Impact Sciences, Inc., "Operational Emissions: URBEMIS2007 Area and Operational Emissions, Entrada Alternative 4" (March 31, 2008)

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Z:\Glu\aqNewhall\August 2007 Revision to Newhall\Operational Emissions\URBEMIS2007 Files and Printouts\Entrada and VCC\Ent Alt 4\Entrada Alt 4.urb924

Project Name: Entrada Operational Emissions Alt 4

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

AREA SOURCE EMISSION ESTIMATES ROG Nox CO SO2 PM10 PM2.5 CO TOTALS (lbs/day, unnitigated) 68.69 18.72 36.56 0.00 0.11 0.11 23,176.72 TOTALS (lbs/day, unnitigated) 68.48 15.96 35.10 0.00 0.11 0.11 19,706.92 Percent Reduction 0.31 14.74 3.99 0.00 0.00 0.00 14.74 OPERATIONAL (VEHICLE) EMISSION ESTIMATES E E E E CO SO2 PM10 PM2.5 CO2 TOTALS (lbs/day, unnitigated) 57.53 48.64 541.61 1.62 263.85 51.16 158,965.84 SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES E E E CO2 SO2 PM10 PM2.5 CO2 TOTALS (lbs/day, unnitigated) 57.53 48.64 541.61 1.62 263.85 51.16 158,965.84 SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES E E E CO2 SO2 PM10 PM2.5 CO2 TOTALS (lbs/day, unnitigated) 126.2								
TOTALS (lbs/day, unmitigated) 68.69 18.72 36.56 0.00 0.11 0.11 23,176.72 TOTALS (lbs/day, mitigated) 68.48 15.96 35.10 0.00 0.11 0.11 19,706.92 Percent Reduction 0.31 14.74 3.99 0.00 0.00 0.00 14.97 OPERATIONAL (VEHICLE) EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	AREA SOURCE EMISSION ESTIMATES							
TOTALS (lbs/day, mitigated) 68.48 15.96 35.10 0.00 0.11 0.11 19,706.92 Percent Reduction 0.31 14.74 3.99 0.00 0.00 0.00 14.97 OPERATIONAL (VEHICLE) EMISSION ESTIMATES SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES CO SO2 PM10 PM2.5 CO2 SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES ROG NOx CO SO2 PM10 PM2.5 CO2 ROG NOx CO SO2 PM10 PM2.5 CO2 SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES ROG NOx CO SO2 PM10 PM2.5 CO2		ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Percent Reduction 0.31 14.74 3.99 0.00 0.00 0.00 14.97 OPERATIONAL (VEHICLE) EMISSION ESTIMATES	TOTALS (lbs/day, unmitigated)	68.69	18.72	36.56	0.00	0.11	0.11	23,176.72
OPERATIONAL (VEHICLE) EMISSION ESTIMATES ROG NOx CO SO2 PM10 PM2.5 CO2 TOTALS (lbs/day, unmitigated) 57.53 48.64 541.61 1.62 263.85 51.16 158,965.84 SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES ROG NOx CO SO2 PM10 PM2.5 CO2 ROG NOx CO SO2 PM10 PM2.5 CO2	TOTALS (lbs/day, mitigated)	68.48	15.96	35.10	0.00	0.11	0.11	19,706.92
ROGNOxCOSO2PM10PM2.5CO2TOTALS (lbs/day, unmitigated)57.5348.64541.611.62263.8551.16158,965.84SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATESROGNOxCOSO2PM10PM2.5CO2	Percent Reduction	0.31	14.74	3.99	0.00	0.00	0.00	14.97
TOTALS (lbs/day, unmitigated) 57.53 48.64 541.61 1.62 263.85 51.16 158,965.84 SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	OPERATIONAL (VEHICLE) EMISSION ESTIMATES							
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES ROG NOx CO SO2 PM10 PM2.5 CO2		ROG	NOx	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	PM2.5	<u>CO2</u>
ROG NOX CO SO2 PM10 PM2.5 CO2	TOTALS (lbs/day, unmitigated)	57.53	48.64	541.61	1.62	263.85	51.16	158,965.84
	SUM OF AREA SOURCE AND OPERATIONAL EMISSIO	N ESTIMATES						
TOTALS (lbs/day, unmitigated) 126.22 67.36 578.17 1.62 263.96 51.27 182,142.56		ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
	TOTALS (lbs/day, unmitigated)	126.22	67.36	578.17	1.62	263.96	51.27	182,142.56

