Appendix F

Economic Analysis Methodology

Appendix F

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A. Determination of Number of Affected Diesel Engines Per Business

Until recently, the affected engines were not tracked as to their quantities, sizes, and operating locations. The 2003 Farm and Ranch Irrigation Survey (FRIS) mentioned elsewhere in this staff report provides the best known data available on the affected engines and the businesses that own and operate them. However, the FRIS does not have direct data regarding the numbers of diesel engines per business and their size, as measured by gross sales revenue. For cost discussion and analysis purposes, an average number of affected engines per business was determined. Simplifying assumptions were used and are stated in the following discussion, which determined that one to three affected engines per business is an appropriate range.

It should be noted that many factors influence the number of affected diesel engines per business; although a range average was determined, some businesses may have none, thus resulting in no cost impact to those businesses, while others may have an above-average number of affected engines and may thus incur higher-than-average compliance costs. Some of the main factors that influence the number of affected engines per business include:

- Types of crop(s) raised (will dictate water needs; may also vary from year-to-year due to crop rotation, anticipated crop prices, etc.);
- Irrigation water availability, sources, and cost;
- Type of irrigation water distribution system used (gravity feed, pressure-fed); and
- Cost/proximity to available pump power sources (non-diesel power sources with favorable conditions may mean fewer or no diesel engines).

FRIS Table 14 shows that most (64 percent) farms have one well; for analysis purposes, this was considered the low end of the range, as an affected business would have at least one affected diesel engine. It was considered more meaningful to use a range for the number of affected engines per business, as this would cover a wide range of affected businesses. For readers with a specific number of affected engines and their size(s) in mind, costs can be estimated by using Table VI-1 in Chapter VI.

From FRIS Table 20, the number of diesel-powered pumps reported in California is 12,535, operated by 3,895 farms and/or ranches. It should be noted that this number includes those smaller than 50 horsepower (hp), which are not affected by the proposed amendments. Dividing the number of farms by the number of engines reported yields an average of 3.22 or 3 engines per business, rounded. Note that this is not the number of irrigation wells or pumps per business, which is much larger (only 15 percent of all pumps are reported to be diesel engine powered); the predominant (at 83 percent) power source is electricity (USDA, 2002b).

B. Estimation of Local Air District Fee Range

Since only two of the 35 local air districts have established or are in the process of establishing permit or registration programs for the affected engines, use of an accurate range of district fees for cost estimation purposes was not possible. For cost estimation purposes, a range of fees was established using actual district fees for the low end and a variation of ARB's Portable Equipment Registration Program (PERP) for the high end. The variation to the PERP fee schedule involves converting their triennial and quinquennial fees to annual fees; inspections are assumed to occur triennially.

Because the fee range is used to estimate the costs to affected businesses and not the amount of anticipated revenue for the districts, an allowance is added to the initial registration fee only (for both low- and high-end scenarios) for the cost to an affected business of preparing and submitting the initial registration application. An allowance of two hours at $50.00/hour (for a total of $100) has been estimated for the initial registration for each affected engine. Since most registration renewals will primarily involve payment of fees and no submittal of the detailed information required for an initial registration, no cost allowance for a business renewing a registration has been made.

Where local air districts already have sufficient information on an affected engine (engines replaced with Moyer incentive funding assistance or otherwise subject to district permitting), discounted fee schedules may be used in some cases. The degree to which affected engines may qualify for discounted fees is unknown and for the purposes of this analysis it is assumed that none of the affected engines qualify for discounted fees.

In addition, affected engines qualifying for the remote location exemption would not have to meet the proposed stricter emission standards, but would still be required to register with the local air districts and pay fees. The number of eligible engines is undetermined at this time; therefore, this economic analysis does consider the impacts of registration fees paid for these engines.

C. Loss-of-Use Calculation

For the purposes of calculating an in-use engine's loss-of-use costs due to the proposed amendments, the affected engines are separated into size (horsepower) categories and subcategories by emission standard (Tier 0 through Tier 2) and model year. The left-hand columns of Table F-2 list all size categories and subcategories of affected engines. A subcategory may contain one or more model year engines; for analysis purposes, the latest model year in a subcategory is considered the model year for the subcategory. For example, a subcategory containing 2001, 2002, and 2003 model year engines would be considered all model year 2003 engines for analysis purposes.

With the model year of a subcategory, an assumed 20-year engine life, and the proposed amendment compliance date, the loss-of-use amount for the subcategory may be calculated by Equation 1.

(1) *Loss of use (engine) = New Engine Cost x (20 - (compliance year - engine model year))/20*

The engines are typically rebuilt ten years after being placed in service; the rebuild cost is also counted in the loss of use cost for the engines. This is a conservative estimate, as in situations where the engine owner/operator knows that the in-use engine must meet the proposed standards shortly after the anticipated rebuild date, many owner/operators will not rebuild the engine. The rebuild cost will vary significantly, depending upon the exact condition of the in-use engine at the time of rebuild. For the purposes of this analysis, the rebuild cost is assumed to be 50 percent of the new engine cost. Using the Equation 2, the loss-of-use cost for an engine rebuild can be calculated.

(2) *Loss-of-use (rebuild) = Rebuild Cost x (10 - (compliance year - rebuild year))/10*

The loss-of-use costs (engine & rebuild) are then multiplied by the appropriate amortization factors to apportion the cost over the appropriate time period. These amortized (annual) costs are then multiplied by the number of engines of the affected model year(s) (MY) at the start of the amortization period to give a total amortized cost for the subcategory. The start of the amortization period is the year after the compliance deadline for the subcategory; since all deadlines fall on December 31st of a given year, the next year is the day after, or January 1st.

D. Total Cost Calculation

Per engine subcategory, the component costs of the total cost are as follows:

Table F-1. Component Costs Per Engine Subcategory

Effective Year	Cost Type	Amount ($)
2008	Initial Local Air District Registration Fees Start	145 to 190
2009	Annual Registration Renewal Fees Start (low-end cost scenario)	26
2009	Annual Registration Renewal (non-inspection) Fees Start (high-end cost scenario)	75
Emission Standard Compliance Date - Varies by Specific Subcategory	Annual Registration Renewal (inspection) Fees Start (high-end cost scenario)	242
Emission Standard Compliance Date - Varies by Specific Subcategory	Engine Loss-of-Use Costs; duration: amortization period (see Table F-2)	Varies by Engine Subcategory

These costs are multiplied by the appropriate affected engine subcategory population as explained in Section F below, to produce a total cost for the subcategory. Using a low-and high-end cost for local air district fees produces a cost range for each subcategory. This process is performed for all 41 subcategories and the sum of the subcategories is the total cost range for the proposed amendments. These calculations are shown on the "Reg Cost" worksheet; a year-by-year summary table is provided on the "Reg Cost Summary" worksheet in this appendix.

E. Analysis Period Selection

While the standard economic analysis period for proposed regulations is typically the current State fiscal year (July 1 to June 30) and the following two fiscal years (DOF, 2006), the proposed amendments have rolling implementation dates from 2011 to 2022, where the majority of the cost attributable to the amendments will occur. As explained in Chapter VI, the amortization periods for these costs range from one to eight years, depending upon the engine size category and model year. To capture all of the engine standard costs, the analysis period must encompass all of the amortization periods; the first engine category to meet the proposed standards must comply by December 31, 2010, with the last category having a compliance deadline of December 31, 2021, and an amortization period of eight years.

The local air district fees are expected to take effect in 2008; thus, the analysis period starts in 2008 and extends to 2029. While this is an unusually long analysis period, it does capture nearly all of the costs of the proposed amendments. The only costs not captured are the local air district fees for affected engines, which will continue for as long as applicable stationary diesel engines are kept in service.

F. Affected Engine Population

The engine population data used for the cost analysis is based upon the data and methodologies used elsewhere in this report. However, the affected engine population figures used for the cost analysis, including the cost-effectiveness figures, do not include compliance costs and emission reductions for the San Joaquin Valley Unified Air Pollution Control District and the South Coast Air Quality Management District, due to district rules affecting the same in-use agricultural engine categories as these proposed amendments.

However, because the population of each subcategory in its respective compliance year differs (is less than) from its value in 2008 (earlier than the compliance year), the appropriate 2008 population figure was developed. The 2008 population figure for each subcategory was used when calculating the initial local air district fees and renewal fee amounts. Starting in the compliance year, the appropriate affected engine population figure for that year was used from that point onward in the cost calculations.

Table F-2. Time Points and Amortization Periods for Affected Engines

Engine Size (horsepower) Category	Emission Tier	Compliance Date (start of amortization period)	Affected Engine Model Year (MY)	Assumed Rebuild Year	In-Use Engine Loss-of-Use Period (years)	Rebuild Loss-of-Use Period (years)
50 – 74	0	12/31/2011 (2012)	-1996	2006	4	4
"	1	12/31/2015 (2016)	-2003	2013	7	7
"	2	12/31/2015 (2016)	2004	2014	8	8
"	2	12/31/2016 (2017)	2005	2015	8	8
"	2	12/31/2017 (2018)	2006	2016	8	8
"	2	12/31/2018 (2019)	2007	2017	8	8
75 – 99	0	12/31/2011 (2012)	-1996	2006	4	4
"	1	12/31/2015 (2016)	-2003	2013	7	7
"	2	12/31/2015 (2016)	2004	2014	8	8
"	2	12/31/2016 (2017)	2005	2015	8	8
"	2	12/31/2017 (2018)	2006	2016	8	8
"	2	12/31/2018 (2019)	2007	2017	8	8
100 – 174	0	12/31/2010 (2011)	-1996	2006	5	5
"	1	12/31/2015 (2016)	-2002	2012	6	6
"	2	12/31/2015 (2016)	2003 - 2004	2014	8	8
"	2	12/31/2016 (2017)	2005	2015	8	8
"	2	12/31/2017 (2018)	2006	2016	8	8
175 – 299	0	12/31/2010 (2011)	-1996	2006	5	5
"	1	12/31/2014 (2015)	-2002	2012	7	7
"	2	12/31/2014 (2015)	2003	2013	8	8
"	2	12/31/2015 (2016)	2004	2014	8	8
"	2	12/31/2016 (2017)	2005	2015	8	8
300 – 599	0	12/31/2010 (2011)	-1996	2006	5	5
"	1	12/31/2014 (2015)	-2000	2010	5	5
"	2	12/21/2014 (2015)	-2003	2013	8	8
"	2	12/31/2015 (2016)	2004	2014	8	8
"	2	12/31/2016 (2017)	2005	2015	8	8

Table F-2 continues on the next page.

Table F-2. Time Points and Amortization Periods for Affected Engines (continued)

Engine Size (horsepower) Category	Emission Tier	Compliance Date (start of amortization period)	Affected Engine Model Year (MY)	Assumed Rebuild Year	In-Use Engine Loss-of-Use Period (years)	Rebuild Loss-of-Use Period (years)
600 – 750	0	12/31/2010 (2011)	-1996	2006	5	5
"	1	12/31/2014 (2015)	-2001	2011	6	6
"	2	12/31/2014 (2015)	2003	2013	8	8
"	2	12/31/2015 (2016)	2004	2014	8	8
"	2	12/31/2016 (2017)	2005	2015	8	8
> 750	0	12/31/2014 (2015)	-1996	2006	1	1
"	1	12/31/2014 (2015)	-2003	2013	8	8
"	1	12/31/2015 (2016)	2004	2014	8	8
"	1	12/31/2016 (2017)	2005	2015	8	8
"	2	12/31/2017 (2018)	2006	2016	8	8
"	2	12/31/2018 (2019)	2007	2017	8	8
"	2	12/31/2019 (2020)	2008	2018	8	8
"	2	12/31/2020 (2021)	2009	2019	8	8
"	2	12/31/2021 (2022)	2010	2020	8	8

REFERENCES FOR APPENDIX F

DOF, 2006. State of California, Department of Finance, State Administrative Manual, Section 6622, Cost Estimating Format and Methodology (Revised 2/98). September, 2006. www.dof.ca.gov/fisa/bag/SAM6000.htm

Keddie, 2006. April 7, 2006 e-mail from Elise Keddie, PhD, ARB, to Jon Manji, ARB.

USDA, 2002b. United States Department of Agriculture National Agricultural Statistics Service. 2002 Census of Agriculture: Farm and Ranch Irrigation Survey (2003). Volume 3, Special Studies, Part 1. November 2004.

Walter, 2005-2006. Confidential. Personal Communication (telephone and in-person conversations) with engine dealers and distributors to Ron Walter, ARB, Stationary Source Division, November, 2005 to February, 2006.

"Engine Population" worksheet

8/25/2006

Note: These numbers take into account the 20% reduction due to electrification incentive programs and "electrification effect" of proposed amendments.
This worksheet takes the engine population figures used in the emission inventory and adjusts them as necessary.

Source: ARB PTSD 8/16/2006 file

Key to Abbreviations:

Engine Horsepower (hp) Categories:
5074 = 50 to 74 hp
7599 = 75 to 99 hp
100174 = 100 to 174 hp
175199 = 175 to 199 hp
300599 = 300 to 599 hp
600750 = 600 to 750 hp
GT750 = Greater Than 750 hp

SW = Statewide Total Engine Population Minus San Joaquin Subtotal
SJ = San Joaquin District Engine Population
SC = South Coast District Engine Population

2005, etc. = Calendar Year (Year After Horsepower/Engine Model Year Category Compliance Deadline)

T0 = EPA Tier 0 Engine
T1 = EPA Tier 1 Engine
T2 = EPA Tier 2 Engine

NOTE: SJV Subtotals Subtracted From Statewide Figures (including 2008 engine pop.)

Engine Horsepower Category	Number of Engines	Adjustment Factor	Status	Adjusted Eng. Popul.	Status	2008 Affected Engine Population [a]	
5074SW2012T0	68	1	Final	32	Final	54	
5074SW2016T1	104	1	Final	49	Final	71	
5074SW2016T2	7	1	Final	3	Final	5	
5074SW2017T2	7	1	Final	3	Final	5	
5074SW2018T2	8	1	Final	4	Final	5	
5074SW2019T2	9	1	Final	4	Final	5	
							145
5074SJ2012T0	36	1	Final	36	Final	60	
5074SJ2016T1	55	1	Final	55	Final	82	
5074SJ2016T2	4	1	Final	4	Final	5	
5074SJ2017T2	4	1	Final	4	Final	5	
5074SJ2018T2	4	1	Final	4	Final	6	
5074SJ2019T2	5	1	Final	5	Final	6	
							164
5074SC2012T0	0	1	Final	0	Final	1	
5074SC2016T1	0	1	Final	0	Final	0	
5074SC2016T2	0	1	Final	0	Final	0	
5074SC2017T2	0	1	Final	0	Final	0	
5074SC2018T2	0	1	Final	0	Final	0	
5074SC2019T2	0	1	Final	0	Final	0	
							1
7599SW2012T0	68	1	Final	32	Final	54	
7599SW2016T1	104	1	Final	49	Final	71	
7599SW2016T2	7	1	Final	3	Final	5	
7599SW2017T2	7	1	Final	3	Final	5	
7599SW2018T2	8	1	Final	4	Final	5	
7599SW2019T2	9	1	Final	4	Final	5	
							145
7599SJ2012T0	36	1	Final	36	Final	60	
7599SJ2016T1	55	1	Final	55	Final	82	
7599SJ2016T2	4	1	Final	4	Final	5	
7599SJ2017T2	4	1	Final	4	Final	5	
7599SJ2018T2	4	1	Final	4	Final	6	
7599SJ2019T2	5	1	Final	5	Final	6	
							164
7599SC2012T0	0	1	Final	0	Final	1	
7599SC2016T1	0	1	Final	0	Final	0	
7599SC2016T2	0	1	Final	0	Final	0	
7599SC2017T2	0	1	Final	0	Final	0	
7599SC2018T2	0	1	Final	0	Final	0	
7599SC2019T2	0	1	Final	0	Final	0	
							1
100174SW2011T0	895	1	Final	447	Final	689	
100174SW2016T1	1106	1	Final	553	Final	829	
100174SW2016T2	349	1	Final	174	Final	242	
100174SW2017T2	94	1	Final	47	Final	65	
100174SW2018T2	98	1	Final	49	Final	68	
							1893
100174SJ2011T0	448	1	Final	448	Final	689	
100174SJ2016T1	553	1	Final	553	Final	829	
100174SJ2016T2	175	1	Final	175	Final	245	
100174SJ2017T2	47	1	Final	47	Final	66	
100174SJ2018T2	49	1	Final	49	Final	69	
							1898
100174SC2011T0	0	1	Final	0	Final	0	
100174SC2016T1	0	1	Final	0	Final	0	
100174SC2016T2	0	1	Final	0	Final	0	
100174SC2017T2	0	1	Final	0	Final	0	
100174SC2018T2	0	1	Final	0	Final	0	
							0
175299SW2011T0	539	1	Final	199	Final	310	
175299SW2015T1	757	1	Final	268	Final	387	
175299SW2015T2	188	1	Final	66	Final	88	
175299SW2016T2	60	1	Final	22	Final	30	
175299SW2017T2	61	1	Final	23	Final	31	
							846
175299SJ2011T0	340	1	Final	340	Final	529	
175299SJ2015T1	489	1	Final	489	Final	705	
175299SJ2015T2	122	1	Final	122	Final	167	

		Engine Tiers as a % of Total:	Air District as a % of Total
Subtotal- All Tier 0 SW:	792	35	
Subtotal- All Tier 1 SW:	963	43	
Subtotal- All Tier 2 SW:	489	22	
Total- All Tiers SW:	2244		
Subtotal- All Tier 0 SJ:	1051	35	
Subtotal- All Tier 1 SJ:	1258	42	
Subtotal- All Tier 2 SJ:	704	23	
Total- All Tiers SJ:	3013		
Subtotal- All Tier 0 SC:	2	50	
Subtotal- All Tier 1 SC:	1	25	
Subtotal- All Tier 2 SC:	1	25	
Total- All Tiers SC:	4		
Total- All SW (ex. SJV) 20(	3333		

175299SJ2016T2	38	1	Final	38	Final	52
175299SJ2017T2	38	1	Final	38	Final	53
						1506
175299SC2011T0	1	1	Final	1	Final	1
175299SC2015T1	1	1	Final	1	Final	1
175299SC2015T2	0	1	Final	0	Final	0
175299SC2016T2	0	1	Final	0	Final	0
175299SC2017T2	0	1	Final	0	Final	0
						2
300599SW2011T0	255	1	Final	76	Final	119
300599SW2015T1	139	1	Final	40	Final	58
300599SW2015T2	215	1	Final	59	Final	82
300599SW2016T2	27	1	Final	8	Final	12
300599SW2017T2	28	1	Final	9	Final	11
						282
300599SJ2011T0	179	1	Final	179	Final	278
300599SJ2015T1	99	1	Final	99	Final	148
300599SJ2015T2	156	1	Final	156	Final	216
300599SJ2016T2	19	1	Final	19	Final	26
300599SJ2017T2	19	1	Final	19	Final	27
						695
300599SC2010T0	1	1	Final	1	Final	1
300599SC2015T1	0	1	Final	0	Final	1
300599SC2015T2	1	1	Final	1	Final	1
300599SC2016T2	0	1	Final	0	Final	0
300599SC2017T2	0	1	Final	0	Final	0
						3
600750SW2015T0	17	1	Final	6	Final	10
600750SW2015T1	11	1	Final	4	Final	6
600750SW2015T2	7	1	Final	2	Final	4
600750SW2016T2	2	1	Final	1	Final	1
600750SW2017T2	2	1	Final	1	Final	1
						22
600750SJ2015T0	11	1	Final	11	Final	16
600750SJ2015T1	7	1	Final	7	Final	10
600750SJ2015T2	5	1	Final	5	Final	6
600750SJ2016T2	1	1	Final	1	Final	2
600750SJ2017T2	1	1	Final	1	Final	2
						36
600750SC2015T0	0	1	Final	0	Final	0
600750SC2015T1	0	1	Final	0	Final	0
600750SC2015T2	0	1	Final	0	Final	0
600750SC2016T2	0	1	Final	0	Final	0
600750SC2017T2	0	1	Final	0	Final	0
						0
GT750SW2015T0	1	1	Final	0	Final	0
GT750SW2015T1	0	1	Final	0	Final	0
GT750SW2016T1	0	1	Final	0	Final	0
GT750SW2017T1	0	1	Final	0	Final	0
GT750SW2018T2	0	1	Final	0	Final	0
GT750SW2019T2	0	1	Final	0	Final	0
GT750SW2020T2	0	1	Final	0	Final	0
GT750SW2021T2	0	1	Final	0	Final	0
GT750SW2022T2	0	1	Final	0	Final	0
						0
GT750SJ2015T0	1	1	Final	1	Est.	1
GT750SJ2015T1	0	1	Final	0	Est.	2
GT750SJ2016T1	0	1	Final	0	Est.	0
GT750SJ2017T1	0	1	Final	0	Est.	0
GT750SJ2018T2	0	1	Final	0	Est.	0
GT750SJ2019T2	0	1	Final	0	Est.	0
GT750SJ2020T2	0	1	Final	0	Est.	0
GT750SJ2021T2	0	1	Final	0	Est.	0
GT750SJ2022T2	0	1	Final	0	Est.	0
						3
GT750SC2015T0	0	1	Final	0	Est.	0
GT750SC2015T1	0	1	Final	0	Est.	0
GT750SC2016T1	0	1	Final	0	Est.	0
GT750SC2017T1	0	1	Final	0	Est.	0
GT750SC2018T2	0	1	Final	0	Est.	0
GT750SC2019T2	0	1	Final	0	Est.	0
GT750SC2020T2	0	1	Final	0	Est.	0
GT750SC2021T2	0	1	Final	0	Est.	0
GT750SC2022T2	0	1	Final	0	Est.	0
						0

[a] Used for initial engine registration calculations; registration assumed to start in 2008

"Engine&Motor Costs" worksheet 9/1/2006

This worksheet compiles the diesel engine and electric motor cost figures and adjusts them as necessary.

