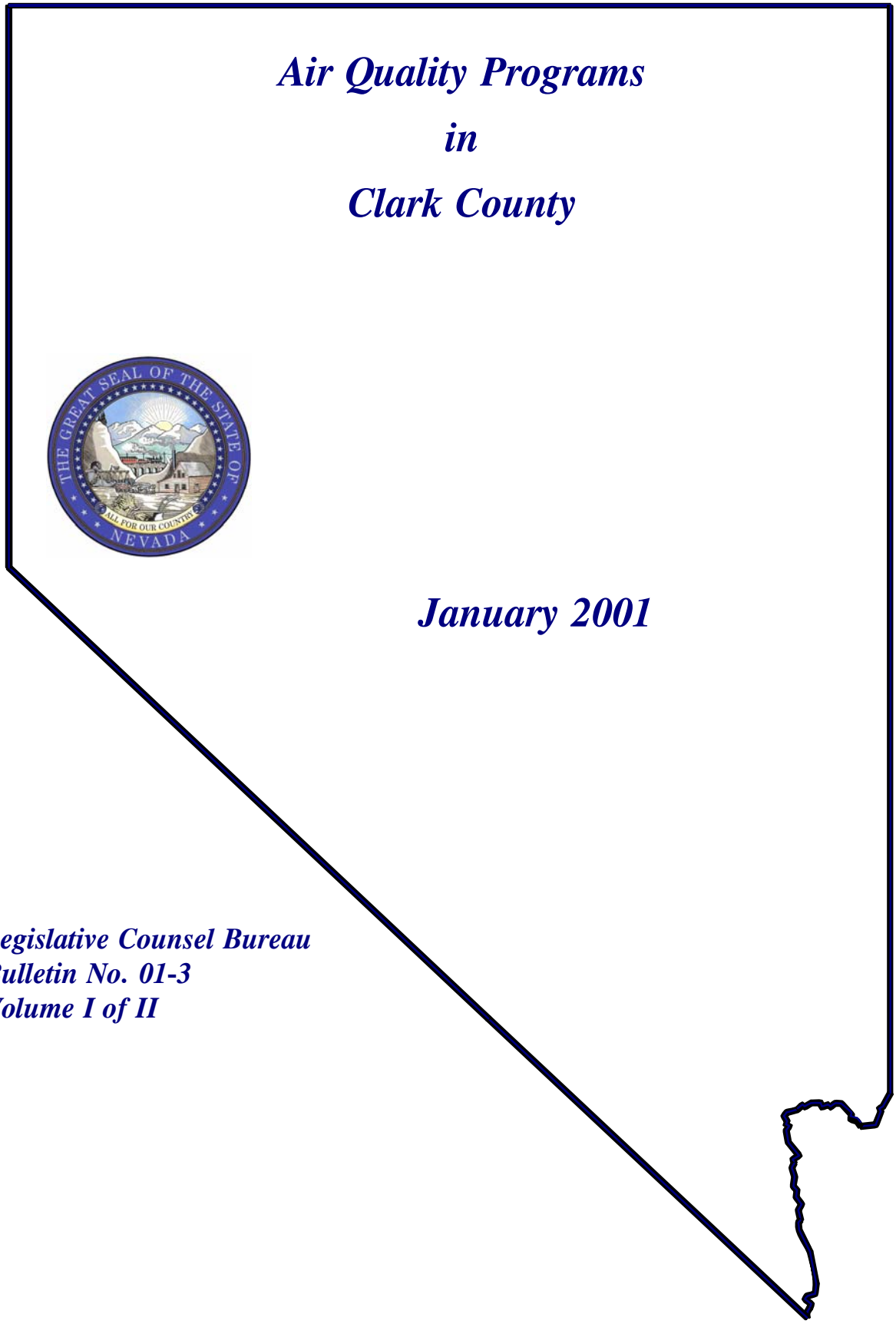
Air Quality Programs
in
Clark County



January 2001

Legislative Counsel Bureau
Bulletin No. 01-3
Volume I of II

AIR QUALITY PROGRAMS IN CLARK COUNTY

BULLETIN NO. 01-3

JANUARY 2001

TABLE OF CONTENTS

Page

Summary of Recommendations iii

Report to the 71st Session of the Nevada Legislature by the Legislative Commission's Subcommittee on Air Quality Programs in Clark County 1

I. Introduction 1

II. Consultant's Study of Air Quality in Clark County 4

A. Background and Overview 4

B. Consultant's Findings and Recommendations 7

1. Issues and Findings 7

2. ENVIRON's Recommendations 8

III. Subcommittee Recommendations 9

A. Governmental Roles and Responsibilities 9

1. Local Governmental Roles and Responsibilities in Clark County 10

2. State Roles and Responsibilities 13

3. Federal Relationship 14

B. Funding Requirements for Air Quality Programs in Clark County 15

C. Alternative Fuels 16

D. Motor Vehicle Emissions 17

E. Miscellaneous Recommendations 18

Page

IV. Selected References 22

V. Appendices 23

Appendix A
Senate Bill 432 of the 1999 Legislative Session
(Chapter 529, *Statutes of Nevada 1999*) 25

Appendix B
Report on the Pilot Program for Surface Street Inspections of
the Emissions of Heavy-Duty Diesel Vehicles in Clark County 31

Appendix C
Information on Vehicles Evading Emission Compliance Requirements and
Potential Number of Vehicles Qualifying for Repair Incentive Program
in Clark County 97

Appendix D
Report by the Clark County District Attorney's Office on Investigation
of the Air Quality Division of the Clark County Health District 103

Appendix E
Legal Opinion on the Clark County Health District's
Emission Reduction Credit Program 109

Appendix F
Suggested Legislation 117

Appendix G
"Final Report, Study of Air Quality Programs in Clark County, Nevada,"
by ENVIRON International Corporation ..... *Volume II*

SUMMARY OF RECOMMENDATIONS

This summary presents the recommendations approved by the Legislative Commission's Subcommittee on Air Quality Programs in Clark County (Senate Bill 432 [Chapter 529, *Statutes of Nevada 1999*]). The Subcommittee submits the following proposals to the 71st Session of the Nevada Legislature:

RECOMMENDATIONS CONCERNING GOVERNMENTAL ROLES AND RESPONSIBILITIES

Local Governmental Roles and Responsibilities in Clark County

1. **First, include a statement in the Subcommittee's final report directing local governmental agencies in Clark County (Clark County Board of Commissioners, Clark County District Board of Health, City of Boulder City, City of Henderson, City of Las Vegas, City of North Las Vegas, City of Mesquite, and the Regional Transportation Commission [RTC] of Clark County) to continue to work with the Southern Nevada Regional Planning Coalition (SNRPC) and follow through on interlocal agreements to restructure existing air quality programs and submit, for introduction in the 2001 Legislative Session, a detailed proposal for legislation to create a new regional air quality authority ("The Southern Nevada Air Quality Management Authority"). Further, direct these local governmental agencies to consider the various recommendations made in Chapter 5, "Governmental Roles and Responsibilities for Air Quality Programs in Clark County, Nevada," of the Final Report submitted by ENVIRON International Corporation on September 29, 2000.**

   Second, draft legislation to implement the local governments' proposal to restructure the air quality programs in Clark County consistent with the work of the SNRPC and the interlocal agreements. (BDR -790)

   Third, request the legislative leadership of the Nevada Senate and Nevada Assembly, of the 71st Session of the Nevada Legislature, to appoint the members of the S.B. 432 Subcommittee as a joint select committee during the 2001 Legislative Session to consider the local governments' proposed legislation to restructure the air quality programs in Clark County and related matters.

2. **Include a statement in the Subcommittee's final report recommending the following actions if a new local air quality agency is established in Clark County:**

   a. **A professional management consultant be employed to help orchestrate the actual organizational setup of the new agency, as well as address such employee issues as continuing health insurance coverage and achieving salary parity. The consultant should also propose a three- to five-year budget plan.**

b. The new agency should include a combination of the current split responsibilities of the Clark County Health District's (CCHD's) Air Quality Division (AQD) and Clark County's air quality team in the Department of Comprehensive Planning. In addition, Clark County's air pollution control board, which is established under existing statutes and the *Clark County Code*, should be terminated when the new agency is established.

c. The new agency should facilitate the following matters:

(i) Improved working conditions for air management professionals;

(ii) Improved equity in salaries;

(iii) Improved communications, public access to data, and public outreach; and

(iv) Improved training of technical and support staff.

3. Draft and enact legislation amending Chapter 445B of *Nevada Revised Statutes* (NRS) to require the local air quality agency in Clark County to conduct a biennial audit of air quality programs in the county as part of its programmatic responsibilities. Working in conjunction with the State Department of Conservation and Natural Resources (SDCNR)/Nevada's Division of Environmental Protection (NDEP) and the United States Environmental Protection Agency (USEPA), the local agency would fund the costs of hiring a contractor to conduct a comprehensive program audit. The audit would be conducted by an independent contractor selected by the local agency through a Request for Proposal (RFP) process and would include a detailed evaluation of the county's ambient air monitoring, compliance, enforcement, permitting, and planning programs. The legislation would require that the local air quality agency in Clark County, in consultation with the SDCNR/NDEP and USEPA, develop specific evaluation and adequacy criteria to be used by the contractor to ensure a consistent and comprehensive review.

In addition, the legislation would amend NRS 445B.520 to require the State Environmental Commission to establish criteria for evaluating the adequacy of local air quality programs in Clark County and make a formal adequacy determination based on the results of the audit. Should inadequacies be found, the Commission would be required to establish the corrective measures that need to be taken. In addition, the legislation would require that a report containing the local air quality agency's biennial audit report, including any issues identified; the adequacy determination; corrective measures; and time lines, as necessary, be prepared by the Commission (SDCNR/NDEP) and provided to the Legislature. (BDR 40-794)

State Roles and Responsibilities

4. **Draft and enact legislation to require that the SDCNR/NDEP: (a) be actively involved in developing, reviewing, and approving State Implementation Plan (SIP) revisions; (b) monitor the timetable for major federal Clean Air Act (CAA) requirements and Clark County's progress on them; (c) be a party to SIP development to the extent that state control measures are part of the control strategy included in the SIP; and (d) comment on draft SIP revisions and testify before the board of the local air quality agency during the adoption process. (BDR 40-794)**

5. **Draft and enact legislation amending Chapter 445B of NRS to assign SDCNR/NDEP the lead role in setting regional haze standards. The State of Nevada will be required to address the federal regional haze mandates in the next three to five years. This program will require coordinated efforts by the SDCNR/NDEP and the local air quality agency in Clark County. The legislation would require SDCNR/NDEP to lead these efforts and have the responsibility for submittal of the regional haze SIP on behalf of the State of Nevada. The NDEP would also be required to work with the counties to provide necessary technical support. (BDR 40-794)**

6. **Include a statement in the Subcommittee's final report recommending that NDEP perform an evaluation of and make recommendations regarding the use of dust suppressants. The extensive application of dust suppressants is critical to meeting the air quality standards for particulate matter PM-10. Because there is a need to evaluate the products available on the market to ensure that safe and environmentally suitable materials are applied, the NDEP should take the lead role in assessing those products and in establishing appropriate restrictions regarding their application. The NDEP should begin this task immediately.**

7. **Include a statement in the Subcommittee's final report recommending that NDEP coordinate, initiate, and lead activities of a Clark County Air Quality Forum. The Air Quality Forum, modeled after the Lake Mead Water Quality Forum, would be created to address air quality issues, coordinate research efforts, and share air quality information within the region. The forum, led by NDEP, would consist of representatives of Clark County; the CCHD or the local air quality agency in Clark County; the Cities of Boulder City, Henderson, Las Vegas, North Las Vegas, and Mesquite; Nevada's Department of Transportation; the RTC; the Department of Motor Vehicles and Public Safety (DMV&PS); the State Department of Agriculture; USEPA; the University and Community College System of Nevada (UCCSN); and the public.**

8. **Include a statement in the Subcommittee's final report recommending that NDEP, in partnership with the UCCSN, develop a training program for air quality professionals. The NDEP has identified a critical need for qualified, professional air quality staff at both the state and local levels, and the Final Report by ENVIRON International Corporation recommends a formalized training agenda for air pollution control staff. The NDEP should also coordinate with the UCCSN and other available training resources to ensure**

that appropriate courses are made readily available to the staff of the state and local air quality agencies in Nevada.

