

#### County of Santa Cruz

#### OFFICE OF THE AGRICULTURAL, COMMISSIONER

#### DAVID W. MOELLER

AGRICULTURAL COMMISSIONER SEALER OF WEIGHTS AND MEASURES DIRECTOR, MOSQUITO AND VECTOR CONTROI

July 21, 1999

Agenda: August 3.1999

BOARD OF SUPERVISORS
County of Santa Cruz
70 L Ocean Street
Santa Cruz, CA 95060

Resolution Supporting Sponsorship of the Application for Funds from the AB2766 Motor vehicle Emission Reduction Grant Program for Low Pollution Agricultural Engines

**Dear** Members of the Board:

On June 23, 1998, your Board approved the Agricultural Commissioner's participation as sponsor of a grant application for funds appropriated by AB 2766 (California Motor Vehicle Emission Reduction Program) which are distributed annually through the Monterey Bay Unified Air Pollution ControlDistrict (APCD) for local projects that will contribute towards the reduction of air pollutants. As you will recall, the grant proposal we sponsored — a project developed by Ryerson, Master and Associates (RMA) of Santa Barbara to implement a 2-year program to reduce emissions from agricultural engines — was approved by the APCD Board last year, a grant award of \$83,000 was received, and the necessary operational agreements and contract have recently been signed and the project is about to be launched.

This year RMA submitted another grant application proposal to the APCD for \$75,438 of FY 1999-2000 AB 2766 funds to supplement and extend until February 2002 our current low pollution agricultural engine project so that additional engines can be converted to low pollution technology. This proposal is virtually identical to the one your Board supported and approved our participation in astyear, only the dollar amount has changed.

The APCD has just released their summary and draft evaluations of FY 1999-2000 AI32766 grant applications which they received for this year's grant program. Of the forty-two applications summitted, ours has the best cost effectiveness rating (expressed in dollars per ton of emissions rediced)

The APCD Board of Directors is currently scheduled to meet on August 18, 1999 to review all applications for AB 2766 funds and make final decisions on funding allocations. We believe your Board again expressing its support of our project by adopting a resolution to that effect will significantly improve our chances of success to receive additional funding for our engine modification demonstration project.

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Resolution Supporting Sponsorship of AB2766 Grant Application July 21, 1999

Page 2 Agenda: August 3, 1999

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It is therefore RECOMMENDED that your Board adopt a resolution supporting the Agricultural Commissioner's sponsorship of a grant application for additional funds from the FY 1999-2000 AB 2766 Motor Vehicle Emission Reduction Grant Program for Low Pollution Agricultural Engines and upon an award of such grant authorizing the Santa Cruz County Agricultural Commissioner to commence negotiations with the Monterey Bay Air Pollution Control District for a grant agreement and for operational agreements and contract to carry out the Demonstration Project.

Sincerely,

David W. Moeller

Agricultural Commissioner

Approved:

SUSAN) A MAGRIELLO COUNTY ADMINISTRATIVE OFFICER

Attachments:

Grant Application Resolution

Ryerson, Master and Associates, Inc. Santa Cruz County Farm Bureau

#### BEFORE THE BOARD OF SUPERVISORS OF THE COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA

#### RESOLUTION NO.

On the motion of Supervisor duly seconded by Supervisor the following resolution is adopted

## RESOLUTION SUPPORTING SPONSORSHIP OF THE APPLICATION FOR FUNDS FROM THE AB 2766 MOTOR VEHICLE EMISSION REDUCTION GRANT PROGRAM FOR LOW POLLUTION AGRICULTURAL ENGINES

WHEREAS, Assembly Bill 2766 was passed by the California State Legislature and signed into law by the Governor in 1990 and is now part of the California Health and Safety Code, Sections 44220-44247; and

WHEREAS, AB 2766 authorizes air pollution control districts to use these registration surcharge fees to fund projects which reduce air **pollution** from motor vehicles and for related planning, monitoring, enforcement and technical studies that implement the California Clean Air Act of 1988, and

