

APPENDIX N

Evaluation of Available Fugitive Dust Control Measures

Available fugitive dust control measures recommended by the Environmental Protection Agency (EPA) are generally directed at minimizing the dust that can be resuspended by vehicles or other mechanical disturbances, and to a lesser extent, controlling the dust that can be windblown. The designated inhalable particulate matter (PM_{10}) nonattainment area in El Paso, except in the Fort Bliss Military Reservation, has previously been subject to regulations which require all reasonably available fugitive dust control measures that are applicable to the area. Certain Texas Air Control Board (TACB) rules are being revised to clarify their intent and/or enhance their effectiveness.

Specific to the needs of the El Paso area, the TACB is enhancing the mitigative control of mechanical sweeping of paved roads. The El Paso area has a desert climate with sparsely vegetated and expansive open areas, including desert mountains. Windblown dust can move relatively freely and is expected to cause a significant portion of the silt loading (SL) on the city's estimated 1,500 miles of paved roads. Control of the expansive open areas is not reasonable, but an enhanced road cleaning measure will help control dust loading. The windblown dust by itself may be adding to general PM_{10} ambient air concentrations, but it is not expected to be a major problem except during dust storm events. Aside from dust storms, high PM_{10} concentrations occur with inversion/-stagnation conditions, implicating sources which force particulate into the air during such periods. Re-entrained dust from

paved roads is by far the most significant inventoried source of PM₁₀ in the El Paso area. The El Paso City-County Health District (EPCCHD) has determined that applying water to control dust in front of mechanical sweeping is the most effective method of removing the dirt from their roads without causing a localized dust problem. EPCCHD has recently purchased six new Elgin sweepers, at a cost of \$104,000 each, to enhance their street sweeping capabilities. True water flushing of streets in this desert area is not feasible since El Paso annually institutes significant water rationing requirements. Therefore, mechanical sweeping is the best available control measure for the El Paso area.

Each of the available fugitive dust control measures noted by the EPA are discussed below:

1. Pave, vegetate, or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.

This control measure is preventive in nature and designed to reduce silt carried onto paved streets from unpaved traffic surfaces. Mud and dirt carryouts are clearly indicated in the EPA's technical document, (Control of Open Fugitive Dust Sources, EPA-450/3-88-008, September 1988) as the most significant sources of silt loading on paved roads. However, this concept is tied to precipitation and wet soil clinging to the vehicles, which then track the material in significant quantity onto paved streets.

The carryout in El Paso has been recognized as a significant source of loading, but it may not be as important a source as it is in other parts of the country with greater rainfall. The desert climate and an average rainfall of only about eight inches minimize the moisture and adhesive tendencies of the silt. Consequently, the amount of particulate picked up by tires and deposited on paved surfaces is minimal. A more normal mechanism for carryout loading in the El Paso area would be vehicles on the unpaved surface causing a mechanical suspension of particles, which are then blown onto the paved surface. Windblown suspension is a less significant carryout problem than mud tracking.

TACB Regulation I (§§111.145, 111.147, and 111.149) are federally enforceable rules that directly and substantially address control of carryout loading.

Section 111.147(1) requires controls for all traffic thoroughfares and the TACB is proposing to enhance this rule to require paving, rather than merely stabilizing thoroughfares having any significant traffic. This means that all intersections (access points) of streets with significant traffic will be controlled as recommended.

Subsection 111.147(2) requires the removal of soil or other materials from roads by means of mechanical sweepers. As noted previously, the use of mechanical sweepers is the best available

control measure for El Paso's paved roads. This measure, with the newly proposed sweeping schedule, will mitigate dust blown onto the roads from the noted access points. The potential to entrain particulate into the air will be minimized by revoking the exemption for sand applied for the control of snow and ice.

In conjunction with the required controls on roads, §111.149(b) requires parking surfaces in the City of El Paso with more than five spaces to be paved or covered with gravel. The rule goes further to require that even temporary parking lots be controlled and that all large parking lots, greater than 100 spaces, be paved. In addition, the City of El Paso's off-street parking ordinance (see Attachment 1) requires dust-free surfacing of all off-street parking facilities, and landscape planting of at least a ten-foot buffer zone between the street and parking lots with more than six spaces. Parking lots are therefore sufficiently controlled in El Paso. The TACB's construction and demolition rules (§111.145) require dust control at work sites, which for major construction sites would include control of the access points to paved roads. The TACB is adopting rule language to require controls in El Paso for all such sites regardless of size, and to require that all access roads be paved or chemically stabilized.

