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# MASTER CONTROL STRATEGY LIST

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## Category

ID Control Strategy

## Non-road Sources

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### Advanced Technology Use/Research

- 478M Fuel alternatives for stationary equipment Pumps, generators, etc.
- 480M Electrification of rail switching yards
- 481M Lawnmower exchange Trade in old gas powered equipment for discounts on zero emission models

### Aircraft Operational Controls/Air Traffic Management

- 13M Measure 06 - Optimum flap retraction
- 99M Measure 01 - Require commercial airports to implement an alternative fuels plan governing tenants. Encourage electric ground support equipment and other alternative fuel vehicles
- 100M Measure 02 – Restrictions on use of GSE at certain times of day/week/season
- 101M Measure 03 – Use electric or cleaner technology APUs – gate electrification
- 102M Measure 04 – Use electric or cleaner technology APUs – preconditioned air
- 103M Measure 05 – Use electric or cleaner technology APUs – new APU design
- 104M Measure 06 – Single-engine taxi for aircraft
- 105M Measure 07 – Increased sharing of GSE
- 1M Measure 01 - CNS/ATM/Free flight
- 7M Measure 02 – Super 21 Aircraft fuel additive (ENTVA)
- 178M Measure 06 - Study air transport patterns in Texas
- 2M Measure 02 - Reduce ground delays and gate holds
- 3M Measure 03 - Slot control
- 4M Measure 04 - Ozone alert travel schedules
- 106M Measure 08 – GSE engine/unit retirement
- 6M Measure 01 - Ordering Lowest Emission Engines
- 12M Measure 05 - Reduced landing flap
- 8M Measure 01 - Aircraft towing
- 9M Measure 02 - De-icing operations
- 10M Measure 03 - Minimization of reverse thrust
- 11M Measure 04 - Reduced thrust takeoffs
- 5M Measure 05 - Aircraft movement control

### DFW Control Strategies

- 430M Accelerated Purchase of Tier II Locomotives Engines
- 443M Heavy-Duty Diesel Ozone Season Operating Restrictions  
*4 hour ban in AM during ozone season.*
- 428M Lawn and Garden Equipment - Phase II  
*EPA adopted Phase 2 requirements for spark-ignition nonroad handheld engines at or below 19 kilowatts in April 2000. The Phase 2 requirements are being phased-in between 2002 and 2007. Based on initial experience with the Phase 2 program for handheld engines, we are adopting several amendments intended to provide additional compliance flexibility to engine manufacturers to smooth the transition to the Phase 2 requirements. The amendments contain two revisions intended to increase flexibility in the averaging, banking, and trading program as it applies to handheld engines. First, the credit discounts and credit bonuses will be eliminated from the program. Second, manufacturers will be allowed to carry limited credit deficits during the phase-in period (through 2007) provided the deficits are made up within a set period of time. The amendments also contain minor changes to the certification requirements intended to help manufacturers respond in a more efficient manner to unexpected variations in the emission levels from production engines while still achieving the required emission objectives.*
- 429M Purchase of Tier III Diesel  
*Tier 3 heavy-duty diesel / off-highway diesel equipment - 4 counties*
- 460M Government Construction Incentives

## Category

# Non-road Sources

<u>ID</u>	<u>Control Strategy</u>
470M	Enhance Texas Emission Reduction Program (TERP)
433M	Recreational Marine Standards <i>(Evaporative emissions only)</i>
462M	Heavy Gasoline Equipment Fleets-9 Counties/California Large Spark Ignition (LSI) Engine Standards <i>The strategy for off-road large spark-ignition engines establishes exhaust emission limitations on engines 25 horsepower and greater for model year 2004 and subsequent engines.. Excluded from this category are engines less than 175 horsepower which are used in construction or farm equipment and vehicles.</i>
431M	Compression Ignition Standards for Vehicles and Equipment <i>Control of Emissions from New and In-Use Non-Road Compression-Ignition Engines. Standards for vehicles and equipment 40 CFR Part 89</i>
434M	Texas Emissions Reduction Program (TERP) <i>SB 5 Voluntary Incentive Program</i>
432M	Spark Ignition Standards for Vehicles and Equipment <i>Tier II standards for vehicles and equipment. This statewide rule places controls on non-road, large spark ignition engines. It requires manufacturers to ensure that all affected spark ignition engines are certified to California LSI standards.</i>
469M	Aftermarket Technology and Fuel Additive Research Program

## Episodic Programs

- 81M Measure 08 - Require 1/2 day construction schedules
- 80M Measure 07 - Ban activities such as 2-stroke engines
- 75M Measure 20 - Disincentives, such as fines if caught mowing during Ozone alerts

