
183	2280002200	Mobile Sources; Marine Vessels, Commercial; Diesel; Underway emissions	0.53	0.01	1.0747	0.57	0.01	43.2	100	18.5	0	0	0	0.52	0.01	Federal CMV Standards
183	2285002006	Mobile Sources; Railroad Equipment; Diesel; Line Haul Locomotives: Class I Operations	1.05	0.06	0.7930	0.84	0.04	62	100	72.6	47	100	34	0.46	0.04	Federal Locomotive Standards
183	2285002010	Mobile Sources; Railroad Equipment; Diesel; Yard Locomotives	0.28	0.02	0.7930	0.22	0.02	58	100	25.9	50	100	6	0.19	0.02	Federal Locomotive Standards
189	2275001000	Mobile Sources; Aircraft; Military Aircraft; Total	0.00	0.00	1.1667	0.00	0.01	0	0	0	0	0	0	0.00	0.01	GROWTH ONLY (NO CONTROLS)
189	2275020000	Mobile Sources; Aircraft; Commercial Aircraft; Total: All Types	4.64	0.84	1.2635	5.86	1.06	0	0	0	0	0	0	5.86	1.06	GROWTH ONLY (NO CONTROLS)
189	2275050000	Mobile Sources; Aircraft; General Aviation; Total	0.00	0.02	1.2635	0.00	0.02	0	0	0	0	0	0	0.00	0.02	GROWTH ONLY (NO CONTROLS)
189	2275060000	Mobile Sources; Aircraft; Air Taxi; Total	0.01	0.11	1.2635	0.02	0.14	0	0	0	0	0	0	0.02	0.14	GROWTH ONLY (NO CONTROLS)
189	2280002100	Mobile Sources; Marine Vessels, Commercial; Diesel; Port emissions	2.59	0.11	1.0747	2.78	0.11	43.7	100	17.4	0	0	0	2.57	0.11	Federal CMV Standards
189	2280002200	Mobile Sources; Marine Vessels, Commercial; Diesel; Underway emissions	0.07	0.00	1.0747	0.07	0.00	43.2	100	18.5	0	0	0	0.07	0.00	Federal CMV Standards
189	2285002006	Mobile Sources; Railroad Equipment; Diesel; Line Haul Locomotives: Class I Operations	1.19	0.06	0.7930	0.94	0.05	62	100	72.6	47	100	34	0.52	0.04	Federal Locomotive Standards
189	2285002008	Mobile Sources; Railroad Equipment; Diesel; Line Haul Locomotives: Passenger Trains (Amtrak)	0.05	0.00	0.7930	0.04	0.00	62	100	50	47	100	19.1	0.03	0.00	Federal Locomotive Standards
189	2285002010	Mobile Sources; Railroad Equipment; Diesel; Yard Locomotives	0.28	0.02	0.7930	0.22	0.02	58	100	25.9	50	100	6	0.19	0.02	Federal Locomotive Standards
510	2280002100	Mobile Sources; Marine Vessels, Commercial; Diesel; Port emissions	5.94	0.24	1.0747	6.38	0.26	43.7	100	17.4	0	0	0	5.90	0.26	Federal CMV Standards
510	2285002006	Mobile Sources; Railroad Equipment; Diesel; Line Haul Locomotives: Class I Operations	0.27	0.01	0.7930	0.22	0.01	62	100	72.6	47	100	34	0.12	0.01	Federal Locomotive Standards
510	2285002007	Mobile Sources; Railroad Equipment; Diesel; Line Haul Locomotives: Class II / III Operations	0.32	0.02	0.7930	0.25	0.01	62	100	4.8	0	0	0	0.24	0.01	Federal Locomotive Standards
510	2285002008	Mobile Sources; Railroad Equipment; Diesel; Line Haul Locomotives: Passenger Trains (Amtrak)	0.05	0.00	0.7930	0.04	0.00	62	100	50	47	100	19.1	0.03	0.00	Federal Locomotive Standards
510	2285002010	Mobile Sources; Railroad Equipment; Diesel; Yard Locomotives	1.61	0.12	0.7930	1.28	0.10	58	100	25.9	50	100	6	1.09	0.09	Federal Locomotive Standards
St. Louis Nonattainment Area Totals			**25.15**	**1.95**										**22.17**	**2.09**	