SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Socioeconomic Assessment for Proposed Amended Rule 444—Open Burning Proposed Amended Rule 208—Permit and Burn Authorization for Open Burning

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INTRODUCTION

The proposed amendments to Rule 444 (Open Burning) would determine burn days by the Air Quality Index (AQI), which essentially combines the federal 8-hour ozone and 24-hour PM2.5 standards with meteorological conditions. Secondly, the proposed amendments require that a Burn Authorization number (BAN) be issued for each burn. They also require Burn Management Plans (BMP) for agricultural burn projects exceeding 10 acres or those that would result in PM emissions of more than 1 ton. Additionally, the proposed amendments require the preparation and submittal of Annual Post Burn Evaluation Reports (APBER) for projects requiring BMPs and Smoke Management Plans (SMP), an Emergency Burn Plan (EBP) for burn projects intended to protect crops from freezing, and SMPs for fire suppression training consuming more than 10 acres of material. Finally, the proposed amendments prohibit open burning within 1,000 feet of sensitive receptors for agricultural operators. While the proposed amendments may result in emission reduction benefits, such benefits are not easily quantifiable. Projected annual costs of this rule are $18,530 to $44,471. Employment impacts of the proposed amendments to Rule 444 are not analyzed because they do not result in significant air quality or emission changes. The proposed amendments to Rule 208 (Permit and Burn Authorization for Open Burning), the companion rule to PAR 444, will not involve any costs.

AFFECTED INDUSTRIES

The proposed amendments would apply to any persons or entities conducting open burning. Table 1 presents the distribution of two of the principal types of open burns: agricultural burns and vegetation management plan burns in terms of burn acreage, from 2003 to 2007. The table is based on projected data collected prior to the burns, which may be slightly different from the actual burn data. Training and tumbleweed burns are not included in Table 1 because operators were not required to notify the AQMD to get authorozation. As shown in Table 1, vegetation management burns generally had more acres burnt compared to agricultural burns, except for 2003.

Table 1
Burn Type, Acreage

Year	Agricultural	Vegetation Management Plan	Total Acres
2003	52.9%	47.1%	4377
2004	45.2%	54.8%	7518.5
2005	18.9%	81.1%	14591.5
2006	8.9%	91.1%	17708.2
2007	42.6%	57.4%	4980.5

Table 2 presents the total number of burns by industry for the years 2000-2007. The majority of burns occurred in the farm sector, followed by the government sector (fire departments and forestry organizations), the agricultural services sector, and refineries.

Table 2
Burns by Industry by Year

Industries	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Agr. Svcs.	94	96	213	270	281	164	50	66
Air Transp.		1			3		1	4
Chem Mfg.							5	
Construction	13	3			11			1
Consulting					2		3	
Education	1	3	13		34	40	61	56
Engg./Mgmt.						1		4
Entertainment					3	6	11	1
Farms	1207	505	627	693	968	993	664	676
Food Mfg.							2	
Forestry Svcs.	7	16	18	14	4	7	29	10
Government	298	189	162	271	315	422	381	238
Hotel	3					3	6	
Machinery		2						
Instrument						13		
Investment	1				9	10		
Lumber/Wood							8	
Membership Organization	5	1	1		1	2	2	3
Museum								1
Personal Svcs.		3						
Real Estate	20	7	2	9	24	5	9	
Refineries		2			41	59	91	98
Retail						3	1	1
Soc. Svcs.			1			1		
Trans. Equip.					8	1		
Utilities	1	1	1		10	13	19	15
Total	**1650**	**829**	**1038**	**1257**	**1714**	**1743**	**1343**	**1174**

Table 3 provides the types of authorized burns conducted by industry in 2007. As expected, agricultural burns were mostly conducted by the sectors of farm and agricultural services. Vegetation management plans were mostly prescribed burns conducted by forestry officials (government sector) for reducing the risk of wildfires. Training burns were mostly conducted by fire departments (government sector) and refineries as a part of safety training procedures. Tumbleweeds were burnt by any of the above sectors. Tumbleweed and training burns are under represented in the table because they were not required to obtain AQMD authorization.

