COGCC Dust Mitigation Plan
Rule. 427

I - Overview

This Dust Mitigation Plan is intended to facilitate compliance with COGCC Rules and Regulations, Rule 427. Carbon Storage Solutions (CSS) shall employ practices to control fugitive dust caused by their operation. All CSS facilities and equipment shall be operated in such a manner that dust does not constitute a nuisance or hazard to public welfare. CSS operations on the subject pad site necessitate earth disturbing activities and travel on unpaved roads which has the potential to produce fugitive dust emissions. Dust associated with site actives and traffic on County Roads will be minimized through all phases of operations such that there are minimal visible dust emissions from sites and roads to the maximum extent possible.

This plan will serve as site specific guidance and recommended best management practices to properly manage and mitigate fugitive dust as part of CSS operations at this facility. The operator will utilize these general guidelines on this site at the onset of construction activities as well as perform the necessary management throughout the project life.

Background

Front Range Energy (FRE) is a local Windsor, Colorado owned manufacturer of fuel ethanol and other high value co-products. FRE is proud to produce a renewable fuel, which displaces foreign sources of energy while enhancing our national security, cleans up tailpipe emissions, creates American and Colorado jobs, and supports our local, regional, and national economies.

To meet decarbonization targets and to continue to produce clean burning biofuels, Front Range Energy created Carbon Storage Solutions, LLC (CSS) --a wholly owned subsidiary of FRE-- to manage carbon dioxide emissions from the facility. To that end, CSS seeks to develop a project that will capture the CO2 emissions derived from the ethanol fermentation process and sequester the CO2 proximal to the FRE facility, creating a net-negative transportation fuel. As part of the Project feasibility, CSS will need to drill and test a single stratigraphic test well to examine the feasibility of the subsurface formations for the geologic storage of carbon dioxide.

Area of Impact

The stratigraphic test well will be located adjacent to the ethanol plant on property owned by FRE (see map). The FRE facility is located within the Kodak industrial park.

Upon gaining required approvals, CSS and their contractors will create a well pad location and access way on FRE property. A drilling rig will be brought to location to drill to a depth of approximately 9,500 feet below the land surface. The well will be drilled and managed according to all rules and regulations set forth by the COGCC. During the drilling operations, rock, water, and geophysical well logs will be collected from the wellbore to determine the overall project feasibility of geologic sequestration at the site. The data collection plan follows the guidance and best practices defined by the Environmental Protection Agency for carbon storage feasibility assessment. Once testing is complete the well will be cased, and operations temporarily suspended according to COGCC regulations, while the CO2 storage assessment is completed.

The surrounding area is comprised primarily of industrial sites including the Haliburton Sand Facility to the south, rail lines border the western and northern edge that service the Kodak industrial park area. The east and southeast of the site are comprised of agricultural areas.

II - Mitigation Practices – 427.a

Mitigation measures will be applied to the subject location, in accordance with Rule 427.a.(1)-(7) when appropriate.

A. Site Description:
   1. Soil Type:
      i. Working Pad Area and Access Road: NuA – Nunn clay loam, 0 to 1 percent slopes.
   2. Total Area of Disturbance:
      i. 30' wide Access Road that comes off of the Front Range Energy existing location.
      ii. Well Site Disturbance: ± 2.394 acres.
      iii. Total Surface Use Area Disturbance: ± 3.371 acres.

B. CSS will post speed restriction signs along the access road. 5 MPH speed restriction will be enforced by CSS personnel.

C. Access Road and Location Construction:
   1. The length of the access road from the edge of the Front Range Energy site to the working pad surface will be constructed of road base aggregate (crushed asphalt) material.
   2. The access road will be monitored daily by CSS and FRE staff during regular operations. CSS will utilize necessary maintenance and operations practices identified in Section II.F.1.
   3. The CSS well pad will be constructed of native soils, as well as six (6) inches of road base aggregate material, compacted to a total depth of four (4) inches.
   4. The road base aggregate material and crushed asphalt serves as natural dust and mud mitigation.

D. Anticipated Truck Traffic:

Pad Summary	Heavy	Light	Days per Activity
Pad Construction	140	70	7
Drilling Operations	165	330	14
Well Testing	135	270	90
Pad Totals	**440**	**670**	**111**
Per Well Totals	**440**	**670**	**111**
Average per Day	**4**	**6**	

The anticipated truck traffic volumes are based on one occupancy of one well. This stratigraphic test well is planned to be developed in one occupancy.