## Extended Vehicle Idling

- 1079M Limitations on idling of heavy duty vehicles - Construction equipment
- 1078M Limitations on idling of heavy duty vehicles - Locomotives

## Freight/Shipping

- 86M Measure 04 - NAFTA trucks. If goods are being shipped past a certain point along the border states, move the goods to rail before it reaches the border
- 85M Measure 03 - Better design of intermodal facilities to promote efficiency
- 84M Measure 02 - Use "clean trains" to ship goods into cities from surrounding break of bulk locations
- 83M Measure 01 - Development of technologies that make shipping more efficient

## Non-Road Programs

- 186M Measure 13 - Monitoring of newly manufactured engines
- 162M Measure 03 – Selective catalytic reduction (SCR) for locomotives
- 160M Measure 01 – Accelerate locomotive Tier 2 implementation
- 161M Measure 02 – Use liquefied natural gas (LNG) engines for locomotives
- 194M Measure 07 - Find applications where highway engines are or can be used, so 1998 or better 2004+ engines can be included into future estimates
- 559M Efficiency Improvements on In-Use Class 1 Rail Equipment (R11)  
*Class 1 railroads will need to identify and report on their programs of annual efficiency improvements starting in 2005.*
- 196M Measure 09 – Adoption of California Large (>25hp) Spark-Ignition Emission Standards
- 184M Measure 11 - Improve inventory of construction equipment. Log hours of actual equipment operation
- 195M Measure 08 - Accelerated purchase of "Blue Sky" engines (Tier 3)
- 193M Measure 06 - Accelerated equipment turnover; Tier 2 or Tier 3 nonroad engines only
- 192M Measure 05 - Aircraft emission standards
- 191M Measure 04 – Promote use of cleaner lawn and garden equipment such as lower-emission four-stroke and electric-powered equipment
- 190M Measure 03 - Share construction equipment resources across jurisdictions
- 189M Measure 02 - Alternative fueled equipment (const. Ag, etc)
- 187M Measure 14 - Water injection for diesel engines
- 185M Measure 12 - Tags to identify equipment as having clean emissions or not

**Category**

# Non-road Sources

**ID Control Strategy**

- 183M Measure 10 - Require construction specs to include the use of LEV equipment
- 182M Measure 01 – Operational controls (especially ozone alert days)
- 188M Measure 15 - Keep manufacturer warranties valid when performing equipment repairs and maintenance

**Standards/Regulations/Policies**

- 612M Control clauses for construction contract
- 98M Measure 09 – Change fuel chemistry (aircrafts)
- 89M Measure 11 - Reformulated fuels for off-road vehicles

**Vehicle Emission Reduction Programs**

- 165M Measure 03 – Selective catalytic reduction (SCR)
- 164M Measure 02 – Lean NOX catalyst
- 167M Measure 05 – Alternative fuel HDVs
- 166M Measure 04 – Market-based incentives to promote lower-emitting light-duty vehicles
- 163M Measure 01 – Early introduction of low-NOX engines

**Vehicle Use Limitations/Restrictions**

- 640M Replace gas golf carts w/electric
- 666M Gas powered/2cycle engine buyouts
- 664M No-mowing days
- 659M Grass cutting Public works will delay cutting grass till 6 pm on ozone action days
- 657M DriveMax programmable computer installed on diesel engines for tub grinders at mulching operations
- 656M Discourage Using Off Road Vehicles During High Ozone Alert Days. Possible legislative action
- 655M Use of APUs for locomotives operating Controls for locomotives are pre-empted by Federal law, but voluntary controls might have some success
- 649M Remote sensing of locomotives
- 641M Landscape ordinance - noresidential
- 639M Replace gas mowers w/electric
- 214M Measure 03 - Place work restrictions on the most polluting equipment. Allow low polluting equipment to work regular hours
- 648M Develop air quality best management practices (BMPs) Use BMPs to manage emissions from construction sites, construction vehicles & wind-blown dust

**Public Education, Outreach and Advertising**

- 587M Targeted Movie Theater Promotions  
*In past years, radio has been the media of choice to air ozone public service announcements. The 2003 ozone season was the second summer the RAQC took a different approach and ran slides in movie theaters throughout the region. The slide listed three thin*

**Standards/Regulations/Policies**

- 87M Measure 01 - Outlaw diesel
- 88M Measure 10 - Sign initiative to support EPA low sulfur program

**Vehicle Emission Reduction Programs**

- 633M Chip Reflash--regulation in heavy-duty diesel engines.  
*Low NOx software upgrade is computer programming for electronic control modules in certain heavy-duty diesel engines that reduces excess emissions of oxides of nitrogen (NOx). Owners of most 1993-1999 model year California registered heavy-duty diesel*

**Total 89**