Table 3
Types of Burns in 2007

Industries	Agricultural	Training	Tumbleweeds	Vegetation Management Plan	Miscellaneous
Agr. Svcs.	66				
Air Transp.		3	1		
Construction			1		
Education		54	2		
Engg./Mgmt.		3			1
Entertainment		1			
Farm	638	2	33	3	
Forestry Svcs.			9	1	
Government	4	65	1	168	
Membership Organization			1	2	
Museum		1			
Refineries		98			
Retail	1				
Utilities		1	14		
Total	**709**	**228**	**62**	**174**	**1**

ECONOMIC IMPACTS OF THE PROPOSED AMENDMENTS

The proposed amendments contain several provisions that will improve air quality, facilitate better management practices, and incur minor costs for the affected facilities, as discussed below. The remaining provisions are not expected to result in cost impacts.

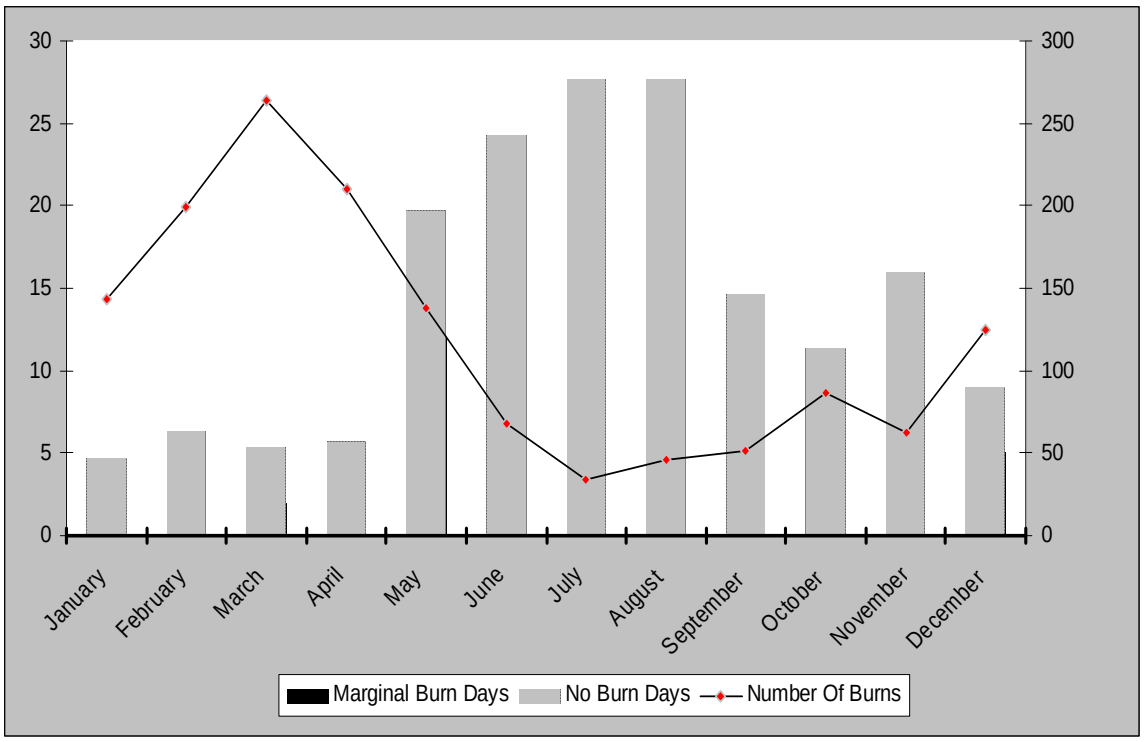
Air Quality Benefit

Based on staff assessment, the AQI criterion will result in more no burn and marginal burn days in general and therefore fewer permissive burn days. As the total burn acreage is kept constant, this will lead to air quality improvement. To compensate for the reduction in the number of permissive burn days, the proposed amendments would also increase the maximum allowable acreage that can be burnt on a given burn day.