Diesel Engine Costs [5]

Engine HP Category	Power Unit Cost (2005 $)[1]	Installation Cost (2005 $)[2]	Rebuild Cost (2005 $)[3]	New Compliant Engine Cost	Remanufactured Engine Cost	**Adjusted Engine Cost (2005 $)**	**Adjusted Rebuild Cost (? $)[6]**	**Adjusted Reman. Cost**	**Adjusted New Engine Cost**
50 - 74	$9,000.00	$2,000.00	$4,500.00	$9,000.00	$0.00	$11,000.00	$4,500.00	$0.00	$9,000.00
75 - 99	$10,700.00	$2,000.00	$5,350.00	$10,700.00	$0.00	$12,700.00	$5,350.00	$0.00	$10,700.00
100 - 174	$14,600.00	$2,000.00	$7,300.00	$14,600.00	$0.00	$16,600.00	$7,300.00	$0.00	$14,600.00
175 - 299	$21,200.00	$2,000.00	$10,600.00	$21,200.00	$0.00	$23,200.00	$10,600.00	$0.00	$21,200.00
300 - 599	$31,100.00	$3,500.00	$15,550.00	$31,100.00	$0.00	$34,600.00	$15,550.00	$0.00	$31,100.00
600 - 750	$38,900.00	$3,500.00	$19,450.00	$38,900.00	$0.00	$42,400.00	$19,450.00	$0.00	$38,900.00
>750 (1720) [4]	$215,625.00	$14,500.00	$100,000.00	$215,625.00	$0.00	$230,125.00	$100,000.00	$0.00	$215,625.00

[1] Includes cost of base engine and basic accessory equipment (air cleaner, exhaust system, cooling system, & basic control panel. Typically referred to as a "power unit."
No weatherproofing enclosures or concrete mounting pad included, assumes existing enclosures (if any) and mounting pad are reused.
[2] Includes standard installation, avearage dealer-to-installation site distance.
[3] Avg. rebuild price of this size engine by dealer-- will vary considerably depending upon extent of work needed and engine condition at time of rebuild. Assumed to be 50% of power unit cost (slightly less than 50% for >750 hp cat.
[4] Since this is an open-ended category, an assumed size had to be used for estimation purposes. Air District records showed this size engine as the largest in this application category. A rate of $125/hp was to estimate the cost.
[5] References: Keddie, 2006; Walter, 2005-2006

Electric Motor Costs Basis: Table 3-1, Installed Cost Estimates for IC Engine Electrification, Electrification of IC Engines Within the SCE Service Territory, AUS-20074, Final Report - June 1989

Engine HP Category	Capital Cost [a]	Installation Cost (2005 $)[b]	Line Extension Cost (2005 $)[c]	Total Cap. Elect. Cost (2005 $)[e]
50 - 74	$15,455.64	$0.00	$1,600.00	$17,055.64
75 - 99	$17,955.18	$0.00	$1,600.00	$19,555.18
100 - 174	$25,890.38	$0.00	$1,600.00	$27,490.38
175 - 299	$46,170.45	$0.00	$1,600.00	$47,770.45
300 - 599	$117,685.53	$0.00	$1,600.00	$119,285.53
600 - 750	$147,352.50	$0.00	$1,600.00	$148,952.50
>750 (1720)[f]	$281,607.00	$0.00	$1,600.00	$283,207.00

[a] Capital cost for electric motor and accessories needed for installation; includes installation cost.
[b] Installation costs included in individual component costs
[c] Assumed average cost; actual is site-specific, depending upon electrical service size and distance from existing suitable supply to motor site.
[4] Air district fees for initial installation and application, plus owner/operator time to prepare application. Renewal fees are listed on Reg Cost worksheet.
[e] Total estimated capital cost of switching from diesel engine to electric motor (used on Reg Cost and Reg Cost + Replacement Cost worksheets in this Excel file.)
[f] 1720 HP used for this category as it is the largest known in-use engine in this category

Breakout of Estimated Component Costs
Source: Table 3-1, Installed Cost Estimates for IC Engine Electrification, Electrification of IC Engines Within the SCE Service Territory, AUS-20074, Final Report - June 1989
Note: Costs in Table 3-1 expressed on a per-horsepower basis; the maximum horsepower in each diesel engine category was multiplied by the component cost ($/HP) to given an estimated cost.
Because this report was published in 1989, the subtotal is expressed in 1989 dollars; the Total columm gives the estimated cost in 2005 dollars (assumed interest rate of 5%.)

Diesel Engine HP	Motor/Starter Cost (2005 $)[a]	Drive & Coupling	Instrumentation & Controls	Switchgear & Metering	Adjustable Spd. Drive	Isolation Transformer	Sub Total **(1989 $)**	Total in 2005 $

74	$7,080.00	$0.00	$0.00	$0.00	$0.00	$0.00	$7,080.00	$15,455.64
99	$8,225.00	$0.00	$0.00	$0.00	$0.00	$0.00	$8,225.00	$17,955.18
174	$11,860.00	$0.00	$0.00	$0.00	$0.00	$0.00	$11,860.00	$25,890.38
299	$21,150.00	$0.00	$0.00	$0.00	$0.00	$0.00	$21,150.00	$46,170.45
599	$53,910.00	$0.00	$0.00	$0.00	$0.00	$0.00	$53,910.00	$117,685.53
750	$67,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$67,500.00	$147,352.50
1720	$129,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$129,000.00	$281,607.00

Quoted/Scaled Electric Motor Costs Installed w/accessories + line ext. charge of $1600

Engine HP Category	Diesel Engine HP	Electric Motor Equiv. HP	$/HP	Avg. Line Ext. Charge [1]	Adjustable Spd. Drive	Total Cost	Comments
50-74	74	55	59.2	$4,817.18	$0.00	$10,417.18	Use 50 HP Costs
75-99	99	74	77.8	$6,444.61	$0.00	$13,524.61	Use 75 HP Costs
100-174	174	130	55.36	$11,326.89	$0.00	$20,351.89	Use 125 HP Costs
175-299	299	223	67.22	$19,464.02	$0.00	$38,659.02	Use 250 HP Costs
300-599	599	447	$65.93	$38,993.14	$0.00	$68,432.24	Use scaled-up costs from 400 HP motor
600-750	750	559	$65.93	$48,822.80	$0.00	$85,683.11	Use scaled-up costs from 400 HP motor
>750	1720	1282	$65.93	$111,966.94	$0.00	$196,499.93	Use scaled-up costs from 400 HP motor

[1] AUS-20074 Ref. $40/hp * 2.183 PV conversion

Quoted Prices - Electric Motors (from Ron W.)

Motor Size (HP)	Motor	Control Panel	Service or Installation	Poss. Add'l Labor	Total
50	$2,200.00	$1,600.00	$1,800.00	$0.00	$5,600.00
75	$3,680.00	$1,600.00	$1,800.00	$0.00	$7,080.00
100	$3,925.00	$1,800.00	$2,500.00	$800.00	$9,025.00
125	$4,740.00	$3,100.00	$2,500.00	$800.00	$11,140.00
150	$5,760.00	$3,100.00	$3,000.00	$800.00	$12,660.00
200	$7,828.00	$3,300.00	$3,500.00	$800.00	$15,428.00
250	$11,395.00	$3,300.00	$3,500.00	$1,000.00	$19,195.00
300	$13,650.00	$3,500.00	$4,000.00	$1,000.00	$22,150.00
350	$15,780.00	$3,500.00	$4,000.00	$1,000.00	$24,280.00
400	$17,870.00	$3,500.00	$4,000.00	$1,000.00	$26,370.00

)

"Reg Cost Summary" Worksheet

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Note: "Overall Cost" includes in-use engine loss of use cost, local air district registration fees, and engine owner/operator time to prepare and submit registration application.
Fee subtotals shown below (highlighted in blue) include an assumed range of air district fees plus an affected engine owner/operator time allowance to prepare and submit registration application.

Summary Table of Cost of Proposed Amendments

Engine Horsepower (hp) Category		Year 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
50 - 74 hp																								
Engine Subtotal (in 2005 $):	Low	$0	$0	$0	$0	$60,461	$60,461	$60,461	$60,461	$62,983	$66,696	$71,646	$76,597	$76,597	$76,597	$76,597	$17,326	$13,614	$9,901	$4,950	$0	$0	$0	
	High	$0	$0	$0	$0	$60,461	$60,461	$60,461	$60,461	$62,983	$66,696	$71,646	$76,597	$76,597	$76,597	$76,597	$17,326	$13,614	$9,901	$4,950	$0	$0	$0	
Fee Subtotal (in 2005 $)	Low	$21,025	$3,770	$3,770	$3,770	$3,198	$3,198	$3,198	$3,198	$2,574	$2,522	$2,496	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	
	High	$27,550	$10,875	$10,875	$10,875	$14,569	$14,569	$14,569	$14,569	$21,453	$21,804	$22,397	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	
Category Cost Range (in 2005 $):	**Low**	**$21,025**	**$3,770**	**$3,770**	**$3,770**	**$63,659**	**$63,659**	**$63,659**	**$63,659**	**$65,557**	**$69,218**	**$74,142**	**$79,067**	**$79,067**	**$79,067**	**$79,067**	**$19,796**	**$16,084**	**$12,371**	**$7,420**	**$2,470**	**$2,470**	**$2,470**	**$875,236**
	High	**$27,550**	**$10,875**	**$10,875**	**$10,875**	**$75,030**	**$75,030**	**$75,030**	**$75,030**	**$84,436**	**$88,500**	**$94,043**	**$99,587**	**$99,587**	**$99,587**	**$99,587**	**$40,316**	**$36,604**	**$32,891**	**$27,940**	**$22,990**	**$22,990**	**$22,990**	**$1,232,342**
75 - 99 hp																								
Engine Subtotal (in 2005 $):	Low	$0	$0	$0	$0	$37,404	$37,404	$37,404	$37,404	$73,690	$78,034	$83,826	$89,618	$89,618	$89,618	$89,618	$20,272	$15,928	$11,584	$5,792	$0	$0	$0	
	High	$0	$0	$0	$0	$37,404	$37,404	$37,404	$37,404	$73,690	$78,034	$83,826	$89,618	$89,618	$89,618	$89,618	$20,272	$15,928	$11,584	$5,792	$0	$0	$0	
Fee Subtotal (in 2005 $)	Low	$21,025	$3,770	$3,770	$3,770	$3,198	$3,198	$3,198	$3,198	$2,574	$2,522	$2,496	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	$2,470	
	High	$27,550	$10,875	$10,875	$10,875	$14,569	$14,569	$14,569	$14,569	$21,453	$21,804	$22,397	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	$22,990	
Category Cost Range (in 2005 $):	**Low**	**$21,025**	**$3,770**	**$3,770**	**$3,770**	**$40,602**	**$40,602**	**$40,602**	**$40,602**	**$76,264**	**$80,556**	**$86,322**	**$92,088**	**$92,088**	**$92,088**	**$92,088**	**$22,742**	**$18,398**	**$14,054**	**$8,262**	**$2,470**	**$2,470**	**$2,470**	**$877,107**
	High	**$27,550**	**$10,875**	**$10,875**	**$10,875**	**$51,973**	**$51,973**	**$51,973**	**$51,973**	**$95,143**	**$99,838**	**$106,223**	**$112,608**	**$112,608**	**$112,608**	**$112,608**	**$43,262**	**$38,918**	**$34,574**	**$28,782**	**$22,990**	**$22,990**	**$22,990**	**$1,234,213**
100 - 174 hp																								
Engine Subtotal (in 2005 $):	Low	$0	$0	$0	$805,405	$805,405	$805,405	$805,405	$805,405	$1,355,622	$1,446,363	$1,540,965	$1,540,965	$1,540,965	$1,540,965	$521,277	$521,277	$185,343	$94,602	$0	$0	$0	$0	
	High	$0	$0	$0	$805,405	$805,405	$805,405	$805,405	$805,405	$1,355,622	$1,446,363	$1,540,965	$1,540,965	$1,540,965	$1,540,965	$521,277	$521,277	$185,343	$94,602	$0	$0	$0	$0	
Fee Subtotal (in 2005 $)	Low	$274,485	$49,218	$49,218	$42,926	$42,926	$42,926	$42,926	$42,926	$33,982	$33,514	$33,020	$33,020	$33,020	$33,020	$33,020	$33,020	$33,020	$33,020	$33,020	$33,020	$33,020	$33,020	
	High	$359,670	$141,975	$141,975	$198,474	$198,474	$198,474	$198,474	$198,474	$294,083	$300,582	$307,340	$307,340	$307,340	$307,340	$307,340	$307,340	$307,340	$307,340	$307,340	$307,340	$307,340	$307,340	
Category Cost Range (in 2005 $):	**Low**	**$274,485**	**$49,218**	**$49,218**	**$848,331**	**$848,331**	**$848,331**	**$848,331**	**$848,331**	**$1,389,604**	**$1,479,877**	**$1,573,985**	**$1,573,985**	**$1,573,985**	**$1,573,985**	**$554,297**	**$554,297**	**$218,363**	**$127,622**	**$33,020**	**$33,020**	**$33,020**	**$33,020**	**$15,366,654**
	High	**$359,670**	**$141,975**	**$141,975**	**$1,003,879**	**$1,003,879**	**$1,003,879**	**$1,003,879**	**$1,003,879**	**$1,649,705**	**$1,746,945**	**$1,848,305**	**$1,848,305**	**$1,848,305**	**$1,848,305**	**$828,617**	**$828,617**	**$492,683**	**$401,942**	**$307,340**	**$307,340**	**$307,340**	**$307,340**	**$20,234,102**
175 - 299 hp																								
Engine Subtotal (in 2005 $):	Low	$0	$0	$0	$510,256	$510,256	$510,256	$510,256	$1,514,062	$1,064,250	$1,127,442	$1,127,442	$1,127,442	$1,127,442	$1,127,442	$304,969	$123,636	$63,192	$0	$0	$0	$0	$0	
	High	$0	$0	$0	$510,256	$510,256	$510,256	$510,256	$1,514,062	$1,064,250	$1,127,442	$1,127,442	$1,127,442	$1,127,442	$1,127,442	$304,969	$123,636	$63,192	$0	$0	$0	$0	$0	
Fee Subtotal (in 2005 $)	Low	$127,165	$22,802	$22,802	$19,110	$19,110	$19,110	$19,110	$15,444	$15,236	$15,028	$15,028	$15,028	$15,028	$15,028	$15,028	$15,028	$15,028	$15,028	$15,028	$15,028	$15,028	$15,028	
	High	$160,740	$63,450	$63,450	$88,358	$88,358	$88,358	$88,358	$133,561	$136,635	$139,876	$139,876	$139,876	$139,876	$139,876	$139,876	$139,876	$139,876	$139,876	$139,876	$139,876	$139,876	$139,876	
Category Cost Range (in 2005 $):	**Low**	**$127,165**	**$22,802**	**$22,802**	**$529,366**	**$529,366**	**$529,366**	**$529,366**	**$1,529,506**	**$1,079,486**	**$1,142,470**	**$1,142,470**	**$1,142,470**	**$1,142,470**	**$1,142,470**	**$319,997**	**$138,664**	**$78,220**	**$15,028**	**$15,028**	**$15,028**	**$15,028**	**$15,028**	**$11,223,597**
	High	**$160,740**	**$63,450**	**$63,450**	**$598,614**	**$598,614**	**$598,614**	**$598,614**	**$1,647,623**	**$1,200,885**	**$1,267,318**	**$1,267,318**	**$1,267,318**	**$1,267,318**	**$1,267,318**	**$444,845**	**$263,512**	**$203,068**	**$139,876**	**$139,876**	**$139,876**	**$139,876**	**$139,876**	**$13,478,000**
300 - 599 hp																								
Engine Subtotal (in 2005 $):	Low	$0	$0	$0	$288,357	$288,357	$288,357	$288,357	$679,990	$424,157	$460,746	$460,746	$460,746	$308,979	$308,979	$308,979	$69,114	$36,590	$0	$0	$0	$0	$0	
	High	$0	$0	$0	$288,357	$288,357	$288,357	$288,357	$679,990	$424,157	$460,746	$460,746	$460,746	$308,979	$308,979	$308,979	$69,114	$36,590	$0	$0	$0	$0	$0	
Fee Subtotal (in 2005 $)	Low	$40,890	$7,332	$7,332	$6,214	$6,214	$6,214	$6,214	$5,148	$5,044	$4,992	$4,992	$4,992	$4,992	$4,992	$4,992	$4,992	$4,992	$4,992	$4,992	$4,992	$4,992	$4,992	
	High	$53,580	$21,150	$21,150	$30,617	$30,617	$30,617	$30,617	$44,075	$45,111	$46,464	$46,464	$46,464	$46,464	$46,464	$46,464	$46,464	$46,464	$46,464	$46,464	$46,464	$46,464	$46,464	
Category Cost Range (in 2005 $):	**Low**	**$40,890**	**$7,332**	**$7,332**	**$294,571**	**$294,571**	**$294,571**	**$294,571**	**$685,138**	**$429,201**	**$465,738**	**$465,738**	**$465,738**	**$313,971**	**$313,971**	**$313,971**	**$74,106**	**$41,582**	**$4,992**	**$4,992**	**$4,992**	**$4,992**	**$4,992**	**$4,827,953**
	High	**$53,580**	**$21,150**	**$21,150**	**$318,974**	**$318,974**	**$318,974**	**$318,974**	**$724,065**	**$469,268**	**$507,210**	**$507,210**	**$507,210**	**$355,443**	**$355,443**	**$355,443**	**$115,578**	**$83,054**	**$46,464**	**$46,464**	**$46,464**	**$46,464**	**$46,464**	**$5,584,021**
600 - 750 hp																								
Engine Subtotal (in 2005 $):	Low	$0	$0	$0	$28,170	$28,170	$28,170	$28,170	$57,451	$34,312	$39,343	$39,343	$39,343	$39,343	$20,123	$20,123	$10,062	$5,031	$0	$0	$0	$0	$0	
	High	$0	$0	$0	$28,170	$28,170	$28,170	$28,170	$57,451	$34,312	$39,343	$39,343	$39,343	$39,343	$20,123	$20,123	$10,062	$5,031	$0	$0	$0	$0	$0	
Fee Subtotal (in 2005 $)	Low	$3,190	$572	$572	$468	$468	$468	$468	$364	$364	$364	$364	$364	$364	$364	$364	$364	$364	$364	$364	$364	$364	$364	
	High	$4,180	$1,650	$1,650	$2,352	$2,352	$2,352	$2,352	$3,054	$3,221	$3,388	$3,388	$3,388	$3,388	$3,388	$3,388	$3,388	$3,388	$3,388	$3,388	$3,388	$3,388	$3,388	
Category Cost Range (in 2005 $):	**Low**	**$3,190**	**$572**	**$572**	**$28,638**	**$28,638**	**$28,638**	**$28,638**	**$57,815**	**$34,676**	**$39,707**	**$39,707**	**$39,707**	**$39,707**	**$20,487**	**$20,487**	**$10,426**	**$5,395**	**$364**	**$364**	**$364**	**$364**	**$364**	**$428,821**
	High	**$4,180**	**$1,650**	**$1,650**	**$30,522**	**$30,522**	**$30,522**	**$30,522**	**$60,505**	**$37,533**	**$42,731**	**$42,731**	**$42,731**	**$42,731**	**$23,511**	**$23,511**	**$13,450**	**$8,419**	**$3,388**	**$3,388**	**$3,388**	**$3,388**	**$3,388**	**$484,362**
Greater Than 750 hp																								
Engine Subtotal (in 2005 $):	Low	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
	High	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Fee Subtotal (in 2005 $)	Low	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
	High	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Category Cost Range (in 2005 $):	**Low**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
	High	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Ann. Totals- All EHP Cat. (in 2005 $):	Low	$0	$0	$0	$1,632,188	$1,730,054	$1,730,054	$1,730,054	$3,154,773	$3,015,014	$3,218,624	$3,323,969	$3,334,711	$3,182,944	$3,163,725	$1,321,564	$761,687	$319,697	$116,087	$10,742	$0	$0	$0	$31,745,885
	High	$0	$0	$0	$1,632,188	$1,730,054	$1,730,054	$1,730,054	$3,154,773	$3,015,014	$3,218,624	$3,323,969	$3,334,711	$3,182,944	$3,163,725	$1,321,564	$761,687	$319,697	$116,087	$10,742	$0	$0	$0	$31,745,885
Ann. Totals- All Fee Cat. (in 2005 $):	Low	$487,780	$87,464	$87,464	$76,258	$75,114	$75,114	$75,114	$70,278	$59,774	$58,942	$58,396	$58,344	$58,344	$58,344	$58,344	$58,344	$58,344	$58,344	$58,344	$58,344	$58,344	$58,344	$1,853,482
	High	$633,270	$249,975	$249,975	$341,551	$348,939	$348,939	$348,939	$408,302	$521,956	$533,918	$541,862	$543,048	$543,048	$543,048	$543,048	$543,048	$543,048	$543,048	$543,048	$543,048	$543,048	$543,048	$10,501,154
All Categories Cost Range (in 2005 $):	**Low**	**$487,780**	**$87,464**	**$87,464**	**$1,708,446**	**$1,805,168**	**$1,805,168**	**$1,805,168**	**$3,225,051**	**$3,074,788**	**$3,277,566**	**$3,382,365**	**$3,393,055**	**$3,241,288**	**$3,222,069**	**$1,379,908**	**$820,031**	**$378,041**	**$174,431**	**$69,086**	**$58,344**	**$58,344**	**$58,344**	**$33,599,367**
	High	**$633,270**	**$249,975**	**$249,975**	**$1,973,739**	**$2,078,993**	**$2,078,993**	**$2,078,993**	**$3,563,075**	**$3,536,970**	**$3,752,542**	**$3,865,831**	**$3,877,759**	**$3,725,992**	**$3,706,773**	**$1,864,612**	**$1,304,735**	**$862,745**	**$659,135**	**$553,790**	**$543,048**	**$543,048**	**$543,048**	**$42,247,039**