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	<u>NOx</u>	<u>co</u>	<u>SO2</u>	<u>PM10</u>	PM2.5	<u>CO2</u>
Natural Gas	1.40	18.40	9.73	0.00	0.03	0.03	23,132.00
Hearth - No Summer Emissions							
Landscape	4.07	0.32	26.83	0.00	0.08	0.08	44.72
Consumer Products	57.71						
Architectural Coatings	5.51						
TOTALS (lbs/day, unmitigated)	68.69	18.72	36.56	0.00	0.11	0.11	23,176.72
Area Source Mitigated Detail Report:							
AREA SOURCE EMISSION ESTIMATE	S Summer Pounds Pe	r Day, Mitigated					
Source	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	PM2.5	<u>CO2</u>
Natural Gas	1.19	15.64	8.27	0.00	0.03	0.03	19,662.20
Hearth - No Summer Emissions							
Landscape	4.07	0.32	26.83	0.00	0.08	0.08	44.72
Consumer Products	57.71						
Architectural Coatings	5.51						
TOTALS (lbs/day, mitigated)	68.48	15.96	35.10	0.00	0.11	0.11	19,706.92

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Page: 1 3/31/2008 01:41:00 PM Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	8.68	7.44	85.71	0.26	41.71	8.09	25,181.08
Condo/townhouse general	11.90	9.79	112.80	0.34	54.89	10.64	33,137.38
Elementary school	2.17	0.86	9.62	0.03	4.66	0.90	2,812.09
City park	0.04	0.02	0.26	0.00	0.13	0.03	77.61
Regnl shop. center	27.80	24.62	268.79	0.80	131.60	25.51	79,139.54
Supermarket	6.94	5.91	64.43	0.19	30.86	5.99	18,618.14
TOTALS (lbs/day, unmitigated)	57.53	48.64	541.61	1.62	263.85	51.16	158,965.84

Operational Settings:

Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 35.5 Nonresidential Trip % Reduction: 16.72

Analysis Year: 2030 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	142.67	6.39	dwelling units	428.00	2,732.83	24,171.93
Condo/townhouse general	43.56	5.16	dwelling units	697.00	3,596.31	31,809.37
Elementary school		1.21	students	350.00	422.67	2,702.66
City park		2.17	acres	5.00	10.83	75.03
Regnl shop. center		33.36	1000 sq ft	399.00	13,312.05	76,268.19
Supermarket		70.84	1000 sq ft	51.00	3,612.91	17,878.86
					23,687.60	152,906.04

Vehicle Fleet Mix									
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel					
Light Auto	51.7	0.0	100.0	0.0					
Light Truck < 3750 lbs	6.7	0.0	100.0	0.0					
Light Truck 3751-5750 lbs	23.5	0.0	100.0	0.0					
Med Truck 5751-8500 lbs	10.6	0.0	100.0	0.0					
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6					
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0					
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0					
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0					
Other Bus	0.1	0.0	0.0	100.0					
Urban Bus	0.1	0.0	0.0	100.0					
Motorcycle	2.5	32.0	68.0	0.0					
School Bus	0.1	0.0	0.0	100.0					
Motor Home	1.0	0.0	90.0	10.0					

Travel Conditions

		Residential		Commercial			
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer	
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9	
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6	
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0	
% of Trips - Residential	32.9	18.0	49.1				

% of Trips - Commercial (by land use)

Elementary school	20.0	10.0	70.0
City park	5.0	2.5	92.5
Regnl shop. center	2.0	1.0	97.0
Supermarket	2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: Z:\Glu\aqNewhall\August 2007 Revision to Newhall\Operational Emissions\URBEMIS2007 Files and Printouts\Entrada and VCC\Entrada\Entrada Al 4\Entrada Alt 4.urb924

