

Agenda Date: March 19, 2009  
Agenda Placement: Regular  
Estimated Time: 15 minutes  
Continued Item: No

## **Board Agenda Item**

**TO:** Air Pollution Control District Board

**FROM:** Terry Dressler, Air Pollution Control Officer

**CONTACT:** Rebecca Armstrong, Air Quality Engineer (961-8888)

**SUBJECT:** Control of Particulate Matter from Construction and Demolition Activities

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### **RECOMMENDATION:**

1. Receive a briefing on the feasibility and cost effectiveness of measures to control particulate matter from construction and demolition activities.
2. Direct the Control Officer to develop a new rule to control particulate matter from construction and demolition activities.

### **DISCUSSION:**

Under Senate Bill 656, passed in 2003, the California Air Resources Board (CARB) is required to reduce public exposure to airborne particulate matter. Specifically, CARB was required to develop and adopt, by January 1, 2005, a list of control measures that could be adopted by local air districts to reduce Particulate Matter (PM) pollution. Air Districts were then required to prioritize and adopt measures from CARB's list to make progress towards attainment of the state and federal particulate matter standards.

APCD staff performed an analysis to determine which of the CARB control measures should be selected for consideration. As Santa Barbara County's particulate problem was determined to be due to primarily PM<sub>10</sub>, this analysis focused on those measures which would control PM<sub>10</sub> (the County is non-attainment for the state PM<sub>10</sub> standard).

At the May 19, 2005 APCD Board Hearing, staff presented a list of the most readily available, feasible and cost-effective control measures that could reduce PM<sub>10</sub> emissions (see Attachment 1). Your Board then directed staff at the June 16, 2005 APCD Board Hearing to examine in greater detail only those control measures which would reduce PM<sub>10</sub> from construction and demolition activities (see Attachment 2). Your Board also set a cost-effectiveness limit of \$1,000 per ton for any control measure recommended.

Staff have surveyed several air districts' methods, approaches, programs and/or rules implemented in response to SB 656 mandates. These included Ventura, Monterey, South Coast, Bay Area, San Joaquin, El Dorado and Placer. Only some air districts including Monterey and Ventura, have created new fugitive dust-related rules or made revisions to existing fugitive dust-related rules as a result of their SB 656 analyses. Others such as San Joaquin, have relied on previously existing rules to control particulate matter while some (e.g., San Diego) have yet to implement any measures.

Staff, upon analyzing the various control measures available, has concluded that control of particulate matter from construction and demolition activities is feasible and cost effective. Staff believes that a rule can be written based on controlling particulate matter via common and sensible work practices such as;

- wetting structures as necessary to prevent visible emissions,
- demolish structures inward towards the building pad and
- stabilizing disturbed areas that remain unused for more than seven days.

The control costs would primarily be the cost of dust suppressants such as water and any additional effort needed to comply with the work practices. A preliminary analysis indicates that the cost effectiveness would range from approximately \$238 per ton for demolition and \$368 per ton for construction activities. These cost effectiveness estimates are well below the \$ 1,000 per ton limit established by your Board. Finally, implementation of this rule would not require any additional APCD permits or fees.

Should your Board direct the Control Officer to proceed with developing a construction and demolition particulate matter control rule, staff will initiate a rulemaking process that will include a public workshop(s) and review and input by the Community Advisory Council. We anticipate that we will be able to bring this rule to your Board for adoption by the end of 2009.

Attachments:

1. Briefing on Requirements of SB 656
2. Adoption of the Implementation Schedule for SB 656

# ATTACHMENT 1

## BRIEFING ON REQUIREMENTS OF SB 656

March 19, 2009

Santa Barbara County Air Pollution Control District

260 North San Antonio Road, Suite A  
Santa Barbara, California 93110

(805) 961-8800

Agenda Date: May 19, 2005  
Agenda Placement: Regular  
Estimated Time: 30 minutes  
Continued Item: No

## **Board Agenda Item**

**TO:** Air Pollution Control District Board

**FROM:** Terry Dressler, Air Pollution Control Officer

**CONTACT:** Ron Tan, Planning and Technology Supervisor (961-8812)

**SUBJECT:** Briefing on Requirements of SB 656

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### **RECOMMENDATION:**

Receive report on SB 656 requirements and provide direction to the Control Officer.