9. **Include a statement in the Subcommittee's final report recommending that state agencies involved in air quality regulation, particularly NDEP and DMV&PS, have membership on local air quality program technical committees in Clark County. Membership and participation on such technical committees would allow the state agencies to enhance the quality of the technical work by providing the benefit of the state's resources and experience, while also increasing the state agencies' understanding of and support for the local effort.**

Federal Relationship

10. **Include a statement in the Subcommittee's final report recommending improving the relationships between Clark County's air pollution control program and the USEPA, as follows:**

    a. **The organization of the local air quality agency in Clark County should include a federal/state liaison officer.**

    b. **Regular meetings between staff of the local air quality agency in Clark County and the USEPA, Region IX, should continue, in order to minimize policy disagreements, solicit timely federal comments, and obtain federal technical assistance.**

11. **Urge, by resolution, that Congress require the United States Department of the Interior's Bureau of Land Management (BLM) and USEPA to work more closely to assure that the BLM addresses state and county regulations contained in the various SIPs. Congress should also require the BLM to clearly identify the air quality impacts in the environmental impact statements concerning proposed land sales. (BDR R-792)**

    Furthermore, include a statement in the Subcommittee's final report recommending that the BLM should be represented on any local air quality agency's technical advisory committee.

RECOMMENDATIONS CONCERNING FUNDING REQUIREMENTS FOR AIR QUALITY PROGRAMS IN CLARK COUNTY

12. **Include a statement in the Subcommittee's final report recommending that local enforcement penalties for air quality violations in Clark County be increased to a level closer to the norm in large and growing local air pollution programs in other jurisdictions.**

13. **Draft and enact legislation to amend Chapter 445B of NRS to require that the SDCNR/NDEP coordinate assessment of and make recommendations regarding funding needs for air pollution control programs throughout Nevada, particularly the local air quality programs in Clark County. As the State of Nevada, particularly Clark County, continues to grow rapidly, attaining and maintaining air quality will become increasingly challenging. The level of effort and resources necessary will increase significantly over time as issues such as regional/urban haze, particulate matter (PM) 2.5, and ozone are also required to be addressed. Increases in funding are a prerequisite to meeting these present and future challenges. The NDEP should take the lead, in coordination with all involved federal, state, and county agencies, to assess the funding needs; and it should investigate and apply for all available funding sources. Furthermore, the NDEP should establish priorities for the use of limited funding, and it should recommend appropriate legislation to the Legislature before the 2003 Legislative Session and each subsequent session. (BDR 40-794)**

RECOMMENDATIONS CONCERNING ALTERNATIVE FUELS

14. **Draft and enact legislation to amend Chapter 486A of NRS to expand the duties of the SDCNR/NDEP relating to its implementation of Nevada's alternative fuels program. The SDCNR/NDEP currently implements the program for conversion of public fleet vehicles to alternative fuels pursuant to Chapter 486A of NRS. The SDCNR/NDEP should enhance coordination with the Nevada State Energy Office, which implements the United States Department of Energy's requirements for conversion of federal and state fleets under the federal Energy Policy Act. Clean fuels are available in Clark County, but the market may need incentives for further development. The SDCNR/NDEP should coordinate further with the Nevada State Energy Office to evaluate, promote, and implement incentives for increased use of alternative fueled vehicles. Public awareness and outreach efforts should be enhanced by these agencies. (BDR 40-794)**

15. **Include a statement in the Subcommittee's final report directing the Nevada State Energy Office and NDEP, in consultation with local governments in Nevada, to study and make recommendations regarding state incentives for the sale and use of alternative fuels in Nevada. On or before April 1, 2001, these agencies should prepare and submit a report, including recommendations for legislation, to the 71st Session of the Nevada Legislature.**

RECOMMENDATIONS CONCERNING MOTOR VEHICLE EMISSIONS

16. **Include a statement in the Subcommittee's final report recommending that the surface street opacity program (for inspecting emissions from heavy-duty diesel vehicles) implemented by DMV&PS as a result of Senate Bill 432 (Chapter 529, *Statutes of Nevada 1999*) be expanded to include gasoline-powered vehicles emitting visible smoke on the highways and surface streets in the Las Vegas Valley. This recommendation will allow DMV&PS to continue its efforts by having heavy-duty diesel vehicles violating the**

opacity standards either repaired or removed from operation, and at the same time address the approximately 9,000 smoking vehicles reported each year. The DMV&PS has indicated that this recommendation can be accomplished without the need for additional resources or statutory authority.

17. **Include a statement in the Subcommittee's final report recommending that the state and local agencies responsible for air quality planning reevaluate the current opacity standards for heavy-duty diesel vehicles operating within the Las Vegas Valley to determine whether significant air quality benefits would be realized by adopting lower opacity cutpoints recommended by the USEPA document, "Guidance to States on Smoke Opacity Cutpoints to be Used with the SAE J1667 In-Use Smoke Test Procedure," dated February 25, 1999. The USEPA document recommends that states adopt a uniform opacity cutpoint of 40 percent for 1991 and newer vehicles, and 55 percent for 1990 and older vehicles.**

18. **Include a statement in the Subcommittee's final report stating the following:**

    "On the basis of statistical information gathered over the past several months, the DMV&PS is recommending that annual emission testing of heavy-duty diesel vehicles not be pursued. The Department feels that the low opacity failure rate (2.4 percent) observed during its enforcement program does not warrant the significant imposition an annual testing program would have on the industry, or the costs associated with such a program."

19. **Draft and enact legislation to amend Chapter 445B of NRS to authorize and require SDCNR/NDEP to develop incentive programs for repairing high-emitting vehicles. According to NDEP, the repair of high-emitting vehicles is critical to successfully reducing mobile source pollution, and, therefore, to achieving and maintaining ambient air quality standards. Furthermore, NDEP reports that a pilot program, recently conducted by DMV&PS and Clark County, resulted in the repair of over 1,100 vehicles that failed smog check tests and were owned by individuals who could not afford to pay the repair costs. The effectiveness of this program is currently being evaluated. Should the program prove to be an effective means of reducing pollution, the NDEP should work with the DMV&PS and the local air quality agency in Clark County to further develop and implement an effective, full-scale incentive program for repairing such vehicles. (BDR 40-794)**

20. **Include a statement in the Subcommittee's final report recommending that the State Environmental Commission, through NDEP, assume increased responsibility for setting emissions standards for motor vehicles. According to NDEP, the State Environmental Commission has made a commitment to adopt emission standards as necessary to achieve and maintain the ambient air quality standards. The NDEP should work with Clark County and the DMV&PS to evaluate the effectiveness of and need for more stringent vehicle emission standards. Effective standards should be proposed to the State Environmental Commission. In addition, the State Environmental Commission**

should consider expanding Nevada's inspection and maintenance (I/M) program for motor vehicles to include additional areas of the state, including, among others, the Lake Tahoe area and commuter communities where residents currently are not required to have smog checks for their vehicles, even though they travel to and from work in areas where smog checks are required.

MISCELLANEOUS RECOMMENDATIONS

21. Include a statement in the Subcommittee's final report recommending that the SNRPC and the local governments in Clark County, as part of restructuring the existing air quality programs and creating a new regional air quality agency in the county, should review and consider implementing the recommendations in ENVIRON's Final Report, particularly those recommendations addressing the following topics:

- **Air Pollution Emission Inventories;**
- **Air Quality Monitoring;**
- **Control Measure Needs Assessment;**
- **Emission Reduction Credit (ERC) Program;**
- **Enforcement of Regulations;**
- **Fugitive Dust Rules; and**
- **Research Coordination and Priorities.**

On or before February 1, 2001, these local agencies should submit a report to the 71st Session of the Nevada Legislature on how they plan to address these recommendations.

22. Include a statement in the Subcommittee's final report directing the Clark County District Board of Health, with assistance and oversight from the SNRPC, to initiate a management organizational study of the AQD of the CCHD. The objectives of the study should be as follows:

a. Determining if the AQD is effectively and efficiently implementing and enforcing the 1990 federal CAA and amendments thereto, and all applicable state and local regulations. Considerations should include communication; management; policies and procedures; responsibilities; staffing and resources; work environment; and conflict of interest.

b. Comparing the practices of AQD to the best practices in the field.

c. Developing, if necessary, an implementation plan for effective managerial practices.

d. Reviewing any previous findings noted by any external agencies.

This management study should be conducted by a qualified, independent consultant. Furthermore, representatives of CCHD and SNRPC should provide a status report on the progress of this study to the Legislative Commission at its meeting on December 11, 2000. On or before February 1, 2001, the final report resulting from this management study should be completed and submitted to the 71st Session of the Nevada Legislature.

23. Include a statement in the Subcommittee's final report directing the Clark County District Board of Health, with assistance and oversight from the SNRPC, to initiate an independent audit of the ERC Program operated by the AQD of the CCHD. This audit should be conducted by a qualified, independent auditing or consulting firm with no previous contractual relationship with, or other experience working for, the CCHD.

24. Draft and enact legislation to amend the provisions of Chapter 445B of NRS to specifically authorize the establishment and operation of an ERC Program and the assessment of any accompanying fees by a local air pollution control agency. (BDR 40-791)

25. Draft and enact legislation to extend the existing statutory whistleblower protection, which is now provided only to state employees (NRS 281.611 through 281.671), to local government employees. This legislation would provide that no retaliatory action may be taken against such an employee for reporting improper governmental action. Furthermore, this legislation should allow local governments to adopt provisions that provide additional whistleblower protection for their employees. (BDR 23-793)

REPORT TO THE 71ST SESSION OF THE NEVADA LEGISLATURE BY THE LEGISLATIVE COMMISSION'S SUBCOMMITTEE ON AIR QUALITY PROGRAMS IN CLARK COUNTY

I. INTRODUCTION

The 70th Session of the Nevada Legislature enacted Senate Bill 432 (Chapter 529, *Statutes of Nevada 1999*), which directed the Legislative Commission to appoint an interim Subcommittee, consisting of three Senators and three Assembly members, to study the programs for air quality control in Clark County. The bill also directed the Legislative Commission to appoint a 16-member advisory committee, representing specific entities and interests, to assist the Subcommittee in the study. See Appendix A for the text of the bill.

The following legislators served on the S.B. 432 Subcommittee:

Senator Jon C. Porter, Sr., Chairman
Senator Mark A. James
Senator Dina Titus
Assemblyman Douglas A. Bache
Assemblyman Bob Beers
Assemblyman David R. Parks

The following persons served on the Advisory Committee to the S.B. 432 Subcommittee:

Richard B. Holmes, Assistant County Manager, Clark County, Chairman
Terri Barber, Southern Nevada Homebuilders Association
Daryl Capurro, Nevada Motor Transport Association
Gina Grey, Western States Petroleum Association
Steven D. Hill, Associated Builders and Contractors of Southern Nevada
Jessica Hodge, Citizen Alert
Jolaine Johnson, Deputy Administrator, Division of Environmental Protection
Berlyn Miller, Nevada Contractors Association
Michael Naylor, Air Quality Division, Clark County Health District
Jim Parsons, Department of Motor Vehicles and Public Safety
Jesse Paulk, Associated General Contractors
Margaret Pierce, Sierra Club
Dr. Doug Selby, City of Las Vegas and Nevada League of Cities
Jacob Snow, Regional Transportation Commission of Clark County
Tom Stephens, Director, Nevada's Department of Transportation
Jan Villaire, Clark County School District

Legislative Counsel Bureau (LCB) staff services for the Subcommittee were provided by Donald O. Williams, Chief Principal Research Analyst, and David S. Ziegler, Principal Research Analyst, of the Research Division; Eileen G. O'Grady, Principal Deputy Legislative Counsel, and Edward A. Johnson II, Deputy Legislative Counsel, of the Legal Division; and Senior Research Secretaries Kennedy, Maureen Kirkman, and Linda Chandler Law of the Research Division.

As part of its responsibilities, the Subcommittee was directed to contract with a qualified, independent consultant to conduct a study of air quality in Clark County. Among other topics, the consultant's study was required to review the following:

- Existing programs related to air quality in the county and methods for improving the efficiency of these programs;

- Programs that may be required in the future to meet air quality standards;

- Current and future funding requirements of air quality programs; and

- The roles of state and local governmental agencies and the private sector in addressing air quality issues in Clark County.

Senate Bill 432 requires the consultant to submit a written report to the Subcommittee, and it requires the Legislative Commission to submit a report of the Subcommittee's findings and recommendations to the 2001 Legislature.

Additionally, S.B 432 includes an appropriation of $500,000 from the Pollution Control Account of the State General Fund to the Legislative Commission to carry out the provisions of the bill. The measure specifies, however, that at least $100,000 of the appropriation must be distributed to the Department of Motor Vehicles and Public Safety (DMV&PS) to implement a program of inspection of heavy-duty diesel powered vehicles in Clark County.

