AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

RULE 50 - VISIBLE EMISSIONS

WORKSHOP REPORT

A workshop notice was mailed to all permit holders, all city managers, and the District General Workshop Mailing List. The workshop held on April 16, 1996, was attended by 19 people.

During a workshop in September 1995, new Rule 50 issues were raised by a representative of the rock and mineral industry. After the first workshop, San Diego County Rock Producers Association (SDCRPA) met with members of the Sunset Review Commission Air Regulation Review Committee to reiterate their concerns. SDCRPA presented a list of mobile equipment not capable of complying with existing Rule 50 standards. The Sunset Commission recommended a workshop be held to consider changes to Rule 50 where compliance cannot be achieved and where existing standards would have an adverse affect on jobs. The second workshop addressed concerns raised by the SDCRPA concerning certain types of mobile equipment.

The categories of equipment identified by SDCRPA were: asphalt/hot mix or concrete spreading equipment, road paving/chip spreading equipment, street sweeping operations, stockpile transfer and loading operations, and mineral products excavation and grading operations.

At the second workshop, a Rule 50 workgroup was established. The primary goal of the workgroup was to further define mobile equipment compliance problems and appropriate solutions. The workgroup included representatives of industry, the Environmental Health Coalition, and District staff. Meetings were held on May 9, 1996, and June 6, 1996. As a result of workgroup efforts, Rule 50 will be revised to relax the standards for certain specialized asphalt processes. Specifically, Rule 50 revisions are proposed for performance-based asphalt processes requiring high temperature for application (320°F or above) and for heater scarifers (asphalt heaters).

No changes to Rule 50 are being considered for street sweeping operations, stockpiled material handling, excavation (quarry) operations, or grading operations. Certain equipment, such as asphalt grinders, planers, and profilers, need further review as there is a lack of definitive information on Rule 50 compliance problems. Such processes will be revisited the next time Rule 50 is revised.

Several other revisions are proposed to bring Rule 50 Standards into alignment with State law for pile drivers and for vessels. There are also several exemptions proposed for smoke from fire fighting training and obscurants used in military exercises, as emissions from such processes are for the purpose of obscuring visibility during training or military exercises. Controlling such emissions would defeat the purpose of the training or exercise.

The workshop report includes District written responses to specific comments from the workshop, the Rule 50 workgroup, and written comments received.

1. <u>WORKSHOP COMMENTS:</u>

The regulated industry is concerned about ambiguity in the Rule 50 definition of single source and would like the language clarified.

DISTRICT RESPONSE:

The District understands industry's concern and will amend the definition to define single source as an individual unit or equipment or operation.

2. **WORKSHOP COMMENT:**

Asphalt paving materials are evolving and a new group of performance-based asphalts are available. New paving materials are more reliable, take less time to apply, are tougher, last longer, and use less material. The new performance-based asphalts have high application temperature requirements, 320°F or above and visible emissions are more likely to occur when asphalt material is applied at these temperatures. A contractor has no control over the asphalt specifications, and application temperature requirements. There is no cost effective means of controlling emissions and excess visible emissions cannot be prevented. Regulatory relief is needed for asphalt application temperatures greater than 320°F.

DISTRICT RESPONSE:

Based on available information and statements made by the industry representatives, it does not appear feasible or practical to require such operations to comply with existing Rule 50 standards. The District will recommend standards be relaxed for asphalt applied at temperatures above 320°F. However, it has been demonstrated that emissions from portable spray applied asphalt rubber chip seal operations have controls which meet the existing Rule 50.

3. **WORKSHOP COMMENT:**

Heater scarifiers cannot comply with District Rule 50. In South Coast Air Quality Management District, such equipment is exempt from Rule 401 - Visible Emissions. In San Diego, heater scarifiers don't operate unless under a variance, because this equipment cannot meet existing Rule 50 standards. Even control at 40% opacity may be difficult on some roadways. If this equipment could legally be operated in San Diego County, it would provide a cost effective alternative for rehabilitating certain roadways.

DISTRICT RESPONSE:

The District has had limited experience observing such equipment in use. The last documented observations were nearly 10 years ago. At that time, the equipment under evaluation did not meet Rule 50 visible emission standards. In an effort to assess the need to use such equipment in San Diego County, the District contacted representatives from San Diego City, county, and state agencies responsible for road maintenance. Results of the needs assessment survey indicated there is currently little demand for this type of equipment. Agencies reported they use routine preventive maintenance on road surfaces to minimize the need for this method of road rehabilitation. Additionally, agencies reported using alternative methods such as profilers and equipment for grinding and planing the road surfaces.

