SACRAMENTO METROPOLITAN
AIR QUALITY MANAGEMENT DISTRICT

STATEMENT OF REASONS

Proposed Revision to the State Implementation Plan: Reasonably Available Control Technology (RACT) Requirements for Kiefer Landfill, County of Sacramento Department of Waste Management and Recycling

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BACKGROUND

The District is classified as a severe nonattainment area for the 1997 and 2008 federal air quality standards for ozone[1,2]. Section 182(b)(2)(C) of the federal Clean Air Act requires states or districts in ozone nonattainment areas classified as "moderate" or worse to implement Reasonably Available Control Technology (RACT) for major stationary sources of volatile organic compounds (VOC). The U.S. Environmental Protection Agency (EPA) defines RACT as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility[3]." RACT must be incorporated into the State Implementation Plan (SIP), either through an EPA-approved rule or through a source-specific RACT determination that is included on a permit and approved by EPA.

Kiefer Landfill, owned and operated by the County of Sacramento, Department of Waste Management and Recycling, is a major stationary source of VOC in the District. As such, the District is required to implement RACT for this source. Two landfill gas flares at the facility emit VOC; however, no SIP-approved District rule applies to these flares. Although VOC emission limits are included on local permits, these permits have not been incorporated into the SIP.

EPA has identified the lack of SIP-approved RACT controls on the Kiefer Landfill flares as a SIP deficiency, and has proposed a partial approval and partial disapproval[4] of the District's 2006 RACT demonstration plan[5]. Staff has determined that the VOC emission limits on the local

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[1] "Air Quality Designations and Classifications for the 8-Hour Ozone National Ambient Air Quality Standards; Early Action Compact Areas with Deferred Effective Dates, Final Rule." 69 FR 23857, April 30, 2004.

[2] "Implementation of the 2008 National Ambient Air Quality Standards for Ozone: Nonattainment Area Classifications Approach, Attainment Deadlines and Revocation of the 1997 Ozone Standards for Transportation Conformity Purposes, Final Rule." 77 FR 30160, May 21, 2012.

[3] 44 FR 53761, September 17, 1979

[4] "Revisions to the California State Implementation Plan, Sacramento Metropolitan Air Quality Management District, Proposed Rule." 81 FR 2136, January 15, 2016

[5] "Ozone State Implementation Plan (SIP) Revision Reasonably Available Control Technology (RACT) as Applicable to the 8-Hour Ozone Standard," Sacramento Metropolitan Air Quality Management District,

permits for the flares meet RACT levels. To correct the SIP deficiency, Staff is proposing to submit for SIP approval the conditions of the local permits that pertain to VOC emission limits and the associated source testing, test methods, monitoring, reporting, and recordkeeping requirements.

FEDERAL REGULATIONS FOR MUNICIPAL SOLID WASTE LANDFILLS

Kiefer Landfill is subject to two federal regulations that apply to municipal solid waste landfills: a New Source Performance Standard (NSPS) and a National Emissions Standard for Hazardous Air Pollutants (NESHAP). The requirements of these regulations, which are discussed below, have also been incorporated into the District permits for the landfill gas flares.

Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW)

This NSPS applies to any municipal solid waste landfill that commenced construction, reconstruction or modification on or after May 30, 1991. Under this regulation, Kiefer Landfill is required to operate a landfill gas collection and control system[6]. When an enclosed combustion device (such as the enclosed flares at Kiefer Landfill) is used for control, it is required to meet one of the following emission standards[7]:

- Reduce emissions of nonmethane organic compounds (NMOC) by at least 98% by weight; or
- Reduce the outlet NMOC concentration to less than 20 parts per million by volume (ppmv)[8].

Nonmethane organic compounds include VOC as well as all exempt organic compounds (except methane); therefore, limitations on NMOC emissions are at least as stringent as limitations on VOC.

National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills (40 CFR Part 63, Subpart AAAA)

This NESHAP applies to any municipal solid waste landfill that has accepted waste since November 8, 1987, or has additional capacity for waste, and is either:

- A major sources of hazardous air pollutants; or
- Collocated with a major source of hazardous air pollutants; or
- An area (non-major) source of hazardous air pollutants with a design capacity of at least 2.5 billion kilograms and 2.5 million cubic meters and has estimated uncontrolled NMOC emissions of at least 50,000 kilograms per year.