At the beginning of the interim study, the Subcommittee's advisory committee assisted in preparing a Request for Proposal (RFP) for a consultant to conduct the air quality study, and it later screened the seven proposals that were submitted as a result of the RFP process. After hearing presentations from the three consulting firms recommended by the advisory committee, the Subcommittee selected ENVIRON International Corporation (ENVIRON) to conduct the study. A contract was signed, and the consultant began its work on January 13, 2000.

The consultant presented the Subcommittee with monthly progress reports, and participated in all the Subcommittee meetings held after its work commenced. Pursuant to the provisions of the contract, ENVIRON submitted a final draft report on June 23, 2000. At the direction of the Subcommittee, the consultant revised that report and submitted its Final Report on September 29, 2000. In compliance with the provisions of S.B. 432 and the contract with the Subcommittee, ENVIRON's report includes detailed information and analysis of current and future air quality in Clark County and potential future air pollution control measures for the county.

In addition, the report includes information and recommendations regarding funding requirements and governmental responsibilities for air quality programs in Clark County.

The Subcommittee held a total of eight meetings, including the final meeting and work session, during the course of the study. All of these public hearings were held in legislative meeting rooms at the Grant Sawyer State Office Building in Las Vegas, Nevada, and they were conducted through simultaneous videoconferences between the Las Vegas location and meeting rooms at the Legislative Building in Carson City, Nevada.

During the course of this interim study, the Subcommittee obtained extensive expert and public testimony concerning Clark County's air quality programs. It received testimony and correspondence from concerned citizens, environmental groups, business owners, representatives of regulated industries, various interest groups, and the Subcommittee's consultant. State and local officials contributed significant information and suggestions throughout the study.

At its final meeting and work session, the Subcommittee adopted 25 recommendations, including five bill draft requests (BDRs), for consideration by the 2001 Legislature. The recommendations, most of which are based on the consultant's recommendations in its Final Report, address the following major topics:

- Governmental Roles and Responsibilities for Air Quality Programs in Clark County;
- Funding Requirements for Air Quality Programs in Clark County;
- Alternative Fuels; and
- Motor Vehicle Emissions.

See Appendix F for the Subcommittee's suggested legislation (BDRs).

The subsequent sections of this report include an overview of the consultant's study and a discussion of the Subcommittee's recommendations. A copy of the ENVIRON Final Report is included as Appendix G (*Volume II* of LCB Bulletin No. 01-3).

In this document, the Subcommittee has attempted to present its findings and recommendations in a concise form. A great amount of data was gathered during this study, and much of the information was provided in exhibits that became part of the minutes of the Subcommittee's meetings. All supporting documents and minutes of meetings are on file with the Research Library of the LCB.

II. CONSULTANT'S STUDY OF AIR QUALITY IN CLARK COUNTY

Senate Bill 432 requires the Subcommittee appointed by the Legislative Commission to contract with a qualified, independent consultant to conduct a study of air quality in Clark County and negotiate the terms of the contract. The bill also requires the Subcommittee to establish the scope of the study. Furthermore, S.B. 432 provides that the Subcommittee ensure that the consultant adhere to the scope of the study and complete the study on time by requiring progress reports and establishing a schedule for completing the study.

The following sections discuss the Subcommittee's contract with a consultant, and they include a summary of the findings and recommendations from the consultant's study.

A. BACKGROUND AND OVERVIEW

As previously mentioned, S.B. 432 includes an appropriation of $500,000 from the Pollution Control Account of the State General Fund to the Legislative Commission to carry out the provisions of the bill. At its meeting on August 19, 1999, the Legislative Commission approved the distribution of $100,000 to DMV&PS for its inspection of heavy-duty diesel vehicles pursuant to S.B. 432, and it approved a meeting and operating budget for the Subcommittee. After making those allocations, the sum of $386,440 remained for the Subcommittee to use in contracting with a consultant to conduct a study of the air quality in Clark County.

At the beginning of the study, Senator Jon C. Porter, Sr., Chairman of the S.B. 432 Subcommittee, directed the Subcommittee's advisory committee to develop a scope of study and draft a RFP to be used in hiring a consultant. On September 14 and 24, 1999, the Advisory Committee to the S.B. 432 Subcommittee met and developed the scope of the study elements and language to be included in a draft RFP.

The Subcommittee met on October 4, 1999, to consider the advisory committee's proposed scope of study and draft RFP. The Subcommittee approved, with some minor revisions, the scope of study and RFP, and authorized the LCB staff to finalize and distribute the document. On October 8, 1999, the RFP was posted on the websites of the Nevada Legislature and the Purchasing Division of Nevada's Department of Administration. In addition, copies of the RFP were mailed to a list of firms which perform air quality consulting, including firms with recent experience in the western United States; the Phoenix, Arizona, metropolitan area; and the Atlanta, Georgia, metropolitan area.

The RFP process resulted in the submission of proposals from seven major consulting firms, all with significant air quality experience. At the direction of the Subcommittee's Chairman, the advisory committee met on November 12, 1999, to evaluate the proposals. The advisory committee recommended three of the seven proposals for final consideration by the Subcommittee.

The Subcommittee met on November 22, 1999, to hear presentations from the three finalists. At the conclusion of the presentations, the Subcommittee deliberated before selecting ENVIRON as the consultant to conduct the study. In making the selection, the Subcommittee directed ENVIRON to revise the scope of its work to clarify that the role of the consultant is not to obtain public consensus on air quality issues. The scope of work was revised to the satisfaction of the Subcommittee, and both parties signed a contract for $386,440. The consultant began its work on January 13, 2000.

Under the provisions of the contract, ENVIRON was required to conduct a study of air quality programs in Clark County as follows:

1. To identify and evaluate the efficiency of current air quality programs in Clark County and methods for improving their effectiveness. This part of the study was to focus on the accuracy of the air monitoring network, with underlying assumptions such as population and the tools used to make those assumptions as well as specific components of current programs. (Task 1)

2. To identify and evaluate programs that may be required in the future to meet air quality standards for particulates, carbon monoxide, ozone, regional haze, and visibility. This part of the study was to assess emission and air quality effects of programs as well as cost effectiveness, feasibility, and implementation issues. (Task 2)

3. To determine current and future funding requirements of air quality programs in Clark County, including sources of funding and methods for determining adequate funding levels for such programs. (Task 3)

4. To identify the roles of state and local governmental entities and private entities in addressing air quality issues in Clark County. The primary objective of this task was to develop recommendations regarding an effective governmental and institutional structure for addressing air quality issues in Clark County. (Task 4)

5. To develop recommendations based upon the results of the Tasks 1 through 4 and to include the following, without limitation:

    - Clean air objectives applicable to Clark County;

    - An assessment of the effectiveness of the current air quality programs and potential cost-effective improvements to those programs;

    - Recommended program needs, and the technical and institutional strategies for meeting those needs;

    - Cost-effectiveness of recommended programs in comparison with other considered programs;

- Technological feasibility of recommended programs based upon availability, effectiveness, reliability, and safety;

- Political and social considerations relevant to recommended programs;

- Funding requirements for recommended programs, and sources and alternative sources of funding those programs; and

- An assessment of the effects of any uncertainty on the expected needs of the recommended programs, including, without limitation, an assessment of the needs using the upper and lower reasonable ranges of underlying factors such as population, land use, or modeling tools.

Furthermore, ENVIRON was required to submit a report upon the completion of each of the four tasks described above. In addition, the contract required ENVIRON to submit monthly written progress reports and participate in all meetings of the Subcommittee. Senate Bill 432 requires the consultant to submit a written report of the study on or before June 30, 2000. The contract with ENVIRON provided that a draft report be submitted on or before June 30 and a Final Report be submitted on or before September 29, 2000.

At the Subcommittee's meeting on February 14, 2000, Chairman Porter requested the individual members of the advisory committee to assist in reviewing and commenting on the four draft task reports from the consultant. ENVIRON submitted these draft reports in May of 2000, and they were distributed for consideration by the members of the Subcommittee, individual members of the advisory committee, and the Subcommittee's staff. The draft task reports and preliminary recommendations from the consultant were discussed at the Subcommittee's meeting on June 5, 2000. After considering the various comments submitted in regard to the draft reports and recommendations, ENVIRON prepared its final draft report and submitted it to the Subcommittee on June 23, 2000.

At its meeting on July 10, 2000, the Subcommittee reviewed the consultant's final draft report, and the Chairman asked that comments on this draft report be submitted directly to ENVIRON no later than July 28, 2000. After considerable discussion by members of the Subcommittee, Chairman Porter recommended that ENVIRON add language in its Final Report to address comments regarding the inspection and maintenance (I/M) program for motor vehicles; the new fugitive dust regulations adopted by the Clark County Health District (CCHD); and the role of the United States Department of the Interior's Bureau of Land Management (BLM) in contributing to and controlling fugitive dust on public lands in southern Nevada. The Chairman also directed the Subcommittees' staff to review the comments submitted on the final draft report and make certain that ENVIRON considered those comments before preparing its Final Report.

After addressing Chairman Porter's recommendations and considering the various comments made on its final draft report, ENVIRON prepared its Final Report and submitted it to the Subcommittee on September 29, 2000.

B. CONSULTANT'S FINDINGS AND RECOMMENDATIONS

The ENVIRON International Corporation's findings and recommendations regarding air quality programs in Clark County were first presented at the Subcommittee's meeting on June 5, 2000, after the draft task reports had been submitted. This information, which is summarized below, is presented in detail in ENVIRON's Final Report, dated September 29, 2000 (see Appendix G [*Volume II* of LCB Bulletin No. 01-3]).

1. Issues and Findings

The issues and findings identified by ENVIRON are as follows:

- The monitoring of pollution levels in the atmosphere (air quality monitoring) is improving, but additional work has yet to be done;

- Research products are generally good, but are not well coordinated among sponsoring agencies, resulting in less than optimal use of research funds and a lack of effective long-term focus of research activities;

- Enforcement of existing air pollution reduction programs is improving, but more improvements are clearly needed;

- Air pollutant emissions inventories, which are critical to proper decision-making, need to be much improved and organized;

- Public outreach of air pollution program information needs to be improved, especially through the use of widespread Internet access to air pollution related program material, including emissions inventories, air quality, enforcement activities, research plans, and project descriptions; proposed and adopted pollution reduction strategies; and State Implementation Plans (SIPs);

- The Las Vegas area is identified by the United States Environmental Protection Agency (USEPA) as exceeding the National Ambient Air Quality Standards (NAAQS) for both particulate matter (PM) and carbon monoxide (CO);

- The area is also very likely exceeding the proposed eight-hour ozone NAAQS;

- Inadequate data exists to either support or dispel public perception of deteriorating visibility (increased regional haze);

- Significant improvements have occurred in ambient levels of CO, and attainment of that one standard of the NAAQS is likely in the very near future;

- Air quality plans for attaining and maintaining the NAAQS for CO, inhalable PM less than 10 microns in diameter (PM-10), and ozone (due to the new standard) need to be done much better than in the past;

- Accurate population projections, which are fundamental to future air quality planning, have been inconsistent and poorly reconciled in the past, but have very recently been apparently resolved;

- Many regulations limiting air pollution emissions, which are in effect elsewhere in the United States, could be effective in reducing the ambient concentrations of pollutants in the Las Vegas area. The evaluation of the need for such regulations should be carried out within the framework of effective air planning for SIPs for attaining and maintaining the NAAQS;

- There is considerable inter- and intra-agency stress, especially within the Air Quality Division (AQD) of the Clark County Health District and between AQD and the air quality team of the Clark County Department of Comprehensive Planning (Comprehensive Planning); this results in significantly reduced public confidence and reduced effectiveness in program administration;

- Roles, responsibilities, and authority between AQD and Comprehensive Planning are not optimal;

- The Regional Transportation Commission (RTC) of Clark County functions effectively in providing transportation information related to air pollution to other regulatory agencies, and RTC is a major stakeholder in SIP submittal and approval by the USEPA;

- Resources for air pollution management in Clark County are lower than optimal, especially when compared to agencies elsewhere with similar air pollution challenges; and

- Additional financial resource opportunities exist, in line with similar allocations in other U.S. cities.