WHEREAS, the Monterey Bay Unified Air Pollution Control District will consider grant applications for such projects and Ryerson, Master and Associates; Inc. has applied for additional funds totaling \$75,438.00 to supplement an existing Santa Cruz County Demonstration Project (Low Pollution Agricultural Engines) in which Demonstration Project the Santa Cruz County Agricultural Commissioner will continue as grant recipient and Ryerson, Master and Associates as grant manager; and

WHEREAS, the Santa Cruz County Agricultural Commissioner advises that the Ryerson, Master and Associates, Inc. proposal to expand the Demonstration Project would increase the benefits to the local agricultural community;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF SUPERVISORS of the COUNTY OF SANTA CRUZ:

1. The Agricultural Commissioner is authorized on behalf of the County of Santa Cruz to sponsor the Ryerson, Master and Associates, Inc. grant application for additional funds as described above by informing the Monterey Bay United Air Pollution Control District Board of is endorsement thereof,

		ard of Supervisors of the County of Santa Cruz, 1999 by the following vote:
AYES:: NOES: ABSENT: ABSTAIN:	SUPERVISORS SUPERVISORS SUPERVISORS SUPERVISORS	
		Chairman of the Board of Supervisors
ATTEST:	Clerk of the Board	
Approved as to	form: 2014W	
County Counsel	<del>-</del>	
DISTRIBUTION	N. County Counsel	

## MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT MOTOR VEHICLE EMISSIONS REDUCTION GRANT PROGRAM

## SANTA CRUZ COUNTY LOW POLLUTION AGRICULTURAL ENGINES

Grant Application Submitted By

## OFFICE OF THE AGRICULTURAL COMMISSIONER SANTA CRUZ COUNTY and RYERSON, MASTER AND ASSOCIATES, INC.

May 29, 1999

ubmitted To: Mr. Doug Quetin

Air Pollution Control Officer Monterey Bay Unified APCD

#### contacts:

Mr. William Master Ryerson, Master and Assoc. 735 State Street, #209 Santa Barbara, CA 93101 Ph. (805) 730-1338 Fax (805) 730-1341 Mr. David Moeller Agricultural Commissioner Santa Cruz County 175 Westridge Drive Watsonville, CA 95076 (831) 763-8080



#### County of Santa Cruz

#### OFFICE OF THE AGRICULTURAL COMMISSIONER

DAVID W. MOELLER
AGRICULTURAL COMMISSIONER
SEALER OF WEIGHTS AND MEASURIS
DIRECTOR, MOSQUITO AND VECTOR CONTROL

May 12, 1999

Mr. Douglas Quetin Air Pollution Control Officer Monterey Bay Unified APCD 24580 Silver Cloud Court Monterey, CA 93940

### Low **Pollution** Agricultural Engines Motor Vehicle Emissions Reduction Grant Program Application

Dear Doug:

The Santa Cruz County Agricultural Commissioner's Office is pleased to submit this grant request to reduce pollution from diesel engines used in agriculture and earth moving equipment. We ax-every excited about our ongoing project to reduce air pollution from these engines. We are requesting grant funds to expand the program to include additional engines.

This project will achieve real, quantifiable emission reductions, Older diesel engines will be converted using modem engine technology, which is less polluting and more energy efficient.

This demonstration project has the following advantages:

- Substantial pollution reduction will be achieved at low cost to the Motor Vehicle Emissions Reduction Grant Program
- Advanced technology will be demonstrated which can be used to **reduce** pollution from hundreds of other agricultural and earth moving vehicles operating in the air basin
- Agricultural industry costs will be reduced for the operation and maintenance of vehicles
- · Private industry development of low pollution technology will be stimulated

Thank you for your consideration of this application. Please contact me at 831-763-8080 or Bill Master at 805-730-1338 if you have any questions about this application.