"Reg Cost" Worksheet

8/17/2006

This worksheet calculates the cost figures and adjusts them as necessary.

Key to Abbreviations:

Loss of Use Calcuation

Since the ATCM is structured to require the replacement of in-use engines with new engines, and new engines will already be compliant with standards, the cost of complying with the ATCM will be the amount of engine life lost by early replacement of the engine.

Assumptions:
20-year engine life (median life is 20 years in emission inventory calculations as is a 40-year total life; a 20-year period is used here because nearly all farms would not be paying for an engine for 40 years.)
SV Engine = 0
SV Rebuild = 0

Diesel Engine Lost Use Cost = (Installed Engine Price x Adjustment Factor 1) + (Rebuild Price x Adjustment Factor 2 x Present Value Factor)

Adjustment Factor 1 = Prorating of Remaining Useful Engine Life
(20 Yr. Life - Engine Age @ ATCM Compliance Yr.) / 20

Adjustment Factor 2 = PV Engine Lost Use
Adjustment Factor 3 = Prorating for Rebuild Lost Use

Present Value Factor = From Table, I = 5%, brings back to first year the rebuild cost $.

Engine Category (Compl. Yr + 1)	# of In-Use Engines[1]	2008 Eng. Pop.	In-Use Engine MY	Adjustment Factor 1	Rebuild MY	Adjustment Factor 2	Adjustment Factor 3	Total (eng+reb.) Engine Lost Use Cost /Engine (2005$)	Total This Engine Category	Per-Engine Annualized Cost	Total Annualized Amount ($)	Initial Air Dist. Fee Engine [a]	Annual Air Dist. Fee Engine [a]	Init. Air Dist. Fee Compliaint Engine [a]	Init. Air Dist. Fee Compliaint Engine [a]	Year 2008	2009	2010	2011
Low-End District Fees Scenario																			
50 - 74 hp																			
Statewide Total, Tier 0 (2012)	32		1996	0.2	2005	0.282	1	$6,700.00	$214,400.00	$1,889.40	$60,460.80								
		54										$145.00	$26.00	$26.00	$26.00	$7,830.00	$1,404.00	$1,404.00	$1,404.00
Statewide Total, Tier 1 (2016)	49		2003	0.35	2013	0.1728	0.7	$7,000.00	$343,000.00	$1,209.60	$59,270.40								
		71										$145.00	$26.00	$26.00	$26.00	$10,295.00	$1,846.00	$1,846.00	$1,846.00
Statewide Total, Tier 2 (2016)	3		2004	0.4	2014	0.1547	0.8	$8,000.00	$24,000.00	$1,237.60	$3,712.80								
		5										$145.00	$26.00	$26.00	$26.00	$725.00	$130.00	$130.00	$130.00
Statewide Total, Tier 2 (2017)	3		2005	0.4	2015	0.1547	0.8	$8,000.00	$24,000.00	$1,237.60	$3,712.80								
		5										$145.00	$26.00	$26.00	$26.00	$725.00	$130.00	$130.00	$130.00
Statewide Total, Tier 2 (2018)	4		2006	0.4	2016	0.1547	0.8	$8,000.00	$32,000.00	$1,237.60	$4,950.40								
		5										$145.00	$26.00	$26.00	$26.00	$725.00	$130.00	$130.00	$130.00
Statewide Total, Tier 2 (2019)	4		2007	0.4	2017	0.1547	0.8	$8,000.00	$32,000.00	$1,237.60	$4,950.40								
		5										$145.00	$26.00	$26.00	$26.00	$725.00	$130.00	$130.00	$130.00
Engine Subtotals (in 2005 $):									$669,400.00		$137,057.60					$0.00	$0.00	$0.00	$0.00
Fee Subtotals (in 2005$)																$21,025.00	$3,770.00	$3,770.00	$3,770.00
75 - 99 hp																			
Statewide Total, Tier 0 (2012)	32		1996	0.2	2005	0.282	0.3	$4,145.00	$132,640.00	$1,168.89	$37,404.48								
		54										$145.00	$26.00	$26.00	$26.00	$7,830.00	$1,404.00	$1,404.00	$1,404.00
Statewide Total, Tier 1 (2016)	49		2003	0.35	2013	0.1728	0.7	$8,190.00	$401,310.00	$1,415.23	$69,346.37								
		71										$145.00	$26.00	$26.00	$26.00	$10,295.00	$1,846.00	$1,846.00	$1,846.00
Statewide Total, Tier 2 (2016)	3		2004	0.4	2014	0.1547	0.8	$9,360.00	$28,080.00	$1,447.99	$4,343.98								
		5										$145.00	$26.00	$26.00	$26.00	$725.00	$130.00	$130.00	$130.00
Statewide Total, Tier 2 (2017)	3		2005	0.4	2015	0.1547	0.8	$9,360.00	$28,080.00	$1,447.99	$4,343.98								
		5										$145.00	$26.00	$26.00	$26.00	$725.00	$130.00	$130.00	$130.00
Statewide Total, Tier 2 (2018)	4		2006	0.4	2016	0.1547	0.8	$9,360.00	$37,440.00	$1,447.99	$5,791.97								
		5										$145.00	$26.00	$26.00	$26.00	$725.00	$130.00	$130.00	$130.00
Statewide Total, Tier 2 (2019)	4		2007	0.4	2017	0.1547	0.8	$9,360.00	$37,440.00	$1,447.99	$5,791.97								
		5										$145.00	$26.00	$26.00	$26.00	$725.00	$130.00	$130.00	$130.00
Engine Subtotals (in 2005 $):									$664,990.00		$127,022.74					$0.00	$0.00	$0.00	$0.00
Fee Subtotals (in 2005$):																$21,025.00	$3,770.00	$3,770.00	$3,770.00
100 - 174 hp																			
Statewide Total, Tier 0 (2011)	447		1996	0.25	2006	0.231	0.5	$7,800.00	$3,486,600.00	$1,801.80	$805,404.60								$805,404.60
		689										$145.00	$26.00	$26.00	$26.00	$99,905.00	$17,914.00	$17,914.00	$11,622.00
Statewide Total, Tier 1 (2016)	553		2002	0.3	2012	0.197	0.6	$9,360.00	$5,176,080.00	$1,843.92	$1,019,687.76								
		829										$145.00	$26.00	$26.00	$26.00	$120,205.00	$21,554.00	$21,554.00	$21,554.00
Statewide Total, Tier 2 (2016)	174		2004	0.4	2014	0.1547	0.8	$12,480.00	$2,171,520.00	$1,930.66	$335,934.14								
		242										$145.00	$26.00	$26.00	$26.00	$35,090.00	$6,292.00	$6,292.00	$6,292.00
Statewide Total, Tier 2 (2017)	47		2005	0.4	2015	0.1547	0.8	$12,480.00	$586,560.00	$1,930.66	$90,740.83								
		65										$145.00	$26.00	$26.00	$26.00	$9,425.00	$1,690.00	$1,690.00	$1,690.00
Statewide Total, Tier 2 (2018)	49		2006	0.4	2016	0.1547	0.8	$12,480.00	$611,520.00	$1,930.66	$94,602.14								
		68										$145.00	$26.00	$26.00	$26.00	$9,860.00	$1,768.00	$1,768.00	$1,768.00
Engine Subtotals (in 2005 $):									$12,032,280.00		$2,346,369.48					$0.00	$0.00	$0.00	$805,404.60
Fee Subtotals (in 2005$):																$274,485.00	$49,218.00	$49,218.00	$42,926.00
175 - 299 hp																			
Statewide Total, Tier 0 (2011)	199		1996	0.25	2006	0.231	0.5	$11,100.00	$2,208,900.00	$2,564.10	$510,255.90								$510,255.90
		310										$145.00	$26.00	$26.00	$26.00	$44,950.00	$8,060.00	$8,060.00	$5,174.00
Statewide Total, Tier 1 (2015)	268		2003	0.4	2013	0.1728	0.8	$17,760.00	$4,759,680.00	$3,068.93	$822,472.70								
		387										$145.00	$26.00	$26.00	$26.00	$56,115.00	$10,062.00	$10,062.00	$10,062.00
Statewide Total, Tier 2 (2015)	66		2003	0.4	2013	0.1547	0.8	$17,760.00	$1,172,160.00	$2,747.47	$181,333.15								
		88										$145.00	$26.00	$26.00	$26.00	$12,760.00	$2,288.00	$2,288.00	$2,288.00
Statewide Total, Tier 2 (2016)	22		2004	0.4	2014	0.1547	0.8	$17,760.00	$390,720.00	$2,747.47	$60,444.38								
		30										$145.00	$26.00	$26.00	$26.00	$4,350.00	$780.00	$780.00	$780.00
Statewide Total, Tier 2 (2017)	23		2005	0.4	2015	0.1547	0.8	$17,760.00	$408,480.00	$2,747.47	$63,191.86								
		31										$145.00	$26.00	$26.00	$26.00	$4,495.00	$806.00	$806.00	$806.00

Engine Subtotals (in 2005 $):									$8,939,940.00		$1,637,698.00						$0.00	$0.00	$0.00	$510,255.90
Fee Subtotals (in 2005$):																	$127,165.00	$22,802.00	$22,802.00	$19,110.00
300 - 599 hp																				
Statewide Total, Tier 0 (2011)	76		1996	0.25	2006	0.231	0.5	$16,425.00	$1,248,300.00	$3,794.18	$288,357.30									$288,357.30
Statewide Total, Tier 1 (2015)	40	119	2000	0.25	2010	0.231	0.5	$16,425.00	$657,000.00	$3,794.18	$151,767.00	$145.00	$26.00	$26.00	$26.00		$17,255.00	$3,094.00	$3,094.00	$1,976.00
Statewide Total, Tier 2 (2015)	59	58	2003	0.4	2013	0.1547	0.8	$26,280.00	$1,550,520.00	$4,065.52	$239,865.44	$145.00	$26.00	$26.00	$26.00		$8,410.00	$1,508.00	$1,508.00	$1,508.00
Statewide Total, Tier 2 (2016)	8	82	2004	0.4	2014	0.1547	0.8	$26,280.00	$210,240.00	$4,065.52	$32,524.13	$145.00	$26.00	$26.00	$26.00		$11,890.00	$2,132.00	$2,132.00	$2,132.00
Statewide Total, Tier 2 (2017)	9	12	2005	0.4	2015	0.1547	0.8	$26,280.00	$236,520.00	$4,065.52	$36,589.64	$145.00	$26.00	$26.00	$26.00		$1,740.00	$312.00	$312.00	$312.00
		11										$145.00	$26.00	$26.00	$26.00		$1,595.00	$286.00	$286.00	$286.00
Engine Subtotals (in 2005 $):									$3,902,580.00		$749,103.52						$0.00	$0.00	$0.00	$288,357.30
Fee Subtotals (in 2005$):																	$40,890.00	$7,332.00	$7,332.00	$6,214.00
600 - 750 hp																				
Statewide Total, Tier 0 (2011)	6		1996	0.25	2006	0.231	0.5	$20,325.00	$121,950.00	$4,695.08	$28,170.45									$28,170.45
Statewide Total, Tier 1 (2015)	4	10	2001	0.3	2011	0.197	0.6	$24,390.00	$97,560.00	$4,804.83	$19,219.32	$145.00	$26.00	$26.00	$26.00		$1,450.00	$260.00	$260.00	$156.00
Statewide Total, Tier 2 (2015)	2	6	2003	0.4	2013	0.1547	0.8	$32,520.00	$65,040.00	$5,030.84	$10,061.69	$145.00	$26.00	$26.00	$26.00		$870.00	$156.00	$156.00	$156.00
Statewide Total, Tier 2 (2016)	1	4	2004	0.4	2014	0.1547	0.8	$32,520.00	$32,520.00	$5,030.84	$5,030.84	$145.00	$26.00	$26.00	$26.00		$580.00	$104.00	$104.00	$104.00
Statewide Total, Tier 2 (2017)	1	1	2005	0.4	2015	0.1547	0.8	$32,520.00	$32,520.00	$5,030.84	$5,030.84	$145.00	$26.00	$26.00	$26.00		$145.00	$26.00	$26.00	$26.00
		1										$145.00	$26.00	$26.00	$26.00		$145.00	$26.00	$26.00	$26.00
Engine Subtotals (in 2005 $):									$349,590.00		$67,513.15						$0.00	$0.00	$0.00	$28,170.45
Fee Subtotals (in 2005$):																	$3,190.00	$572.00	$572.00	$468.00
Greater Than 750 hp																				
Statewide Total, Tier 0 (2015)	0		1996	0.05	2006	1	0.1	$21,506.25	$0.00	$21,506.25	$0.00									
Statewide Total, Tier 1 (2015)	0	0	2003	0.4	2013	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00	$145.00	$26.00	$26.00	$26.00		$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2016)	0	0	2004	0.4	2014	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00	$145.00	$26.00	$26.00	$26.00		$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2017)	0	0	2005	0.4	2015	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00	$145.00	$26.00	$26.00	$26.00		$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2018)	0	0	2006	0.4	2016	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00	$145.00	$26.00	$26.00	$26.00		$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2019)	0	0	2007	0.4	2017	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00	$145.00	$26.00	$26.00	$26.00		$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2020)	0	0	2008	0.4	2018	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00	$145.00	$26.00	$26.00	$26.00		$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2021)	0	0	2009	0.4	2019	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00	$145.00	$26.00	$26.00	$26.00		$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2022)	0	0	2010	0.4	2020	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00	$145.00	$26.00	$26.00	$26.00		$0.00	$0.00	$0.00	$0.00
		0										$145.00	$26.00	$26.00	$26.00		$0.00	$0.00	$0.00	$0.00
Engine Subtotals (in 2005 $):									$0.00		$0.00						$0.00	$0.00	$0.00	$0.00
Fee Subtotals (in 2005$):																	$0.00	$0.00	$0.00	$0.00
Ann. Totals- All EHP Cat. (in 2005 $):																	$0.00	$0.00	$0.00	$1,632,188.25
Ann. Totals- All Fee Cat. (in 2005 $):																	$487,780.00	$87,464.00	$87,464.00	$76,258.00
																	$487,780.00	$87,464.00	$87,464.00	$1,708,446.25

Total # Affected Engines:	2244 (all yrs.)	3333 (2008 pop.)

