



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

December 14, 2016

Mr. David O'Neill  
President  
LandGas Technology LLC  
5487 N. Milwaukee Avenue  
Chicago, IL 60630

RE: Approval of Blue Lake Power Revised Fugitive Road Dust Plan

Dear Mr. O'Neill:

Pursuant to Paragraph 26 of the Proposed Consent Decree lodged in *United States et al. v. Blue Lake Power, LLC*, Blue Lake Power, LLC, submitted a revised Fugitive Road Dust Plan ("FRDP") to EPA and the North Coast Unified Air Quality Management District (the "District") on September 22, 2016.<sup>1</sup> EPA has reviewed the revised FRDP and consulted with the District regarding approval of this revised FRDP. Pursuant to Paragraph 34 of the Proposed Consent Decree, EPA hereby approves the enclosed revised FRDP.

Please contact me at 415-972-3965 if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Mark A. Sims".

Mark A. Sims  
Environmental Engineer  
Air & TRI Enforcement Office (ENF-2-1)  
U.S. EPA Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

Enclosure

cc: Mr. Glenn Zane, Blue Lake Power LLC (e-copy only)  
Ms. Jane Luckhardt, Day Carter & Murphy LLC (e-copy only)  
Mr. Brian Wilson, North Coast Unified Air Quality Management District (e-copy only)  
Ms. Nancy Diamond, Law Offices of Nancy Diamond (e-copy only)  
Ms. Sheila McAnaney, U.S. Department of Justice (e-copy only)  
Mr. Brian Riedel, U.S. Environmental Protection Agency

<sup>1</sup> BLP had submitted its first version of the FRDP to EPA and the District on August 19, 2016, and EPA had provided comments.

## Background and Purpose

Blue Lake Power LLC (Blue Lake) owns and operates a biomass boiler facility in the city of Blue Lake, Humboldt County. The subject boiler is a nominal 185 MMBtu/hr stoker-type biomass boiler with a traveling grate fuel feed system. The boiler is equipped with a forced over-fire air system, multi-clone cyclone, and electrostatic precipitator for emissions control. The boiler is fired on woody biomass and uses a Zurn propane gas burner rated at 80 MMBtu/hr during startup periods.

Blue Lake recently entered into a Consent Decree with the US Environmental Protection Agency (EPA) and the North Coast Unified Air Quality Management District (NCUAQMD) to resolve alleged violations of Clean Air Act requirements related to operation of the boiler. The Consent Decree requires Blue Lake to take certain actions, with the goal of reducing emissions from the facility. One action required by the Consent Decree is the preparation of a Fugitive Road Dust Plan (Plan). This Plan has been prepared to meet the requirements of Paragraph 26 of the Consent Decree.

## Responsibilities

The Plant Manager is the Responsible Person for ensuring that all requirements of this plan are fully implemented. The Plant Manager may designate an alternative Responsible Person for the purpose of carrying out the responsibilities of this Plan. All contractors, and site personnel, delivery truck operators, and visitors are required to follow the measures described in this Plan.

## Fugitive Road Dust Sources

### *A. Formation*

Fugitive dust emissions from roads generally divided into two source categories—vehicles traveling on paved and unpaved surfaces (mechanically generated dust), and wind erosion of exposed material storage piles and disturbed areas (windblown dust).

Mechanically generated dust is formed when a vehicle travels on an unpaved road and the force of the wheels on the road surface causes pulverization of surface material. Particles are lifted and dropped from the rolling wheels, and the road surface is exposed to strong air currents in turbulent shear with the surface. The turbulent wake behind the vehicle continues to act on the road surface after the vehicle has passed.

Mechanically generated dust also occurs whenever vehicles travel over a paved surface such as a road or parking lot. Particulate emissions from paved roads are due to direct emissions from vehicles in the form of brake wear and tire wear, and from the re-entrainment of loose material on the road surface.

Windblown dust emissions may be generated by wind erosion of exposed travel surface. These sources are typically characterized by nonhomogeneous surfaces impregnated with non-erodible elements (particles larger than approximately one centimeter in diameter).

*B. Specific Sources and Areas of Potential Fugitive Road Dust Formation*

Fugitive dust emissions may be generated from the roadways during general operations at the facility. The specific activities and areas that have the potential to generate mechanically-generated and windblown fugitive dust at BLP are summarized below:

- Fuel delivery trucks entering the facility with visible dirt, debris, or mud on the wheels or truck body which is deposited on the facility's travel surfaces.
- Employee and vendor vehicles with visible dirt, debris, or mud on the wheels or vehicle body which is deposited on the facility's travel surfaces.
- Facility rolling stock with visible dirt, debris, or mud on the wheels or vehicle body which is deposited from the wood yard onto the facility's travel surfaces.
- Pulverization of gravel in travel areas.
- Silt-laden runoff collecting on the travel surfaces of the wood yard and paved areas that dries and becomes pulverized by vehicle travel.
- Movement of fuel piles in the wood yard due to staging that results in previously unexposed native soil becoming disturbed.

## Fugitive Road Dust Mitigation Measures

The following measures will be implemented to ensure that fugitive road dust does not cross the property line and/or leave the facility.

