BLM Operating Standards for Asbestos Dust Emission During Road Maintenance, Construction, and Grading Activities – March 2003

These standards apply to all road maintenance, construction, and grading operations within the Clear Creek Management Area (CCMA) Area of Critical Environmental Concern (ACEC) Hazardous Asbestos Area (HAA).

Discussion of methods for controlling dust within the CCMA HAA, protection of public from unexpected exposure to asbestos containing dust, and Conditions for Grading will be addressed here.

Factors Controlling Asbestos Dust Emissions:

Vehicle speed, types, and numbers
Previous rainfall, (within last 10 days)
Temperature, wind speed, and soil moisture
Types of maintenance, road segment length
Slope aspect, soil type, and adjacent vegetation

Mitigation Factors

Use water trucks and limit vehicle speed to 15 mph or less

Accepted standard construction practice for grading and earthwork to control dust, is to work when there is sufficient soil moisture and add moisture utilizing a water truck or other methods, until soil moisture is sufficient to control dust and attain compaction when appropriate. Compaction typically requires more moisture than dust control.

The attached graph shows the typical rainfall patterns over the past several calendar years in the area of the CCMA. Rainfall data was collected from the station named SRI, located on top of Santa Rita Peak, and is generally representative of the rainfall within the entire CCMA. It does not accurately represent all precipitation within the area because it does not measure the snowfall, which typically occurs during the "wet season". There are also some included periods of time when the data is incomplete due to malfunctioning equipment. Additional real-time monitoring stations are at Idria (IDR) and Hernandez (HDZ).

This graph shows that the "wet season" typically extends from mid-November, by which time an inch of rain has usually fallen, until mid-April when the road and trail surfaces may have dried to a condition, which might allow dust to occur during grading operations. This would be the expected window where grading and road maintenance operations, on routes that cannot be accessed by water truck, could typically occur without the addition of supplemental water, providing that sufficient soil moisture exists to prevent visible emissions. Maintenance operations on administrative and improved roads shall be conducted with supplemental water at all times when insufficient soil moisture exists.

Standard Operating Procedures

Under all circumstances, the BLM will wait until at least one inch of recorded rainfall has occurred, when no precipitation has occurred within the last 30 days after the summer dry period (typically mid November), prior to undertaking any grading or earthwork operations without supplemental water. Once this threshold is reached, if no rainfall has been measured within the last 10 days by the internet real-time monitoring stations (IDR, SRI, HDZ), during the November – April time period, surface disturbance activities would only be allowed on soils with adequate moisture. Soil moisture characteristics will be determined with a combination of techniques, involving on-site air monitoring, estimating soil moisture by appearance and feel, sensing instruments, and rainfall statistics. When wind speeds are in excess of 20 mph, and there is insufficient soil moisture, all soil disturbing activities will cease. In all cases, if any visible dust emissions are observed, all road maintenance activities shall cease.

At the commencement of grading/construction activities at least one personal air-sampling monitor will be placed within 300 feet of the worksite from 2 -8 feet above the ground to collect ambient air samples during working periods. At least one, additional personal air-sampling monitor will be carried by the equipment operator during the same time periods. If the results of 3 consecutive days of sampling result in no samples with asbestos levels greater than 90% of the Permissible Exposure Level (PEL) the sampling rate can be reduced to once every 3 workdays. Any sample above 90% of the PEL will also require the addition of water to the operations area; or relocation to another work site with adequate soil moisture, and a new series of samples; or cessation of work. No road maintenance operations shall be conducted when the PEL is reached.

Prior to starting any work, soil moisture will be sampled by the equipment operator using a hand sample method, observing the appearance and feeling for adequate moisture by accepted standard field methodology. Soil testing will be required on all road segments to receive maintenance including inboard and outboard ditches, and the road centerline. Soil testing will be done at ¼ mile increments or where a distinct soil change occurs. When the soil at the worksite is determined to have dried at the surface to a point where dust may be generated, work will be relocated to another site with higher soil moisture levels, moisture added, or work discontinued.

Experimentation will be conducted utilizing soil moisture sensing instruments such as Campbell Scientific CS620 Handheld Water Content Sensor (or similar) to determine the feasibility of utilizing such a unit to determine the relative soil moisture content of the upper 12 centimeters prior to grading or construction earthwork. If an instrument such as this can be simply and reliably utilized to determine soil moisture content, a dust vs. soil moisture curve can be plotted for minimum soil moisture for grading and earthwork construction.