2. ENVIRON's Recommendations

The overall recommendations presented by ENVIRON are as follows:

- Improving ambient monitoring of air pollutants, both for existing and likely future air pollution problems;

- Improving air pollutant emissions inventories;

- Improving public accessibility to air pollution program data and other information;

- Implementing a better process for timely and technically acceptable development of SIPs to be submitted to the USEPA;

- Implementing a better, more comprehensive evaluation of the need for, and nature of, additional emissions reduction measures, especially for ozone, PM, and regional haze;

- Improving research coordination and resource use optimization;

- Implementing a better, more consistent enforcement of existing regulations;

- Retaining the RTC in its current role;

- Eliminating the AQD of the County Health District, and eliminating Comprehensive Planning's air management functions; and

- Consolidating existing air pollution programs in Clark County by creating a new, single agency for air quality program management in the county.

III. SUBCOMMITTEE RECOMMENDATIONS

At its final meeting and work session on October 13, 2000, the S.B. 432 Subcommittee adopted 25 recommendations under the topics of governmental roles and responsibilities, funding requirements for air quality programs in Clark County, alternative fuels, motor vehicle emissions, and miscellaneous recommendations. These proposals, which include five BDRs, are submitted for consideration by the 2001 Legislature. Appendix F contains the list of BDRs.

Although the Subcommittee's recommendations focus on air quality programs in Clark County, the chair of the Legislative Commission recommended, at the Commission's meeting on December 11, 2000, that serious consideration should be given to including Washoe County in any proposed legislation that might improve air quality programs in that county.

Organized by topic headings, the following sections of the report discuss the Subcommittee's recommendations.

A. GOVERNMENTAL ROLES AND RESPONSIBILITIES

The S.B. 432 Subcommittee and ENVIRON spent a great amount of time and effort studying the existing roles and responsibilities of local, state, and federal governmental agencies in addressing air quality issues in Clark County. After identifying various problems and shortcomings in the current governmental regulatory system, the Subcommittee and the consultant have proposed changes at all levels of government. These proposals are presented in the recommendations that follow.

1. Local Governmental Roles and Responsibilities in Clark County

Throughout the course of the interim study, the Subcommittee received a significant amount of testimony and written correspondence from various citizen groups and individuals in Clark County who expressed serious concerns with the policies and practices of the AQD of the Clark County Health District. Some of the concerns reflected allegations of conflict of interest, inadequate allocation of enforcement resources, lack of responsiveness to requests for information, and a perception of mismanagement.

ENVIRON compared the AQD with similar agencies in other states, and it found the division to have serious shortcomings. More specifically, the consultant rated the AQD as seriously deficient in the categories of effective staff management, compliance, and enforcement. The division was rated as below average in air agency staff, external support and oversight, and public outreach.

ENVIRON and the Subcommittee also found that many members of the public and certain governmental agencies did not trust the management staff of the AQD, and the consultant discovered considerable conflict and lack of communication between the division and other agencies in the county.

As a result of these findings, ENVIRON recommended the creation of a new, single-purpose air quality agency in Clark County, with a governing board of various state and local officials. The proposed agency would have combined the existing split responsibilities between the AQD and the air quality team of Comprehensive Planning. Details of the ENVIRON proposed structure of the recommended new agency are described on pages 5-28 to 5-35 in Chapter 5 of the ENVIRON Final Report (See Appendix G [*Volume II*]).

At the Subcommittee's meeting on June 5, 2000, Chairman Porter directed the local governments in Clark County to develop a plan to restructure the existing air quality programs in the county to avoid the Legislature forcing on them a new agency structure, such as the one proposed by ENVIRON. Chairman Porter directed the local governments to provide the Subcommittee with an implementation plan showing how the new agency would work, how the transition would take place, and whether or not any legislation would be needed. With the oversight and assistance of the Southern Nevada Regional Planning Coalition (SNRPC), the local governments in Clark County responded to the Chairman's directive and presented the Subcommittee with a preliminary proposal at the meeting on August 7, 2000.

In response to the information presented by ENVIRON, SNRPC, and the local governments in Clark County, the Subcommittee adopted the following recommendation:

> ***First, include a statement in the Subcommittee's final report directing local governmental agencies in Clark County (Clark County Board of Commissioners, Clark County District Board of Health, City of Boulder City, City of Henderson, City of Las Vegas, City of North Las Vegas, City of Mesquite, and the Regional Transportation Commission [RTC] of***

Clark County) to continue to work with the Southern Nevada Regional Planning Coalition (SNRPC) and follow through on interlocal agreements to restructure existing air quality programs and submit, for introduction in the 2001 Legislative Session, a detailed proposal for legislation to create a new regional air quality authority ("The Southern Nevada Air Quality Management Authority"). Further, direct these local governmental agencies to consider the various recommendations made in Chapter 5, "Governmental Roles and Responsibilities for Air Quality Programs in Clark County, Nevada," of the Final Report submitted by ENVIRON International Corporation on September 29, 2000.

Second, draft legislation to implement the local governments' proposal to restructure the air quality programs in Clark County consistent with the work of the SNRPC and the interlocal agreements. **(BDR -790)**

Third, request the legislative leadership of the Nevada Senate and Nevada Assembly, of the 71st Session of the Nevada Legislature, to appoint the members of the S.B. 432 Subcommittee as a joint select committee during the 2001 Legislative Session to consider the local governments' proposed legislation to restructure the air quality programs in Clark County and related matters.

Endorsing ENVIRON's suggestions for the management and staffing of a new air quality agency in Clark County, the Subcommittee voted in the affirmative to:

Include a statement in the Subcommittee's final report recommending the following actions if a new local air quality agency is established in Clark County:

a. A professional management consultant be employed to help orchestrate the actual organizational setup of the new agency, as well as address such employee issues as continuing health insurance coverage and achieving salary parity. The consultant should also propose a three- to five-year budget plan.

b. The new agency should include a combination of the current split responsibilities of the Clark County Health District's Air Quality Division and Clark County's air quality team in the Department of Comprehensive Planning. In addition, Clark County's air pollution control board, which is established under existing statutes and the Clark County Code, should be terminated when the new agency is established.

c. The new agency should facilitate the following matters:

(i) Improved working conditions for air management professionals;
(ii) Improved equity in salaries;
(iii) Improved communications, public access to data, and public outreach; and
(iv) Improved training of technical and support staff.

At the Subcommittee's meeting on September 18, 2000, the administrator of Nevada's Division of Environmental Protection (NDEP) presented a proposal for NDEP to oversee and fund a biennial audit of Clark County's air quality program(s). Senators Porter and James both indicated that such an audit should be the responsibility of the local air quality agency and funded with money available to that agency, and they asked NDEP to develop an alternative proposal for the Subcommittee to consider. At the Subcommittee's work session on October 13, 2000, the administrator of NDEP presented two options for a biennial audit. After considerable discussion and deliberation, the Subcommittee adopted the following recommendation:

Draft and enact legislation amending Chapter 445B of Nevada Revised Statutes (NRS) to require the local air quality agency in Clark County to conduct a biennial audit of air quality programs in the county as part of its programmatic responsibilities. Working in conjunction with the State Department of Conservation and Natural Resources (SDCNR)/Nevada's Division of Environmental Protection (NDEP) and the United States Environmental Protection Agency (USEPA), the local agency would fund the costs of hiring a contractor to conduct a comprehensive program audit. The audit would be conducted by an independent contractor selected by the local agency through a Request for Proposal (RFP) process and would include a detailed evaluation of the county's ambient air monitoring, compliance, enforcement, permitting, and planning programs. The legislation would require that the local air quality agency in Clark County, in consultation with the SDCNR/NDEP and USEPA, develop specific evaluation and adequacy criteria to be used by the contractor to ensure a consistent and comprehensive review.

In addition, the legislation would amend NRS 445B.520 to require the State Environmental Commission to establish criteria for evaluating the adequacy of local air quality programs in Clark County and make a formal adequacy determination based on the results of the audit. Should inadequacies be found, the Commission would be required to establish the corrective measures that need to be taken. In addition, the legislation would require that a report containing the local air quality agency's biennial audit report, including any issues identified; the adequacy determination; corrective measures; and time lines, as necessary, be prepared by the Commission (SDCNR/NDEP) and provided to the Legislature. **(BDR 40-794)**

2. State Roles and Responsibilities

A major issue consistently raised by members of the Subcommittee and identified by the consultant is the need for the State of Nevada to provide increased oversight and technical assistance to Clark County in the area of air quality compliance. In particular, ENVIRON recommended that NDEP play a bigger role in the development, review, and approval of SIP revisions. At the direction of the Subcommittee, the administrator of NDEP worked with representatives of the SNRPC and local agencies in Clark County to develop several proposals to increase the State's role in Clark County's air quality programs. Most of those proposals were adopted by the Subcommittee and are reflected in the following recommendations:

- ***Draft and enact legislation to require that the State Department of Conservation and Natural Resources (SDCNR) and Nevada's Division of Environmental Protection (NDEP): (1) be actively involved in developing, reviewing, and approving State Implementation Plan (SIP) revisions; (2) monitor the timetable for major federal Clean Air Act requirements and Clark County's progress on them; (3) be a party to SIP development to the extent that state control measures are part of the control strategy included in the SIP; and (4) comment on draft SIP revisions and testify before the board of the local air quality agency during the adoption process.*** **(BDR 40-794)**

- ***Draft and enact legislation amending Chapter 445B of NRS to assign SDCNR/NDEP the lead role in setting regional haze standards. The State of Nevada will be required to address the federal regional haze mandates in the next three to five years. This program will require coordinated efforts by the SDCNR/NDEP and the local air quality agency in Clark County. The legislation would require SDCNR/NDEP to lead these efforts and have the responsibility for submittal of the regional haze SIP on behalf of the State of Nevada. The NDEP would also be required to work with the counties to provide necessary technical support.*** **(BDR 40-794)**

- ***Include a statement in the Subcommittee's final report recommending that NDEP perform an evaluation of and make recommendations regarding the use of dust suppressants. The extensive application of dust suppressants is critical to meeting the air quality standards for particulate matter. Because there is a need to evaluate the products available on the market to ensure that safe and environmentally suitable materials are applied, the NDEP should take the lead role in assessing those products and in establishing appropriate restrictions regarding their application. The NDEP should begin this task immediately.***

- ***Include a statement in the Subcommittee's final report recommending that NDEP coordinate, initiate, and lead activities of a Clark County Air Quality Forum. The Air Quality Forum, modeled after the Lake Mead Water Quality Forum, would be created to address air quality issues, coordinate***

research efforts, and share air quality information within the region. The forum, led by NDEP, would consist of representatives of Clark County; the Clark County Health District or the local air quality agency in Clark County; the Cities of Boulder City, Henderson, Las Vegas, North Las Vegas, and Mesquite; Nevada's Department of Transportation; the Regional Transportation Commission; the Department of Motor Vehicles and Public Safety (DMV&PS); the State Department of Agriculture; the United States Environmental Protection Agency; the University and Community College System of Nevada (UCCSN); and the public.

- ***Include a statement in the Subcommittee's final report recommending that NDEP, in partnership with the UCCSN, develop a training program for air quality professionals. The NDEP has identified a critical need for qualified, professional air quality staff at both the state and local levels, and the Final Report by ENVIRON International Corporation recommends a formalized training agenda for air pollution control staff. The NDEP should also coordinate with the UCCSN and other available training resources to ensure that appropriate courses are made readily available to the staff of the state and local air quality agencies in Nevada.***

- ***Include a statement in the Subcommittee's final report recommending that state agencies involved in air quality regulation, particularly NDEP and DMV&PS, have membership on local air quality program technical committees in Clark County. Membership and participation on such technical committees would allow the state agencies to enhance the quality of the technical work by providing the benefit of the state's resources and experience, while also increasing the state agencies' understanding of and support for the local effort.***

3. Federal Relationship

ENVIRON identified a few areas where Clark County air quality agencies could improve their relationship with USEPA, and the Subcommittee recognized that the federal BLM needs to improve its efforts to control fugitive dust on its public lands. Therefore, the Subcommittee adopted the following recommendations:

- ***Include a statement in the Subcommittee's final report recommending improving the relationships between Clark County's air pollution control program and the United States Environmental Protection Agency (USEPA), as follows:***

  a. The organization of the local air quality agency in Clark County should include a federal/state liaison officer; and

b. Regular meetings between staff of the local air quality agency in Clark County and the USEPA, Region IX, should continue, in order to minimize policy disagreements, solicit timely federal comments, and obtain federal technical assistance.

- *Urge, by resolution, that Congress require the United States Department of the Interior's Bureau of Land Management (BLM) and USEPA to work more closely to assure that the BLM addresses state and county regulations contained in the various State Implementation Plans. Congress should also require the BLM to clearly identify the air quality impacts in the environmental impact statements concerning proposed land sales.* **(BDR R-792)**

  Furthermore, include a statement in the Subcommittee's final report recommending that the BLM should be represented on any local air quality agency's technical advisory committee.