*A. Measures Applicable to Unpaved Roads and Surfaces*

- The facility will design, install, and operate a water sprinkler system providing coverage to all unpaved roadways vehicle travel areas. The sprinkler system will be designed in zones so that it may apply water as needed to conserve water, to prevent pooling of water and the creation of muddy areas, and to avoid adding excessive moisture in the fuel storage and handling areas.
- The sprinkler system shall have a modular and flexible design to allow for expansion or relocation of the wetting zones.
- Unpaved areas of the facility will be inspected daily by the Responsible Person to determine the necessity for watering in each zone. The Responsible Person will also daily inspect the sprinkler system for areas of flooding or excessive water pooling, damaged water lines, and/or missing or damaged sprinkler heads. If observed, the system shall be repaired as soon as practicable.

- If dry conditions such as loose dry surface material or dust movement are observed in any area of a zone, watering will be initiated and maintained to ensure proper road/way surface. A watering duration of 15 minutes is anticipated.
- Watering frequency will vary from one time per day, to three times per day, depending on meteorological conditions. The watering frequency will be determined at the discretion of the Responsible Person. It is anticipated that watering twice per day will be required during the dry season, and watering once per day will be required in the rainy season. On days with active precipitation (typically over 0.1 inches), watering may be suspended. In no case will watering of surfaces that are already adequately wetted will be required by this plan.
- All employees will receive instruction to notify and report dry unpaved roadways and travel surfaces, any areas of flooding or excessive water pooling, or any damaged water lines or sprinkler heads to the Responsible Person if observed.
- The speed of vehicles traveling on unpaved roads and surfaces will be limited to 15 miles per hour in all areas. Adequate signage will be erected throughout the facility.
- Unpaved roads and surfaces will be maintained to prevent exposed native material from remaining exposed to the maximum degree practicable. Unpaved roads and surfaces will be improved with gravel and/or wood chips. Gravel that has become pulverized will be refreshed as needed.
- The facility shall promote and maintain the vegetative barriers that are present along its fencelines, especially those to the north of the facility (along Taylor's Road) and to the west of the facility. A treeline will be established in areas where none are present. The vegetative barriers shall be inspected annually and maintained to remove/replace dead trees.

*B. Measures Applicable to Paved Roads and Surfaces*

- Any carryout/trackout deposited on the paved surfaces of the facility shall be removed as soon as practicable and within one working day of discovery. Under dry and/or high wind conditions where carryout/trackout is determined to have the potential for creating visible dust plumes that have the potential to be transported off the project site, the carryout/trackout shall be removed within 8 hours of discovery.
- Any carryout/trackout deposited on public roadways (i.e., Taylor's Road) within 100 feet of the plant entrance (or a greater distance when the origin of the material is known to be from BLP) shall be removed as soon as practicable, and within one working day of discovery. Under dry and/or high wind conditions where carryout/trackout is determined to have the potential for creating visible dust plumes that have the potential to be transported off the project site, the carryout/trackout shall be removed within 8 hours of discovery.

- Paved areas will be inspected daily by the Responsible Person for carryout/trackout, pulverized gravel, or other matter that could be re-entrained as fugitive road dust.
- The facility will maintain and operate a motorized road sweeper to be operated as needed at the direction of the Responsible Person. Road sweeping will occur when ever carryout/trackout and or pulverized material is observed. Any area of carryout/trackout or pulverized material will be watered prior to sweeping to prevent generation of fugitive dust. The sweeper shall be properly maintained and available for operation at all times.
- Employees and site personnel will be trained to notify the Responsible Person of the presence of any carryout/trackout observed on paved roads and surfaces.
- The Responsible Person will routinely inspect vehicles (including employee vehicles) entering the facility for the presence of loose dirt, mud, or other material which may be deposited onto the paved roads and surfaces of the facility. Operators of such vehicles will be instructed to ensure that the material is removed prior to subsequent visits to the facility.
- The facility will minimize the travel of rolling stock and other vehicles from unpaved to paved areas of the facility. A 25-foot gravel pad will be established with gravel that is at least one inch or larger in diameter, and 3 inches deep. Vehicles exiting the unpaved areas of the facility (i.e., wood yard) will utilize the gravel pad at all times.
- All regularly-schedule vehicle parking shall be on paved surfaces.

### Fugitive Road Dust Monitoring

The Responsible Person shall monitor all on-site activities for visible dust plumes that have the potential to be transported off the project site. Observation of such plumes will indicate that existing mitigation measures are not resulting in effective mitigation. The Responsible Person shall investigate the source of the dust plume and require that additional mitigation measures be implemented, such as more frequent site watering, reducing vehicle speeds, sweeping of paved roads and parking areas, and if required, suspension of certain activities during high-wind periods.

### Recordkeeping

BLP will keep the following records to verify compliance with the requirements of this Plan.

- Date and time of daily inspection of unpaved areas and sprinkler system; name or initials of inspector; summary of observations and actions taken
- Date and time of watering of unpaved areas
- Date and time of any notification or report of dry unpaved roadways and travel surfaces, areas of excessive water pooling, or damaged waterlines or sprinkler heads; date, time and description of action(s) taken

- Date and time of inspection of vegetative barriers; name or initials of inspector; summary of observations and actions taken
- Date and time of observation of carryout/trackout; name or initials of inspector; summary of observations and actions taken
- Date and time of operation of motorized road sweeper; name or initials of operator; identification of area swept
- Date and time of observation of visible dust plumes; name or initials of observer; summary of observations and actions taken

All records will be maintained in a log book. Entries shall include date and time for each activity and the initials of the person completing the activity. BLP shall maintain all records required by this Plan onsite in a form suitable for inspection.