Project Name: Entrada Operational Emissions Alt 4

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	PM2.5	<u>CO2</u>	
TOTALS (lbs/day, unmitigated)	65.05	25.80	12.88	0.05	0.63	0.62	32,583.76	
TOTALS (lbs/day, mitigated)	64.84	23.04	11.42	0.05	0.63	0.62	29,113.96	
Percent Reduction	0.32	10.70	11.34	0.00	0.00	0.00	10.65	
OPERATIONAL (VEHICLE) EMISSION ESTIMATES								
	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>	
TOTALS (lbs/day, unmitigated)	62.98	58.35	514.96	1.34	263.85	51.16	143,686.62	
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES								
	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	PM2.5	<u>CO2</u>	
TOTALS (lbs/day, unmitigated)	128.03	84.15	527.84	1.39	264.48	51.78	176,270.38	

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

Source Unmitigated Detail Report:						
URCE EMISSION ESTIMATES	Winter Pounds Per Day,	Unmitigated				
Source	ROG	<u>NOx</u>	<u>co</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
ll Gas	1.40	18.40	9.73	0.00	0.03	0.03
	0.43	7.40	3.15	0.05	0.60	0.59
ping - No Winter Emissions						
r Products	57.71					
ectural Coatings	5.51					
LS (lbs/day, unmitigated)	65.05	25.80	12.88	0.05	0.63	0.62
Source Mitigated Detail Report:						
SOURCE EMISSION ESTIMATES	Winter Pounds Per Day,	Mitigated				
Source	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	PM2.5
Gas	1.19	15.64	8.27	0.00	0.03	0.03
	0.43	7.40	3.15	0.05	0.60	0.59
caping - No Winter Emissions						
er Products	57.71					
tural Coatings	5.51					
S (lbs/day, mitigated)	64.84	23.04	11.42	0.05	0.63	0.62

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	9.03	8.95	80.25	0.21	41.71	8.09	22,765.69
Condo/townhouse general	12.12	11.77	105.61	0.28	54.89	10.64	29,958.81
Elementary school	1.72	1.03	9.13	0.02	4.66	0.90	2,542.03
City park	0.04	0.03	0.25	0.00	0.13	0.03	70.11
Regnl shop. center	31.91	29.50	257.44	0.67	131.60	25.51	71,518.39
Supermarket	8.16	7.07	62.28	0.16	30.86	5.99	16,831.59
TOTALS (lbs/day, unmitigated)	62.98	58.35	514.96	1.34	263.85	51.16	143,686.62

Operational Settings:

Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 35.5 Nonresidential Trip % Reduction: 16.72

Analysis Year: 2030 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

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Condo/townhouse general	43.56	5.16	dwelling units	697.00	3,596.31	31,809.37		
Elementary school		1.21	students	350.00	422.67	2,702.66		
City park		2.17	acres	5.00	10.83	75.03		
Regnl shop. center		33.36	1000 sq ft	399.00	13,312.05	76,268.19		
Supermarket		70.84	1000 sq ft	51.00	3,612.91	17,878.86		
					23,687.60	152,906.04		

Vehicle Fleet Mix								
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel				
Light Auto	51.7	0.0	100.0	0.0				
Light Truck < 3750 lbs	6.7	0.0	100.0	0.0				
Light Truck 3751-5750 lbs	23.5	0.0	100.0	0.0				
Med Truck 5751-8500 lbs	10.6	0.0	100.0	0.0				
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6				
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0				
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0				
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0				
Other Bus	0.1	0.0	0.0	100.0				
Urban Bus	0.1	0.0	0.0	100.0				
Motorcycle	2.5	32.0	68.0	0.0				
School Bus	0.1	0.0	0.0	100.0				
Motor Home	1.0	0.0	90.0	10.0				

Travel Conditions

		Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer	
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9	
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6	
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0	
% of Trips - Residential	32.9	18.0	49.1				

% of Trips - Commercial (by land use)

Elementary school	20.0	10.0	70.0
City park	5.0	2.5	92.5
Regnl shop. center	2.0	1.0	97.0
Supermarket	2.0	1.0	97.0