[1] affected engine population in year after compliance deadline
[a] includes operator owner cost to complete and submit application; 2hrs. @ $50/hr.

High-End District Fees Scenario

50 - 74 hp																				
Statewide Total, Tier 0 (2012)	32		1996	0.2	2005	0.282	1	$6,700.00	$214,400.00	$1,889.40	$60,460.80									
Statewide Total, Tier 1 (2016)	49	54	2003	0.35	2013	0.1728	0.7	$7,000.00	$343,000.00	$1,209.60	$59,270.40	$190.00	$75.00	$242.00	$242.00		$10,260.00	$4,050.00	$4,050.00	$4,050.00
Statewide Total, Tier 2 (2016)	3	71	2004	0.4	2014	0.1547	0.8	$8,000.00	$24,000.00	$1,237.60	$3,712.80	$190.00	$75.00	$242.00	$242.00		$13,490.00	$5,325.00	$5,325.00	$5,325.00
Statewide Total, Tier 2 (2017)	3	5	2005	0.4	2015	0.1547	0.8	$8,000.00	$24,000.00	$1,237.60	$3,712.80	$190.00	$75.00	$242.00	$242.00		$950.00	$375.00	$375.00	$375.00
Statewide Total, Tier 2 (2018)	4	5	2006	0.4	2016	0.1547	0.8	$8,000.00	$32,000.00	$1,237.60	$4,950.40	$190.00	$75.00	$242.00	$242.00		$950.00	$375.00	$375.00	$375.00
Statewide Total, Tier 2 (2019)	4	5	2007	0.4	2017	0.1547	0.8	$8,000.00	$32,000.00	$1,237.60	$4,950.40	$190.00	$75.00	$242.00	$242.00		$950.00	$375.00	$375.00	$375.00
		5										$190.00	$75.00	$242.00	$242.00		$950.00	$375.00	$375.00	$375.00
Engine Subtotals (in 2005 $):									$669,400.00		$137,057.60						$0.00	$0.00	$0.00	$0.00
Fee Subtotals (in 2005$)																	$27,550.00	$10,875.00	$10,875.00	$10,875.00
75 - 99 hp																				
Statewide Total, Tier 0 (2012)	32		1996	0.2	2005	0.282	0.3	$4,145.00	$132,640.00	$1,168.89	$37,404.48									
Statewide Total, Tier 1 (2016)	49	54	2003	0.35	2013	0.1728	0.7	$8,190.00	$401,310.00	$1,415.23	$69,346.37	$190.00	$75.00	$242.00	$242.00		$10,260.00	$4,050.00	$4,050.00	$4,050.00
Statewide Total, Tier 2 (2016)	3	71	2004	0.4	2014	0.1547	0.8	$9,360.00	$28,080.00	$1,447.99	$4,343.98	$190.00	$75.00	$242.00	$242.00		$13,490.00	$5,325.00	$5,325.00	$5,325.00
Statewide Total, Tier 2 (2017)	3	5	2005	0.4	2015	0.1547	0.8	$9,360.00	$28,080.00	$1,447.99	$4,343.98	$190.00	$75.00	$242.00	$242.00		$950.00	$375.00	$375.00	$375.00
Statewide Total, Tier 2 (2018)	4	5	2006	0.4	2016	0.1547	0.8	$9,360.00	$37,440.00	$1,447.99	$5,791.97	$190.00	$75.00	$242.00	$242.00		$950.00	$375.00	$375.00	$375.00

		5										$190.00	$75.00	$242.00	$242.00	$950.00	$375.00	$375.00	$375.00
Statewide Total, Tier 2 (2019)	4		2007	0.4	2017	0.1547	0.8	$9,360.00	$37,440.00	$1,447.99	$5,791.97								
		5										$190.00	$75.00	$242.00	$242.00	$950.00	$375.00	$375.00	$375.00
Engine Subtotals (in 2005 $):									$664,990.00		$127,022.74					$0.00	$0.00	$0.00	$0.00
Fee Subtotals (in 2005$):																$27,550.00	$10,875.00	$10,875.00	$10,875.00
100 - 174 hp																			
Statewide Total, Tier 0 (2011)	447		1996	0.25	2006	0.231	0.5	$7,800.00	$3,486,600.00	$1,801.80	$805,404.60								$805,404.60
		689										$190.00	$75.00	$242.00	$242.00	$130,910.00	$51,675.00	$51,675.00	$108,174.00
Statewide Total, Tier 1 (2016)	553		2002	0.3	2012	0.197	0.6	$9,360.00	$5,176,080.00	$1,843.92	$1,019,687.76								
		829										$190.00	$75.00	$242.00	$242.00	$157,510.00	$62,175.00	$62,175.00	$62,175.00
Statewide Total, Tier 2 (2016)	174		2004	0.4	2014	0.1547	0.8	$12,480.00	$2,171,520.00	$1,930.66	$335,934.14								
		242										$190.00	$75.00	$242.00	$242.00	$45,980.00	$18,150.00	$18,150.00	$18,150.00
Statewide Total, Tier 2 (2017)	47		2005	0.4	2015	0.1547	0.8	$12,480.00	$586,560.00	$1,930.66	$90,740.83								
		65										$190.00	$75.00	$242.00	$242.00	$12,350.00	$4,875.00	$4,875.00	$4,875.00
Statewide Total, Tier 2 (2018)	49		2006	0.4	2016	0.1547	0.8	$12,480.00	$611,520.00	$1,930.66	$94,602.14								
		68										$190.00	$75.00	$242.00	$242.00	$12,920.00	$5,100.00	$5,100.00	$5,100.00
Engine Subtotals (in 2005 $):									$12,032,280.00		$2,346,369.48					$0.00	$0.00	$0.00	$805,404.60
Fee Subtotals (in 2005$):																$359,670.00	$141,975.00	$141,975.00	$198,474.00
175 - 299 hp																			
Statewide Total, Tier 0 (2011)	199		1996	0.25	2006	0.231	0.5	$11,100.00	$2,208,900.00	$2,564.10	$510,255.90								$510,255.90
		310										$190.00	$75.00	$242.00	$242.00	$58,900.00	$23,250.00	$23,250.00	$48,158.00
Statewide Total, Tier 1 (2015)	268		2003	0.4	2013	0.1728	0.8	$17,760.00	$4,759,680.00	$3,068.93	$822,472.70								
		387										$190.00	$75.00	$242.00	$242.00	$73,530.00	$29,025.00	$29,025.00	$29,025.00
Statewide Total, Tier 2 (2015)	66		2003	0.4	2013	0.1547	0.8	$17,760.00	$1,172,160.00	$2,747.47	$181,333.15								
		88										$190.00	$75.00	$242.00	$242.00	$16,720.00	$6,600.00	$6,600.00	$6,600.00
Statewide Total, Tier 2 (2016)	22		2004	0.4	2014	0.1547	0.8	$17,760.00	$390,720.00	$2,747.47	$60,444.38								
		30										$190.00	$75.00	$242.00	$242.00	$5,700.00	$2,250.00	$2,250.00	$2,250.00
Statewide Total, Tier 2 (2017)	23		2005	0.4	2015	0.1547	0.8	$17,760.00	$408,480.00	$2,747.47	$63,191.86								
		31										$190.00	$75.00	$242.00	$242.00	$5,890.00	$2,325.00	$2,325.00	$2,325.00
Engine Subtotals (in 2005 $):									$8,939,940.00		$1,637,698.00					$0.00	$0.00	$0.00	$510,255.90
Fee Subtotals (in 2005$):																$160,740.00	$63,450.00	$63,450.00	$88,358.00
300 - 599 hp																			
Statewide Total, Tier 0 (2011)	76		1996	0.25	2006	0.231	0.5	$16,425.00	$1,248,300.00	$3,794.18	$288,357.30								$288,357.30
		119										$190.00	$75.00	$242.00	$242.00	$22,610.00	$8,925.00	$8,925.00	$18,392.00
Statewide Total, Tier 1 (2015)	40		2000	0.25	2010	0.231	0.5	$16,425.00	$657,000.00	$3,794.18	$151,767.00								
		58										$190.00	$75.00	$242.00	$242.00	$11,020.00	$4,350.00	$4,350.00	$4,350.00
Statewide Total, Tier 2 (2015)	59		2003	0.4	2013	0.1547	0.8	$26,280.00	$1,550,520.00	$4,065.52	$239,865.44								
		82										$190.00	$75.00	$242.00	$242.00	$15,580.00	$6,150.00	$6,150.00	$6,150.00
Statewide Total, Tier 2 (2016)	8		2004	0.4	2014	0.1547	0.8	$26,280.00	$210,240.00	$4,065.52	$32,524.13								
		12										$190.00	$75.00	$242.00	$242.00	$2,280.00	$900.00	$900.00	$900.00
Statewide Total, Tier 2 (2017)	9		2005	0.4	2015	0.1547	0.8	$26,280.00	$236,520.00	$4,065.52	$36,589.64								
		11										$190.00	$75.00	$242.00	$242.00	$2,090.00	$825.00	$825.00	$825.00
Engine Subtotals (in 2005 $):									$3,902,580.00		$749,103.52					$0.00	$0.00	$0.00	$288,357.30
Fee Subtotals (in 2005$):																$53,580.00	$21,150.00	$21,150.00	$30,617.00
600 - 750 hp																			
Statewide Total, Tier 0 (2011)	6		1996	0.25	2006	0.231	0.5	$20,325.00	$121,950.00	$4,695.08	$28,170.45								$28,170.45
		10										$190.00	$75.00	$242.00	$242.00	$1,900.00	$750.00	$750.00	$1,452.00
Statewide Total, Tier 1 (2015)	4		2001	0.3	2011	0.197	0.6	$24,390.00	$97,560.00	$4,804.83	$19,219.32								
		6										$190.00	$75.00	$242.00	$242.00	$1,140.00	$450.00	$450.00	$450.00
Statewide Total, Tier 2 (2015)	2		2003	0.4	2013	0.1547	0.8	$32,520.00	$65,040.00	$5,030.84	$10,061.69								
		4										$190.00	$75.00	$242.00	$242.00	$760.00	$300.00	$300.00	$300.00
Statewide Total, Tier 2 (2016)	1		2004	0.4	2014	0.1547	0.8	$32,520.00	$32,520.00	$5,030.84	$5,030.84								
		1										$190.00	$75.00	$242.00	$242.00	$190.00	$75.00	$75.00	$75.00
Statewide Total, Tier 2 (2017)	1		2005	0.4	2015	0.1547	0.8	$32,520.00	$32,520.00	$5,030.84	$5,030.84								
		1										$190.00	$75.00	$242.00	$242.00	$190.00	$75.00	$75.00	$75.00
Engine Subtotals (in 2005 $):									$349,590.00		$67,513.15					$0.00	$0.00	$0.00	$28,170.45
Fee Subtotals (in 2005$):																$4,180.00	$1,650.00	$1,650.00	$2,352.00
Greater Than 750 hp																			
Statewide Total, Tier 0 (2015)	0		1996	0.05	2006	1	0.1	$21,506.25	$0.00	$21,506.25	$0.00								
		0										$190.00	$75.00	$242.00	$242.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2015)	0		2003	0.4	2013	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00								
		0										$190.00	$75.00	$242.00	$242.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2016)	0		2004	0.4	2014	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00								
		0										$190.00	$75.00	$242.00	$242.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2017)	0		2005	0.4	2015	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00								
		0										$190.00	$75.00	$242.00	$242.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2018)	0		2006	0.4	2016	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00								
		0										$190.00	$75.00	$242.00	$242.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2019)	0		2007	0.4	2017	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00								
		0										$190.00	$75.00	$242.00	$242.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2020)	0		2008	0.4	2018	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00								
		0										$190.00	$75.00	$242.00	$242.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2021)	0		2009	0.4	2019	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00								
		0										$190.00	$75.00	$242.00	$242.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2022)	0		2010	0.4	2020	0.1547	0.8	$172,050.00	$0.00	$26,616.14	$0.00								
		0										$190.00	$75.00	$242.00	$242.00	$0.00	$0.00	$0.00	$0.00
Engine Subtotals (in 2005 $):									$0.00		$0.00					$0.00	$0.00	$0.00	$0.00
Fee Subtotals (in 2005$):																$0.00	$0.00	$0.00	$0.00
Ann. Totals- All EHP Cat. (in 2005 $):																$0.00	$0.00	$0.00	$1,632,188.25
Ann. Totals- All Fee Cat. (in 2005 $):																$633,270.00	$249,975.00	$249,975.00	$341,551.00
																$633,270.00	$249,975.00	$249,975.00	$1,973,739.25

Total # Affected Engines:	2244 (all yrs.)	3333 (2008 pop.)

[1] affected engine population in year after compliance deadline

[a] includes operator owner cost to complete and submit application; 2hrs. @ $50/hr.

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	NOT USED 2030	
$60,460.80	$60,460.80	$60,460.80	$60,460.80																
$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	
				$59,270.40	$59,270.40	$59,270.40	$59,270.40	$59,270.40	$59,270.40	$59,270.40									
$1,846.00	$1,846.00	$1,846.00	$1,846.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	
				$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80								
$130.00	$130.00	$130.00	$130.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	
					$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80							
$130.00	$130.00	$130.00	$130.00	$130.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	
						$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40						
$130.00	$130.00	$130.00	$130.00	$130.00	$130.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	
							$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40					
$130.00	$130.00	$130.00	$130.00	$130.00	$130.00	$130.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	
$60,460.80	$60,460.80	$60,460.80	$60,460.80	$62,983.20	$66,696.00	$71,646.40	$76,596.80	$76,596.80	$76,596.80	$76,596.80	$17,326.40	$13,613.60	$9,900.80	$4,950.40	$0.00	$0.00	$0.00	$0.00	$795,347.20
$3,198.00	$3,198.00	$3,198.00	$3,198.00	$2,574.00	$2,522.00	$2,496.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$79,889.00
$37,404.48	$37,404.48	$37,404.48	$37,404.48																
$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	$832.00	
				$69,346.37	$69,346.37	$69,346.37	$69,346.37	$69,346.37	$69,346.37	$69,346.37									
$1,846.00	$1,846.00	$1,846.00	$1,846.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	
				$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98								
$130.00	$130.00	$130.00	$130.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	
					$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98						
$130.00	$130.00	$130.00	$130.00	$130.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	$78.00	
						$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97						
$130.00	$130.00	$130.00	$130.00	$130.00	$130.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	
							$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97					
$130.00	$130.00	$130.00	$130.00	$130.00	$130.00	$130.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	
$37,404.48	$37,404.48	$37,404.48	$37,404.48	$73,690.34	$78,034.32	$83,826.29	$89,618.26	$89,618.26	$89,618.26	$89,618.26	$20,271.89	$15,927.91	$11,583.94	$5,791.97	$0.00	$0.00	$0.00	$0.00	$797,217.60
$3,198.00	$3,198.00	$3,198.00	$3,198.00	$2,574.00	$2,522.00	$2,496.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$2,470.00	$79,889.00
$805,404.60	$805,404.60	$805,404.60	$805,404.60																
$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	$11,622.00	
				$1,019,687.76	$1,019,687.76	$1,019,687.76	$1,019,687.76	$1,019,687.76	$1,019,687.76										
$21,554.00	$21,554.00	$21,554.00	$21,554.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	$14,378.00	
				$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14							
$6,292.00	$6,292.00	$6,292.00	$6,292.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	$4,524.00	
				$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83						
$1,690.00	$1,690.00	$1,690.00	$1,690.00	$1,690.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	$1,222.00	
						$94,602.14	$94,602.14	$94,602.14	$94,602.14	$94,602.14	$94,602.14	$94,602.14	$94,602.14						
$1,768.00	$1,768.00	$1,768.00	$1,768.00	$1,768.00	$1,768.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	$1,274.00	
$805,404.60	$805,404.60	$805,404.60	$805,404.60	$1,355,621.90	$1,446,362.74	$1,540,964.88	$1,540,964.88	$1,540,964.88	$1,540,964.88	$521,277.12	$521,277.12	$185,342.98	$94,602.14	$0.00	$0.00	$0.00	$0.00	$0.00	$14,315,366.52
$42,926.00	$42,926.00	$42,926.00	$42,926.00	$33,982.00	$33,514.00	$33,020.00	$33,020.00	$33,020.00	$33,020.00	$33,020.00	$33,020.00	$33,020.00	$33,020.00	$33,020.00	$33,020.00	$33,020.00	$33,020.00	$33,020.00	$1,051,287.00
$510,255.90	$510,255.90	$510,255.90	$510,255.90																
$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	$5,174.00	
			$822,472.70	$822,472.70	$822,472.70	$822,472.70	$822,472.70	$822,472.70	$822,472.70										
$10,062.00	$10,062.00	$10,062.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	$6,968.00	
			$181,333.15	$181,333.15	$181,333.15	$181,333.15	$181,333.15	$181,333.15	$181,333.15	$181,333.15									
$2,288.00	$2,288.00	$2,288.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	$1,716.00	
				$60,444.38	$60,444.38	$60,444.38	$60,444.38	$60,444.38	$60,444.38	$60,444.38	$60,444.38	$60,444.38							
$780.00	$780.00	$780.00	$780.00	$572.00	$572.00	$572.00	$572.00	$572.00	$572.00	$572.00	$572.00	$572.00	$572.00	$572.00	$572.00	$572.00	$572.00	$572.00	
					$63,191.86	$63,191.86	$63,191.86	$63,191.86	$63,191.86	$63,191.86	$63,191.86	$63,191.86							
$806.00	$806.00	$806.00	$806.00	$806.00	$598.00	$598.00	$598.00	$598.00	$598.00	$598.00	$598.00	$598.00	$598.00	$598.00	$598.00	$598.00	$598.00	$598.00	