B. FUNDING REQUIREMENTS FOR AIR QUALITY PROGRAMS IN CLARK COUNTY

ENVIRON found that Clark County's air quality permit fees and air quality enforcement fines and penalties are significantly lower than such fees, fines, and penalties imposed by agencies in similar jurisdictions in other states. Based on a recommendation by the consultant, the Subcommittee acted to:

Include a statement in the Subcommittee's final report recommending that local enforcement penalties for air quality violations in Clark County be increased to a level closer to the norm in local air pollution programs in other large and growing jurisdictions.

In response to recommendations made by the administrator of NDEP and representatives of the SNRPC, the Subcommittee included language suggested by Assemblyman Bache and voted in the affirmative to:

Draft and enact legislation to amend Chapter 445B of NRS to require that the State Department of Conservation and Natural Resources (SDCNR) and Nevada's Division of Environmental Protection (NDEP) coordinate assessment of and make recommendations regarding funding needs for air pollution control programs throughout Nevada, particularly the local air quality programs in Clark County. As the State of Nevada, particularly Clark County, continues to grow rapidly, attaining and maintaining air quality will become increasingly challenging. The level of effort and resources necessary will increase significantly over time as issues such as regional/urban haze, particulate material (PM) 2.5, and ozone are also required to be addressed. Increases in funding are a prerequisite to meeting these present and future challenges. The NDEP should take the lead, in coordination with all involved federal, state, and county agencies, to assess the funding needs; and it should investigate and apply for all available funding

sources. Furthermore, the NDEP should establish priorities for the use of limited funding, and it should recommend appropriate legislation to the Legislature before the 2003 Legislative Session and each subsequent session. **(BDR 40-794)**

C. ALTERNATIVE FUELS

At its meeting on July 10, 2000, the Subcommittee heard a series of presentations on alternative fuels for motor vehicles and related air quality issues, including information on butane, ethanol, natural gas, oxydiesel, propane, and other alternative fuels. On September 18, 2000, the Subcommittee received testimony on tax and other incentives adopted by various states to encourage the sale and use of alternative fuels.

At its work session, the Subcommittee adopted the following recommendation proposed by the administrator of NDEP:

Draft and enact legislation to amend Chapter 486A of NRS to expand the duties of the State Department of Conservation and Natural Resources (SDCNR) and Nevada's Division of Environmental Protection (NDEP) relating to its implementation of Nevada's alternative fuels program. The SDCNR/NDEP currently implements the program for conversion of public fleet vehicles to alternative fuels pursuant to Chapter 486A of NRS. The SDCNR/NDEP should enhance coordination with the Nevada State Energy Office, which implements the United States Department of Energy's requirements for conversion of federal and state fleets under the federal Energy Policy Act. Clean fuels are available in Clark County, but the market may need incentives for further development. The SDCNR/NDEP should coordinate further with the Nevada State Energy Office to evaluate, promote, and implement incentives for increased use of alternative fueled vehicles. Public awareness and outreach efforts should be enhanced by these agencies. **(BDR 40-794)**

Although the Subcommittee considered detailed proposals for legislation to provide alternative fuel incentives, it voted instead to recommend the following:

Include a statement in the Subcommittee's final report directing the Nevada State Energy Office and Nevada's Division of Environmental Protection, in consultation with local governments in Nevada, to study and make recommendations regarding state incentives for the sale and use of alternative fuels in Nevada. On or before April 1, 2001, these agencies should prepare and submit a report, including recommendations for legislation, to the 71st Session of the Nevada Legislature.

D. MOTOR VEHICLE EMISSIONS

As required under the provisions of S.B. 432, the DMV&PS implemented a pilot project to conduct surface street inspections on the emissions of heavy-duty diesel vehicles in Clark County. The DMV&PS presented the results of this pilot project and made recommendations to the Subcommittee in a report, "Heavy-Duty Diesel Surface Street Inspections," dated October 13, 2000. (See Appendix B for a copy of the report from DMV&PS.) After reviewing the report at its work session, the Subcommittee adopted the following recommendations as presented by DMV&PS:

- ***Include a statement in the Subcommittee's final report recommending that the surface street opacity program (for inspecting emissions from heavy-duty diesel vehicles) implemented by the Department of Motor Vehicles and Public Safety (DMV&PS) as a result of Senate Bill 432 (Chapter 529, Statutes of Nevada 1999) be expanded to include gasoline-powered vehicles emitting visible smoke on the highways and surface streets in the Las Vegas Valley. This recommendation will allow DMV&PS to continue its efforts by having heavy-duty diesel vehicles violating the opacity standards either repaired or removed from operation, and at the same time address the approximately 9,000 smoking vehicles reported each year. The DMV&PS has indicated that this recommendation can be accomplished without the need for additional resources or statutory authority.***

- ***Include a statement in the Subcommittee's final report recommending that the state and local agencies responsible for air quality planning reevaluate the current opacity standards for heavy-duty diesel vehicles operating within the Las Vegas Valley to determine whether significant air quality benefits would be realized by adopting lower opacity cutpoints recommended by the United States Environmental Protection Agency (USEPA) document, "Guidance to States on Smoke Opacity Cutpoints to be Used with the SAE J1667 In-Use Smoke Test Procedure," dated February 25, 1999. The USEPA document recommends that states adopt a uniform opacity cutpoint of 40 percent for 1991 and newer vehicles, and 55 percent for 1990 and older vehicles.***

- ***Include a statement in the Subcommittee's final report stating the following:***

  "On the basis of statistical information gathered over the past several months, the DMV&PS is recommending that annual emission testing of heavy-duty diesel vehicles not be pursued. The Department feels that the low opacity failure rate (2.4 percent) observed during its enforcement program does not warrant the significant imposition an annual testing program would have on the industry, or the costs associated with such a program."

In addition, the Subcommittee adopted the following recommendation that was proposed by the administrator of NDEP at the work session:

Draft and enact legislation to amend Chapter 445B of NRS to authorize and require the State Department of Conservation and Natural Resources and Nevada's Division of Environmental Protection (NDEP) to develop incentive programs for repairing high-emitting vehicles. According to NDEP, the repair of high-emitting vehicles is critical to successfully reducing mobile source pollution, and, therefore, to achieving and maintaining ambient air quality standards. Furthermore, NDEP reports that a pilot program, recently conducted by the Department of Motor Vehicles and Public Safety (DMV&PS) and Clark County, resulted in the repair of over 1,100 vehicles that failed smog check tests and were owned by individuals who could not afford to pay the repair costs. The effectiveness of this program is currently being evaluated. Should the program prove to be an effective means of reducing pollution, the NDEP should work with DMV&PS and the local air quality agency in Clark County to further develop and implement an effective, full-scale incentive program for repairing such vehicles. **(BDR 40-794)**

In response to questions raised during the Legislative Commission meeting on December 11, 2000, the DMV&PS prepared a brief report indicating that 45,668 motor vehicles in Clark County could qualify under a repair incentive program each year. (See Appendix C.)

In amending a proposal made by the administrator of NDEP, the Subcommittee voted in the affirmative to include language suggested by Senator Titus in the following recommendation:

Include a statement in the Subcommittee's final report recommending that the State Environmental Commission, through Nevada's Division of Environmental Protection (NDEP), assume increased responsibility for setting emissions standards for motor vehicles. According to NDEP, the State Environmental Commission has made a commitment to adopt emission standards as necessary to achieve and maintain the ambient air quality standards. The NDEP should work with Clark County and the Department of Motor Vehicles and Public Safety (DMV&PS) to evaluate the effectiveness of and need for more stringent vehicle emission standards. Effective standards should be proposed to the State Environmental Commission. In addition, the State Environmental Commission should consider expanding Nevada's inspection and maintenance program for motor vehicles to include additional areas of the state, including, among others, the Lake Tahoe area and commuter communities where residents currently are not required to have smog checks for their vehicles, even though they travel to and from work in areas where smog checks are required.

E. MISCELLANEOUS RECOMMENDATIONS

The ENVIRON International Corporation's Final Report contains significant findings and recommendations concerning the need for Clark County's air quality programs to make improvements in the areas of air pollution emission inventories, air quality monitoring, control

measure needs assessment, emission reduction credits, enforcement, fugitive dust, and research. Recognizing the need for the local agencies to develop a plan of action to address these concerns, the Subcommittee voted in the affirmative to:

> ***Include a statement in the Subcommittee's final report recommending that the Southern Nevada Regional Planning Coalition and the local governments in Clark County, as part of restructuring the existing air quality programs and creating a new regional air quality agency in the county, should review and consider implementing the recommendations in the ENVIRON International Corporation's Final Report, particularly those recommendations addressing the following topics:***
>
> ***a. Air Pollution Emission Inventories;***
> ***b. Air Quality Monitoring;***
> ***c. Control Measure Needs Assessment;***
> ***d. Emission Reduction Credit Program;***
> ***e. Enforcement of Regulations;***
> ***f. Fugitive Dust Rules; and***
> ***g. Research Coordination and Priorities.***
>
> ***On or before February 1, 2001, these local agencies should submit a report to the 71st Session of the Nevada Legislature on how they plan to address these recommendations.***

Because of the various allegations made about the mismanagement of the AQD and the operation of its Emission Reduction Credit (ERC) Program, the Subcommittee recommended that the Clark County District Board of Health initiate an independent management organizational study of the AQD and a separate independent audit of the ERC Program.

To address the many allegations of conflict of interest and mismanagement presented to the Subcommittee and ENVIRON throughout the course of the study, the Subcommittee voted in the affirmative to:

> ***Include a statement in the Subcommittee's final report directing the Clark County District Board of Health, with assistance and oversight from the Southern Nevada Regional Planning Coalition (SNRPC), to initiate a management organizational study of the Air Quality Division (AQD) of the Clark County Health District (CCHD). The objectives of the study should be as follows:***
>
> ***a. Determining if the AQD is effectively and efficiently implementing and enforcing the 1990 federal Clean Air Act and amendments thereto, and all applicable state and local regulations. Considerations should include communication; management; policies and procedures; responsibilities; staffing and resources; work environment; and conflict of interest;***

b. Comparing the practices of AQD to the best practices in the field;

c. Developing, if necessary, an implementation plan for effective managerial practices; and

d. Reviewing any previous findings noted by any external agencies.

This management study should be conducted by a qualified, independent consultant. Furthermore, representatives of CCHD and SNRPC should provide a status report on the progress of this study to the Legislative Commission at its meeting on December 11, 2000. On or before February 1, 2001, the final report resulting from this management study should be completed and submitted to the 71st Session of the Nevada Legislature.

Under the provisions of the federal Clean Air Amendments of 1990, major new sources of air pollutants in nonattainment areas, such as Clark County, are subject to stringent new source review (NSR) requirements. New or expanding sources that increase emissions above specified thresholds must offset their increases by reducing existing emissions in the area by an equal or greater amount. In addition to the required NSR program, the CCHD has developed add-on local requirements to offset emission increases from many source categories that are not required to offset emission increases under NSR.

The ENVIRON International Corporation specifically reviewed the CCHD add-on program to reduce fugitive emissions of PM 10. ENVIRON found that new and expanding sources which increase emissions of PM 10 by more than one ton per year are required to offset their emissions increases by obtaining emission reduction credits (ERCs) at a ratio of 2 to 1. The consultant identified the following four options for a source to obtain ERCs in Clark County: (1) directly funding the paving of publicly maintained roads; (2) paying a prescribed fee to the CCHD; (3) making reductions at industrial sources by shutting down emission units or installing controls; and (4) planning or funding the planting of trees in the Boulder City and El Dorado Valley areas.

In its Final Report, ENVIRON points out that the CCHD's administration of its ERC Program has drawn litigation and damaged the district's credibility with the public. The ENVIRON International Corporation concluded that the program is deeply flawed, needs to be re-examined, and should be replaced with a more effective program. (See pages 3-7 to 3-10 of the ENVIRON Final Report [Appendix G or *Volume II* of LCB Bulletin No. 01-3] for a discussion of the ERC Program.)

In August and September of 2000, Joel Moskowitz, an investigator with the Office of the Clark County District Attorney, conducted an investigation of alleged wrongdoings by AQD employees. A report (memorandum, dated September 20, 2000) was prepared by Mr. Moskowitz and delivered to Dr. Donald S. Kwalick, Chief Health Officer of the CCHD. The last item presented in the report is a recommendation for an independent audit of the ERC Program. (See Appendix D for a copy of the report by Mr. Moskowitz.)