2. Require dust control plans for construction or land clearing projects.

The TACB has previously adopted controls for construction and demolition (§111.145), which include land clearing and which require all significant projects to achieve control of dust emissions. Compliance with this rule is required by December 31, 1991. The TACB is proposing to enhance the intent of the rule by requiring paving or stabilization of construction and/or demolition access roads in the City of El Paso. Additionally, the TACB is requiring dust control measures at all construction/demolition sites in El Paso regardless of size.

Although the significance of the dust caused by construction and land clearing in El Paso is not clear, these rules are expected to sufficiently control these sources.

3. Require haul trucks to be covered.

TACB Regulation I [§111.143(3)(B)] requires the covering of all open bodied trucks, trailers, and railroad cars transporting materials which can create airborne particulate matter in public areas within the City of El Paso.

4. Provide for traffic rerouting or rapid cleanup of temporary sources of dust on paved roads.

Individually, spot loading sources are expected to have de minimis emissions, but there is no reasonable way to evaluate their cumulative effect on air quality. The most reasonable method to control these sources would be mechanical sweeping equipment. Therefore, the TACB is proposing to modify §111.147(2) to address spot cleaning of visibly dirty roads in the City of El Paso. Public awareness through normal public information methods should help in identifying problem areas. Repeat problem areas could be evaluated by EPCCHD for potential preventive measures to reduce future costs.

In addition, the TACB is deleting rule language which allows sand applied for snow and ice control to be exempt from cleanup requirements.

Finally, §111.147(2) is being modified to include a specific schedule for street sweeping and recordkeeping of such activities.

5. Prohibit permanent unpaved haul roads, and parking or staging areas at commercial, municipal, or industrial facilities.

As noted above in response to #1, the TACB has sufficient regulations regarding parking. In addition, the TACB is proposing to amend §111.147 to require paving, rather than also allowing for water or chemical stabilizing, of all major roads in the City of El Paso, which include commercial, municipal, and industrial roads. However, the Executive Director and EPA are being given the option of granting a waiver from paving requirements for industrial roadways, provided the roadway owner can demonstrate that the cost of paving is economically unreasonable compared to other forms of dust control specified in §111.147(1). The TACB believes these control measures will sufficiently implement the intent of this requirement.

6. Develop traffic reduction plans for unpaved roads.

The EPCCHD reports that there are few unpaved roads within the city limits. EPCCHD has also agreed to implement a paving program for all alleys in the city at a rate of 15 miles per year. This control measure is outlined in §111.147(1)(E), along with a modification which would require paving or chemically stabilizing the 122-mile levee road [§111.147(1)(F)]. Thus, the few remaining unpaved roads within the city limits will be paved in the near future. Vehicle miles traveled (VMT) data for El Paso County shows very low traffic counts on unpaved roads. The vast expanse of the county roads makes enforceable control with speed

bumps and low speed limits impractical, as these control measures are designed for use in urban areas.

7. Limit use of recreational vehicles on open land.

There is no significant off-road vehicle use in the City of El Paso, according to the EPCCHD staff. Therefore, the emissions are de minimis, and the TACB believes additional rule language is unwarranted.

8. Require improved material specification for and reduce usage of skid control sand or salt.

Because of the relatively mild climate in El Paso, an annual average of only 4,000 cubic yards of sand has been used for snow and ice control. The limited use of sand makes preventive control of this source unwarranted. As noted in #4 above, the TACB is deleting rule language which allows sand applied for snow and ice control to be exempt from cleanup requirements. This should also help mitigate sources of dust on paved roads.

9. Require curbing, and pave or stabilize shoulders of unpaved roads.

According to the EPCCHD staff, over 70 percent of the existing streets in the City of El Paso are curbed, and all new streets

are being curbed as they are built. Paving or stabilizing unpaved shoulders would not be expected to have significant effects on the road loading. The TACB believes that the proposed enhanced street sweeping schedule, as noted in #4 above, is the appropriate control for the paved roads in El Paso.