$510,255.90	$510,255.90	$510,255.90	$1,514,061.76	$1,064,250.24	$1,127,442.10	$1,127,442.10	$1,127,442.10	$1,127,442.10	$1,127,442.10	$304,969.39	$123,636.24	$63,191.86	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$10,748,343.56
$19,110.00	$19,110.00	$19,110.00	$15,444.00	$15,236.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$15,028.00	$475,253.00
$288,357.30	$288,357.30	$288,357.30	$288,357.30																
$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	$1,976.00	
			$151,767.00	$151,767.00	$151,767.00	$151,767.00	$151,767.00												
$1,508.00	$1,508.00	$1,508.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	$1,040.00	
			$239,865.44	$239,865.44	$239,865.44	$239,865.44	$239,865.44	$239,865.44	$239,865.44	$239,865.44									
$2,132.00	$2,132.00	$2,132.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	$1,534.00	
				$32,524.13	$32,524.13	$32,524.13	$32,524.13	$32,524.13	$32,524.13	$32,524.13	$32,524.13								
$312.00	$312.00	$312.00	$312.00	$208.00	$208.00	$208.00	$208.00	$208.00	$208.00	$208.00	$208.00	$208.00	$208.00	$208.00	$208.00	$208.00	$208.00	$208.00	
					$36,589.64	$36,589.64	$36,589.64	$36,589.64	$36,589.64	$36,589.64	$36,589.64	$36,589.64							
$286.00	$286.00	$286.00	$286.00	$286.00	$234.00	$234.00	$234.00	$234.00	$234.00	$234.00	$234.00	$234.00	$234.00	$234.00	$234.00	$234.00	$234.00	$234.00	
$288,357.30	$288,357.30	$288,357.30	$679,989.74	$424,156.57	$460,746.22	$460,746.22	$460,746.22	$308,979.22	$308,979.22	$308,979.22	$69,113.77	$36,589.64	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$4,672,455.23
$6,214.00	$6,214.00	$6,214.00	$5,148.00	$5,044.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$4,992.00	$155,498.00
$28,170.45	$28,170.45	$28,170.45	$28,170.45																
$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	$156.00	
			$19,219.32	$19,219.32	$19,219.32	$19,219.32	$19,219.32	$19,219.32											
$156.00	$156.00	$156.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	$104.00	
			$10,061.69	$10,061.69	$10,061.69	$10,061.69	$10,061.69	$10,061.69	$10,061.69	$10,061.69									
$104.00	$104.00	$104.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	$52.00	
				$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84								
$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	
					$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84							
$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	$26.00	
$28,170.45	$28,170.45	$28,170.45	$57,451.46	$34,311.85	$39,342.70	$39,342.70	$39,342.70	$39,342.70	$20,123.38	$20,123.38	$10,061.69	$5,030.84	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$417,155.18
$468.00	$468.00	$468.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$364.00	$11,666.00
			$0.00																
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
			$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00									
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
					$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
						$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
							$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
									$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
											$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
																			Total (eng.)-All Yrs.(
$1,730,053.53	$1,730,053.53	$1,730,053.53	$3,154,772.84	$3,015,014.11	$3,218,624.06	$3,323,968.58	$3,334,710.94	$3,182,943.94	$3,163,724.62	$1,321,564.16	$761,687.11	$319,696.83	$116,086.88	$10,742.37	$0.00	$0.00	$0.00	$0.00	$31,745,885.29
$75,114.00	$75,114.00	$75,114.00	$70,278.00	$59,774.00	$58,942.00	$58,396.00	$58,344.00	$58,344.00	$58,344.00	$58,344.00	$58,344.00	$58,344.00	$58,344.00	$58,344.00	$58,344.00	$58,344.00	$58,344.00	$58,344.00	$1,853,482.00
$1,805,167.53	$1,805,167.53	$1,805,167.53	$3,225,050.84	$3,074,788.11	$3,277,566.06	$3,382,364.58	$3,393,054.94	$3,241,287.94	$3,222,068.62	$1,379,908.16	$820,031.11	$378,040.83	$174,430.88	$69,086.37	$58,344.00	$58,344.00	$58,344.00	$58,344.00	**$33,599,367.29**

$60,460.80	$60,460.80	$60,460.80	$60,460.80															NOT USED	
$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	
				$59,270.40	$59,270.40	$59,270.40	$59,270.40	$59,270.40	$59,270.40	$59,270.40									
$5,325.00	$5,325.00	$5,325.00	$5,325.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	
				$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80								
$375.00	$375.00	$375.00	$375.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	
					$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80	$3,712.80							
$375.00	$375.00	$375.00	$375.00	$375.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	
						$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40						
$375.00	$375.00	$375.00	$375.00	$375.00	$375.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	
							$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40	$4,950.40					
$375.00	$375.00	$375.00	$375.00	$375.00	$375.00	$375.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	
$60,460.80	$60,460.80	$60,460.80	$60,460.80	$62,983.20	$66,696.00	$71,646.40	$76,596.80	$76,596.80	$76,596.80	$76,596.80	$17,326.40	$13,613.60	$9,900.80	$4,950.40	$0.00	$0.00	$0.00	$0.00	$795,347.20
$14,569.00	$14,569.00	$14,569.00	$14,569.00	$21,453.00	$21,804.00	$22,397.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$436,995.00
$37,404.48	$37,404.48	$37,404.48	$37,404.48																
$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	$7,744.00	
				$69,346.37	$69,346.37	$69,346.37	$69,346.37	$69,346.37	$69,346.37	$69,346.37									
$5,325.00	$5,325.00	$5,325.00	$5,325.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	
				$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98								
$375.00	$375.00	$375.00	$375.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	
					$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98	$4,343.98							
$375.00	$375.00	$375.00	$375.00	$375.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	$726.00	
						$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97						

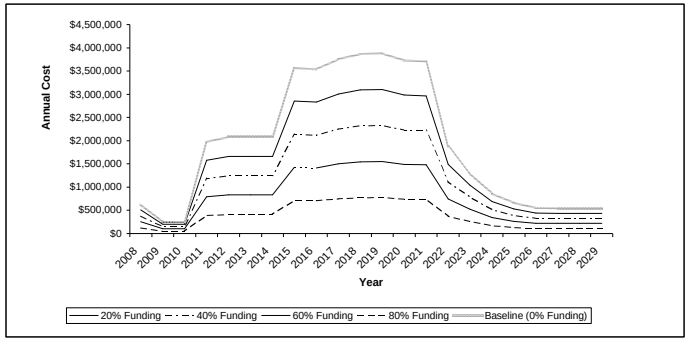
$375.00	$375.00	$375.00	$375.00	$375.00	$375.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	
							$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97	$5,791.97					
$375.00	$375.00	$375.00	$375.00	$375.00	$375.00	$375.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	
$37,404.48	$37,404.48	$37,404.48	$37,404.48	$73,690.34	$78,034.32	$83,826.29	$89,618.26	$89,618.26	$89,618.26	$89,618.26	$89,618.26	$20,271.89	$15,927.91	$11,583.94	$5,791.97	$0.00	$0.00	$0.00	$0.00	$797,217.60
$14,569.00	$14,569.00	$14,569.00	$14,569.00	$21,453.00	$21,804.00	$22,397.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$22,990.00	$436,995.00
$805,404.60	$805,404.60	$805,404.60	$805,404.60																	
$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	$108,174.00	
				$1,019,687.76	$1,019,687.76	$1,019,687.76	$1,019,687.76	$1,019,687.76	$1,019,687.76	$1,019,687.76										
$62,175.00	$62,175.00	$62,175.00	$62,175.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	$133,826.00	
				$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14	$335,934.14							
$18,150.00	$18,150.00	$18,150.00	$18,150.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	$42,108.00	
					$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83	$90,740.83						
$4,875.00	$4,875.00	$4,875.00	$4,875.00	$4,875.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	$11,374.00	
						$94,602.14	$94,602.14	$94,602.14	$94,602.14	$94,602.14	$94,602.14	$94,602.14	$94,602.14	$94,602.14						
$5,100.00	$5,100.00	$5,100.00	$5,100.00	$5,100.00	$5,100.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	$11,858.00	
$805,404.60	$805,404.60	$805,404.60	$805,404.60	$1,355,621.90	$1,446,362.74	$1,540,964.88	$1,540,964.88	$1,540,964.88	$1,540,964.88	$521,277.12	$521,277.12	$185,342.98	$94,602.14	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$14,315,366.52
$198,474.00	$198,474.00	$198,474.00	$198,474.00	$294,083.00	$300,582.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$307,340.00	$5,918,735.00
$510,255.90	$510,255.90	$510,255.90	$510,255.90																	
$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	$48,158.00	
			$822,472.70	$822,472.70	$822,472.70	$822,472.70	$822,472.70	$822,472.70	$822,472.70	$822,472.70										
$29,025.00	$29,025.00	$29,025.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	$64,856.00	
			$181,333.15	$181,333.15	$181,333.15	$181,333.15	$181,333.15	$181,333.15	$181,333.15	$181,333.15	$181,333.15									
$6,600.00	$6,600.00	$6,600.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	$15,972.00	
				$60,444.38	$60,444.38	$60,444.38	$60,444.38	$60,444.38	$60,444.38	$60,444.38	$60,444.38	$60,444.38								
$2,250.00	$2,250.00	$2,250.00	$2,250.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	$5,324.00	
					$63,191.86	$63,191.86	$63,191.86	$63,191.86	$63,191.86	$63,191.86	$63,191.86	$63,191.86	$63,191.86							
$2,325.00	$2,325.00	$2,325.00	$2,325.00	$2,325.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	$5,566.00	
$510,255.90	$510,255.90	$510,255.90	$1,514,061.76	$1,064,250.24	$1,127,442.10	$1,127,442.10	$1,127,442.10	$1,127,442.10	$1,127,442.10	$304,969.39	$123,636.24	$63,191.86	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$10,748,343.56
$88,358.00	$88,358.00	$88,358.00	$133,561.00	$136,635.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$139,876.00	$2,729,656.00
$288,357.30	$288,357.30	$288,357.30	$288,357.30																	
$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	$18,392.00	
			$151,767.00	$151,767.00	$151,767.00	$151,767.00	$151,767.00													
$4,350.00	$4,350.00	$4,350.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	$9,680.00	
			$239,865.44	$239,865.44	$239,865.44	$239,865.44	$239,865.44	$239,865.44	$239,865.44	$239,865.44	$239,865.44									
$6,150.00	$6,150.00	$6,150.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	$14,278.00	
				$32,524.13	$32,524.13	$32,524.13	$32,524.13	$32,524.13	$32,524.13	$32,524.13	$32,524.13	$32,524.13	$32,524.13							
$900.00	$900.00	$900.00	$900.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	$1,936.00	
					$36,589.64	$36,589.64	$36,589.64	$36,589.64	$36,589.64	$36,589.64	$36,589.64	$36,589.64	$36,589.64							
$825.00	$825.00	$825.00	$825.00	$825.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	$2,178.00	
$288,357.30	$288,357.30	$288,357.30	$679,989.74	$424,156.57	$460,746.22	$460,746.22	$460,746.22	$308,979.22	$308,979.22	$308,979.22	$69,113.77	$36,589.64	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$4,672,455.23
$30,617.00	$30,617.00	$30,617.00	$44,075.00	$45,111.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$46,464.00	$911,566.00
$28,170.45	$28,170.45	$28,170.45	$28,170.45																	
$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	$1,452.00	
			$19,219.32	$19,219.32	$19,219.32	$19,219.32	$19,219.32	$19,219.32												
$450.00	$450.00	$450.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	$968.00	
			$10,061.69	$10,061.69	$10,061.69	$10,061.69	$10,061.69	$10,061.69	$10,061.69	$10,061.69	$10,061.69									
$300.00	$300.00	$300.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	$484.00	
				$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84							
$75.00	$75.00	$75.00	$75.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	
					$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84	$5,030.84							
$75.00	$75.00	$75.00	$75.00	$75.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	$242.00	
$28,170.45	$28,170.45	$28,170.45	$57,451.46	$34,311.85	$39,342.70	$39,342.70	$39,342.70	$39,342.70	$20,123.38	$20,123.38	$10,061.69	$5,030.84	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$417,155.18
$2,352.00	$2,352.00	$2,352.00	$3,054.00	$3,221.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$3,388.00	$67,207.00
			$0.00																	
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
			$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00										
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00									
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
					$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
						$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
							$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
									$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
											$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
																				Tot. (eng.)-All Yrs.:
$1,730,053.53	$1,730,053.53	$1,730,053.53	$3,154,772.84	$3,015,014.11	$3,218,624.06	$3,323,968.58	$3,334,710.94	$3,182,943.94	$3,163,724.62	$1,321,564.16	$761,687.11	$319,696.83	$116,086.88	$10,742.37	$0.00	$0.00	$0.00	$0.00		$31,745,885.29
$348,939.00	$348,939.00	$348,939.00	$408,302.00	$521,956.00	$533,918.00	$541,862.00	$543,048.00	$543,048.00	$543,048.00	$543,048.00	$543,048.00	$543,048.00	$543,048.00	$543,048.00	$543,048.00	$543,048.00	$543,048.00	$543,048.00		$10,501,154.00
$2,078,992.53	$2,078,992.53	$2,078,992.53	$3,563,074.84	$3,536,970.11	$3,752,542.06	$3,865,830.58	$3,877,758.94	$3,725,991.94	$3,706,772.62	$1,864,612.16	$1,304,735.11	$862,744.83	$659,134.88	$553,790.37	$543,048.00	$543,048.00	$543,048.00	$543,048.00		**$42,247,039.29**

(2005 $):

" Incentive Prog. Funding Effect" worksheet 9/5/2006

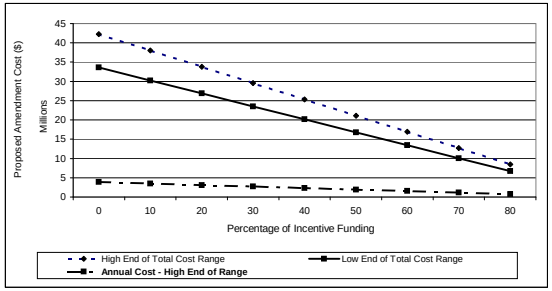
Calculations and chart for staff report (Figure VI-1).

		Year																						
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total (all yrs)
All Categories Cost Range (in 2005 $):	Low	$487,780	$87,464	$87,464	$1,708,446	$1,805,168	$1,805,168	$1,805,168	$3,225,051	$3,074,788	$3,277,566	$3,382,365	$3,393,055	$3,241,288	$3,222,069	$1,379,908	$820,031	$378,041	$174,431	$69,086	$58,344	$58,344	$58,344	$33,599,367
Baseline	High	$633,270	$249,975	$249,975	$1,973,739	$2,078,993	$2,078,993	$2,078,993	$3,563,075	$3,536,970	$3,752,542	$3,865,831	**$3,877,759**	$3,725,992	$3,706,773	$1,864,612	$1,304,735	$862,745	$659,135	$553,790	$543,048	$543,048	$543,048	$42,247,039
All Categories Cost Range (in 2005 $):	Low	$439,002	$78,718	$78,718	$1,537,602	$1,624,651	$1,624,651	$1,624,651	$2,902,546	$2,767,309	$2,949,809	$3,044,128	$3,053,749	$2,917,159	$2,899,862	$1,241,917	$738,028	$340,237	$156,988	$62,178	$52,510	$52,510	$52,510	$30,239,431
w/ 10% incentive funding	High	$569,943	$224,978	$224,978	$1,776,365	$1,871,093	$1,871,093	$1,871,093	$3,206,767	$3,183,273	$3,377,288	$3,479,248	**$3,489,983**	$3,353,393	$3,336,095	$1,678,151	$1,174,262	$776,470	$593,221	$498,411	$488,743	$488,743	$488,743	$38,022,335
All Categories Cost Range (in 2005 $):	Low	$390,224	$69,971	$69,971	$1,366,757	$1,444,134	$1,444,134	$1,444,134	$2,580,041	$2,459,830	$2,622,053	$2,705,892	$2,714,444	$2,593,030	$2,577,655	$1,103,927	$656,025	$302,433	$139,545	$55,269	$46,675	$46,675	$46,675	$26,879,494
w/ 20% incentive funding	High	$506,616	$199,980	$199,980	$1,578,991	$1,663,194	$1,663,194	$1,663,194	$2,850,460	$2,829,576	$3,002,034	$3,092,664	**$3,102,207**	$2,980,794	$2,965,418	$1,491,690	$1,043,788	$690,196	$527,308	$443,032	$434,438	$434,438	$434,438	$33,797,631
All Categories Cost Range (in 2005 $):	Low	$341,446	$61,225	$61,225	$1,195,912	$1,263,617	$1,263,617	$1,263,617	$2,257,536	$2,152,352	$2,294,296	$2,367,655	$2,375,138	$2,268,902	$2,255,448	$965,936	$574,022	$264,629	$122,102	$48,360	$40,841	$40,841	$40,841	$23,519,557
w/ 30% incentive funding	High	$443,289	$174,983	$174,983	$1,381,617	$1,455,295	$1,455,295	$1,455,295	$2,494,152	$2,475,879	$2,626,779	$2,706,081	**$2,714,431**	$2,608,194	$2,594,741	$1,305,229	$913,315	$603,921	$461,394	$387,653	$380,134	$380,134	$380,134	$29,572,928
All Categories Cost Range (in 2005 $):	Low	$292,668	$52,478	$52,478	$1,025,068	$1,083,101	$1,083,101	$1,083,101	$1,935,031	$1,844,873	$1,966,540	$2,029,419	$2,035,833	$1,944,773	$1,933,241	$827,945	$492,019	$226,824	$104,659	$41,452	$35,006	$35,006	$35,006	$20,159,620
w/ 40% incentive funding	High	$379,962	$149,985	$149,985	$1,184,244	$1,247,396	$1,247,396	$1,247,396	$2,137,845	$2,122,182	$2,251,525	$2,319,498	**$2,326,655**	$2,235,595	$2,224,064	$1,118,767	$782,841	$517,647	$395,481	$332,274	$325,829	$325,829	$325,829	$25,348,224
All Categories Cost Range (in 2005 $):	Low	$243,890	$43,732	$43,732	$854,223	$902,584	$902,584	$902,584	$1,612,525	$1,537,394	$1,638,783	$1,691,182	$1,696,527	$1,620,644	$1,611,034	$689,954	$410,016	$189,020	$87,215	$34,543	$29,172	$29,172	$29,172	$16,799,684
w/ 50% incentive funding	High	$316,635	$124,988	$124,988	$986,870	$1,039,496	$1,039,496	$1,039,496	$1,781,537	$1,768,485	$1,876,271	$1,932,915	**$1,938,879**	$1,862,996	$1,853,386	$932,306	$652,368	$431,372	$329,567	$276,895	$271,524	$271,524	$271,524	$21,123,520
All Categories Cost Range (in 2005 $):	Low	$195,112	$34,986	$34,986	$683,379	$722,067	$722,067	$722,067	$1,290,020	$1,229,915	$1,311,026	$1,352,946	$1,357,222	$1,296,515	$1,288,827	$551,963	$328,012	$151,216	$69,772	$27,635	$23,338	$23,338	$23,338	$13,439,747
w/ 60% incentive funding	High	$253,308	$99,990	$99,990	$789,496	$831,597	$831,597	$831,597	$1,425,230	$1,414,788	$1,501,017	$1,546,332	**$1,551,104**	$1,490,397	$1,482,709	$745,845	$521,894	$345,098	$263,654	$221,516	$217,219	$217,219	$217,219	$16,898,816
All Categories Cost Range (in 2005 $):	Low	$146,334	$26,239	$26,239	$512,534	$541,550	$541,550	$541,550	$967,515	$922,436	$983,270	$1,014,709	$1,017,916	$972,386	$966,621	$413,972	$246,009	$113,412	$52,329	$20,726	$17,503	$17,503	$17,503	$10,079,810
w/ 70% incentive funding	High	$189,981	$74,993	$74,993	$592,122	$623,698	$623,698	$623,698	$1,068,922	$1,061,091	$1,125,763	$1,159,749	**$1,163,328**	$1,117,798	$1,112,032	$559,384	$391,421	$258,823	$197,740	$166,137	$162,914	$162,914	$162,914	$12,674,112
All Categories Cost Range (in 2005 $):	Low	$97,556	$17,493	$17,493	$341,689	$361,034	$361,034	$361,034	$645,010	$614,958	$655,513	$676,473	$678,611	$648,258	$644,414	$275,982	$164,006	$75,608	$34,886	$13,817	$11,669	$11,669	$11,669	$6,719,873
w/ 80% incentive funding	High	$126,654	$49,995	$49,995	$394,748	$415,799	$415,799	$415,799	$712,615	$707,394	$750,508	$773,166	**$775,552**	$745,198	$741,355	$372,922	$260,947	$172,549	$131,827	$110,758	$108,610	$108,610	$108,610	$8,449,408