In addition to the findings and recommendations presented by ENVIRON and the Clark County District Attorney's Office, the Subcommittee received a significant amount of public testimony and correspondence expressing concerns about the ERC Program. In response, the Subcommittee included some suggested language by Assemblyman Beers and voted in the affirmative to:

> ***Include a statement in the Subcommittee's final report directing the Clark County District Board of Health, with assistance and oversight from the Southern Nevada Regional Planning Coalition (SNRPC), to initiate an independent audit of the Emission Reduction Credit Program operated by the Air Quality Division of the Clark County Health District (CCHD). This audit should be conducted by a qualified, independent auditing or consulting firm with no previous contractual relationship with, or other experience working for, the CCHD.***

Based on a legal opinion by the Legal Division of LCB and a recommendation by Senator Titus, the Subcommittee voted to clarify the legality of the ERC Program in Clark County by specifically authorizing such a program in statute. (See Appendix E for a copy of the legal opinion.) Therefore, the Subcommittee recommended to:

> ***Draft and enact legislation to amend the provisions of Chapter 445B of Nevada Revised Statutes to specifically authorize the establishment and operation of an Emission Reduction Credit Program and the assessment of any accompanying fees by a local air pollution control agency*. (BDR 40-791)**

The Subcommittee heard from several persons described by themselves or others as "whistleblowers" because they reported allegations of improper or illegal conduct by employees or officials of the CCHD. Some of these witnesses were current or former CCHD employees, and others were concerned citizens. Most of them testified that they were subjected to retaliatory action or threats of such action. During the interim study, the Subcommittee learned that the existing state law protecting whistleblowers does not include local government employees in its provisions. Based on this information, the Subcommittee included language suggested by Assemblyman Parks and recommended to:

> ***Draft and enact legislation to extend the existing statutory whistleblower protection, which is now provided only to state employees (NRS 281.611 through 281.671), to local government employees. This legislation would provide that no retaliatory action may be taken against such an employee for reporting improper governmental action. Furthermore, this legislation should allow local governments to adopt provisions that provide additional whistleblower protection for their employees*. (BDR 23-793)**

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V. APPENDICES

Page

Appendix A
Senate Bill 432 of the 1999 Legislative Session
(Chapter 529, *Statutes of Nevada 1999*)..... 25

Appendix B
Report on the Pilot Program for Surface Street Inspections of
the Emissions of Heavy-Duty Diesel Vehicles in Clark County 31

Appendix C
Information on Vehicles Evading Emission Compliance Requirements and
Potential Number of Vehicles Qualifying for Repair Incentive Program
in Clark County..... 97

Appendix D
Report by the Clark County District Attorney's Office on Investigation
of the Air Quality Division of the Clark County Health District 103

Appendix E
Legal Opinion on the Clark County Health District's
Emission Reduction Credit Program..... 109

Appendix F
Suggested Legislation..... 117

Appendix G
"Final Report, Study of Air Quality Programs in Clark County, Nevada,"
by ENVIRON International Corporation..... *Volume II*

APPENDIX A

Senate Bill 432 of the 1999 Legislative Session
(Chapter 529, *Statutes of Nevada 1999*)

Senate Bill No. 432–Senator Porter

CHAPTER 529

AN ACT relating to air pollution; directing the Legislative Commission to conduct an interim study of certain air quality control programs; setting forth the purpose and duties of the subcommittee of the Legislative Commission; establishing an advisory committee; directing the Department of Motor Vehicles and Public Safety to implement certain programs of air quality control; making an appropriation; and providing other matters properly relating thereto.

[Approved June 8, 1999]

WHEREAS, The legislature finds and declares that a general law cannot be made applicable for the provisions of this act because of the unusual patterns of growth in certain local governments of this state, the need to identify and evaluate the environmental needs of certain counties that have arisen as a result of the growth experienced by those counties and the special conditions experienced in certain counties related to the need to monitor and control air quality; and

WHEREAS, The Southern Nevada Strategic Planning Authority was created by Senate Bill No. 383 of the 69th session of the Nevada Legislature; and

WHEREAS, The Southern Nevada Strategic Planning Authority submitted a final report to the 70th session of the Nevada Legislature which establishes a set of goals and objectives that address twelve areas which are highly impacted by growth in the Las Vegas Valley; and

WHEREAS, Support and implementation of the air quality and environmental strategies contained within the final report of the Southern Nevada Strategic Planning Authority are significant to the area of Las Vegas that will not attain the federal standards for air pollution caused by carbon monoxide and particulate matter; and

WHEREAS, While Clark County currently attains the federal standards for air pollution caused by ozone, based upon 11 observations of Clark County exceeding requirements in 1998, it is expected that Clark County will not attain the federal standards for air pollution caused by ozone within the next 3 years; and

WHEREAS, The federal standards for carbon monoxide, particulate matter and ozone cannot be attained and maintained within the Las Vegas Valley without the adoption and implementation of additional or improved strategies to control emissions, or both; and

WHEREAS, The failure to attain the standard for carbon monoxide by December 31, 2000, may result in the loss of federal money; and

WHEREAS, With the exception of heavy-duty motor vehicles, most motorized vehicles registered in the Las Vegas Valley are required to have an annual emission test as part of an inspection and maintenance program; and

WHEREAS, According to the Department of Motor Vehicles and Public Safety, in 1996, diesel-powered vehicles accounted for less than 2 percent of the vehicles registered in the Las Vegas Valley, yet the Department of Comprehensive Planning in Clark County estimates that diesel-powered vehicles produce substantial amounts of nitrogen oxides, particulate matter and sulfur dioxides that are emitted directly into the air from on-road and nonroad mobile sources; and

WHEREAS, The Carbon Monoxide Air Quality Implementation Plan of 1995 from Clark County identifies gasoline-powered motor vehicles as the primary source of emissions of carbon monoxide within the Las Vegas Valley; and

WHEREAS, The provisions of NRS 445B.798 authorize the Department of Motor Vehicles and Public Safety to conduct a test of the emissions from a motor vehicle that is being operated on a highway in certain counties; and

WHEREAS, The Department agreed to begin conducting tests of the emissions from 50 percent of the motor vehicles in the Las Vegas Valley in the beginning of 2001, and to conduct tests of the emissions from 90 percent of the motor vehicles in the Las Vegas Valley by the end of 2001; and

WHEREAS, The provisions of NRS 445B.830 establish the pollution control account for the express purpose of providing money to the Department of Motor Vehicles and Public Safety, and to agencies in nonattainment or maintenance areas for carbon monoxide, for programs related to the improvement of the quality of air; now, therefore,

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. 1. The Legislative Commission shall appoint a subcommittee consisting of three Senators and three Assemblymen to conduct an interim study concerning the programs for air quality control in Clark County.

2. In addition to the legislators, the Legislative Commission shall appoint an advisory committee to assist the subcommittee consisting of:

(a) One member appointed by the Board of County Commissioners of Clark County, who shall serve as Chairman of the Committee;

(b) One member appointed by the Board of County Commissioners of Clark County to represent the fuel industry;

(c) Two members appointed by the Board of County Commissioners of Clark County to represent environmental concerns;

(d) One member appointed by the Board of County Commissioners of Clark County to represent the Nevada Contractors Association;

(e) One member appointed by the Regional Transportation Commission of Clark County;

(f) One member appointed by the Board of Trustees of the Clark County School District;

(g) One member appointed by the Board of Health of Clark County;

(h) One member appointed by the Nevada League of Cities;

(i) One member appointed by the Las Vegas Chapter of the Associated General Contractors of America;

(j) One member appointed by the Southern Nevada Chapter of the Associated Builders and Contractors;

(k) One member appointed by the Nevada Motor Transport Association;

(l) One member appointed by the Southern Nevada Home Builders Association;

(m) The Director of the Department of Motor Vehicles and Public Safety or his designee;

(n) The Director of the Nevada Department of Transportation or his designee; and

(o) The Administrator of the Division of Environmental Protection of the State Department of Conservation and Natural Resources or his designee.

3. The subcommittee of the Legislative Commission shall:

(a) Contract with a qualified, independent consultant to conduct a study of the air quality in Clark County and negotiate the terms of the contract;

(b) Establish the scope of the study; and

(c) Ensure that the consultant is adhering to the scope of the study and will complete the study on time by requiring progress reports from the consultant and establishing a schedule for completion of the study.

Sec. 2. 1. The study of the air quality in Clark County conducted by the consultant pursuant to section 1 of this act must include, without limitation, an analysis of and recommendations concerning:

(a) Existing programs related to air quality in Clark County and methods for improving the efficiency of such programs;

(b) Programs that may be required in the future to meet standards pertaining to particulates, carbon monoxide, ozone and regional haze and visibility, including, without limitation, programs for the inspection of heavy-duty motor vehicles that are powered by diesel fuel, programs for the inspection and maintenance of light-duty motor vehicles, programs to manage urban haze and visibility, programs that involve the use of alternative fuels, remote sensing or alternative transportation, and estimates of the potential effectiveness of such programs;

(c) Current and future funding requirements of programs related to air quality, sources of funding for such programs and methods of determining adequate levels of funding for such programs; and

(d) The roles of state and local governmental agencies and the private sector in addressing air quality issues in Clark County, including, without limitation, recommendations concerning an institutional structure that will effectively address air quality issues in the Las Vegas Valley.

2. The consultant shall consider, when analyzing and making recommendations concerning a program related to air quality in Clark County:

(a) The cost-effectiveness of the program by comparing it with other programs related to air quality; and

(b) Whether the program is technologically feasible based on evidence relating to the availability, effectiveness, reliability and safety of any proposed technology that may be used in the program.

3. On or before June 30, 2000, the consultant shall submit a written report of the study to the subcommittee of the Legislative Commission.

4. On or before October 15, 2000, the subcommittee shall review the report submitted pursuant to subsection 3. Any recommended legislation proposed by the subcommittee must be approved by a majority of the members of the Assembly appointed to the subcommittee and a majority of the members of the Senate appointed to the subcommittee. The Legislative Commission shall submit its findings and recommendations for legislation to the 71st session of the Nevada Legislature.

Sec. 3. 1. In consultation with the State Environmental Commission and local air pollution control agencies, the Department of Motor Vehicles and Public Safety shall ensure the expedient implementation of an improved program to determine whether a motor vehicle that uses diesel fuel complies with controls over emissions.

2. As soon as the equipment that is necessary becomes available, the Department of Motor Vehicles and Public Safety shall begin conducting roadside tests of the emissions from motor vehicles that are operated on highways in a county whose population is 400,000 or more to determine whether the vehicles comply with the provisions of NRS 445B.700 to 445B.845, inclusive, and the regulations adopted thereto.

3. The Department of Motor Vehicles and Public Safety shall monitor the effectiveness of its programs for the inspection and maintenance of motor vehicles and shall implement improvements to provide the highest air quality and improvement in air quality.

4. The Department of Motor Vehicles and Public Safety shall implement its use of computers to ensure that its use of staff is efficient, to increase the number of staff that can conduct inspections of motor vehicles and to address current problems with the program to control emissions from motor vehicles.

Sec. 4. 1. There is hereby appropriated from the pollution control account in the state general fund to the Legislative Commission the sum of $500,000 to pay for the costs associated with carrying out the provisions of this act.

2. The Legislative Commission shall determine the manner in which to expend the money appropriated pursuant to subsection 1 and shall distribute at least $100,000 of the appropriation to the Department of Motor Vehicles and Public Safety for use by the Department in its program for the inspection of heavy-duty motor vehicles that are powered by diesel fuel.

3. Any remaining balance of the appropriation made by subsection 1 must not be committed for expenditure after June 30, 2001, and reverts to the state general fund as soon as all payments of money committed have been made.

Sec. 5. This act becomes effective upon passage and approval.

APPENDIX B

Report on the Pilot Program for Surface Street Inspections of the Emissions of Heavy-Duty Diesel Vehicles in Clark County

HEAVY- DUTY DIESEL SURFACE STREET INSPECTIONS

A report on the heavy-duty
surface street inspections pilot program
as requested by Senate Bill 432

Nevada Department of Motor Vehicles & Public Safety
Russ Benzler, Compliance Enforcement Administrator
Jim Parsons, Management Services & Programs Administrator

October13, 2000

Heavy-Duty Diesel Surface Street Inspections

Senate Bill 432 directed the Department of Motor Vehicles and Public Safety to implement a pilot program for Heavy-Duty Diesel Surface Street Inspections. A request was made for the distribution of $100,000 to pay for the equipment necessary for two Heavy-Duty Diesel Surface Street Inspection positions. These funds were transferred to the Department in September 1999. The equipment necessary to conduct the inspections began arriving in October. The vehicles were equipped and put into service in January and the Investigators began their training with Highway Patrol. Some testing and citations were issued during this period. The testing of heavy duty diesels began as a full time duty of the teams February 2000.