Chart 1 demonstrates the monthly distribution of restricted burn days using the air quality and meteorological data from 2005–2007. The restricted burn days are plotted in reference to the number of burns that took place during that same period. This chart demonstrates that most of the open burning that takes place in the basin occurs during the winter months, when it is safer to conduct open burning. Furthermore, public fire agencies typically issue advisories to not conduct any open burns during the summer months. Therefore, the increased number of no burn and marginal burn days during this period is not expected to have a significant impact on open burn practices as they exist today.

It should be noted that Chart 1 does not account for current and future improvements in air quality. The restricted burn days represented in Chart 1 are based on past air quality forecasts. The air quality has improved and is expected to continue to improve in the coming years, especially for $PM_{2.5}$. This is expected to result in fewer reductions in no burn and marginal burn days, especially in areas where the majority of prescribed burns currently are conducted.

Chart 1
Marginal and No Burn Days under PAR 444



Improved Management Practice

The proposed amendments stipulate that all open burn projects require a Burn Authorization Number (BAN) that should be requested the day prior to the burn. A BAN is issued the following day provided the project passed an inspection, if deemed necessary by the Executive Officer. In case the BAN is not issued or delayed, alternatives available to burn operators include piling, waste disposal by either themselves or making arrangements with a trash pick-up company, and chipping or grinding. Similar alternatives are also available to burn locations near sensitive receptors.

These alternatives do not pose a significant financial burden on burn operators. However, the nature of impact varies with the type of burns conducted. Burns conducted by fire departments and refineries are mainly training burns that do not involve a substantial

tonnage of materials. Burns conducted by forestry officials are usually planned far ahead but could still be delayed.

Agricultural operators with 15-50 acres of land would be more likely to consider alternatives such as chipping and grinding as these processes could also prevent soil erosion and therefore facilitate more efficient irrigation. Smaller operators with less than 15 acres of land might find purchasing a grinder expensive but they could use more convenient and economical alternatives such as maintaining trash receptors, composting, arranging for regular waste disposal or arranging with a company to accept their materials for grinding. For example, Colmac Energy operates a 47.0 megawatt (net) biomass-fueled power plant in the Coachella Valley that actually provides the largest alternative to open burning. The company accepts certain chipped materials such as citrus, vineyard and mesquite for use as fuels. Materials that are not accepted (palm or sage brush) can be composted or used as alternative daily cover. Accepted materials are not assessed a charge for grinding or transport if the facility is local. If the site is not local, the owner would have to pay to grind the materials at a cost of approximately $1,150/acre.

Plan and Evaluation Fees

The proposed amendments would require a BMP for each agricultural burn project that exceeds 10 acres or any which would result in PM emissions of more than 1 ton. The proposed amendments also require the preparation and submittal of APBERs for projects requiring BMPs, which already exist for projects requiring SMPs. The proposed amendments include an exemption for open burning on no-burn days to protect crops from freezing, but require the preparation and submittal of an EBP. A proposed fee structure for these plans, their evaluation and inspection where applicable, is presented in Table 5. These fees are based on Rule 306—Plan Fees, and would not take effect unless Rule 306 was amended. The final fee structure would be determined through the fee rule amendment process in May or June 2009.

Table 5
Fee Structure and Rates

Plan	Fee Type	Fee Amount *	Labor Hours
BMP and SMP	Filing fee	$112.30	
	Evaluation fee	$112.30 / hour	1 – 2
	Inspection fee	$112.30 / hour	0 – 2
APBER and EBP	Evaluation fee	$112.30 / hour	0.5 - 1

* There is a small business discount available of 50% for the above fees.

Since BMPs/SMPs are required for large burn projects, they are usually done once a year. For a large farm, more than one BMP is possible (the highest for a farm in 2007 was 5). Costs for a facility filing one BMP/SMP along with an APBER would vary from $280.75 to $673.80 per year. Based on 38 BMPs and 28 SMPs that AQMD received in 2007, the annual total revenue from these projects would be $18,530 to $44,471.

The average time to prepare a BMP by a burn operator is projected to be about 10-15 minutes while that for an associated APBER is about 5-10 minutes. The average time to prepare an EBP is 15 minutes. Therefore the preparation cost is not significant.