10. Pave or chemically stabilize unpaved roads.

See response to #1 and #6 above.

11. Pave, vegetate, or chemically stabilize unpaved parking areas.

As noted in #1 above, §111.149 sufficiently controls potential dust emissions from parking areas.

12. Require dust control measures for material storage piles.

Section 111.143(1) requires that material storage piles in the City of El Paso achieve maximum control of dust emissions through application of water or suitable chemicals or covering.

13. Provide for storm water drainage to prevent water erosion onto paved roads.

The mitigative control for storm water loading of paved roads is noted in #4 above. Additional control of this source of loading may be forthcoming as the new federally-mandated storm water regulations are promulgated and implemented.

14. Require revegetation, chemical stabilization, or other abatement of wind erodible soil, including lands subjected to water mining, abandoned farms, and abandoned construction sites.

The significance of man-made wind erodible soil areas in the City of El Paso is questionable. In any case, revegetation in the area's desert environment is not feasible, and chemical stabilization of land areas not subject to mechanical disturbances is not reasonable or ecologically sound due to water rationing in the area.

15. Rely upon the soil conservation requirements of the Food Security Act to reduce emissions from agricultural operations.

Countywide PM_{10} emissions from agricultural sources have been estimated at only 126 tons/year, and the emissions occur outside the City of El Paso. The TACB considers these emissions de minimis, and, therefore, no further controls are needed.

Chapter 20.64

OFF-STREET PARKING AND LOADING
REQUIREMENTS

Sections:

Article I. Off-Street Parking Requirements

- 20.64.010 Location.
- 20.64.020 Access.
- 20.64.030 Surfacing.
- 20.64.040 Drainage.
- 20.64.050 Landscape planting.
- 20.64.060 Directions to parking spaces—
Locations of parking spaces—
Location and direction of
movements along driveways.
- 20.64.070 Lighting.
- 20.64.080 Signs showing ownership of
parking lots.
- 20.64.090 Temporary shelters for use of
parking lot attendant.
- 20.64.100 Maintenance.
- 20.64.110 Use restrictions.
- 20.64.120 Number required.
- 20.64.130 Barriers—Requirements.
- 20.64.140 Use of compact spaces to fill
required number of spaces.
- 20.64.150 Location in front or side yard
prohibited in R districts.
- 20.64.160 Number—Computing.
- 20.64.170 Specific requirements.
- 20.64.175 Parking waivers.
- 20.64.180 Interpretation of specific
requirements.

Article II. Off-Street Loading Spaces

- 20.64.190 Number of spaces required.
- 20.64.200 Interpretation of requirements.

Article I. Off-Street Parking Requirements

20.64.010 Location.

For residential and nonresidential uses, all off-street parking facilities shall be located on the same premises as the structure served except as

provided by special permit under a specific use district, or as otherwise provided in this code. (Ord. 9616 § 27, 1989; prior code § 25-60.1(1))

20.64.020 Access.

Access to all off-street parking facilities shall be subject to approval by the director of traffic and transportation. Access shall be arranged to minimize turning movements on the public street. The use of R, A, or C-OP zoned property to gain access to a parking area on a separate site for a use which is not permitted in the R, A, or C-OP zones is prohibited. (Prior code § 25-60.1(2))

20.64.030 Surfacing.

Surfacing of all off-street parking facilities shall be with concrete, asphaltic concrete, asphalt oil or any other comparable dust-free surfacing in accordance with specifications approved by the city engineer. (Prior code § 25-60.1(3))

20.64.040 Drainage.

Drainage of all off-street parking facilities shall be required in accordance with standard specifications of the city engineer and subject to his approval. (Prior code § 25-60.1(4))

20.64.050 Landscape planting.

Landscape planting of all off-street parking facilities is required. No more than six parallel or approximately parallel rows of head-in or diagonal parking shall be allowed without a separation by a landscaped area with a minimum width of ten feet. This may be modified by a recommendation of the commission. (Prior code § 25-60.1(5))

20.64.060 Directions to parking spaces—
Locations of parking spaces—
Location and direction of
movements along driveways.

Directions to parking spaces, location of parking spaces, location and direction of movements along driveways providing access to parking