### **DISCUSSION:**

In 2003, the California Legislature enacted Senate Bill 656 (SB 656, Sher) codified as Health and Safety Code §39614 to reduce public exposure to airborne particulate matter. SB 656 is directed at reducing ambient concentrations of PM<sub>10</sub> (particles with an aerodynamic diameter of 10 microns or smaller) and the subgroup of finer particles PM<sub>2.5</sub> (particles with an aerodynamic diameter of 2.5 microns and smaller). SB 656 requires the California Air Resources Board (CARB) to develop and adopt, by January 1, 2005, a list of the most readily available, feasible and cost-effective control measures that could be employed by CARB and air districts to reduce PM<sub>10</sub> and PM<sub>2.5</sub> (collectively referred to as PM). By July 31, 2005, CARB and air districts are required to develop and adopt from this list, an implementation schedule for appropriate CARB and air district measures to control PM. The goal is to make progress toward attainment of State and federal PM<sub>10</sub> and PM<sub>2.5</sub> standards.

Santa Barbara County is currently not attaining the State ambient air quality standard for PM<sub>10</sub>. The existing PM problem in Santa Barbara was characterized by analyzing current ambient air quality and emission inventory data. A control strategy was developed through review, selection and prioritization of the CARB provided control measures for consideration by the air districts.

As a result of this analysis process, we prepared a proposed implementation schedule. Please find attached a staff report presenting the background analysis and recommended particulate control measure implementation schedule. Staff will be presenting a summary of this report and its conclusions at your May 19<sup>th</sup> hearing.

In keeping with the requirements of SB 656, the report recommends four PM<sub>10</sub> particulate control measures focusing the particulate emission contributions from the following source categories: paved roads, construction/demolition, unpaved roads, and non-agricultural open burning (amending existing APCD Rule 312). The proposed implementation timeframe for these four measures extends from 2006 to 2011.

A public workshop was conducted concurrently with the regularly scheduled April 13, 2005 meeting of the Community Advisory Council (CAC). As a result of that workshop/meeting, the CAC recommended that your Board adopt the control measure implementation schedule shown in the attached report with the following exceptions:

1. Rename the control measures identified in the report from “proposed” to “further study.”
2. Delete the proposed control measure related to unpaved roads because of low effectiveness caused by enforcement difficulties.  
Delete the control measure related to non-agricultural open burning (APCD Rule 312) and bring this measure back to the CAC outside of the SB 656 process as resources allow.

With regard to changing the headings of the control measure sections of the report, such terminology changes would have no practical effect on changing the intent of the report which is to implement SB 656 by proposing control measures for adoption. While the revision recommended by the CAC may initially confuse readers as to our intent, we do not believe it would materially affect your Board’s action, which is to set a schedule for adoption of the control measures.

We understand the CAC’s concern regarding the effectiveness and enforceability of the unpaved roads control measure. Unfortunately we do not have sufficient information to accurately characterize the magnitude of emissions produced by this source. We recommended this control measure because it has been demonstrated to be cost effective in other jurisdictions and has been adopted in many California communities.

Finally, at the request of the Santa Barbara County Fire Department, we included the proposed revision of Rule 312 (Non Agricultural Open Burning) to prohibit the burning of residential yard waste in unincorporated portions of the northern area of the County. Smoke from such fires often causes a nuisance to nearby neighbors. Also, the Fire Department has expressed a concern regarding the resources necessary to permit and manage this open burning practice. The prohibition of backyard burning is included in the list of measures approved by ARB. The implementation of SB 656 is an opportunity for your Board to provide staff with direction regarding the Fire Department’s request. The CAC recommendation is to handle such a rule revision separately from the SB 656 schedule.

Staff is requesting direction from your Board as to including the CAC’s recommendations in the final schedule for adoption.

# **SB 656 Final Report**

## **1.0 Executive Summary**

In 2003, the California Legislature enacted Senate Bill 656 (SB 656, Sher) to reduce public exposure to airborne particulate matter. In particular SB 656 is directed at PM<sub>10</sub> or particles with an aerodynamic diameter of 10 microns or smaller and the subgroup of finer particles PM<sub>2.5</sub> or those with an aerodynamic diameter of 2.5 microns and smaller. SB 656 requires the California Air Resources Board (CARB) to develop and adopt, by January 1, 2005, a list of the most readily available, feasible and cost-effective control measures that could be employed by CARB and air districts to reduce PM<sub>10</sub> and PM<sub>2.5</sub> (collectively referred to as PM). By July 31, 2005, CARB and air districts are required to develop and adopt from this list, an implementation schedule for appropriate CARB and air district measures to control PM. The goal is to make progress toward attainment of State and federal PM<sub>10</sub> and PM<sub>2.5</sub> standards.

### Ambient Air Quality

An analysis of air quality monitoring data since the mid 1980's indicates the particulate problem in Santa Barbara County is PM<sub>10</sub> based as opposed to PM<sub>2.5</sub>. Therefore, the goal of this SB 656 effort is aimed at attaining the State PM<sub>10</sub> ambient air quality standard.