Sincerely,

₿c:

David W. Moeller

Agricultural Commissioner

Bill Master - Ryerson, Master & Associates

175 WESTRIDGE DRIVE, WATSONVILLE, CALIFORNIA 95076 TELEPHONE (831) 763-8080 FAX (831) 763-8234

August 1999 District Board approval of Grant September 1999 Grant Agreement executed

Hebruary 2000 Start of project

March 2000 First group of engines selected for conversion

July 2000 Emission reductions begin

ebruary 2001 August 2001 Second group of engines selected for conversion

All engines conversions complete

#ebruary 2002 All grant funds expended

#### PROJECT COSTS

İ ij The project costs are described on the attached forms. Grant funds in the mount of \$75,438 will be used to accomplish these emission reductions. The everall cost effectiveness of the project is estimated at \$1980 per ton. The grant funds will be supplemented by substantial contributions from the equipment bwners toward the purchase, installation and operation of the low pollution equipment.

Ryerson, Master and Associates, Inc. (RMA) will manage the project for the Agricultural Commissioner's Office, and will be responsible for identifying the ngines for inclusion in the program, providing information to the engine owners In the range of qualifying technology and potential vendors, collecting the required engine data, and preparing the reports for the Air District. The Office of the Agricultural Commissioner will approve all engine conversions included in the project.

Quarterly invoices will be submitted to the Air District. The invoices will cover the costs specified in purchase orders executed during the quarter and RMA costs incurred during the quarter. To ensure the project proceeds smoothly, payment by the Air District within 30 days of receipt of the invoice is needed. This process will ensure that the required funds are available to pay for the engine conversions upon delivery. The applicants assume that the funding provisions contained in Attachment 2 of the prior Grant Acceptance Agreement (#99-42) will also apply to this project.

#### MONITORING PROGRAM

Monitoring data will be collected during the program, including approximate fuel use and maintenance data. A report describing the success of the project will be provided to the Air District at the end of the project.

#### **EMISSION CALCULATIONS**

otal emission reductions of 38.1 tons of pollution are anticipated from this project. This value represents the difference between the emissions from the existing diesel engines and the installation of low-pollution engines. The actual emission reductions could be substantially higher, depending on the total number of engines converted and the effectiveness of each engine conversion.

These emission reductions are based on calculations performed by Air District personnel which were the basis of the prior grant. In addition to the NOx reductions shown below, additional reductions in ROC and PM are anticipated. A greater level of NOx reductions may also be achieved as the baseline engine NOx values may be considerably higher based on Air District supplied default emission values.

Conversion of tractor and dozer engines:

Original Engine 12.0 g/bhp-hr NOx Converted Engine 6.5 g/bhp-hr NOx

Emissions Savings 5.5 g/bhp-hr NOx

Tons of Pollution Eliminated  $5.5 \text{ g/bhp-hr NOx} \times 140 \text{ Ave. hp} \times 15,000 \text{ hrs. } / 908,000 = 12.7 \text{ tons} 12.7 \text{ tons} \times 3 \text{ engines} = 38.1 \text{ tons}$ 

Total Cost Effectiveness:

\$75,438 / 38.1 tons = \$1980 per ton

A number of factors will affect the estimated amount of emission reductions achieved. These factors include the optimal engine technology, the size and lumber of engines converted, the average engine loads experienced, and the overall life of the engines.

A.    B.		<del>-</del> -		cultural Commissioner, County of Sa licable until erant is awarded	anta Cruz
<b>C.</b>	Budget:	Total Project Amo Current AB 2766		\$ 75,438 \$ 75,438	
<b>D.</b>	Project Title:	Santa Cruz County	Agricultural Engi	ne Conversions,	·
E.	Project Sched	ule: Start Date: Fe	b 28, 2000	End Date: Feb 26, 2002	
<b>F.</b> ;	Activities: De	escribe AB2766 <b>Gr</b>	ant funded proje	ect activities:	
	2: Engine sel	endors, collection of re	figuration, location	n of participants, location of	
Table $\mathit{Type}\ \mathit{op}$		Activity by Period	Year: <b>X</b> _		
Show o	nly A32766 gr	ant funds in the follo	owing table:		
	12st Per	iond d	Period Period	4th Period	
Activit 1. 2. 3. 4.	Ends 2 \$28,29 \$ 9,429 \$	0 \$28,290	Ends \$ \$ \$ \$ \$ \$ \$	Ends 6/30/ \$ \$	
Total	\$37,719	\$37,719	<u>\$</u>	\$	