Costs w/ Incentives

	% Incentives	0	10	20	30	40	50	60	70	80
Total Cost	Low	$33,599,367	$30,239,431	$26,879,494	$23,519,557	$20,159,620	$16,799,684	$13,439,747	$10,079,810	$6,719,873
	High	$42,247,039	$38,022,335	$33,797,631	$29,572,928	$25,348,224	$21,123,520	$16,898,816	$12,674,112	$8,449,408
Annual Cost (high end of range)	Low	$249,975	$224,978	$199,980	$174,983	$149,985	$124,988	$99,990	$74,993	$49,995
	High	$3,877,759	$3,489,983	$3,102,207	$2,714,431	$2,326,655	$1,938,879	$1,551,104	$1,163,328	$775,552



"Alternative #2" Worksheet

8/10/2006 — 8/14/2006

Comparison of Diesel vs. Electric Operating Costs

Analysis Assumptions:

	1000	Hours/Year Operation
	20	Year Amortization Period for Diesel Engine
	40	Year Amortization Period for Electric Motor
BE=$1.21	3.1	$/Gallon Diesel Fuel Cost (on-road retail: spreadsheet will delete taxes)
BE=$0.25	0.11	$/Kilowatt-Hour (KwH) Electricity Cost (PG&E AG5B Average)

Diesel Engine HP Category	HP Range Lower Limit	Upper Limit	Equiv. Electric Motor Size (HP)	(kW)	Diesel Engine Cost ($)	Diesel Mtce Cost ($)	Diesel Fuel Cost ($)	Diesel Ann. Capital Cost ($)	Ann. Oper. Cost ($)	Total ($)	Electric Motor Cost	Electric Mtce Cost	Electric Power Cost	Electric Ann. Capital Cost ($)	Ann. Oper. Cost ($)	Total Electric Costs (/year) Total ($)	Motor vs. Electric Differential All	Capital Cost Differential	Annual Cost Differential
50-74	50	74	55	41	$11,000.00	$1,110.00	$9,283.15	$882.20	$10,393.15	**$11,275.35**	$10,417.18	$54.76	$4,493.61	$607.32	$4,548.37	**$5,155.69**	1.187	1.452607321	2.285029923
75-99	75	99	73	55	$12,700.00	$1,485.00	$12,419.35	$1,018.54	$13,904.35	**$14,922.89**	$13,524.61	$73.26	$6,011.72	$788.48	$6,084.98	**$6,873.46**	1.171	1.291768881	2.285029923
100-174	100	174	129	96	$16,600.00	$2,610.00	$21,827.95	$1,331.32	$24,437.95	**$25,769.27**	$20,351.89	$128.76	$10,566.05	$1,186.52	$10,694.81	**$11,881.32**	1.169	1.122042193	2.285029923
175-299	175	299	221	165	$23,200.00	$4,485.00	$37,508.95	$1,860.64	$41,993.95	**$43,854.59**	$38,659.02	$221.26	$18,156.60	$2,253.82	$18,377.86	**$20,631.68**	1.126	0.825549174	2.285029923
300-599	300	599	443	331	$34,600.00	$8,985.00	$75,143.35	$2,774.92	$84,128.35	**$86,903.27**	$68,432.24	$443.26	$36,373.92	$3,989.60	$36,817.18	**$40,806.78**	1.130	0.695538427	2.285029923
600-750	600	750	555	414	$42,400.00	$11,250.00	$94,085.99	$3,400.48	$105,335.99	**$108,736.47**	$85,683.11	$555.00	$45,543.30	$4,995.33	$46,098.30	**$51,093.63**	1.128	0.680732437	2.285029923
>750 (1725) [a]		1725	1277	952	$230,125.00	$25,875.00	$216,397.79	$18,456.03	$242,272.79	**$260,728.81**	$196,499.93	$1,276.50	$104,749.59	$11,455.95	$106,026.09	**$117,482.04**	1.219	1.611043277	2.285029923

[a] Since this category is open-ended, an assumed HP of 1,725 was used. Based on district permit data, this is likely the largest irrigation pump engine in use.

Cost Calculations for Alternative #2 (100% Switch to Electric Motors)
(Low End of Range)

Engine Category (Compl. Yr + 1)	# of In-Use Engines	Equivalent Motor Size (kW)	Annual Capital Cost	Annual Mtce/Oper Cost	Initial Air District Fee [a]	Air District Renewal Fee	2008 Affected Engine Population	Year 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
50 - 74 Hp																								
Statewide Total, Tier 0 (2012)	32	41	$607.32	$4,548.37	$0.00	$0.00	54	$0.00	$0.00	$0.00	$0.00	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99
Statewide Total, Tier 1 (2016)	49	41	$607.32	$4,548.37	$0.00	$0.00	71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68
Statewide Total, Tier 2 (2016)	3	41	$607.32	$4,548.37	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06
Statewide Total, Tier 2 (2017)	3	41	$607.32	$4,548.37	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06
Statewide Total, Tier 2 (2018)	4	41	$607.32	$4,548.37	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75
Statewide Total, Tier 2 (2019)	4	41	$607.32	$4,548.37	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$0.00	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$433,077.74	$448,544.80	$469,167.55	$489,790.30	$489,790.30	$489,790.30	$489,790.30	$489,790.30	$489,790.30
75 - 99 Hp																								
Statewide Total, Tier 0 (2012)	32	55	$788.48	$6,084.98	$0.00	$0.00	54	$0.00	$0.00	$0.00	$0.00	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73
Statewide Total, Tier 1 (2016)	49	55	$788.48	$6,084.98	$0.00	$0.00	71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55
Statewide Total, Tier 2 (2016)	3	55	$788.48	$6,084.98	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38
Statewide Total, Tier 2 (2017)	3	55	$788.48	$6,084.98	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38
Statewide Total, Tier 2 (2018)	4	55	$788.48	$6,084.98	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84
Statewide Total, Tier 2 (2019)	4	55	$788.48	$6,084.98	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$0.00	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$577,370.67	$597,991.05	$625,484.89	$652,978.73	$652,978.73	$652,978.73	$652,978.73	$652,978.73	$652,978.73
100 - 174 Hp																								
Statewide Total, Tier 0 (2011)	447	96	$1,186.52	$10,694.81	$0.00	$0.00	689	$0.00	$0.00	$0.00	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35
Statewide Total, Tier 1 (2016)	553	96	$1,186.52	$10,694.81	$0.00	$0.00	829	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34
Statewide Total, Tier 2 (2016)	174	96	$1,186.52	$10,694.81	$0.00	$0.00	242	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80
Statewide Total, Tier 2 (2017)	47	96	$1,186.52	$10,694.81	$0.00	$0.00	65	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$558,422.07	$558,422.07	$558,422.07	$558,422.07	$558,422.07	$558,422.07	$558,422.07	$558,422.07
Statewide Total, Tier 2 (2018)	49	96	$1,186.52	$10,694.81	$0.00	$0.00	68	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$582,184.71	$582,184.71	$582,184.71	$582,184.71	$582,184.71	$582,184.71	$582,184.71
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$13,948,670.50	$14,507,092.57	$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28
175 - 299 Hp																								
Statewide Total, Tier 0 (2011)	199	165	$2,253.82	$18,377.86	$0.00	$0.00	310	$0.00	$0.00	$0.00	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63
Statewide Total, Tier 1 (2015)	268	165	$2,253.82	$18,377.86	$0.00	$0.00	387	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31
Statewide Total, Tier 2 (2015)	66	165	$2,253.82	$18,377.86	$0.00	$0.00	88	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65
Statewide Total, Tier 2 (2016)	22	165	$2,253.82	$18,377.86	$0.00	$0.00	30	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88
Statewide Total, Tier 2 (2017)	23	165	$2,253.82	$18,377.86	$0.00	$0.00	31	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$474,528.56	$474,528.56	$474,528.56	$474,528.56	$474,528.56	$474,528.56	$474,528.56	$474,528.56
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$10,996,683.59	$11,450,580.47	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03
300 - 599 Hp																								
Statewide Total, Tier 0 (2011)	76	331	$3,989.60	$36,817.18	$0.00	$0.00	119	$0.00	$0.00	$0.00	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93
Statewide Total, Tier 1 (2015)	40	331	$3,989.60	$36,817.18	$0.00	$0.00	58	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02
Statewide Total, Tier 2 (2015)	59	331	$3,989.60	$36,817.18	$0.00	$0.00	82	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75
Statewide Total, Tier 2 (2016)	8	331	$3,989.60	$36,817.18	$0.00	$0.00	12	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20
Statewide Total, Tier 2 (2017)	9	331	$3,989.60	$36,817.18	$0.00	$0.00	11	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$367,260.98	$367,260.98	$367,260.98	$367,260.98	$367,260.98	$367,260.98	$367,260.98	$367,260.98
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$7,141,185.70	$7,467,639.91	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89
600 - 750 Hp																								
Statewide Total, Tier 0 (2011)	6	414	$4,995.33	$46,098.30	$0.00	$0.00	10	$0.00	$0.00	$0.00	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75
Statewide Total, Tier 1 (2015)	4	414	$4,995.33	$46,098.30	$0.00	$0.00	6	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50
Statewide Total, Tier 2 (2015)	2	414	$4,995.33	$46,098.30	$0.00	$0.00	4	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25
Statewide Total, Tier 2 (2016)	1	414	$4,995.33	$46,098.30	$0.00	$0.00	1	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63
Statewide Total, Tier 2 (2017)	1	414	$4,995.33	$46,098.30	$0.00	$0.00	1	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$613,123.50	$664,217.13	$715,310.75	$715,310.75	$715,310.75	$715,310.75	$715,310.75	$715,310.75	$715,310.75	$715,310.75
Greater Than 750 Hp																								
Statewide Total, Tier 0 (2015)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2015)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2016)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2017)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2018)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2019)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2020)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2021)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2022)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total # Engines:	2244							$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Subtotals (in 2005 $)																								
Ann. Totals- All Cat. (in 2005 $)								$0	$0	$0	$12,824,531	$13,209,463	$13,209,463	$13,209,463	$24,446,876	$34,541,556	$36,028,949	$36,659,250	$36,707,367	$36,707,367	$36,707,367	$36,707,367	$36,707,367	$36,707,367

[a] includes operator owner cost to complete and submit application; 2hrs. @ $50/hr.

Cost Calculations for Alternative #2 (100% Switch to Electric Motors)
(High End of Range)

Engine Category (Compl. Yr + 1)	# of In-Use Engines	Equivalent Motor Size (kW)	Annual Capital Cost	Annual Mtce/Oper Cost	Initial Air District Fee [a]	Air District Renewal Fee	Year 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

50 - 74 Hp																							
Statewide Total, Tier 0 (2012)	32	41	$607.32	$4,548.37	$0.00	$0.00	54	$0.00	$0.00	$0.00	$0.00	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99
Statewide Total, Tier 1 (2016)	49	41	$607.32	$4,548.37	$0.00	$0.00	71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68
Statewide Total, Tier 2 (2016)	3	41	$607.32	$4,548.37	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06
Statewide Total, Tier 2 (2017)	3	41	$607.32	$4,548.37	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06
Statewide Total, Tier 2 (2018)	4	41	$607.32	$4,548.37	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75
Statewide Total, Tier 2 (2019)	4	41	$607.32	$4,548.37	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$0.00	$164,981.99	$164,981.99	$164,981.99	$164,981.99	$433,077.74	$448,544.80	$469,167.55	$489,790.30	$489,790.30	$489,790.30	$489,790.30	$489,790.30
75 - 99 Hp																							
Statewide Total, Tier 0 (2012)	32	55	$788.48	$6,084.98	$0.00	$0.00	54	$0.00	$0.00	$0.00	$0.00	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73
Statewide Total, Tier 1 (2016)	49	55	$788.48	$6,084.98	$0.00	$0.00	71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55
Statewide Total, Tier 2 (2016)	3	55	$788.48	$6,084.98	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38
Statewide Total, Tier 2 (2017)	3	55	$788.48	$6,084.98	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38
Statewide Total, Tier 2 (2018)	4	55	$788.48	$6,084.98	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84
Statewide Total, Tier 2 (2019)	4	55	$788.48	$6,084.98	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$0.00	$219,950.73	$219,950.73	$219,950.73	$219,950.73	$577,370.67	$597,991.05	$625,484.89	$652,978.73	$652,978.73	$652,978.73	$652,978.73	$652,978.73
100 - 174 Hp																							
Statewide Total, Tier 0 (2011)	447	96	$1,186.52	$10,694.81	$0.00	$0.00	689	$0.00	$0.00	$0.00	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35
Statewide Total, Tier 1 (2016)	553	96	$1,186.52	$10,694.81	$0.00	$0.00	829	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34
Statewide Total, Tier 2 (2016)	174	96	$1,186.52	$10,694.81	$0.00	$0.00	242	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80
Statewide Total, Tier 2 (2017)	47	96	$1,186.52	$10,694.81	$0.00	$0.00	65	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$558,422.07	$558,422.07	$558,422.07	$558,422.07	$558,422.07	$558,422.07	$558,422.07
Statewide Total, Tier 2 (2018)	49	96	$1,186.52	$10,694.81	$0.00	$0.00	68	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$582,184.71	$582,184.71	$582,184.71	$582,184.71	$582,184.71	$582,184.71
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$13,948,670.50	$14,507,092.57	$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28
175 - 299 Hp																							
Statewide Total, Tier 0 (2011)	199	165	$2,253.82	$18,377.86	$0.00	$0.00	310	$0.00	$0.00	$0.00	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63
Statewide Total, Tier 1 (2015)	268	165	$2,253.82	$18,377.86	$0.00	$0.00	387	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31
Statewide Total, Tier 2 (2015)	66	165	$2,253.82	$18,377.86	$0.00	$0.00	88	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65
Statewide Total, Tier 2 (2016)	22	165	$2,253.82	$18,377.86	$0.00	$0.00	30	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88
Statewide Total, Tier 2 (2017)	23	165	$2,253.82	$18,377.86	$0.00	$0.00	31	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$474,528.56	$474,528.56	$474,528.56	$474,528.56	$474,528.56	$474,528.56	$474,528.56
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$10,996,683.59	$11,450,580.47	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03
300 - 599 Hp																							
Statewide Total, Tier 0 (2011)	76	331	$3,989.60	$36,817.18	$0.00	$0.00	119	$0.00	$0.00	$0.00	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93
Statewide Total, Tier 1 (2015)	40	331	$3,989.60	$36,817.18	$0.00	$0.00	58	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02
Statewide Total, Tier 2 (2015)	59	331	$3,989.60	$36,817.18	$0.00	$0.00	82	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75
Statewide Total, Tier 2 (2016)	8	331	$3,989.60	$36,817.18	$0.00	$0.00	12	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20
Statewide Total, Tier 2 (2017)	9	331	$3,989.60	$36,817.18	$0.00	$0.00	11	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$367,260.98	$367,260.98	$367,260.98	$367,260.98	$367,260.98	$367,260.98	$367,260.98
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$7,141,185.70	$7,467,639.91	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89
600 - 750 Hp																							
Statewide Total, Tier 0 (2011)	6	414	$4,995.33	$46,098.30	$0.00	$0.00	10	$0.00	$0.00	$0.00	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75
Statewide Total, Tier 1 (2015)	4	414	$4,995.33	$46,098.30	$0.00	$0.00	6	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50
Statewide Total, Tier 2 (2015)	2	414	$4,995.33	$46,098.30	$0.00	$0.00	4	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25
Statewide Total, Tier 2 (2016)	1	414	$4,995.33	$46,098.30	$0.00	$0.00	1	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63
Statewide Total, Tier 2 (2017)	1	414	$4,995.33	$46,098.30	$0.00	$0.00	1	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63
Subtotals (in 2005 $)								$0.00	$0.00	$0.00	$306,561.75	$306,561.75	$306,561.75	$306,561.75	$613,123.50	$664,217.13	$715,310.75	$715,310.75	$715,310.75	$715,310.75	$715,310.75	$715,310.75	$715,310.75
Greater Than 750 Hp																							
Statewide Total, Tier 0 (2015)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2015)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2016)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2017)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2018)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2019)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2020)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2021)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2022)	0	952	$11,455.95	$106,026.09	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total # Engines:	2244							$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Subtotals (in 2005 $)																							
Ann. Totals- All Cat. (in 2005 $)								$0	$0	$0	$12,824,531	$13,209,463	$13,209,463	$13,209,463	$24,446,876	$34,541,556	$36,028,949	$36,659,250	$36,707,367	$36,707,367	$36,707,367	$36,707,367	$36,707,367

[a] includes operator owner cost to complete and submit application; 2hrs. @ $50/hr.