### Particulate Characterization and Source Contributors

Particulate matter is produced by stationary, mobile, area-wide, and natural sources. Significant contributing sources in Santa Barbara County included background (containing a large marine influence), geological (construction, agricultural tilling, windblown dust, resuspended road dust), vehicles, limestone (construction activities), and secondary PM<sub>10</sub> (ammonium sulfate, ammonium nitrate, sodium nitrate).

### Particulate Emission Inventory

The single largest directly emitting source of both PM<sub>10</sub> and PM<sub>2.5</sub> emissions is from the category of waste burning and disposal (agricultural waste burning and forest management burning). The second largest PM<sub>10</sub> emitters were generally associated with fugitive dust generating activities (paved road dust, construction and demolition, unpaved road dust, fugitive windblown dust and the fugitive dust from tilling and harvesting farm operations) closely followed by mobile sources (ships and commercial boats, on-road motor vehicles, off-road equipment.).

### Proposed Control Measures

Generally, the PM contribution from background sources was determined to be the largest contributor to the airborne PM<sub>10</sub> profile, amounting to 52% of the County total. Since the major constituent in the background is marine in nature (sea salt) and is a biogenic source, no control measure is possible. PM combustion sources and fugitive dust events may be deemed the next two highest contributors: motor vehicle exhaust (21%) and geological material (17%). As motor vehicles are under the jurisdiction of the State, APCD control measure prioritization focused on geological material generating

sources, mainly fugitive dust generating operations primarily emitted from paved and unpaved roads and from construction and demolition activities. A table displaying applicable control measures is presented below.

### Proposed Implementation Schedule

This implementation schedule lists the selected control measures aimed at reducing PM<sub>10</sub> emissions from identified source contributors in Santa Barbara County and the timeline for adoption and implementation. In prioritizing these control measures, consideration is based on the effect individual measures will have on health, air quality, emission reductions, and cost-effectiveness using existing data resources. A more refined analysis will be conducted at the time of rule adoption.

Based on a request by the County Fire department, the APCD is also considering revising APCD Rule 312 in the 2006-2007 timeframe. This rule does not allow burning of any combustible refuse in an open outdoor fire except in the unincorporated portions of North County where the burning of residential yard waste is allowed. The proposed revision would prohibit this practice.

<u>Source Category 1</u>	
Source Contributor:	Paved Roads
Control Description:	Establish requirements for sweeping existing roads using PM <sub>10</sub> efficiency sweepers.
Expected Cost Effectiveness, \$/ton PM <sub>10</sub> reduced:	\$33 - \$1070
Expected Emission Control Efficiency, %:	PM10 efficient sweeper reduces street soil loading by 86%; non-PM10 efficient sweeper reduces street soil loading by 55%.
Rule Adoption Timeline:	2007/2008
<u>Source Category 2</u>	
Source Contributor:	Unpaved Roads
Control Description:	Set control requirements for unpaved roads (e.g., setting speed limits).
Expected Cost Effectiveness, \$/ton PM <sub>10</sub> reduced:	\$1100
Expected Emission Control Efficiency, %:	1
Rule Adoption Timeline:	2008/2010
<u>Source Category 3</u>	
Source Contributor:	Construction/Demolition
Control Description:	Establish requirements for earthmoving, demolition, and grading operations including the following:  a. applying water b. posting speed limits to 15 mph c. require dust control plans for designated projects d. setting minimum soil moisture for earthmoving activities e. applying chemical stabilizers/dust suppressants
Expected Cost Effectiveness, \$/ton PM <sub>10</sub> reduced:	\$300 - \$86,000
Expected Emission Control Efficiency, %:	13 – 84
Rule Adoption Timeline:	2009/2011

## ATTACHMENT 2

### ADOPTION OF THE IMPLEMENTATION SCHEDULE FOR SB 656

March 19, 2009

Santa Barbara County Air Pollution Control District

260 North San Antonio Road, Suite A  
Santa Barbara, California 93110

(805) 961-8800



Agenda Date: June 16, 2005  
Agenda Placement: Regular  
Estimated Time: 30 minutes  
Continued Item: No

## **Board Agenda Item**

**TO:** Air Pollution Control District Board

**FROM:** Terry Dressler, Air Pollution Control Officer

**CONTACT:** Tom Murphy (961-8857), Ron Tan (961-8812)

**SUBJECT:** Adoption of the Implementation Schedule for SB 656

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### **RECOMMENDATION:**

- A. Hold a public hearing to receive public testimony on the proposed implementation schedule contained in Table 1.
- B. Approve the resolution included as Attachment 1. This resolution formally adopts the implementation schedule contained in Table 1.