The wet season will be considered ended when personal air samples reflect levels at 90% of the PEL until a minimum of one half additional inch of rainfall is recorded through the month of May. Beyond May, will be considered the dry season until the typical November rain falls, and no road maintenance operations shall be conducted.

A project log will be kept for all road maintenance operations, with photo documentation, and wind speed and soil moisture observations.

Methods to control potential dust exposure to CCMA visitors, seasonal and permanent residents:

One week prior to planned grading or earthwork construction operations, signs will be placed at the entrances to the CCMA, indicating the locations where this work is to occur. The signs will identify areas, including any campground, staging, open camping areas and routes within a one-mile radius of the proposed work site. The signs will state that all areas identified within one mile of the work site are closed to all public uses during periods of grading and earthwork construction activities. During the time grading and earthwork activities are occurring, all major routes within one mile surrounding the work site, will have sandwich-board barricades installed, with temporary route closure signs at appropriate locations, to prevent unsuspecting traffic from potential exposure to asbestos containing dust. Barricades will also be placed at the entrance to any formal camping and staging area within the one-mile radius. BLM will actively patrol the area surrounding the work site with one dedicated person to ensure compliance with the public closure during periods of grading and earthwork construction.

All private landowners within the CCMA HAA, will be notified by mail prior to the road maintenance season, of all planned maintenance operations.

United States Department of the Interior

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14 MARCH 2003

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Monterey Bay Unified Pollution Control District
24580 Silver Cloud Court
Monterey, California 93940

Air Pollution Control Officer:

This letter transmits our Best Management Practices and Standard Operating Procedures related to road maintenance operations at the Clear Creek Management Area. These practices and procedures shall be implemented to comply with the conditions of an exemption to the Asbestos Air Toxic Control Measure (ATCM) for construction and grading operations (Title 17 Calif. Code of Regulations, section 93105). These operating standards address soil moisture, prevention of visible emissions, ambient air monitoring, and control of potential dust exposure to receptors. If you have any questions, please contact me at (831) 630-5036. Thank you for your assistance.

Sincerely,

George E. Hill
Assistant Field Manager
Hollister Field Office, BLM

United States Department of the Interior

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25 August 2003

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CA-190.30

James L. Tjosvold, P.E.
Chief, Northern California-Central Cleanup Operations Branch
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826-3200

Dear Mr. Tjosvold:

Thank for your interest and involvement in the BLM's management of the Clear Creek Management Area (CCMA), and in our current planning process. As referenced in your letter, we are in the process of preparing a Draft Plan Amendment and Environmental Assessment for the CCMA to implement the route and area designations, and designation of the boundaries of the San Benito Mountain Research Natural Area, as identified in the modified Alternative 3 (ROD, 1999).

We are aware that information regarding potential human health effects relating to exposure to naturally occurring asbestos is constantly evolving. We will be working closely with EPA on determining any new risk assessment values, and will incorporate these into our management of the CCMA. We have updated our public information to reflect potential increased risks to children, and as any new risk assessments are completed, these will be incorporated into our public information program, and utilized in evaluating management decisions regarding the CCMA. Personal air monitoring samples are now being analyzed using Transmission Electron Microscopy as well as PCM, to provide a more detailed analysis of fiber type, size, and concentrations, to assist in assessment of management activities.

The BLM continues to implement Best Management Practices related to asbestos exposure, including wet season closures, dust suppression of primary roads during high use periods, restriction of activities when the Personal Exposure Limit is exceeded, and compliance with the ATCM for airborne asbestos relating to road maintenance operations. Air monitoring indicates that these measures provide a certain degree of effectiveness. Current planning involves relocation of our decontamination facility to the CCMA, including provisions for a public wash facility, and consideration of additional camping and public use facilities outside of the hazardous asbestos area.

BLM will continue to work closely with you and all other stakeholders, and federal and state agencies to address issues and develop effective management strategies related to management of the CCMA. The Draft Plan Amendment is expected to be released for comment in mid-September, and a copy will be forwarded to you. We encourage the Department of Toxic Substances Control's comments and participation in this planning process. If you have any questions, please contact myself or George Hill at (831) 630-5000.

Sincerely,

Robert E. Beehler
Field Manager
Hollister Field Office, BLM