Grantee may shift funding between periods as needed to meet project objectives.

Total Project Budget: G. 128 AB2766 Project Table G Other Other Grant Request Secured Funds Unsecured Total \$56,580 See note \$56,580 Equipment \$ See note \$ \$ Other capital \$18,858 1 Personnel Other operating Grant Administration \$ \$See\_note \$75,438 75.438 Total Status Notes Equipment includes all costs covered in equipment vendor purchase orders. Personnel includes all costs to be incurred by Ryerson, Master and Associates, Inc. Other secured funds: contributions are anticipated by engine operators to support the purchase, installation or operation of the low pollution engines. Status of Other Funding Sources: H. <u>S</u> <u>U</u> Funding Source Amount P Engine Owners / Operators \$Various 1. 2. 3. 4. 5. Total = Secured funds: Available by September 1, 1999 or guaranteed within FY 1999-2000. ■ Unsecured funds: To be applied for and availability unsure. = Previously nwarded AB 2766 funding available for this project. Monitoring Program: I. 12. Travel or other activity measurements to be collected: Engine hours operated (or fuel type and approximate amount consumed) Measure 1 Rated engine Bhp (SAE); make, model, year and serial number Measure 2 Engine maintenance and repair records Measure 3 Measure 4 Inspection, approximated fuel Type of Data Collection (Counts, surveys, logs, etc.) 13. densumption, engine repair records. Frequency and source of collection for each measure: All data will be collected and 14. reported for the "before" or baseline condition and after one year of operation. All data after

the year of operation will be collected and stored until project completion. All data will be made

available for inspection by District staff on request.

<b>J.</b>	Grantee Contacts:		00	
	Program or Project Manager	Requests for Reimbursement	29	
	Name: David Moeller Telephone: (831) 763-8080 Fax: (831) 763-8234 E-Mail:	Name: Same . Telephone: Fax: E-Mail:		
к.	Emissions and Cost Effectiveness Calculations:			
Leave	blank. Entries will be separately calculate	d by <b>District staff:</b>		
1.       2.	Useful Life of Project :       15,000         AB2766 Grant Request:       \$75,438	_ Engine hours on each converted engine		
3.       4.	Total Tons over Useful Life: 38.1  Cost Effectiveness \$ 1,980	Tons, Sum of NOx, ROG and PM,,, Request \$ / Total Tons average, all conversions		