Each of the two teams consist of a law enforcement officer and an emission technician operating out of a marked vehicle. Each team tracks the number of diesel exhaust plumes observed during a shift. These are referred to as visual observations. If an exhaust plume appears close to the 70% opacity level the vehicle is pulled over and a snap acceleration inspection is performed using an approved smoke meter. If the vehicles opacity level is 70% or more the vehicle fails the inspection and a citation is issued.

The Department has been tracking test data from individual surface street snap acceleration inspections as well as a count of visual surface street observations performed.

As of October 4th the following surface street data for the 2000 test year has been collected:

2000 Surface Street Data

Visual Observations	Vehicles Tested	Vehicles Failed	Citations Issued	Citations Paid	Vehicles Repaired	Average Repair Cost
9263	633	222	222	8	176	$704.88

2.4% of the total vehicles observed emitting a smoke plume were above the 70% opacity level.

35.1% of the vehicles tested were above the 70% opacity level.

Recommendations:

As noted previously, the Department has aggressively pursued the surface street enforcement program for heavy duty diesel vehicles over the past several months. After analyzing the results of the program to date and listening to staff input, the Department has developed three (3) recommendations addressing the heavy duty diesel vehicles in particular and Clark County air quality issues in general. Our recommendations are:

- That the surface street opacity enforcement program implemented as a result of SB432 be expanded to include gasoline powered vehicles, emitting visible smoke on the highways and surface streets in the Las Vegas Valley. The recommendation will allow the Department to continue its efforts by having heavy duty diesel vehicles violating the opacity standards either repaired, or removed from operation and at the same time address the approximately 9,000 smoking vehicles reported each year. This recommendation can be accomplished without the need for additional resources or statutory authority.

- That the various planning agencies re-evaluate the current opacity standards for heavy duty diesel vehicles operating within the Las Vegas Valley to determine whether significant air quality benefits would be realized by adopting lower opacity points recommended by the U.S. Environmental Protection

Agencies Guidance to State's on smoke opacity cut points to be used with the SAE J1667 In-Use Smoke Test Procedure document issued February 25, 1999. The document recommends that State's adopt a uniform opacity cut point of 40% for 1991 and newer vehicles and 55% for 1990 and older vehicles.

- On the basis of statistical information gathered over the past several months, the Department is recommending that annual emission testing of heavy duty diesel vehicles not be pursued. The Department feels that the low opacity failure rate (2.4%) observed during its enforcement program does not warrant the significant imposition an annual testing program would have on the industry, or the costs associated with such a program.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL VEHICLE AND FUEL EMISSIONS LABORATORY
2565 PLYMOUTH ROAD
ANN ARBOR, MICHIGAN 48105-2498

FEB 25 1999

OFFICE OF
AIR AND RADIATION

GUIDANCE TO STATES ON SMOKE OPACITY CUTPOINTS TO BE USED WITH THE SAE J1667 IN-USE SMOKE TEST PROCEDURE[1]

On April 3, 1997, the Office of Mobile Sources of the Environmental Protection Agency (EPA) provided guidance to the States recommending the SAE J1667 smoke test procedure[2] for the in-use smoke testing of highway heavy-duty diesel vehicles (HDDVs). The purpose of that guidance was to promote consistency among state-operated in-use smoke testing programs. As a result of that guidance, several States are now using or considering the recommended SAE J1667 test procedure. EPA is pleased to know that the guidance provided in April 1997 served its purpose. However, EPA realized that in order to bring full uniformity among state-operated smoke testing programs, additional guidance was needed for States to adopt similar opacity cutpoints when using the SAE J1667 test procedure. As part of its efforts to continue promoting consistency by providing assistance to States regarding in-use testing programs, EPA is now recommending specific opacity cutpoints to be used with the previously recommended SAE J1667 test procedure. The opacity cutpoints recommended through this guidance are: 40% for vehicles 1991 and newer and 55% for vehicles 1990 and older.[3] These cutpoints are recommended to be used in determining smoke test failures when using the previously recommended SAE J1667 test procedure during state-operated in-use testing programs.

This guidance is based on the results of a study[4] conducted by SAE as part of a cooperative agreement with EPA to evaluate state-operated smoke testing programs. Under the cooperative agreement, SAE conducted a comprehensive survey of existing and planned programs. The survey was distributed to States and other stakeholders. Of the States that

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[1] This guidance document is not a mandated regulation, but a recommendation that States can follow in their implementation of in-use smoke testing programs.

[2] The procedure SAE J1667, entitled Snap Acceleration Smoke Test Procedure for Heavy-Duty Diesel Vehicles, was developed between 1992 and 1996 by a committee of members representing the trucking industry, heavy-duty engine manufacturers, test equipment manufacturers, and state and federal regulators. The SAE procedure includes the test method to be used, instrument specifications, and correction factors for ambient conditions. SAE J1667, issued in February 1996, is a snap acceleration test under idle conditions, using engine inertia for loading, and is specifically designed for identifying excessive smoke emitters. Since it is a non-moving vehicle test, the SAE J1667 can be conducted along the roadside or in a test facility.

[3] The recommended cutpoints are intended to be net values after correction for ambient test conditions, as specified in the SAE J1667 test procedure Appendix B "Corrections for Ambient Test Conditions" model.

[4] SAE International Cooperative Research Program, Report to U.S. EPA Under Assistance Agreement CX825906-01-0, "Establishment of Smoke Opacity Cutpoints for SAE J1667 Test Procedure," November 1998.

responded approximately 86% are using or planning to use SAE J1667. Of those States using SAE J1667, 83% were found to utilize cutpoints of 40% for vehicles 1991 or newer and 55% for vehicles 1990 or older. Those States that were using higher cutpoints were found to be high altitude States. It was determined that when the higher cutpoints were corrected for altitude, they were in line with the 40/55% limits. During various discussions with stakeholders, it was clear that States support the 40/55% limits, once corrected for altitude. Also, there was agreement among the participating States and stakeholders that cutpoints at the 40/55% levels yielded good results at screening gross polluters.

The purpose of this guidance is to encourage States to use similar smoke opacity cutpoints in their in-use testing programs. Although the Clean Air Act Amendments of 1990 do not require States to implement in-use testing programs for highway HDDVs, many States today are doing so to address public concerns about in-use emissions from these vehicles. Excessive emission of black smoke from highway HDDVs is one of the most common complaints received from the public by state and local air quality agencies. Since the excessive emission of black smoke is often an indicator that an engine is in need of maintenance and/or repair, States are focusing on smoke opacity measurements as part of their in-use testing programs. EPA is aware of several States that have adopted or are considering adopting some form of in-use smoke emission test for highway HDDVs.

Because many highway HDDVs move across State boundaries, EPA believes that uniformity among state-operated smoke testing programs is desirable and appropriate. Thus, EPA is hereby recommending that the States adopt the opacity cutpoints described in this guidance (i.e., 40% for vehicles 1991 or newer and 55% for vehicles 1990 and older) when using the SAE J1667 test procedure. These cutpoints are being used by the majority of the States and are viewed favorably by stakeholders, as reported in the SAE study referenced in this guidance.

Margo T. Oge, Director
Office of Mobile Sources

Date 2-25-99

EPA420-F-97-053

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

April 3, 1997

GUIDANCE TO STATES ON IN-USE SMOKE TEST PROCEDURE FOR HIGHWAY HEAVY-DUTY DIESEL VEHICLES

As part of its ongoing efforts to provide assistance to States regarding in-use testing programs and to promote uniformity with respect to smoke test procedures, the Environmental Protection Agency (EPA) is recommending the use of the SAE J1667 procedure for state-operated in-use testing programs for highway heavy-duty diesel vehicles (HDDV). This guidance document provides a technical recommendation that States can follow in the implementation of their in-use emission testing programs. Because highway HDDV travel across the country, EPA believes that the adoption of a common smoke test procedure by States would help address the concerns brought up by the trucking industry and heavy-duty engine manufacturers by promoting consistency between smoke measurements in state-operated in-use testing programs for HDDV.

The procedure SAE J1667, entitled *Snap Acceleration Smoke Test Procedure for Heavy-Duty Diesel Vehicles,* was developed between 1992 and 1996 by a committee of members representing the trucking industry, heavy-duty engine manufacturers, test equipment manufacturers, and state and federal regulators. SAE J1667, issued in February, 1996, recommends a smoke test method, instrument specifications and correction factors for ambient conditions, including altitude compensation. The SAE J1667 is a snap acceleration test under idle conditions, using engine inertia for loading, and is specifically designed for identifying excessive smoke emitters. Since it is a non-moving vehicle test, the SAE J1667 can be conducted along the roadside or in a test facility.

The Clean Air Act Amendments of 1990 do not require states to implement in-use testing programs for highway HDDV. However, as a means to address concerns about in-use emissions from HDDV, many states today are implementing in-use smoke testing programs. Excessive emission of black smoke from HDDV is one of the most common complaints received from the public by state and local air quality agencies. Since the excessive emission of black smoke is often an indicator that an engine is in need of maintenance and/or repair and gaseous/particulate emission levels may also be high, states are focusing on black smoke opacity measurements for their in-use testing programs.

EPA is aware of several states which are in various phases of considering, or have already adopted, some form of an in-use smoke emission test for HDDV. These states include: Arizona, California, Colorado, Connecticut, Illinois, Maryland, Massachusetts, Nevada, New Jersey, New York, Ohio, Utah and Washington. Even though most of the state-operated in-use programs include smoke measurements, not all programs use the same test procedure for in-use smoke evaluations. These inconsistencies have created major concerns for the trucking industry, since trucks that travel across the country may be subject to inspections in different states with different test procedures. By using similar test procedures, states would have the advantage of being able to compare test results. Therefore, testing and administrative costs could be minimized. Furthermore, any environmental benefits that could be derived from the implementation of these programs would be much easier to quantify in regions that use the same test methods.

For the reasons cited above, EPA believes that uniformity in smoke test procedures is appropriate and is recommending the use of the SAE J1667 procedure for smoke evaluations in state-operated in-use testing programs. The SAE J1667 test is a peer-reviewed procedure that has been developed by a joint government-industry committee to provide a reliable method for in-use smoke measurement. The procedure is currently being used by several states and is viewed favorably by the trucking industry and highway heavy-duty engine manufacturers.

(Original dated and signed by Margo T. Oge)

Margo T. Oge, Director
Office of Mobile Sources

April 3, 1997

Date

U.S. EPA -- Office of Mobile Sources
Contacts by Topic

Topic	Person(s)	Phone
1.1-Main Office of Mobile Sources (Directors)		
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Assessment and Modeling Division-Ann Arbor (Acting)	Janet Cohen	734-214-4428
Engine Programs and Compliance Division-Ann Arbor	Chet France	734-214-4454
Fuels and Energy Division-Washington	Merrylin Zaw-Mon	202-564-8991
OMS Assistant Director-Washington	Don Zinger	202-564-1682
OMS Deputy Director-Ann Arbor	Chris Grundler	734-214-4207
OMS Director-Washington	Margo Oge	202-564-1682
Policy, Budget and Planning Division-Washington	Michael Shields	202-564-1111
Regional and State Programs Division (Acting)	Merrylin Zaw-Mon	202-564-8991
Testing Services Division-Ann Arbor	Mike Sabourin	734-214-4316
Vehicle Programs and Compliance Division-Ann Arbor	Greg Green	734-214-4488
1.2-Other OMS General Contacts		
Director of Outreach and Communication	Susan Bullard	202-564-1081
General Information Requests	Voicemail Box	734-214-4333
International Visitors/Tours of NVFEL	Cheryl Sisson	734-214-4269
Internet Access to OMS Information	Craig Harvey	734-214-4237
National Vehicle & Fuel Emissions Laboratory-Ann Arbor	Front Desk	734-214-4200
NVFEL Library (EPA Contractor)	Laura Fawcett	734-214-4311
OMS Communications and Press	Marion Herz	202-564-1084
OMS Publications: Development & Distribution	Jennifer Barker	734-214-4510
Peer Review of Scientific Documents	Tesh Rao	202-564-9037
Status of OMS Regulations	Patricia Scoville	202-564-1101
2.1-Light-Duty Vehicles (Cars, Light Trucks, and Motorcycles)		
Alcohol Vehicle Standards	Debby Adler	734-214-4223
Alternative Fuel Vehicles	Debby Adler	734-214-4223
California Pilot Program	Cliff Tyree	734-214-4310
Certification-New Vehicle Compliance	Eldert Bontekoe	734-214-4442
Certification-New Vehicle Compliance	Dave Good	734-214-4450
CFEIS Computer Information System	Dan Harrison	734-214-4281
CFEIS Computer Information System	John Hendon	734-214-4383
Clean Car Initiative/PNGV	Jeff Alson	734-214-4296
Clean Fuel Fleet Program	Sally Newstead	734-214-4474
Cold Temperature CO Standards	Peter Hutchins	734-214-4340
Corporate Average Fuel Economy (CAFE)	Eldert Bontekoe	734-214-4442
Cross Border Sales/California Vehicles	Len Lazarus	202-564-9281
Electric Vehicles	Debby Adler	734-214-4223
Emission Rates/Factors	Terry Newell	734-214-4462
Evaporative Emission Standards	Dave Good	734-214-4450
Exemptions and Exclusions	General Number	202-564-9240
Federal Test Procedure Revision	Jim Markey	734-214-4534
Fees for Motor Vehicle & Engine Compliance Program	Dan Harrison	734-214-4281
Fuel Economy Guides	Natl Alternative Fuels Hotline	800-423-1363
Fuel Economy: Labeling, CAFE, Gas Guzzler	Dave Good	734-214-4450
Fuel Economy: Labeling, CAFE, Gas Guzzler	Eldert Bontekoe	734-214-4442
Fuel Economy: Trends	Bob Heavenrich	734-214-4346
Gaseous-Fueled Vehicle Standards	Cliff Tyree	734-214-4310