Cost Calculations for Diesel Engine Replacement Scenario (Low End of Range)

Engine Category (Compl. Yr + 1)	# of In-Use Engines	Annual Capital Cost	Annual Mtce/Oper Cost	Initial Air District Fee [a]	Air District Renewal Fee	2008 Affected Engine Population	Year 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
50 - 74 hp																							
Statewide Total, Tier 0 (2012)	32	$882.20	$10,393.15	$0.00	$0.00	54	$0.00	$0.00	$0.00	$0.00	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25
Statewide Total, Tier 1 (2016)	49	$882.20	$10,393.15	$0.00	$0.00	71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22
Statewide Total, Tier 2 (2016)	3	$882.20	$10,393.15	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05
Statewide Total, Tier 2 (2017)	3	$882.20	$10,393.15	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05
Statewide Total, Tier 2 (2018)	4	$882.20	$10,393.15	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41
Statewide Total, Tier 2 (2019)	4	$882.20	$10,393.15	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41
Subtotals (in 2005 $)							$0.00	$0.00	$0.00	$0.00	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$947,129.53	$980,955.58	$1,026,056.99	$1,071,158.39	$1,071,158.39	$1,071,158.39	$1,071,158.39	$1,071,158.39	$1,071,158.39
75 - 99 hp																							
Statewide Total, Tier 0 (2012)	32	$1,018.54	$13,904.35	$0.00	$0.00	54	$0.00	$0.00	$0.00	$0.00	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52
Statewide Total, Tier 1 (2016)	49	$1,018.54	$13,904.35	$0.00	$0.00	71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68
Statewide Total, Tier 2 (2016)	3	$1,018.54	$13,904.35	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67
Statewide Total, Tier 2 (2017)	3	$1,018.54	$13,904.35	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67
Statewide Total, Tier 2 (2018)	4	$1,018.54	$13,904.35	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57
Statewide Total, Tier 2 (2019)	4	$1,018.54	$13,904.35	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57
Subtotals (in 2005 $)							$0.00	$0.00	$0.00	$0.00	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$1,253,522.87	$1,298,291.55	$1,357,983.11	$1,417,674.68	$1,417,674.68	$1,417,674.68	$1,417,674.68	$1,417,674.68	$1,417,674.68
100 - 174 hp																							
Statewide Total, Tier 0 (2011)	447	$1,331.32	$24,437.95	$0.00	$0.00	689	$0.00	$0.00	$0.00	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06
Statewide Total, Tier 1 (2016)	553	$1,331.32	$24,437.95	$0.00	$0.00	829	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76
Statewide Total, Tier 2 (2016)	174	$1,331.32	$24,437.95	$0.00	$0.00	242	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12
Statewide Total, Tier 2 (2017)	47	$1,331.32	$24,437.95	$0.00	$0.00	65	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73
Statewide Total, Tier 2 (2018)	49	$1,331.32	$24,437.95	$0.00	$0.00	68	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27
Subtotals (in 2005 $)							$0.00	$0.00	$0.00	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$30,253,123.94	$31,464,279.67	$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94
175 - 299 hp																							
Statewide Total, Tier 0 (2011)	199	$1,860.64	$41,993.95	$0.00	$0.00	310	$0.00	$0.00	$0.00	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40
Statewide Total, Tier 1 (2015)	268	$1,860.64	$41,993.95	$0.00	$0.00	387	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11
Statewide Total, Tier 2 (2015)	66	$1,860.64	$41,993.95	$0.00	$0.00	88	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94
Statewide Total, Tier 2 (2016)	22	$1,860.64	$41,993.95	$0.00	$0.00	30	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98
Statewide Total, Tier 2 (2017)	23	$1,860.64	$41,993.95	$0.00	$0.00	31	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57
Subtotals (in 2005 $)							$0.00	$0.00	$0.00	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$23,374,496.45	$24,339,297.43	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00

300 - 599 hp																							
Statewide Total, Tier 0 (2011)	76	$2,774.92	$84,128.35	$0.00	$0.00	119	$0.00	$0.00	$0.00	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36
Statewide Total, Tier 1 (2015)	40	$2,774.92	$84,128.35	$0.00	$0.00	58	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72
Statewide Total, Tier 2 (2015)	59	$2,774.92	$84,128.35	$0.00	$0.00	82	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81
Statewide Total, Tier 2 (2016)	8	$2,774.92	$84,128.35	$0.00	$0.00	12	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14
Statewide Total, Tier 2 (2017)	9	$2,774.92	$84,128.35	$0.00	$0.00	11	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$782,129.41	$782,129.41	$782,129.41	$782,129.41	$782,129.41	$782,129.41	$782,129.41	$782,129.41
Subtotals (in 2005 $)							$0.00	$0.00	$0.00	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$15,208,071.89	$15,903,298.03	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44
600 - 750 hp																							
Statewide Total, Tier 0 (2011)	6	$3,400.48	$105,335.99	$0.00	$0.00	10	$0.00	$0.00	$0.00	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85
Statewide Total, Tier 1 (2015)	4	$3,400.48	$105,335.99	$0.00	$0.00	6	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90
Statewide Total, Tier 2 (2015)	2	$3,400.48	$105,335.99	$0.00	$0.00	4	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95
Statewide Total, Tier 2 (2016)	1	$3,400.48	$105,335.99	$0.00	$0.00	1	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47
Statewide Total, Tier 2 (2017)	1	$3,400.48	$105,335.99	$0.00	$0.00	1	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47
Subtotals (in 2005 $)							$0.00	$0.00	$0.00	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$1,304,837.70	$1,413,574.17	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65
Greater Than 750 hp																							
Statewide Total, Tier 0 (2015)	0	$18,456.03	$242,272.79	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2015)	0	$18,456.03	$242,272.79	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2016)	0	$18,456.03	$242,272.79	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2017)	0	$18,456.03	$242,272.79	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2018)	0	$18,456.03	$242,272.79	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2019)	0	$18,456.03	$242,272.79	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2020)	0	$18,456.03	$242,272.79	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2021)	0	$18,456.03	$242,272.79	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2022)	0	$18,456.03	$242,272.79	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total # Engines:	2244						$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Subtotals (in 2005 $)																							
Ann. Totals- All Cat. (in 2005 $)							$0	$0	$0	$27,502,995	$28,341,338	$28,341,338	$28,341,338	$52,244,614	$74,109,946	$77,299,218	$78,666,705	$78,771,498	$78,771,498	$78,771,498	$78,771,498	$78,771,498	$78,771,498

[a] includes operator owner cost to complete and submit application; 2hrs. @ $50/hr.

Cost Calculations for Diesel Engine Replacement Scenario
(High End of Range)

Engine Category (Compl. Yr + 1)	# of In-Use Engines	Annual Capital Cost	Annual Mtce/Oper Cost	Initial Air District Fee [a]	Air District Renewal Fee	2008 Affected Engine Population	Year 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
50 - 74 hp																							
Statewide Total, Tier 0 (2012)	32	$882.20	$10,393.15	$0.00	$0.00	54	$0.00	$0.00	$0.00	$0.00	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25
Statewide Total, Tier 1 (2016)	49	$882.20	$10,393.15	$0.00	$0.00	71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22
Statewide Total, Tier 2 (2016)	3	$882.20	$10,393.15	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05
Statewide Total, Tier 2 (2017)	3	$882.20	$10,393.15	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05
Statewide Total, Tier 2 (2018)	4	$882.20	$10,393.15	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41
Statewide Total, Tier 2 (2019)	4	$882.20	$10,393.15	$0.00	$0.00	5	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41
Subtotals (in 2005 $)							$0.00	$0.00	$0.00	$0.00	$360,811.25	$360,811.25	$360,811.25	$360,811.25	$947,129.53	$980,955.58	$1,026,056.99	$1,071,158.39	$1,071,158.39	$1,071,158.39	$1,071,158.39	$1,071,158.39	$1,071,158.39
75 - 99 hp																							
Statewide Total, Tier 0 (2012)	32	$1,018.54	$13,904.35	$0.00	$0.00	54					$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52
Statewide Total, Tier 1 (2016)	49	$1,018.54	$13,904.35	$0.00	$0.00	71									$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68
Statewide Total, Tier 2 (2016)	3	$1,018.54	$13,904.35	$0.00	$0.00	5									$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67
Statewide Total, Tier 2 (2017)	3	$1,018.54	$13,904.35	$0.00	$0.00	5										$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67
Statewide Total, Tier 2 (2018)	4	$1,018.54	$13,904.35	$0.00	$0.00	5											$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57
Statewide Total, Tier 2 (2019)	4	$1,018.54	$13,904.35	$0.00	$0.00	5												$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57
Subtotals (in 2005 $)											$477,532.52	$477,532.52	$477,532.52	$477,532.52	$1,253,522.87	$1,298,291.55	$1,357,983.11	$1,417,674.68	$1,417,674.68	$1,417,674.68	$1,417,674.68	$1,417,674.68	$1,417,674.68
100 - 174 hp																							
Statewide Total, Tier 0 (2011)	447	$1,331.32	$24,437.95	$0.00	$0.00	689				$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06
Statewide Total, Tier 1 (2016)	553	$1,331.32	$24,437.95	$0.00	$0.00	829									$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76
Statewide Total, Tier 2 (2016)	174	$1,331.32	$24,437.95	$0.00	$0.00	242									$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12
Statewide Total, Tier 2 (2017)	47	$1,331.32	$24,437.95	$0.00	$0.00	65										$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73
Statewide Total, Tier 2 (2018)	49	$1,331.32	$24,437.95	$0.00	$0.00	68											$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27
Subtotals (in 2005 $)										$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$30,253,123.94	$31,464,279.67	$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94
175 - 299 hp																							
Statewide Total, Tier 0 (2011)	199	$1,860.64	$41,993.95	$0.00	$0.00	310				$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40
Statewide Total, Tier 1 (2015)	268	$1,860.64	$41,993.95	$0.00	$0.00	387								$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11
Statewide Total, Tier 2 (2015)	66	$1,860.64	$41,993.95	$0.00	$0.00	88								$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94
Statewide Total, Tier 2 (2016)	22	$1,860.64	$41,993.95	$0.00	$0.00	30									$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98
Statewide Total, Tier 2 (2017)	23	$1,860.64	$41,993.95	$0.00	$0.00	31										$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57
Subtotals (in 2005 $)										$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$23,374,496.45	$24,339,297.43	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00
300 - 599 hp																							
Statewide Total, Tier 0 (2011)	76	$2,774.92	$84,128.35	$0.00	$0.00	119				$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36
Statewide Total, Tier 1 (2015)	40	$2,774.92	$84,128.35	$0.00	$0.00	58								$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72
Statewide Total, Tier 2 (2015)	59	$2,774.92	$84,128.35	$0.00	$0.00	82								$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81
Statewide Total, Tier 2 (2016)	8	$2,774.92	$84,128.35	$0.00	$0.00	12									$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14
Statewide Total, Tier 2 (2017)	9	$2,774.92	$84,128.35	$0.00	$0.00	11										$782,129.41	$782,129.41	$782,129.41	$782,129.41	$782,129.41	$782,129.41	$782,129.41	$782,129.41
Subtotals (in 2005 $)										$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$15,208,071.89	$15,903,298.03	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44
600 - 750 hp																							
Statewide Total, Tier 0 (2011)	6	$3,400.48	$105,335.99	$0.00	$0.00	10				$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85
Statewide Total, Tier 1 (2015)	4	$3,400.48	$105,335.99	$0.00	$0.00	6								$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90
Statewide Total, Tier 2 (2015)	2	$3,400.48	$105,335.99	$0.00	$0.00	4								$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95
Statewide Total, Tier 2 (2016)	1	$3,400.48	$105,335.99	$0.00	$0.00	1									$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47
Statewide Total, Tier 2 (2017)	1	$3,400.48	$105,335.99	$0.00	$0.00	1										$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47
Subtotals (in 2005 $)										$652,418.85	$652,418.85	$652,418.85	$652,418.85	$1,304,837.70	$1,413,574.17	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65
Greater Than 750 hp																							
Statewide Total, Tier 0 (2015)	0	$18,456.03	$242,272.79	$0.00	$0.00	0								$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2015)	0	$18,456.03	$242,272.79	$0.00	$0.00	0								$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2016)	0	$18,456.03	$242,272.79	$0.00	$0.00	0									$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 1 (2017)	0	$18,456.03	$242,272.79	$0.00	$0.00	0										$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2018)	0	$18,456.03	$242,272.79	$0.00	$0.00	0											$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2019)	0	$18,456.03	$242,272.79	$0.00	$0.00	0												$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2020)	0	$18,456.03	$242,272.79	$0.00	$0.00	0													$0.00	$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2021)	0	$18,456.03	$242,272.79	$0.00	$0.00	0														$0.00	$0.00	$0.00	$0.00
Statewide Total, Tier 2 (2022)	0	$18,456.03	$242,272.79	$0.00	$0.00	0															$0.00	$0.00	$0.00
Total # Engines:	2244													$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Subtotals (in 2005 $)																							
Ann. Totals- All Cat. (in 2005 $)										$27,502,995	$28,341,338	$28,341,338	$28,341,338	$52,244,614	$74,109,946	$77,299,218	$78,666,705	$78,771,498	$78,771,498	$78,771,498	$78,771,498	$78,771,498	$78,771,498

[a] includes operator owner cost to complete and submit application; 2hrs. @ $50/hr.

2025	2026	2027	2028	2029
$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99
$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68
$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06
$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06
$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75
$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75
$489,790.30	$489,790.30	$489,790.30	$489,790.30	$489,790.30
$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73
$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55
$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38
$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38
$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84
$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84
$652,978.73	$652,978.73	$652,978.73	$652,978.73	$652,978.73
$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35
$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34
$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80
$558,422.07	$558,422.07	$558,422.07	$558,422.07	$558,422.07
$582,184.71	$582,184.71	$582,184.71	$582,184.71	$582,184.71
$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28
$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63
$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31
$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65
$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88
$474,528.56	$474,528.56	$474,528.56	$474,528.56	$474,528.56
$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03
$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93
$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02
$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75
$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20
$367,260.98	$367,260.98	$367,260.98	$367,260.98	$367,260.98
$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89
$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75
$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50
$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25
$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63
$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63
$715,310.75	$715,310.75	$715,310.75	$715,310.75	$715,310.75
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$36,707,367	$36,707,367	$36,707,367	$36,707,367	$36,707,367
			Total:	**$587,910,589**

2025	2026	2027	2028	2029

$164,981.99	$164,981.99	$164,981.99	$164,981.99	$164,981.99
$252,628.68	$252,628.68	$252,628.68	$252,628.68	$252,628.68
$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06
$15,467.06	$15,467.06	$15,467.06	$15,467.06	$15,467.06
$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75
$20,622.75	$20,622.75	$20,622.75	$20,622.75	$20,622.75
$489,790.30	$489,790.30	$489,790.30	$489,790.30	$489,790.30
$219,950.73	$219,950.73	$219,950.73	$219,950.73	$219,950.73
$336,799.55	$336,799.55	$336,799.55	$336,799.55	$336,799.55
$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38
$20,620.38	$20,620.38	$20,620.38	$20,620.38	$20,620.38
$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84
$27,493.84	$27,493.84	$27,493.84	$27,493.84	$27,493.84
$652,978.73	$652,978.73	$652,978.73	$652,978.73	$652,978.73
$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35	$5,310,950.35
$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34	$6,570,370.34
$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80	$2,067,349.80
$558,422.07	$558,422.07	$558,422.07	$558,422.07	$558,422.07
$582,184.71	$582,184.71	$582,184.71	$582,184.71	$582,184.71
$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28	$15,089,277.28
$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63	$4,105,703.63
$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31	$5,529,289.31
$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65	$1,361,690.65
$453,896.88	$453,896.88	$453,896.88	$453,896.88	$453,896.88
$474,528.56	$474,528.56	$474,528.56	$474,528.56	$474,528.56
$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03	$11,925,109.03
$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93	$3,101,314.93
$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02	$1,632,271.02
$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75	$2,407,599.75
$326,454.20	$326,454.20	$326,454.20	$326,454.20	$326,454.20
$367,260.98	$367,260.98	$367,260.98	$367,260.98	$367,260.98
$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89	$7,834,900.89
$306,561.75	$306,561.75	$306,561.75	$306,561.75	$306,561.75
$204,374.50	$204,374.50	$204,374.50	$204,374.50	$204,374.50
$102,187.25	$102,187.25	$102,187.25	$102,187.25	$102,187.25
$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63
$51,093.63	$51,093.63	$51,093.63	$51,093.63	$51,093.63
$715,310.75	$715,310.75	$715,310.75	$715,310.75	$715,310.75
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$36,707,367	$36,707,367	$36,707,367	$36,707,367	$36,707,367
			Total:	**$587,910,589**

2025	2026	2027	2028	2029
$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25
$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22
$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05
$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05
$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41
$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41
$1,071,158.39	$1,071,158.39	$1,071,158.39	$1,071,158.39	$1,071,158.39
$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52
$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68
$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67
$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67
$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57
$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57
$1,417,674.68	$1,417,674.68	$1,417,674.68	$1,417,674.68	$1,417,674.68
$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06
$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76
$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12
$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73
$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27
$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94
$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40
$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11
$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94
$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98
$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57
$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00

$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36
$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72
$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81
$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14
$782,129.41	$782,129.41	$782,129.41	$782,129.41	$782,129.41
$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44
$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85
$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90
$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95
$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47
$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47
$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$78,771,498	$78,771,498	$78,771,498	$78,771,498	$78,771,498
			Total:	**$1,261,333,972**

2025	2026	2027	2028	2029
$360,811.25	$360,811.25	$360,811.25	$360,811.25	$360,811.25
$552,492.22	$552,492.22	$552,492.22	$552,492.22	$552,492.22
$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05
$33,826.05	$33,826.05	$33,826.05	$33,826.05	$33,826.05
$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41
$45,101.41	$45,101.41	$45,101.41	$45,101.41	$45,101.41
$1,071,158.39	$1,071,158.39	$1,071,158.39	$1,071,158.39	$1,071,158.39
$477,532.52	$477,532.52	$477,532.52	$477,532.52	$477,532.52
$731,221.68	$731,221.68	$731,221.68	$731,221.68	$731,221.68
$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67
$44,768.67	$44,768.67	$44,768.67	$44,768.67	$44,768.67
$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57
$59,691.57	$59,691.57	$59,691.57	$59,691.57	$59,691.57
$1,417,674.68	$1,417,674.68	$1,417,674.68	$1,417,674.68	$1,417,674.68
$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06	$11,518,864.06
$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76	$14,250,406.76
$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12	$4,483,853.12
$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73	$1,211,155.73
$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27	$1,262,694.27
$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94	$32,726,973.94
$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40	$8,727,063.40
$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11	$11,753,030.11
$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94	$2,894,402.94
$964,800.98	$964,800.98	$964,800.98	$964,800.98	$964,800.98
$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57	$1,008,655.57
$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00	$25,347,953.00
$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36	$6,604,648.36
$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72	$3,476,130.72
$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81	$5,127,292.81
$695,226.14	$695,226.14	$695,226.14	$695,226.14	$695,226.14
$782,129.41	$782,129.41	$782,129.41	$782,129.41	$782,129.41
$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44	$16,685,427.44
$652,418.85	$652,418.85	$652,418.85	$652,418.85	$652,418.85
$434,945.90	$434,945.90	$434,945.90	$434,945.90	$434,945.90
$217,472.95	$217,472.95	$217,472.95	$217,472.95	$217,472.95
$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47
$108,736.47	$108,736.47	$108,736.47	$108,736.47	$108,736.47
$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65	$1,522,310.65
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00
$78,771,498	$78,771,498	$78,771,498	$78,771,498	$78,771,498
			Total:	**$1,261,333,972**

"Cost Effectiveness" Worksheet

9/5/2006

NOTE: Emission reductions are from PTSD 8/15/06 report and are for all air districts except San Joaquin Valley and South Coast (SJV & SC deleted)

This worksheet calculates the cost-effectiveness figures for the following scenarios (reporting basis):

1) PM cost-effectiveness, using loss-of-use engine costs only (for comparison to the cost-effectiveness of other ATCMs) (annual, for analysis period)
2) PM + NO_x Cost-Effectiveness, where 50 percent of loss-of-use engine cost is divided by each of the PM + NO_x emission reductions to arrive at a cost-effectiveness figure for each pollutant (annual, for analysis period)
3) Overall cost-effectiveness, where both engine loss-of-use and air district fees are summed and divided by the PM reductions attributable to the proposed amendments (annual, for analysis period; overall)

NOT USED **NOT USED** **NOT USED**

1) For DPM (use for comparison to other ATCMs):

Does not include local air district fees and owner/operator application prep & submittal time allowance.