## ATTACHMENT 1A - PROJECT NARRATIVE FY 1999-2000 AB 2766 Motor Vehicle Emissions Reduction Grant Program

Project Title Santa Cruz County Agricultural Engine Conversions

Grantee Agency Office of the Agricultural Commissioner, County of Santa Cruz

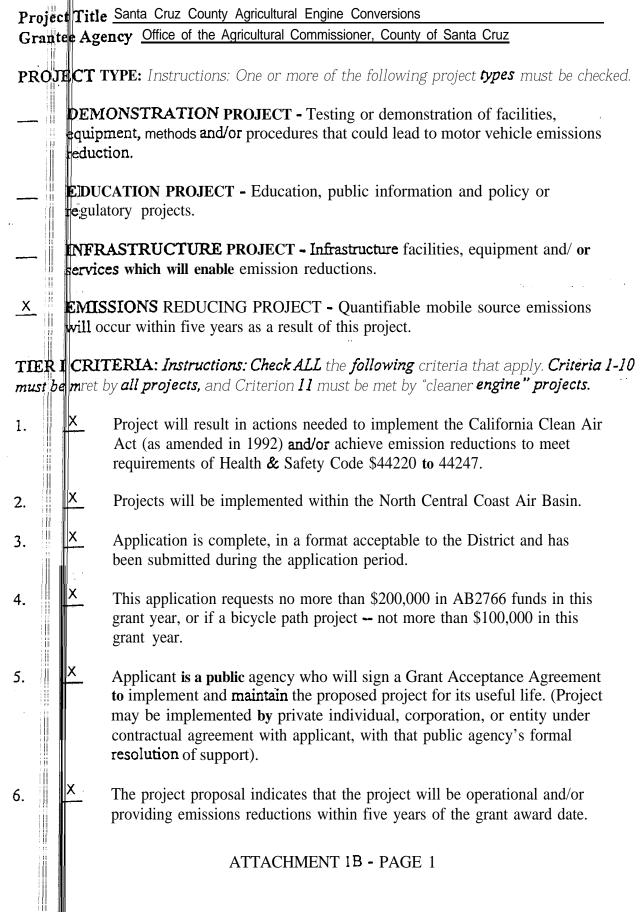
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Recent advances in technology provide the opportunity to substantially reduce air pollution from diesel engines. This project will demonstrate the application of advanced, low-pollution technology in diesel engines used in agricultural and earth moving equipment. Pollution reductions will be achieved through the use of the most cost effective combination of turbocharging, aftercooling, electronic controls, timing optimization, electrification, and alternative fuels. Installation of this technology will be achieved through engine retrolits, engine reppwers or replacement of old equipment with new equipment. The program may include a variety of agricultural and earth moving equipment, including tractors, harvesters and dozers.

Ryerson, Mater and Associates, Inc. (RMA) will manage the project for the Grantee, and will be responsible for identifying the engines for inclusion in the program, providing information to the engine owners on the range of qualifying technology and potential vendors, assembling the required engine data, and preparing the reports for the Air District. The Agricultural Commissioner's Office will approve all engine conversions included in the project. Invoices will be submitted to the Air District. The invoices will cover the costs specified in purchase orders and RMA costs incurred during the prior quarter.

#### ATTACHMENT 1B -PROGRAM CRITERIA CHECKLIST FY 1999-2000 AB 2766 Motor Vehicle Emissions Reduction Grant Program

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ATTACHMENT 1B - PAGE 1

ATTACHMENT 1B - PAGE 2

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#### **County of Santa Cruz**

#### OFFICE OF THE AGRICULTURAL COMMISSIONER

#### DAVID W. MOELLER

AGRICULTURAL COMMISSIONER SEALER OF WEIGHTS AND MEASURES DIRECTOR, MOSQUITO AND VECTOR CONTROL

July 21, 1999

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Sincerely

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David W. Moeller

Agricultural Commissioner

Approved:

SUSAN A. MAURIELLO COUNTY ADMINISTRATIVE OFFICER

Attachments:

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Grant Application Resolution

Ryerson, Master and Associates, Inc Santa Cruz County Farm Bureau

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	301	-	ne Santa Cruz County Agricultural Commissioner is Monterey Bay Unified Air Pollution Control
Ď	istrict and the f	irm of Ryerson, Master and A	Associates, Inc. for a grant agreement and for out the Demonstration Project.
	PASSED	AND ADOPTED by the Boa	ard of Supervisors of the County of Santa Cruz, 1999 by the following vote:
N	OES: BSENT:	SUPERVISORS SUPERVISORS SUPERVISORS SUPERVISORS	
A	BSTAIN:	SUPERVISORS	
		lerk of the Board	
: f::			Chairman of the Board of Supervisors
Δ	TTFST.		
	C	lerk of the Board	
	pproved as to f		
     	NE M. SCOT	Т	
	ssistant County		
F	ISTRIBUTION	V: County Counsel	
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