Notwithstanding the current lack of demand, the District plans to recommend adding an exemption for this equipment because, when last observed, it did not comply. Inability to comply with the standard meets one of the Sunset Commission's criteria for rule revision. It is not known if the existing standard for heater scarifiers has an adverse impact on jobs in San Diego or if a rule change will have adverse impact on existing companies operating in San Diego using alternative processes.

4. **WORKSHOP COMMENT:**

Quarries often have steep slopes that aren't readily traversed or accessed by a water truck, especially when benching at hard rock quarries. Quarry operations involve materials being pushed down the bench and moved around the floor of the quarry for processing. Water trucks cannot spray high enough on the bench to suppress dust emissions. In addition, bench areas often do not readily absorb water, especially on steep slopes. Therefore, at certain times the visible emission standard can not be met. This is generally a seasonal dust problem since quarry materials lose moisture in dry seasons.

DISTRICT RESPONSE:

District records have been reviewed and inspectors interviewed regarding Rule 50 compliance history at quarries. District records and inspectors' observations do not indicate Rule 50 compliance problems. Additionally, as part of the rule review process, several quarry operations were inspected in April and one in July. Operations were found to be in compliance with existing Rule 50 requirements. Based on the lack of documentation supporting compliance problems the District does not plan to recommend relaxing the standard for these processes.

5. **WORKSHOP COMMENT:**

In San Diego County visible emissions problems have occurred from load-out operations of stockpiled materials. This problem is especially bad in the summer or during prolonged periods of dry weather conditions.

DISTRICT RESPONSE:

District records were reviewed and inspectors interviewed regarding this concern. District records do not support a Rule 50 compliance problem nor do inspectors' observations. Additionally, most stockpiled material is located at stationary sources with permit conditions which require emissions be suppressed. Usually this is done by using water, a dust suppression method shown to be an effective and economical means of controlling dust emissions. The District does not plan a Rule 50 relaxation for stockpile related activities.

6. **WORKSHOP COMMENT:**

Haul roads, whether they are paved or unpaved, are a source of visible emissions even if they are controlled by watering. The industry would like to have visible emissions taken at a specific designated emission point. There are existing permit conditions at stationary sources using such a designated point for visible emissions evaluation. A sample condition reads: "Visible dust emissions from all vehicles traveling on haul roads shall not exceed 20% for more than three (3) minutes in any period of sixty (60) consecutive minutes. Opacity due to vehicles traveling on haul roads shall not exceed 20% at any time at a distance of 8 feet or more above the ground or road surface."

DISTRICT RESPONSE:

The District agrees designating a specific point such as eight feet above the immediate surface of the road is appropriate in conducting visible emissions evaluations for mobile equipment operating on roadways. The District is developing a policy which will standardize the visible emissions evaluation process for mobile equipment on roadways.

7. **WORKSHOP COMMENT:**

Grading operations at a large construction sites (above ten acres) have difficulty keeping an adequate number of water trucks running. Bulldozers travel at thirty miles per hour, and a water truck travels at ten. On a twenty-acre site there may be three or four different types of construction equipment operating at one time. It is difficult to control emissions using water trucks when numerous pieces of equipment are operating, especially during dry weather conditions. Also, good compaction requires a three to one (3:1) or four to one (4:1) ratio to meet construction requirements. If material is watered too much, it becomes a problem of visible emissions versus compaction needs. It is not always possible to meet Rule 50 requirements and regulatory relief is appropriate.

DISTRICT RESPONSE:

Information from District records and the District inspectors does not indicate a Rule 50 compliance problem. Additionally, as part of the rule review process, several construction sites were inspected in April and May. In each case, the operations were in compliance with Rule 50 requirements. The District does not plan to recommend relaxing the standard for such operations. Rule 50 compliance problems have not been documented and current control techniques are working.

8. **WORKSHOP COMMENT:**

Will a list of equipment that might be exempted be provided to workshop participants? Also, is anyone looking into the health impacts of particulate and toxic air contaminant emitted from paving operations? What is the composition of emissions from paving operations? Suggest it is appropriate to do a health risk assessment. Does the District source test for these emissions? What impacts can such emissions have on PM_{10} attainment for the State of California? Why is a rule change necessary since every other urban district is enforcing 20% opacity for visible emissions.