Under this NESHAP, Kiefer Landfill is required to operate a landfill gas collection and control system[9] that meets the provisions of the NSPS (40 CFR Subpart WWW), discussed above.

October 26, 2006.
[6] 40 CFR 60.752(b)(2).
[7] 40 CFR 670.752(b)((2)(iii)(B).
[8] Measured as hexane, on a dry basis, at 3% oxygen.
[9] 40 CFR 63.1955.

Thus, both the NESHAP and the NSPS impose the same emissions limitations on the flares at Kiefer Landfill.

RACT DETERMINATION FOR THE KIEFER LANDFILL FLARES

Permits to Operate Nos. 24360 and 24361 for Flare 1 and Flare 2, respectively, incorporate the NSPS and NESHAP requirements as permit conditions. Condition No. 8 on each permit requires that emissions of NMOC be reduced by at least 98% by weight or the outlet NMOC concentration be reduced to less than 20 parts ppmv[10].

District Rule 202, New Source Review, requires Best Available Control Technology (BACT) to be applied to a new emissions unit or modification of an existing emissions unit that increases emissions of VOC. Rule 202 defines BACT to be the most stringent of:

- The most effective emission control device, emission limit, or technique, singly or in combination, which has been required or used for the type of equipment comprising such an emissions unit unless the applicant demonstrates to the satisfaction of the Air Pollution Control Officer that such limitations required on other sources have not been demonstrated to be achievable in practice.
- Any alternative basic equipment, fuel, process, emission control device or technique, singly or in combination, determined to be technologically feasible and cost-effective by the Air Pollution Control Officer.

Based on the definitions of these terms, BACT is at least as stringent as RACT. The District's most recent BACT determination for a landfill gas flare[11] was performed in 2011. BACT for VOC was determined to be a reduction in NMOC emissions of at least 98% by weight or an emission concentration of NMOC less than 20 parts per million by volume (ppmv)[12]. Staff concludes that these BACT emission limits, which have been incorporated into the permits for the Kiefer Landfill flares, also satisfy RACT.

ENVIRONMENTAL COMPLIANCE

California Public Resources Code Section 21159(a) requires the District to perform an environmental analysis of the reasonably foreseeable methods of compliance when adopting a performance standard. The proposed action will make RACT standards federally enforceable though the California SIP. Because Kiefer Landfill is already required to comply with these conditions by the NSPS, NESHAP, and District permits, the District is not establishing any new requirements for Kiefer Landfill, and no change in equipment or operation will result from this action. Therefore, Staff has concluded that no environmental impacts will be caused by compliance with the proposed action.

Staff finds that the proposed action to incorporate the Kiefer Landfill flare permits into the SIP is exempt from the California Environmental Quality Act as an action by a regulatory agency for

[10] Also measured as hexane, on dry basis, at 3% oxygen.
[11] Authority to Construct No. 24341, City of Sacramento Department of Utilities, Solid Waste Division.
[12] Measured as hexane, on a dry basis, at 3% oxygen.

the protection of the environment (Class 8 Categorical Exemption, Section 15308 State CEQA Guidelines) and because it can be seen with certainty that there is no possibility that the activities in question may have a significant effect on the environment (Section 15061(b)(3), State CEQA Guidelines).

CONCLUSION

Staff has determined that the permits for the flares at Kiefer Landfill contain VOC emission limitations that meet RACT. Incorporation of the permits into the SIP will meet the requirements of Section 182(b)(2)(C) of the federal Clean Air Act and allow full EPA approval of the District's 2006 RACT demonstration plan. Staff is proposing to submit for SIP approval the conditions of the local permits that pertain to VOC emission limits and the associated source testing, test methods, monitoring, reporting, and recordkeeping requirements.

Before the permits can be submitted for approval by EPA, the proposed action must go through the same public review requirements as any other SIP submittal[13,14] and be approved by the District's Board of Directors. Once approved by EPA, the permits become part of California's State Implementation Plan at Title 40 of the Code of Federal Regulations (CFR) Part 52, Section 52.220.

[13] Clean Air Act §110.
[14] Title 40 Code of Federal Regulations §51.102.