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MANAGEMENT
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HEARING BOARD
BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

January 20, 2024

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Honorable Valerie Armento, Esq., Chair
Members of the Hearing Board
Bay Area Air Quality Management District Hearing Board
375 Beale Street, Suite 600
San Francisco, California 94105

Re: Opposition to Regular Variance – Berkeley Landfill Hearing Board Docket No. 3741



Dear Chair Armento and Members of the Hearing Board:

Variance Respondent Air Pollution Control Officer of the Bay Area Air Quality Management District (Air District) **opposes** Applicant Berkeley Landfill's request for a Regular Variance.

The Air District opposes the Variance and does not support allowing Berkeley Landfill more down time or Less Than Continuous Operation (LTCO) of its Landfill Gas (LFG) Collection and Control System (GCCS) because the City of Berkeley and its operator, SCS Engineers, are not maintaining the Landfill properly. Neither of Berkeley Landfill's two stated grounds for Variance, winter rainstorms nor the thermocouple repair, is a sound basis for granting a Variance, because a well-maintained landfill is storm proof, Berkeley Landfill is far from well-maintained, and the thermocouple replacement should have been done in matter of days, not the 3 to 4 months that it took Berkeley Landfill to diagnose and replace its thermocouple.

Berkeley Landfill has received 14 Notices of Violation (NOVs) in the past year including for violations involving component leaks to the atmosphere of landfill gas at such high levels the landfill's leak of LFG flamed out the Toxic Vapor Analyzer (TVA), poor flare operation and maintenance, missing wells, and noncontinuous operation of the GCS.

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Berkeley Landfill's alleged reason for seeking a variance is the rainstorms of the winter 2023. However, the Landfill is required to maintain the landfill cap to prevent infiltration of rainwater, and the gas collection system and flare must be operable during any weather events. No other landfill in the Bay Area sought or needed a variance from the state or local regulatory requirement to continuously operate the landfill gas collection system and flare.

Berkeley Landfill's violations of the requirement to continuously operate its GCS and flare are recurring and foreseeable, and have been caused by GCS problems dating since at least 2021 according to Operating and Maintenance Reports provided in Berkeley's disclosure documents, if not earlier. Berkeley apparently did not attempt to effect repairs until after filing for the variance.

Berkeley Landfill's poor maintenance and repair of its GCS and flare, demonstrated by its record of numerous NOVs, 14 NOVs in the past year and 21 NOVs in the past 5 years, and Operating and Maintenance Reports supplied in Berkeley's recent document production indicate that Berkeley Landfill has not satisfied the Variance requirement of compliance being beyond the Landfill's reasonable control.

The Air District reviewed the well gas data and noted wells with up to 80% methane (much higher than the 50-60% methane active landfills maintain in their system) along with wells measuring little methane but up to 20% oxygen (indicative that only ambient air is being collected). These are indicators that the landfill gas collection system is not being maintained properly. The elevated oxygen levels indicate that a number of landfill gas collection wells are only collecting ambient air, rather than drawing landfill gas from the landfill as required by the District Permit to Operate. This collection of ambient air instead of LFG is the result of lack of maintenance and repairs of the GCCS to prevent leaks. Until the necessary repairs are made to eliminate significant ambient air from the GCCS, and subsequent LFG samples are taken to determine the quality and quantity of LFG at Berkeley Landfill, the Air District cannot support the Regular Variance.

The City of Berkeley further asserts that the failure of its thermocouples is another ground for the Regular Variance. However, the issues with the thermocouples first occurred in January 2023, but it was not until months later in April 2023 that the City and SCS first identified that the thermocouples were damaged and needed replacement. This multi-month delay in replacing the thermocouples is excessive. The landfill's problems with its thermocouples are not good grounds for granting a variance because it should not have taken the landfill 3 or 4 months to replace defective thermocouples.

