



Memorandum

MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT

Reviewed by Wmm Date 10/10/08
General Manager

DATE: October 9, 2008
 TO: General Manager
 FROM: Equipment Maintenance Manager
 SUBJECT: Purchase of Emission Control Systems for Early Compliance Credits with Proposed AB 32 Regulations to Reduce Off-Road Vehicle Emissions.

RECOMMENDATION: Authorize General Manager to purchase Verified Diesel Emission Control Systems (VDECS) for early compliance credit with AB 32 emissions regulations at an estimated \$220,000. A total of \$220,000 for vehicle emission control devices is included in the Capital Outlay portion of the FY 2008/09 budget.

BACKGROUND

The FY 2008/09 budget includes the purchase of VDECS for seven District off-road vehicles. The emissions equipment would be installed prior to the March 2009 deadline in order to receive double compliance credits. Starting in early 2008, staff began to review the proposed regulations and developed three strategies to meet compliance requirements. These three strategies (attached) were reviewed by the District's ad hoc Finance Committee. Strategy #2, which involves early retrofit with VDECS for double horse power credits, was selected. This will allow the District to obtain continued compliance with AB 32 regulations by replacing equipment as it normally would if these regulations did not exist. This effectively allows the District to replace equipment within its normal life span as opposed to an accelerated schedule.

DISCUSSION

On October 1, 2008, the California Air Resources Board (CARB) released a deadline date, for guaranteed retrofit credit, of November 1, 2008. To receive guaranteed early retrofit credit, this deadline requires that the VDECS device be installed by March 1, 2009. For manufacturers to be able to meet this deadline, orders must be placed with them by November 1, 2008. Certain opacity/emissions measurements are required from each engine for the VDECS manufacturer to recommend systems for each individual machine. Delays have occurred with the District's emissions testing vendor, in part due to difficulties in responding on short notice to state testing requirements with equipment and guidelines for testing. The test results are needed in order for staff to make final equipment selections. Staff anticipates a recommendation from Huss, the VDECS manufacturer, by October 13, 2008, and will request quotes from Pacific Truck Parts of Salinas (who has worked closely with the District), Quinn Company of Salinas, and Pape Machinery of Gilroy. Information for Board action will not be completed by staff by the October 17, 2008 Board meeting date. Therefore staff is requesting that General Manager be authorized to make the final purchase of the VDECS system.

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Alternatives. If the purchase is delayed beyond November 1st, the District may not be able to take advantage of the guaranteed early retrofit credit should the manufacturer be unable to deliver and install the VDECS devices by March 1, 2009. If the District is unable to take advantage of the credits, staff will need to construct a new strategy, similar to strategy #3, which would involve intensive capital investment over the next several years in order to bring equipment to required compliance.

CONCLUSION

It will be in the District's best interest to place our VDECS order by the deadline date of November 1, 2008 in order to guarantee the double retrofit credits, should shortages occur of VDECS from manufacturers.



Ron Mooneyham

Attachments

STRATEGY #1

CARB Calculator Summary DPF

This strategy assumes DPF for engines above 300HP will become available by the end of 2008. Should DPF for 300HP not become available by the end of 2008 Strategies #2 & #3 will have to be considered. Projections for replacement of off-road equipment were made based on 2007 usage. The below summary shows a strategy of installing particulate devices early to obtain double credit that carries over from year to year and allows more manageable equipment turnover with the use of a calculator dated February 2008 pulled from the ARB website. The calculator has been populated along with a summary for each FYB to project the activities needing to be done to achieve required compliance levels.

- 1. FYB 2008/09 - Compliance year 2009 Complete By March 2009:**
 - MR15 544H Wheel Loader replace new - \$200,000.
 - MR20 230CLC Excavator Level 2 DPF - \$50,000.
 - MR27 938G Wheel Loader DOFF - \$35,000.
 - SI12 670 Grader Level 2 DPF - \$35,000.
 - LF02 627G Scraper Rear engine Level 2 DPF - \$50,000.
 - LF17 627G Scraper Rear engine DPF - \$50,000.
 - LF02 627G Scraper Front engine Level 2 DPF - \$50,000.
 - LF17 627G Scraper Front engine DPF - \$50,000.
 - LF22 836H Compactor DPF - \$50,000.
 - LF16 D9T Dozer DPF - \$50,000.

- 2. FYB 2009/10 - Compliance year 2010 Complete By March 2010:**
 - MR05 DP40 Forklift replace new with other fuel type - \$55,000.
 - MR09 315L Excavator replace new - \$280,000.
 - MR26 Man-lift replace new with other fuel type - \$70,000.

- 3. FYB 2010/11 - Compliance year 2011 Complete By March 2011:**
 - MR08 230LC Excavator replace new - \$280,000.