### **DISCUSSION:**

In 2003, the California Legislature enacted Senate Bill 656 (SB 656, Sher) codified as Health and Safety Code §39614 to reduce public exposure to airborne particulate matter. SB 656 is directed at reducing ambient concentrations of PM<sub>10</sub> (particles with an aerodynamic diameter of 10 microns or smaller) and the subgroup of finer particles PM<sub>2.5</sub> (particles with an aerodynamic diameter of 2.5 microns and smaller). SB 656 requires the California Air Resources Board (CARB) to develop and adopt, by January 1, 2005, a list of the most readily available, feasible and cost-effective control measures that could be employed by CARB and air districts to reduce PM<sub>10</sub> and PM<sub>2.5</sub> (collectively referred to as PM). By July 31, 2005, CARB and air districts are required to develop and adopt from this list, an implementation schedule for appropriate CARB and air district measures to control PM. The goal is to make progress toward attainment of State and federal PM<sub>10</sub> and PM<sub>2.5</sub> standards.

On May 19, 2005, your Board considered a staff report presenting the background analysis and recommended particulate control measure implementation schedule. Your Board expressed concerns regarding the cost-effectiveness and feasibility of the recommended control measures and the potential impacts to local jurisdictions. To address these concerns, staff recommend that

the Board establish a cost-effectiveness threshold of \$1,000 per ton of PM<sub>10</sub> reduced and establish a feasibility requirement that allows county and city staff to determine if the proposed control measures are feasible and provide recommendations to APCD staff during the rulemaking process. In addition, staff recommends that the Board establish an implementation schedule for only 1 category of emissions: construction and demolition. The proposed schedule is provided in Table 1 and Attachment 2.

**TABLE 1**

**Santa Barbara County APCD SB 656 Implementation Schedule**

<b>Emission Category</b>	<b>Measure Evaluation Completed</b>	<b>If Determined Cost-Effective and Feasible</b>	
		<b>Board Adoption</b>	<b>Implementation</b>
<b>Construction and Demolition</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>

During 2008, staff will make an assessment of available and cost-effective emission controls for this category and determine if any control measures can be implemented for less than \$1,000 per ton of PM<sub>10</sub> reduced. If any such measures are identified, staff will work with county and city representatives to determine if the measures are indeed feasible. If both the cost-effectiveness threshold and feasibility determinations are satisfied, staff will return to your Board with proposed control measures for adoption in 2009 with implementation in 2010. Any measures identified during this process will go through public workshops and brought before the Community Advisory Council.

As the Board is not identifying any specific control measures in this action, no specific potential adverse impacts have been identified pursuant to the California Environmental Quality Act and, therefore, a Notice of Exemption will be filed with the County Clerk.

ATTACHMENT 1

BOARD RESOLUTION

CALIFORNIA HEALTH AND SAFETY CODE  
SECTION 39614  
PARTICULATE MATTER CONTROL MEASURES

June 16, 2005

Santa Barbara County Air Pollution Control District

260 North San Antonio Road, Suite A  
Santa Barbara, California 93110

(805) 961-8800

**RESOLUTION OF THE AIR POLLUTION  
CONTROL DISTRICT BOARD OF THE COUNTY OF  
SANTA BARBARA, STATE OF CALIFORNIA**

<b>In the Matter of</b>	)	<b>APCD Resolution No. 05-14</b>
Implementing California Health and Safety Code)	)	
Section 39614	)	
	)	
_____	)	

**RECITALS**

1. The Santa Barbara County Air Pollution Control District ("District") is currently classified as a nonattainment area for the state 24-hour PM<sub>10</sub> standard;
2. Pursuant to Health and Safety Code Section 39614, the Board is required to adopt an implementation schedule and to adopt and implement control measures to reduce PM<sub>10</sub> and to make progress towards attainment of the state PM<sub>10</sub> standard;
3. The District has prepared an implementation schedule to comply with Health and Safety Code Section 39614;
4. The Board has expressed concerns regarding the cost-effectiveness and feasibility of the recommended control measures and the potential impacts to local jurisdictions.
5. A public workshop was held on April 13, 2005 to accept public comments on the implementation schedule and control measures;
6. Pursuant to the California Environmental Quality Act ("CEQA"), adoption of the implementation schedule is exempt from CEQA;

**NOW, THEREFORE, IT IS HEREBY RESOLVED THAT:**

- 1) This Board has held a hearing and accepted public comments in accordance with the requirements of Health and Safety Code section 39614.
- 2) The implementation schedule as set forth in Attachment 2 of the Board Letter is hereby adopted by this Board pursuant to Health and Safety Code section 39614.

Attorneys for the Santa Barbara  
Air Pollution Control District

## Attachment 2

### Santa Barbara County APCD SB 656 Implementation Schedule

Emission Category	Measure Evaluation Completed	If Determined Cost-Effective and Feasible	
		Board Adoption	Implementation
Construction and Demolition	2008	2009	2010