Year	Emission Benefits [a] (tpd)	Not Used	Loss-of-Use Engine Costs [c] (2005 $)	Cost Effectiveness (2005 $/lb.)		DPM Reduced (lbs./yr.)	
2011	0.25664	1	$1,632,188	$8.71		187,347	
2012	0.24815	1	$1,730,054	$9.55		181,150	
2013	0.22521	1	$1,730,054	$10.52		164,403	
2014	0.20246	1	$1,730,054	$11.71		147,796	
2015	0.24459	1	$3,154,773	$17.67		178,551	
2016	0.34055	1	$3,015,014	$12.13		**248,602**	**High**
2017	0.32251	1	$3,218,624	$13.67		235,432	
2018	0.30215	1	$3,323,969	$15.07		220,570	
2019	0.27918	1	$3,334,711	$16.36		203,801	
2020	0.25445	1	$3,182,944	$17.14		185,749	
2021	0.22779	1	$3,163,725	**$19.03**	**High**	166,287	
2022	0.2024	1	$1,321,564	$8.94		147,752	
2023	0.17936	1	$761,687	$5.82		130,933	
2024	0.1588	1	$319,697	$2.76		115,924	
2025	0.14095	1	$116,087	$1.13		102,894	
2026	0.12448	1	$10,742	**$0.12**	**Low**	**90,870**	**Low**
2027	0.10978	1	- [b]	- [b]		80,139	
2028	0.09696	1	- [b]	- [b]		70,781	
2029	0.08572	1	- [b]	- [b]		62,576	
Total	4.00213					2,921,555	Reduction

[a] from ARB PTSD 8/15/2006 report

[b] cost effectiveness not calculated for this year due to zero loss-of-use engine costs

2) For DPM & NOx:

For DPM:

Year	Emission Benefits (tpd)	Not Used	Low End of Range Loss-of-Use & Fee Costs (2005 $)	Low End of Range Cost Effectiveness (2005 $/lb.)	High End of Range Loss-of-Use & Fee Costs (2005 $)	High End of Range Cost Effectiveness (2005 $/lb.)
2011	0.25664	1	$854,223	$4.56	$986,870	$5.27
2012	0.24815	1	$902,584	$4.98	$1,039,496	$5.74
2013	0.22521	1	$902,584	$5.49	$1,039,496	$6.32
2014	0.20246	1	$902,584	$6.11	$1,039,496	$7.03
2015	0.24459	1	$1,612,525	$9.03	$1,781,537	$9.98
2016	0.34055	1	$1,537,394	$6.18	$1,768,485	$7.11
2017	0.32251	1	$1,638,783	$6.96	$1,876,271	$7.97
2018	0.30215	1	$1,691,182	$7.67	$1,932,915	$8.76
2019	0.27918	1	$1,696,527	$8.32	$1,938,879	$9.51
2020	0.25445	1	$1,620,644	$8.72	$1,862,996	$10.03
2021	0.22779	1	$1,611,034	$9.69	$1,853,386	**$11.15**
2022	0.20240	1	$689,954	$4.67	$932,306	$6.31
2023	0.17936	1	$410,016	$3.13	$652,368	$4.98
2024	0.15880	1	$189,020	$1.63	$431,372	$3.72
2025	0.14095	1	$87,215	$0.85	$329,567	$3.20
2026	0.12448	1	$34,543	$0.38	$276,895	$3.05
2027	0.10978	1	$29,172	**$0.36**	$271,524	$3.39

For NOx:

Year	Emission Benefits (tpd)	Not Used	Low End of Range Loss-of-Use Engine Costs (2005 $)	Low End of Range Cost Effectiveness (2005 $/lb.)	High End of Range Loss-of-Use Engine Costs (2005 $)	High End of Range Cost Effectiveness (2005 $/lb.)
2011	4.39639	1	$854,223	$0.2662	$986,870	$0.31
2012	4.21205	1	$902,584	$0.2935	$1,039,496	$0.34
2013	3.85754	1	$902,584	$0.3205	$1,039,496	$0.37
2014	3.51092	1	$902,584	$0.3522	$1,039,496	$0.41
2015	4.34782	1	$1,612,525	$0.5081	$1,781,537	$0.56
2016	5.61729	1	$1,537,394	$0.3749	$1,768,485	$0.43
2017	5.34573	1	$1,638,783	$0.4199	$1,876,271	$0.48
2018	5.03513	1	$1,691,182	$0.4601	$1,932,915	$0.53
2019	4.69737	1	$1,696,527	$0.4947	$1,938,879	$0.57
2020	4.25861	1	$1,620,644	$0.5213	$1,862,996	$0.60
2021	3.80522	1	$1,611,034	$0.5800	$1,853,386	**$0.67**
2022	3.37838	1	$689,954	$0.2798	$932,306	$0.38
2023	2.98789	1	$410,016	$0.1880	$652,368	$0.30
2024	2.64261	1	$189,020	$0.0980	$431,372	$0.22
2025	2.34319	1	$87,215	$0.0510	$329,567	$0.19
2026	2.06553	1	$34,543	$0.0229	$276,895	$0.18
2027	1.81746	1	$29,172	**$0.0220**	$271,524	$0.20

2028	0.09696	1	$29,172	$0.41	$271,524	$3.84
2029	0.08572	1	$29,172	$0.47	$271,524	$4.34
Total:	4.00213	Avg.:	$6	/lb. DPM		

[b] cost effectiveness not calculated for this year due to zero loss-of-use engine costs

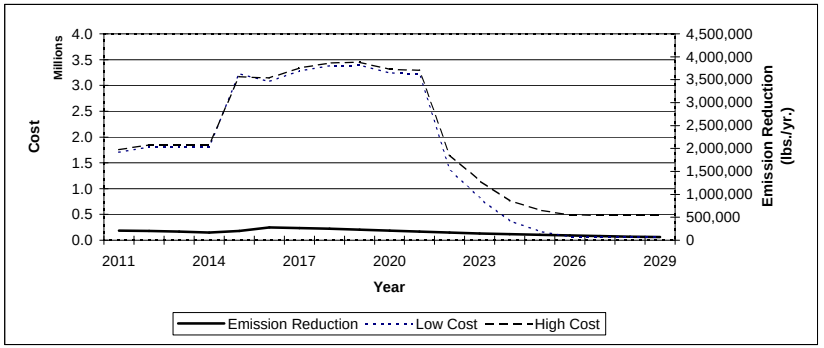
2028	1.60027	1	$29,172	$0.0250	$271,524	$0.23
2029	1.40811	1	$29,172	$0.0284	$271,524	$0.26
Total:	67.33	Avg.:	$0.33	/lb. Nox		

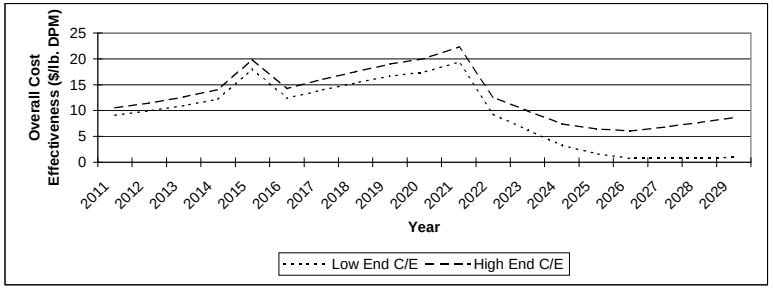
[b] cost effectiveness not calculated for this year due to zero loss-of-use engine costs

3) Overall Cost Effectiveness for DPM

Year	Emission Benefits [a] (tpd)	Not Used	Emission Benefits (lbs./year)	Low End of Range Loss-of-Use & Fee Costs (2005 $)	Low End of Range Cost Effectiveness (2005 $/lb.)	High End of Range Loss-of-Use & Fee Costs (2005 $)	High End of Range Cost Effectiveness (2005 $/lb.)
2008			0	$487,780		$633,270	
2009			0	$87,464		$249,975	
2010			0	$87,464		$249,975	
2011	0.25664	1	187,347	$1,708,446	$9.12	$1,973,739	$10.54
2012	0.24815	1	181,150	$1,805,168	$9.97	$2,078,993	$11.48
2013	0.22521	1	164,403	$1,805,168	$10.98	$2,078,993	$12.65
2014	0.20246	1	147,796	$1,805,168	$12.21	$2,078,993	$14.07
2015	0.24459	1	178,551	$3,225,051	$18.06	$3,563,075	$19.96
2016	0.34055	1	**248,602**	$3,074,788	$12.37	$3,536,970	$14.23
2017	0.32251	1	235,432	$3,277,566	$13.92	$3,752,542	$15.94
2018	0.30215	1	220,570	$3,382,365	$15.33	$3,865,831	$17.53
2019	0.27918	1	203,801	$3,393,055	$16.65	$3,877,759	$19.03
2020	0.25445	1	185,749	$3,241,288	$17.45	$3,725,992	$20.06
2021	0.22779	1	166,287	$3,222,069	$19.38	$3,706,773	**$22.29**
2022	0.20240	1	147,752	$1,379,908	$9.34	$1,864,612	$12.62
2023	0.17936	1	130,933	$820,031	$6.26	$1,304,735	$9.96
2024	0.15880	1	115,924	$378,041	$3.26	$862,745	$7.44
2025	0.14095	1	102,894	$174,431	$1.70	$659,135	$6.41
2026	0.12448	1	90,870	$69,086	$0.76	$553,790	$6.09
2027	0.10978	1	80,139	$58,344	**$0.73**	$543,048	$6.78
2028	0.09696	1	70,781	$58,344	$0.82	$543,048	$7.67
2029	0.08572	1	**62,576**	$58,344	$0.93	$543,048	$8.68
Overall	**4.00**	1	**2,921,555**	**$33,599,367**		**$42,247,039**	
Average C/E:		$11.12	/lb. DPM (for period from 2011 to 2029)				

[a] from ARB PTSD 8/15/2006 report





4) Cost Effectiveness Calculation for Alternative #2

For Alternative #2 (100% Replacement w/ Electric Motors):

For PM:

Note: In this example, annual costs include capital, maintenance, & operation.
Assumed 96 percent reduction in emissions for this scenario.

Year	Baseline Emissions (tpd)	Adj. Em. Red. (tpd)	Low End of Range - Annual Cost (2005 $)	High End of Range - Annual Cost (2005 $)	Low End of Range - Cost Effectiveness (2005 $/lb.)	High End of Range - Cost Effectiveness (2005 $/lb.)
2011	1.307083	1.254799	$12,824,531	$12,824,531	**$14.00**	$14.00
2012	1.267662	1.216955	$13,209,463	$13,209,463	$14.87	$14.87
2013	1.226530	1.177469	$13,209,463	$13,209,463	$15.37	$15.37
2014	1.183932	1.136575	$13,209,463	$13,209,463	$15.92	$15.92
2015	1.140861	1.095227	$24,446,876	$24,446,876	$30.58	$30.58
2016	1.099738	1.055748	$34,541,556	$34,541,556	$44.82	$44.82
2017	1.060355	1.017941	$36,028,949	$36,028,949	$48.48	$48.48
2018	1.019006	0.978246	$36,659,250	$36,659,250	$51.33	$51.33
2019	0.975904	0.936868	$36,707,367	$36,707,367	$53.67	$53.67
2020	0.928595	0.891451	$36,707,367	$36,707,367	$56.41	$56.41
2021	0.877051	0.841969	$36,707,367	$36,707,367	$59.72	$59.72
2022	0.827918	0.794801	$36,707,367	$36,707,367	$63.27	$63.27
2023	0.783684	0.752337	$36,707,367	$36,707,367	$66.84	$66.84
2024	0.744623	0.714838	$36,707,367	$36,707,367	$70.34	$70.34
2025	0.711195	0.682748	$36,707,367	$36,707,367	$73.65	$73.65
2026	0.680175	0.652968	$36,707,367	$36,707,367	$77.01	$77.01
2027	0.652192	0.626104	$36,707,367	$36,707,367	$80.31	$80.31
2028	0.626865	0.601790	$36,707,367	$36,707,367	$83.56	$83.56
2029	0.603611	0.579467	$36,707,367	$36,707,367	$86.78	**$86.78**

"Per-Engine Costs" worksheet

8/31/2006

This worksheet calculates the per-engine costs for each affected engine size (hp) category and subcategory (emission level tier.)

High/Low values per group are in **bold**.

Loss of Use & Air District Fees								Loss of Use Plus Air District Fees					
	Loss of Use			Range of Air District Fees*				One-Time Cost Plus		Annualized Cost Plus		Annualized Cost Plus	
	One-Time	Annualized	Amort.	Initial		Annual (renewal)		Initial District Fees		Initial District Fees		Annual District Fees	
Engine HP/Tier Category (year)**	Cost	Cost	Period (yrs)	Low	High	Low	High	Low	High	Low	High	Low	High
50 - 74 hp													
Tier 0 (2012)	**$6,700**	**$1,889**	4	$145	$190	$26	$242	**$6,845**	**$6,890**	**$2,034**	**$2,079**	**$1,915**	**$2,131**
Tier 1 (2016)	$7,000	**$1,210**	7	$145	$190	$26	$242	$7,145	$7,190	**$1,355**	**$1,400**	**$1,236**	**$1,452**
Tier 2 (2016)	$8,000	$1,238	8	$145	$190	$26	$242	$8,145	$8,190	$1,383	$1,428	$1,264	$1,480
Tier 2 (2017)	$8,000	$1,238	8	$145	$190	$26	$242	$8,145	$8,190	$1,383	$1,428	$1,264	$1,480
Tier 2 (2018)	$8,000	$1,238	8	$145	$190	$26	$242	$8,145	$8,190	$1,383	$1,428	$1,264	$1,480
Tier 2 (2019)	**$8,000**	$1,238	8	$145	$190	$26	$242	**$8,145**	**$8,190**	$1,383	$1,428	$1,264	$1,480
75 - 99 hp													
Tier 0 (2012)	**$4,145**	**$1,169**	4	$145	$190	$26	$242	**$4,290**	**$4,335**	**$1,314**	**$1,359**	**$1,195**	**$1,411**
Tier 1 (2016)	$8,190	$1,415	7	$145	$190	$26	$242	$8,335	$8,380	$1,560	$1,605	$1,441	$1,657
Tier 2 (2016)	$9,360	$1,448	8	$145	$190	$26	$242	$9,505	$9,550	$1,593	$1,638	$1,474	$1,690
Tier 2 (2017)	$9,360	$1,448	8	$145	$190	$26	$242	$9,505	$9,550	$1,593	$1,638	$1,474	$1,690
Tier 2 (2018)	$9,360	$1,448	8	$145	$190	$26	$242	$9,505	$9,550	$1,593	$1,638	$1,474	$1,690
Tier 2 (2019)	**$9,360**	**$1,448**	8	$145	$190	$26	$242	**$9,505**	**$9,550**	**$1,593**	**$1,638**	**$1,474**	**$1,690**
100 - 174 hp													
Tier 0 (2011)	**$7,800**	**$1,802**	5	$145	$190	$26	$242	**$7,945**	**$7,990**	**$1,947**	**$1,992**	**$1,828**	**$2,044**
Tier 1 (2016)	$9,360	$1,844	6	$145	$190	$26	$242	$9,505	$9,550	$1,989	$2,034	$1,870	$2,086
Tier 2 (2016)	$12,480	$1,931	8	$145	$190	$26	$242	$12,625	$12,670	$2,076	$2,121	$1,957	$2,173
Tier 2 (2017)	$12,480	$1,931	8	$145	$190	$26	$242	$12,625	$12,670	$2,076	$2,121	$1,957	$2,173
Tier 2 (2018)	**$12,480**	**$1,931**	8	$145	$190	$26	$242	**$12,625**	**$12,670**	**$2,076**	**$2,121**	**$1,957**	**$2,173**
175 - 299 hp													
Tier 0 (2011)	**$11,100**	**$2,564**	5	$145	$190	$26	$242	**$11,245**	**$11,290**	**$2,709**	**$2,754**	**$2,590**	**$2,806**
Tier 1 (2015)	$17,760	**$3,069**	7	$145	$190	$26	$242	$17,905	$17,950	**$3,214**	**$3,259**	**$3,095**	**$3,311**
Tier 2 (2015)	$17,760	$2,747	8	$145	$190	$26	$242	$17,905	$17,950	$2,892	$2,937	$2,773	$2,989
Tier 2 (2016)	$17,760	$2,747	8	$145	$190	$26	$242	$17,905	$17,950	$2,892	$2,937	$2,773	$2,989
Tier 2 (2017)	**$17,760**	$2,747	8	$145	$190	$26	$242	**$17,905**	**$17,950**	$2,892	$2,937	$2,773	$2,989
300 - 599 hp													
Tier 0 (2011)	**$16,425**	**$3,794**	5	$145	$190	$26	$242	**$16,570**	**$16,615**	**$3,939**	**$3,984**	**$3,820**	**$4,036**
Tier 1 (2015)	$16,425	$3,794	5	$145	$190	$26	$242	$16,570	$16,615	$3,939	$3,984	$3,820	$4,036
Tier 2 (2015)	$26,280	$4,066	8	$145	$190	$26	$242	$26,425	$26,470	$4,211	$4,256	$4,092	$4,308
Tier 2 (2016)	$26,280	$4,066	8	$145	$190	$26	$242	$26,425	$26,470	$4,211	$4,256	$4,092	$4,308
Tier 2 (2017)	**$26,280**	**$4,066**	8	$145	$190	$26	$242	**$26,425**	**$26,470**	**$4,211**	**$4,256**	**$4,092**	**$4,308**
600 - 750 hp													
Tier 0 (2011)	**$20,325**	**$4,695**	5	$145	$190	$26	$242	**$20,470**	**$20,515**	**$4,840**	**$4,885**	**$4,721**	**$4,937**
Tier 1 (2015)	$24,390	$4,805	6	$145	$190	$26	$242	$24,535	$24,580	$4,950	$4,995	$4,831	$5,047
Tier 2 (2015)	$32,520	$5,031	8	$145	$190	$26	$242	$32,665	$32,710	$5,176	$5,221	$5,057	$5,273
Tier 2 (2016)	$32,520	$5,031	8	$145	$190	$26	$242	$32,665	$32,710	$5,176	$5,221	$5,057	$5,273
Tier 2 (2017)	**$32,520**	**$5,031**	8	$145	$190	$26	$242	**$32,665**	**$32,710**	**$5,176**	**$5,221**	**$5,057**	**$5,273**
Greater Than 750 hp													
Tier 0 (2015)	**$21,506**	**$21,506**	1	$145	$190	$26	$242	**$21,651**	**$21,696**	**$21,651**	**$21,696**	**$21,532**	**$21,748**
Tier 1 (2015)	$172,050	$26,616	8	$145	$190	$26	$242	$172,195	$172,240	$26,761	$26,806	$26,642	$26,858
Tier 1 (2016)	$172,050	$26,616	8	$145	$190	$26	$242	$172,195	$172,240	$26,761	$26,806	$26,642	$26,858
Tier 1 (2017)	$172,050	$26,616	8	$145	$190	$26	$242	$172,195	$172,240	$26,761	$26,806	$26,642	$26,858
Tier 2 (2018)	$172,050	$26,616	8	$145	$190	$26	$242	$172,195	$172,240	$26,761	$26,806	$26,642	$26,858
Tier 2 (2019)	$172,050	$26,616	8	$145	$190	$26	$242	$172,195	$172,240	$26,761	$26,806	$26,642	$26,858
Tier 2 (2020)	$172,050	$26,616	8	$145	$190	$26	$242	$172,195	$172,240	$26,761	$26,806	$26,642	$26,858
Tier 2 (2021)	$172,050	$26,616	8	$145	$190	$26	$242	$172,195	$172,240	$26,761	$26,806	$26,642	$26,858
Tier 2 (2022)	**$172,050**	**$26,616**	8	$145	$190	$26	$242	**$172,195**	**$172,240**	**$26,761**	**$26,806**	**$26,642**	**$26,858**

* Includes owner/operator time cost allowance (2hrs. X $50/hr. = $100) for initial application prep time only.

** This is the first full year after the compliance date for this engine catergory/Tier. Also the start of the cost amortization period for this category/Tier.