E. Suppressing fugitive dust caused solely by wind:

1. During high wind conditions, the use of fresh water as a dust suppressant will be utilized on the access road and location.
2. Construction operations, such as excavation, dirt work and clearing, will be curtailed during high wind conditions if water application is unsuccessful.
3. If water operations are unsuccessful, construction operations will cease until wind event has diminished.

F. Best Management Practices:

1. CSS foreman onsite during each phase of operation will be responsible for monitoring conditions on the location and access road.
   i. Construction Operations: The site will be continually monitored for visible fugitive dust during earthwork activities.
   ii. Drilling/Completions Operations: The site will be continually monitored for visible fugitive dust. BMPs that have been installed following the completion of construction activities will aid in the reduction of potential fugitive dust.
   iii. Testing Operations: The site will be monitored daily by CSS personnel during activities or daily during visits.
2. Speed restrictions will be implemented along the access road and at the location.
3. During the construction phase, CSS will have a water truck readily available to water roads as necessary to prevent dust on the access roads.
4. Limit disturbance of natural vegetation to only that area that is reasonably necessary for construction.
5. Use of fresh water as a dust suppressant will be utilized on the access road and location. Construction operations will be curtailed during high wind conditions if water application is unsuccessful.
6. CSS will perform regular road maintenance.
7. No hydraulic fracturing will occur, so no silica dust control measures will be necessary.

III – Windborne Fugitive Dust 427.b

CSS, through the practices mentioned above, will minimize fugitive dust caused by their operations, or dust originating from areas disturbed by their operations that become airborne.

IV – Dust Suppressant Application 427.c

A. CSS utilizes only fresh water for dust suppression on the working pad surface and lease access roads.

B. The target location and access road are within the Flood Zone AE on the FEMA Flood Insurance Rate Map (08123C1503E). As stated above, only fresh water will be used for dust suppression on the working pad surface and lease access road.

C. CSS maintains records for all relevant safety data sheets ("SDS") and will have the information available at the request of the Director, Local Government, or Weld County.

V – Oil and Gas Locations Within 2,000 Feet of Building Units 427.d

If CSS is notified of a complaint, the Community Relations department will dispatch a CSS employee to further investigate. The team member contacted will depend on which phase of operations the site is currently in. Once the team member is able to investigate, they will report their findings back to the Community Relations Department. If it is determined that mitigation measures are needed CSS will work to complete the mitigations. Timing will depend on which mitigation measures are needed. Resolutions are communicated back to the stakeholder.

VI – Cumulative Dust Impacts 427.e.

CSS understands that the Commission may require the operator to adopt additional dust mitigation practices to reduce cumulative dust impacts, based on the following considerations:

A. The number of anticipated truck trips for the location seeking Commission approval combined with the number of anticipated truck trips at any other Oil and Gas location within a 1-mile radius during the same period.

B. Whether there are other major sources of dust in the area, which may or may not be Oil and Gas Facilities, which will result in the area bearing a cumulative dust risk that could harm public health, safety, welfare, the environment, or wildlife resources, including impacts to plants, such as burial or significant damage to photosynthetic processes.

VII – Summary of All Applicable BMPs For This Fugitive Dust Mitigation Plan

A. Minimization BMPs.

1. CSS foreman onsite during each phase of operation will be responsible for monitoring conditions on the location and access road.
    i. Construction Operations: The site will be continually monitored for visible fugitive dust during earthwork activities. CSS will monitor and maintain the vegetation on the topsoil stockpiles to promote native vegetation and to suppress invasive and noxious weeds.
    ii. Drilling / Completion Operations: The site will be continually monitored for visible fugitive dust. BMPs that have been installed following the completion of construction activities will aid in the reduction of potential fugitive dust. CSS will monitor and maintain the vegetation on the topsoil stockpiles to promote native vegetation and suppress invasive and noxious weeds.
2. Speed restrictions will be implemented along the access road and at the location.
3. CSS will perform regular road maintenance.

B. Mitigation Measures

1. During the construction phase, CSS will have a water truck readily available to water roads as necessary to prevent dust on dirt roads.
2. CSS will limit disturbance of natural vegetation to only that area that is reasonably necessary for construction.
3. CSS will use fresh water as a dust suppressant on the access road and location. Construction operations will be curtailed during high wind conditions if water application is unsuccessful.