Additionally, Berkeley Landfill's perimeter probe monitoring data submitted as part of its prior, withdrawn permit application petitioning for LTCO, indicates that methane was detected at perimeter probes adjacent to the Berkeley Landfill. Berkeley Landfill's reports submitted to CalRecycle also document ongoing detections of high levels of methane at certain offsite monitoring probes. The District has inquired about the source of the offsite methane detections, and no analysis was produced to prove this methane was not gas produced by the Berkeley Landfill. If the Berkeley Landfill's GCS is not efficiently capturing landfill's gas, it may be

migrating offsite, with potential impacts to the public and potential health and safety risks. Berkeley Landfill's contractor has stated in certain reports that adjustment of the Berkeley Landfill's GCS reduced the methane detected at the offsite monitoring probes, which appears to indicate the offsite methane is due to landfill gas from the Berkeley Landfill that has not been properly captured.

As part of the Air District's review of Berkeley Landfill's now withdrawn LTCO application, Air District Engineering Staff requested that the City of Berkeley and its Landfill Operator, SCS Engineers, conduct further monitoring to determine whether the methane detected at the perimeter probes was LFG or not. Air District Engineering Staff notified the Berkeley Landfill that no authorization of LTCO could be approved until the GCCS was repaired so that the actual level of methane/landfill gas in the landfill could be demonstrated. Since that request at the end of 2022 for investigation of methane detections at offsite probes, neither the City of Berkeley nor SCS Engineers, the Berkeley Landfill's contractor, has submitted any analysis or explanations to the Air District regarding the methane detected at the perimeter wells. Hence the Air District is seeking an abatement order that requires perimeter and off-site testing to determine if LFG is migrating off of the Berkeley Landfill site and repair of the required landfill gas collection wells in order to verify the level of landfill gas present at the Berkeley Landfill.

The City of Berkeley's estimate of excess emissions at the Berkeley Landfill is as follows:

Volatile Organic Compounds (VOCs)	0.87 pounds per day
Non-Methane Organic Compounds (NMOCs)	0.89 pounds per day
Hazardous Air Pollutants (HAPs)	0.05 pounds per day

The Air District's Engineering Division staff asserts that these estimates cannot be verified because there is no common means to definitively measure emissions from a landfill due to the large area that a landfill covers. Aircraft studies have been performed by the District and by the State of California to research greenhouse gas emissions from landfills, but these studies are expensive and uncommon. Development of drone technology is a promising method to perform low cost monitoring of landfill surface emissions, however this technology is not in universal use at this time. Without a method to measure emissions across the landfill surface, there is no way to determine with absolute certainty the severity and duration of possible landfill gas leaks as a result of the Berkeley Landfill's GCCS downtime and disrepair. The Air District's Enforcement Division staff inspected the Berkeley Landfill and documented landfill gas leaks; that required landfill gas wells are not being operated to collect landfill gas; that the Berkeley Landfill cannot even locate certain required landfill gas collection wells. Inspectors also noted that they smelled landfill gas emanating from the landfill surface.

For all of the foregoing reasons, the Air District believes that Berkeley Landfill will not provide sufficient evidence for the Hearing Board to make the findings required by law to grant a variance. More specifically, the Air District believes that the failure to maintain landfill equipment, to timely repair the required thermocouples, and to effectively monitor methane

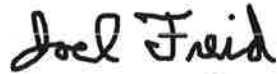
Chair & Members of the Hearing Board

January 20, 2024

Page 4

emissions, defeats any finding that the violation of Air District regulations was beyond its reasonable control. Accordingly, the Air District requests that the Hearing Board deny Berkeley Landfill's request for a Regular Variance.

Respectfully submitted,

A handwritten signature in black ink that reads "Joel Freid". The signature is written in a cursive, slightly slanted style.

JOEL FREID
Assistant Counsel II

Cc: Berkeley Landfill Contact Mary Skramstad (By email: MSkramstad@BerkeleyCA.gov)
Berkeley Deputy City Attorney Marc Schapp (By email: MShapp@BerkeleyCA.gov)