- 4. FYB 2011/12 - Compliance year 2012 Complete By March 2012:**
 - SI18 D25C Water tanker replace new with truck chassis style - \$160,000.
 - SI26 744H Wheel Loader replace new - \$350,000.
 - LF12 740 Dump truck DPF - \$50,000.

- 5. FYB 2012/13 - Compliance year 2013 Complete By March 2013:**
 - LF10 D9R Dozer replace new - \$1,000,000.
 - MR17 544H Wheel Loader replace new - \$200,000.
 - SI29 Scarab compost flail replace new - \$250,000 (estimate).

- 6. FYB 2013/14 - Compliance year 2014 Complete By March 2014:**
 - MR06 DP45 Forklift replace new other fuel type - \$55,000.
 - MR27 938G Wheel Loader replace new - \$300,000.

- 7. FYB 2014/15 - Compliance year 2015 Complete By March 2015:**
 - LF11 836G Compactor replace new - \$1,400,000.

8. **FYB 2015/16 - Compliance year 2016 Complete By 2016:**
 - LF16 D9T Dozer replace new - \$1,100,000.
 - SI20 214L JCB Backhoe replace new - \$180,000.
 - LF13 966F Wheel Loader replace new - \$375,000.

9. **FYB 2016/17 - Compliance year 2017 Complete By March 2017:**
 - LF06 D6R Dozer replace new - \$600,000.
 - LC09 Lift King forklift replace new other fuel type - \$55,000.

10. **FYB 2017/18 - Compliance year 2018 Complete by March 2018:**
 - MR20 230CLC Excavator replace new - \$300,000.
 - LF09 D8R replace new - \$900,000.
 - SH09 Shop forklift replace new other fuel type - \$55,000.

11. **FYB 2018/19 - Compliance year 2019 Complete By March 2019:**
 - LF02 627G Scraper replace new - \$700,000.

12. **FYB 2019/20 - Compliance year 2020 Complete By March 2020:**
 - SI12 670C Grader replace new \$300,000.
 - LF17 627G Scraper replace new \$700,000.

13. **FYB 2020/21 - Compliance year 2021:**
 - None during this year

Retire

LF05 836C in 2007

MR16 744H in 2009

MR04 409 JCB in By 3-2020

Exempt by usage

MR14 Sweeper

SI24 Cat roller

STRATEGY #2

CARB Calculator Summary DPF

Strategy #2 assumes DPF devices for 300HP and above will not become available by March 2009. Projections for replacement of off-road equipment were made based on 2007 usage. The below summary shows a strategy of installing particulate devices on engines under 300HP early to obtain double credit that carries over from year to year and allows more manageable equipment turnover with the use of a calculator dated February 2008 pulled from the ARB website. The calculator has been populated along with a summary for each FYB to project the activities needing to be done to achieve required compliance levels.

1. FYB 2008/09 - Compliance year 2009 Complete By March 2009:

- MR15 544H Wheel Loader replace new - \$200,000.
- MR20 230CLC Excavator Level 2 DPF - \$50,000.
- MR27 938G Wheel Loader DPF - \$45,000.
- SI12 670 Grader Level 3 DPF - \$45,000.
- LF02 627G Scraper Rear engine Level 3 DPF - \$50,000.
- LF17 627G Scraper Rear engine DPF - \$50,000.
- SI29 Scarab DPF - \$50,000.

2. FYB 2009/10 - Compliance year 2010 Complete By March 2010:

- MR05 DP40 Forklift replace new with other fuel type - \$55,000.
- MR09 315L Excavator replace new - \$280,000.
- MR26 Man-lift replace new with other fuel type - \$70,000.

3. FYB 2010/11 - Compliance year 2011 Complete By March 2011:

- MR08 230LC Excavator replace new - \$280,000.
- LF22 836H Compactor DPF - \$50,000.
- LF16 D9T Dozer DPF - \$50,000.

4. FYB 2011/12 - Compliance year 2012 Complete By March 2012:

- SI18 D25C Water tanker replace new with truck chassis style - \$160,000.
- SI26 744H Wheel Loader replace new - \$350,000.
- LF12 740 Dump truck DPF - \$50,000.
- LF02 627G Scraper Front engine Level 2 DPF - \$50,000.

5. FYB 2012/13 - Compliance year 2013 Complete By March 2013:

- LF10 D9R Dozer replace new - \$1,000,000.
- MR17 544H Wheel Loader replace new - \$200,000.
- LF17 627G Scraper Front engine DPF - \$50,000.

6. FYB 2013/14 - Compliance year 2014 Complete By March 2014:

- MR06 DP45 Forklift replace new other fuel type - \$55,000.
- MR27 938G Wheel Loader replace new - \$300,000.
- SI29 Scarab compost flail replace new other fuel type - \$250,000 (estimate).
- LF18 6415 Ag Tractor DPF - \$35,000.