DISTRICT RESPONSE:

The Rule 50 revision would include reference to any equipment where standards have been revised or equipment exempted. The District currently has no information on emissions from paving operations. The District does not require source testing of paving operations, and no test data or other emission data are known to be available. Without this information it is not possible to conduct a health risk assessment.

The District has some information on asphalt plant stack emissions. These emissions may be significantly different in composition than mass emissions from paving operations. The District information on the toxics effects of asphalt fumes is based on either occupational exposures, epidemiological studies, or skin application studies. These studies indicate an increased risk of cancer and other noncancer health effects. (An Emerging Issue: Asphalt Fumes, John B. Mortan, Applied Occupational Environmental Hygiene, May, 1994.) Extrapolation of this information to public exposures is beyond the ability of the District.

The District can not project impacts, if any, on the State PM_{10} standard. Industry has argued these emissions have been occurring and, therefore, will not result in emissions increase. San Diego is considered an urban area, however, the standards in most urban areas are more stringent than in rural areas. Changes in our standard have been requested by the regulated community for certain mobile equipment which can not comply with that standard. In response to industry concerns, the

Board appointed Sunset Review Commission requested the District review the rule and where appropriate revise the standards.

9. **WORKSHOP COMMENT:**

During the paving season the mineral industry has numerous pieces of equipment in operation and some of the equipment cannot comply with Rule 50. Emissions associated with this industry are often earth crust type emissions and not PM_{10} or $PM_{2.5}$ emissions.

DISTRICT RESPONSE

The District does not agree with the statement that earth crust type emissions are not PM_{10} emissions. There are EPA PM_{10} emission factors for numerous construction industry processes. Fugitive dust is considered to be coarse particulate over 1 - 2 microns generated by street cleaning, road dust, mining and construction related activities. Additionally, emissions from paving operations would most likely be condensed oil and, as such, largely PM_{10} emission.

10. **WORKSHOP COMMENT**

The American Lung Association is concerned about PM_{10} emissions being respirable and would like to know what concentration levels are safe. Visible emission exemptions for equipment are a disincentive for compliance and it is likely no attempts will be made to control or reduce emissions. In addition, right now San Diego County is exceeding safe PM_{10} limits and relaxing the rule will only exacerbate PM_{10} problems. Forty-five thousand children in San Diego County have asthma. One thousand deaths annually are associated with particulate matter, 54 people out of every 100,000 San Diego County residents.

DISTRICT RESPONSE:

The District is unaware of any specific information regarding the safe concentration level of PM_{10} emissions. It is not known if emissions are likely to increase by relaxing the standard for certain processes. It is also not known, if an increase should occur, if it would be significant.

11. **WORKSHOP COMMENT:**

The equipment and operations proposed for exemption do not increase visible emissions or particulate matter emissions. These processes are not the source of inhalable or respirable particulate matter. Respirable or inhalable particulate primarily come from combustion sources. An exemption for certain mobile equipment is not a disincentive to comply. Industry does what it can to comply, but in some cases it simply cannot comply. The existing standard unnecessarily puts industry at risk of violation. Other districts enforce the state standard of 40%.

DISTRICT RESPONSE

As stated previously, the District does not agree with the statement that these processes are not the source of PM_{10} emissions. The District agrees that records indicates industry has been making efforts to comply with applicable standards.

12. **WRITTEN COMMENT:**

We have spent a considerable amount of money researching and installing a control device on equipment used for chip seal paving. Manhole Adjusting does not want a change to Rule 50 for hot-spray applications of liquid binder for road paving chip spreading operations.

DISTRICT RESPONSE:

The District agrees. This is a highly specialized process for which controls are available and proven. A rule relaxation is not appropriate as this equipment has been shown to comply with the existing standards.

13. **WRITTEN COMMENT:**

Construction near Sea World and Mission Valley is sometimes the source of unacceptable amounts of diesel by-products. Another concern is with belching smoke coming from earth movers and tar kettles. It would be inappropriate to allow any of these emissions to be legal.

DISTRICT RESPONSE:

The District is not considering a Rule 50 relaxation for any of these processes. Current visible emissions standards for engines, construction equipment and tar kettles are achievable and can be maintained through good equipment maintenance and proper operations.

TM:ap