



A Sensitivity Test: Alternative Speciation Profiles

- ❖ Analyses by Emery (2004), which focused on the Bay Area, and Tesche and Jefferies (2004), which focused on the San Joaquin Valley indicate possible problems in the emissions inventory
 - Suspect VOC reactivity
 - Suspect VOC mass
 - There appears to be sufficient NOX
- ❖ Through the use of an alternative set of speciation profiles (EPA standard speciation profiles), the project team will develop alternative CAMx-ready CB-IV emissions estimates



A Sensitivity Test: Alternative Speciation Profiles (continued)

- ❖ In order to use the EPA standard speciation profiles, the following must be done
 - Map the ARB area source category codes to EPA area source category code
 - Double check that SCCs in the ARB inventory have a one-to-one map to the EPA SCCs
 - Ensure that no emissions are lost due to remapping effort
 - Avoid use of EPA 0000 profile where possible
 - Correct at least one Bay Area SCC (i.e. hazardous waste landfill - 50300603 to landfill - 50200602)
 - Do not modify speciation profiles for on-road mobile sources or biogenics

Bay Area	CO					NOX					TOG				
	July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00	
	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD
EGU	14	29	41	31	26	21	27	30	28	29	17	18	20	19	20
Other	27	29	241	37	39	62	65	63	85	87	379	432	438	357	410
Area	22	22	22	22	22	25	25	25	19	19	370	376	376	378	383
Ship	2	4	3	4	4	10	16	14	17	17	1	1	1	1	1
Off-road	1,051	570	570	817	468	147	199	199	145	200	182	100	100	144	85
On-road	1,781	2,054	2,047	1,826	2,095	263	343	331	263	339	196	228	229	203	234
Bio						9	10	10	9	10	339	457	396	330	370
Total	2,897	2,708	2,924	2,737	2,654	537	685	672	566	701	1,484	1,612	1,560	1,432	1,503

Sacramento	CO					NOX					TOG				
	July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00	
	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD
EGU	2	2	2	2	2	1	1	2	1	2	2	2	2	2	2
Other	9	11	10	11	13	5	5	6	8	9	31	30	30	17	19
Area	24	24	24	31	31	18	18	18	11	11	149	155	155	100	109
Ship	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Off-road	460	185	185	370	152	56	67	67	51	64	66	30	30	53	25
On-road	636	659	671	608	651	81	104	100	84	105	72	76	76	68	73
Bio						11	12	12	9	11	398	468	425	273	343
Total	1,131	881	892	1,022	849	172	207	205	164	202	718	761	718	513	571

SJV	CO					NOX					TOG				
	July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00	
	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD
EGU	2	3	3	3	3	6	6	6	6	6	4	4	4	4	4
Other	27	28	28	36	36	60	63	63	70	73	77	85	86	86	89
Area	33	34	34	34	35	111	114	114	112	115	1,136	1,160	1,160	1,128	1,157
Ship	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Off-road	663	399	399	554	359	140	206	206	137	207	108	67	67	96	66
On-road	1,294	1,430	1,464	1,179	1,362	161	218	206	171	230	131	144	152	120	138
Bio						62	62	70	47	54	816	786	925	460	566
Total	2,019	1,894	1,928	1,806	1,795	540	669	665	543	685	2,272	2,246	2,394	1,894	2,020

Remaining CCOS Domain	CO					NOX					TOG				
	July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00	
	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD
EGU	80	98	95	98	80	25	32	32	28	29	11	12	12	12	12
Other	85	99	93	100	108	72	77	77	98	103	93	136	135	59	68
Area	387	388	388	392	393	51	52	52	47	48	780	826	826	598	655
Ship	3	3	3	3	3	17	18	18	17	18	1	1	1	1	1
Off-road	1,294	557	557	1,062	474	161	199	199	154	197	263	103	103	219	89
On-road	1,686	1,975	1,923	1,704	1,971	217	292	272	220	293	186	219	213	189	219
Bio						72	75	77	70	73	2,557	3,011	2,944	2,196	2,640
Total	3,535	3,120	3,059	3,359	3,029	615	745	727	634	761	3,891	4,308	4,234	3,274	3,684