7. **FYB 2014/15 - Compliance year 2015 Complete By March 2015:**
 - LF11 836G Compactor replace new \$ 1,400,000.
8. **FYB 2015/16 - Compliance year 2016 Complete By March 2016:**
 - LF16 D9T Dozer replace new \$1,100,000.
 - SI20 214L JCB Backhoe replace new \$180,000.
 - LF13 966F Wheel Loader replace new \$375,000.
9. **FYB 2016/17 - Compliance year 2017 Complete By March 2017:**
 - LF06 D6R Dozer replace new \$600,000.
10. **FYB 2017/18 - Compliance year 2018 Complete By March 2018:**
 - LC09 Lift King forklift replace new other fuel type \$55,000.
 - MR20 230CLC Excavator replace new \$300,000.
 - LF09 D8R replace new \$900,000.
11. **FYB 2018/19 - Compliance year 2019:**
 - None during this year
12. **FYB 2019/20 - Compliance year 2020:**
 - SI12 670C Grader replace new \$300,000.
 - LF02 627G Scraper replace new \$700,000.
 - SH09 Shop forklift replace new other fuel type \$55,000.
13. **FYB 2020/21 - Compliance year 2021:**
 - LF17 627G Scraper replace new \$700,000.

Retire

LF05 836C in 2007

MR16 744H in 2009

MR04 409 JCB in By 3-2020

Exempt by usage

MR14 Sweeper

SI24 Cat roller

STRATEGY #3

Complete Turnover Calculator Summary

Projections for replacement of off-road equipment were made based on 2007 usage. The below summary shows the minimum of what will need to be done to meet CARB regulations with the use of a calculator dated February 2008 pulled from the CARB website. The proposed regulation is not final and is still subject to change. Below is a possible flow of activities related to the upcoming CARB regulation requirements as understood to date. Due to current limited knowledge of particulate devices, temperatures they potentially reach, and availability, this projection follows replacement of equipment instead of retrofitting.

- 1. FYB 2008/09 - Compliance year 2009 Complete By March 2009:**
 - MR05 DP40 Forklift replace new with other fuel type - \$55,000.
 - MR15 544H Wheel Loader replace new - \$225,000.

- 2. FYB 2009/10 - Compliance year 2010 Complete By March 2010:**
 - LF09 D8R Dozer replace new - \$900,000.
 - MR09 315L Excavator replace new - \$280,000.
 - LF13 966F Wheel Loader replace new - \$350,000.
 - MR26 Man-lift replace new with other fuel type - \$70,000.
 - MR06 DP45 Forklift replace new other fuel type - \$55,000.

- 3. FYB 2010/11 - Compliance year 2011 Complete By March 2011:**
 - MR08 230LC Excavator replace new - \$280,000.

- 4. FYB 2011/12 - Compliance year 2012 Complete By March 2012:**
 - MR27 938G Wheel Loader replace new - \$325,000.
 - SI26 744H Wheel Loader replace new - \$350,000.
 - LF10 D9R Dozer replace new - \$900,000.
 - MR17 544H Wheel Loader replace new - \$275,000.

- 5. FYB 2012/13 - Compliance year 2013:**
 - None during this year

- 6. FYB 2013/14 - Compliance year 2014 Complete By March 2014:**
 - SI18 D25C Water Tanker replace with new water truck style - \$160,000.
 - SI29 Scarab compost flail replace new other fuel type - \$250,000 (estimate).
 - LF11 836G Compactor replace new - \$1,200,000.
 - SI20 214L JCB Backhoe replace new - \$180,000.
 - LC09 Lift King forklift replace new other fuel type - \$55,000.

- 7. FYB 2014/15 - Compliance year 2015 Complete By March 2015:**
 - LF16 D9T Dozer replace new - \$1,000,000.

- 8. FYB 2015/16 - Compliance year 2016 Complete By March 2016:**
 - LF18 6415 Ag Tractor replace new - \$50,000.
 - SH09 Shop forklift replace new other fuel type - \$55,000.
 - LF06 D6R Dozer replace new - \$600,000.

9. **FYB 2016/17 - Compliance year 2017 Complete By March 2017:**
 - MR20 230CLC Excavator replace new - \$300,000.

10. **FYB 2017/18 - Compliance year 2018 Complete By March 2018:**
 - LF12 740 Heavy Dump Truck replace new - \$600,000.
 - SI12 670C Grader replace new - \$300,000.

11. **FYB 2018/19 - Compliance year 2019 Complete By March 2019:**
 - LF22 836H Compactor replace new late 2019 - \$1,400,000.

12. **FYB 2019/20 - Compliance year 2020:**
 - LF02 627G Scraper replace new - \$700,000.
 - LF17 627G Scraper replace new - \$700,000.

13. **FYB 2020/21 - Compliance year 2021:**
 - All machines in compliance

Retire

LF05 836C in 2007

MR16 744H in 2009

MR04 409 JCB in 2010

Exempt by usage

MR14 Sweeper

SI24 Cat roller