Bay Area	TOG					UNR					PAR					REACTIVE				
	July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00	
	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD
EGU	17	18	20	19	20	15	15	16	16	16	2	2	3	3	3	1	1	1	1	1
Other	379	432	438	357	410	301	315	319	299	313	49	66	67	37	54	19	31	32	12	24
Area	370	376	376	378	383	225	225	225	213	213	72	75	75	86	89	41	43	43	44	46
Ship	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
Off-road	182	100	100	144	85	24	14	14	19	12	80	42	42	63	36	80	44	44	63	38
On-road	196	228	229	203	234	24	27	27	24	27	115	136	136	122	141	57	65	65	58	66
Bio	339	457	396	330	370	-	-	-	-	-	44	55	54	54	60	270	366	325	259	290
Total	1,484	1,612	1,560	1,432	1,503	589	596	601	571	581	362	376	377	365	383	468	551	511	438	466

Sacramento	TOG					UNR					PAR					REACTIVE				
	July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00	
	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD
EGU	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-
Other	31	30	30	17	19	16	16	16	15	15	10	9	9	2	3	4	4	4	-	1
Area	149	155	155	100	109	105	106	106	54	55	23	26	26	25	30	12	14	14	13	16
Ship	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Off-road	66	30	30	53	25	9	4	4	7	3	29	13	13	24	11	29	13	13	23	11
On-road	72	76	76	68	73	8	8	8	8	8	44	48	48	42	45	20	20	20	19	20
Bio	398	468	425	273	343	-	-	-	-	-	81	95	91	70	88	281	330	303	179	224
Total	718	761	718	513	571	140	136	136	86	83	187	191	187	163	177	346	381	354	234	272

SJV	TOG					UNR					PAR					REACTIVE				
	July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00	
	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD
EGU	4	4	4	4	4	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-
Other	77	85	86	86	89	49	49	49	66	67	20	24	24	14	16	6	9	9	3	5
Area	1,136	1,160	1,160	1,128	1,157	913	918	918	904	909	121	133	133	125	140	51	56	56	54	61
Ship	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Off-road	108	67	67	96	66	15	9	9	13	9	45	25	25	38	23	50	32	32	45	33
On-road	131	144	152	120	138	16	17	18	15	17	78	86	91	69	81	37	41	42	35	40
Bio	816	786	925	460	566	-	-	-	-	-	165	163	190	116	140	593	568	675	306	381
Total	2,272	2,246	2,394	1,894	2,020	996	996	997	1,001	1,005	429	431	463	362	400	737	706	814	443	520

Remaining CCOS Domain	TOG					UNR					PAR					REACTIVE				
	July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00		July-August 2000			Sep-00	
	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD	J-WE	J-WD	A-WD	WE	WD
EGU	11	12	12	12	12	9	10	10	9	10	2	2	2	2	2	-	1	1	1	1
Other	93	136	135	59	68	33	39	39	33	35	38	61	61	18	22	16	25	25	4	6
Area	780	826	826	598	655	589	590	590	409	411	89	116	116	84	117	50	64	64	53	70
Ship	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1
Off-road	263	103	103	219	89	35	13	13	29	12	116	44	44	97	38	115	45	45	95	39
On-road	186	219	213	189	219	22	25	25	22	25	111	131	128	113	131	54	62	60	54	62
Bio	2,557	3,011	2,944	2,196	2,640	-	-	-	-	-	519	594	600	548	661	1,841	2,178	2,148	1,469	1,762
Total	3,891	4,308	4,234	3,274	3,684	688	677	677	502	493	875	948	951	862	971	2,077	2,376	2,344	1,677	1,941