Topic	Person(s)	Phone
Imported Vehicles and Engines (for personal assistance)	Imports Team	202-564-9240
Imported Vehicles and Engines (to get forms/instructions)	Fax Back System	202-564-9660
Kit Cars	Kerrin Bressant	202-564-9291
Limousine Certification and Fuel Economy	Dwight Smith	734-214-4571
Motorcycles	Dwight Smith	734-214-4571
Motorcycles	Ron Miller	734-214-4376
National LEV Program	Karl Simon	202-564-1106
National LEV Standards	Rob French	734-214-4380
National Security Exemptions	Rick Gezelle	202-564-9267
On-Board Diagnostics	Arvon Mitcham	734-214-4522
On-Board Refueling Vapor Recovery (ORVR)	Lynn Sohacki	734-214-4851
Phase-In Compliance (Tier 1, Cold CO, etc.)	Sonny Kakar	202-564-9467
Recalls for Emission System Defects	Clifford Dean	202-564-9240
Refueling Hotline	(To leave a message)	734-214-4413
Tampering	Steve Albrink	202-564-8997
Tier 0 Emission Standards	Dave Good	734-214-4450
Tier 1 Emission Standards	Rob French	734-214-4380
Tier 2 Emission Standards	Glenn Passavant	734-214-4408
Tier 2 Emission Standards	Rick Rykowski	734-214-4959
Vehicle Regulatory Issues	Cheryl Adelman	734-214-4434
Vehicle Scrappage	John Hall	734-214-4856
Warranties for Vehicle Emission Systems and Parts	Sheena Dupree	202-564-9414

3.1-Heavy-Duty Highway Engines & Vehicles (Buses and Heavy Trucks)

Assembly Line/In-Use Compliance	Rick Gezelle	202-564-9267
Averaging, Banking and Trading	Joe Hresko	202-564-9275
California Waivers to Federal Requirements	Bob Doyle	202-564-9258
Clean Fuel Fleet Program	Sally Newstead	734-214-4474
Compliance/Selective Enforcement Audits	Rick Gezelle	202-564-9267
Emission Rates/Factors	Terry Newell	734-214-4462
Engine Rebuilding (Diesel and Gasoline)	Tom Stricker	202-564-9322
Engine Standards (Diesel and Gasoline)	Rob French	734-214-4380
Engine Standards (Diesel and Gasoline)	Bill Charmley	734-214-4466
Exemptions and Exclusions	Rick Gezelle	202-564-9267
Fuel Impacts	Phil Carlson	734-214-4270
Heavy-Duty Highway Engine Certification	Tom Stricker	202-564-9322
Heavy-Duty Highway Engine Rebuild Study	Tom Stricker	202-564-9322
Heavy-Duty Highway Engine Technology	Tom Baines	734-214-4366
Imported Engines (for personal assistance)	Imports Team	202-564-9240
Imported Engines (to get forms/instructions)	Fax Back System	202-564-9660
National Security Exemptions	Rick Gezelle	202-564-9267
Non-Conformance Penalties	Joe Hresko	202-564-9275
Urban Bus In-Use Testing	Tom Stricker	202-564-9322
Urban Bus Retrofit/Rebuild Kit Certification	Anthony Erb	202-564-9259
Urban Bus Standards	Phil Carlson	734-214-4270
Urban Bus Standards	Chris Lieske	734-214-4584
Warranty or Tampering Issues	Bob Montgomery	202-564-9287

United States Environmental Protection Agency | Air and Radiation | EPA420-F-97-014 September 1997

EPA

Emission Standards Reference Guide for Heavy-Duty and Nonroad Engines

HOW TO USE THIS REFERENCE GUIDE

This guide contains air pollutant emission standards for the following mobile source engine categories:

- Heavy-duty highway spark ignition (SI) and compression ignition (CI)
- Nonroad CI
- Nonroad SI less than or equal to 25 horsepower (hp)
- Marine SI
- Nonroad recreational vehicles and engines
- Locomotives
- Aircraft

Standards for each engine category are included in a separate table. This guide presents, when applicable, federal (U.S. Environmental Protection Agency [EPA]) current and proposed standards, as well as current California, European Union, and international emission standards. The key shown below indicates the color used for each of these standards in all of the tables. In addition to emission standards, this guide also includes information on useful life, warranty period, and test procedures. The availability of averaging, banking, and trading (ABT) and nonconformance penalties (NCP) is indicated as well.

This guide does not include standards for nonroad SI engines greater than 25 hp or marine CI engines. Although EPA regulates some fuels, fuel standards also are not included in this guide. This guide also does not include detailed information about all variations and restrictions associated with the standards. This guide is for reference only; users should refer to the Code of Federal Regulations for complete information on all standards to ensure compliance.

The following guidelines will help you in reading the tables:

- To keep the tables more manageable, the guide contains standards only from 1990 and later. EPA began regulating mobile sources in the late 1960s, however.
- The years listed in the tables refer to model years for federal and international standards and for California standards for heavy-duty engines. The years listed in the California nonroad standards refer to calendar years, however. For European Union standards, the dates listed are effective dates.
- The term CI refers to diesel-cycle engines, and SI refers to Otto-cycle engines.
- For purposes of consistency and comparability, most standards are expressed in grams per brake horsepower-hour (g/bhp-hr), even though some federal regulations express standards in grams per kilowatt-hour (g/kW-hr). The conversion factors are as follows: 1.341 hp equals 1 kilowatt, and 0.7457 kilowatt equals 1 hp. To convert a standard from g/bhp-hr to g/kW-hr, multiply it by 1.341. To convert a standard from g/kW-hr to g/bhp-hr, multiply it by 0.7457.

HEAVY-DUTY HIGHWAY ENGINES—CI AND URBAN BUSES

	Year	CO (g/bhp-hr)	Idle CO (percent exhaust gas flow)	HC (g/bhp-hr)	NMHC + NOx (g/bhp-hr)	NOx (g/bhp-hr)	PM (g/bhp-hr)	Smoke[b] (percentage)	Useful Life	Warranty Period
Federal	1990	15.5	0.5[c]	1.3[d]		6.0 (NCP)	0.60 (NCP)	20/15/50	1990-97 and 1998+ for HC, CO, and PM: LHDDE: 8 years/110,000 miles MHDDE: 8 years/185,000 miles HHDDE: 8 years/290,000 miles 1994+ urban buses for PM only: 10 years/290,000 miles 1998+ for NOx: LHDDE: 10 years/110,000 miles MHDDE: 10 years/185,000 miles HHDDE: 10 years/290,000 miles	5 years/100,000 miles (but not less than the basic mechanical warranty for the engine family)
	1991-93	15.5	0.5[c]	1.3		5.0 (ABT, NCP)	0.25 (ABT, NCP), 0.10[e]	20/15/50		
	1994-97	15.5	0.5[c]	1.3		5.0 (ABT, NCP)	0.10 (ABT, NCP), 0.07[f], 0.05[g]	20/15/50		
	1998+	15.5	0.5[c]	1.3		4.0 (ABT, NCP)	0.10 (ABT, NCP), 0.05[g]	20/15/50		
	2004+	15.5	0.5		2.4 or 2.5 with a limit of 0.5 on NMHC (ABT)		0.10 (ABT, NCP), 0.05[g]	20/15/50	LHDDE: 10 years/110,000 miles MHDDE: 10 years/185,000 miles HHDDE and urban buses: 435,000 miles, 13,000 hours, or 10 years (but not less than 290,000 miles)	5 years/100,000 miles (but not less than the basic mechanical warranty of the engine)
European Union	10/96	3.0		0.8		5.2	0.19	42/2.26[k] 100/1.495[k] 200/1.065[k]		
	10/98						0.11[i]			
California	1987-90[l]	15.5	0.5[m]	1.3/1.2[n]		6.0	0.60	20/15/50	LHDDE: 8 years/110,000 miles MHDDE: 8 years/185,000 miles HHDDE: 8 years/290,000 miles	5 years, 100,000 miles, or 3,000 hours (for 1994 and earlier engines greater than 8,500 lbs and for 1995+ engines greater than 14,000 lbs)
	1991-93[l,o]	15.5	0.5[m]	1.3/1.2[n]		5.0	0.25[p]/0.10[q]			
	1994+[l,o]	15.5	0.5[m]	1.3/1.2[n]		5.0	0.10			
	1994-95[o,q]	15.5	0.5[m]	1.3/1.2[n]		5.0 (0.5-3.5[r])	0.07[p]			
	1996+[o,q]	15.5	0.5[m]	1.3/1.2[n]		4.0[s] (0.5-2.5[r])	0.05			

Notes:

The test procedures for current and proposed federal standards are the EPA Transient Test Procedure and the EPA Smoke Test Procedure. The test procedures for California standards are the Transient Test Procedure and the Smoke Opacity Test Procedure. The test procedures for European Union standards are the 13-mode Steady-State Test Procedure and the European Smoke Test Procedure. Due to the significant difference in the test procedures, the European Union standards are not directly comparable to EPA and California standards.

[a] Percentages apply to smoke opacity at acceleration/lug/peak modes.

[b] Standards for 1990 apply only to diesel-fueled HDEs. Standards for 1991+ apply to both diesel- and methanol-fueled HDEs. Standards that apply to urban buses specifically are footnoted.

[c] This standard applies to the following fueled engines for the following model years: methanol/1990+, natural gas and LPG/1994+.

[d] For petroleum-fueled engines, the standard is for HC. For methanol-fueled engines, the standard is for THCE.

[e] Standard for urban buses for 1993.

[f] Standard for urban buses from 1994-95.

[g] Standard for urban buses from 1996 and later. The in-use standard is 0.07.

[h] The proposed standards were published in the *Federal Register* on June 27, 1996 (61FR33421). They are subject to change when the regulations are finalized. NCP will be addressed during the 1999 Technology Review. As a signatory to the Statement of Principles outlining the proposed federal standards, California plans to propose the same standards.

[i] The European Union standards apply to both heavy-duty highway CI engines and urban buses. The standards for urban buses, however, are voluntary.

[j] The standard applies to engines over 3,000 RPM and swept volume over 0.7 liter/cycle.

[k] Nominal flow (liters/second)/absorbent coefficient (m^{-1}). Opacity under free acceleration should not exceed the approved level by more than 0.5 m^{-1}.

[l] The standards apply to diesel, methanol, and all applicable gaseous-fueled engines.

[m] The standard applies to engines utilizing exhaust aftertreament technology.

[n] The first number is the THC standard and the second number is the NMHC standard. Manufacturers of diesel, natural gas, or LPG engines may choose to certify to the total HC standard or the optional NMHC standard. The NMHC standard applies to 1990+.

[o] The following HCHO standards apply to all methanol and alcohol-fueled engines: 0.010 g/bhp-hr for model years 1993-95; 0.05 g/bhp-hr for model years 1996+.

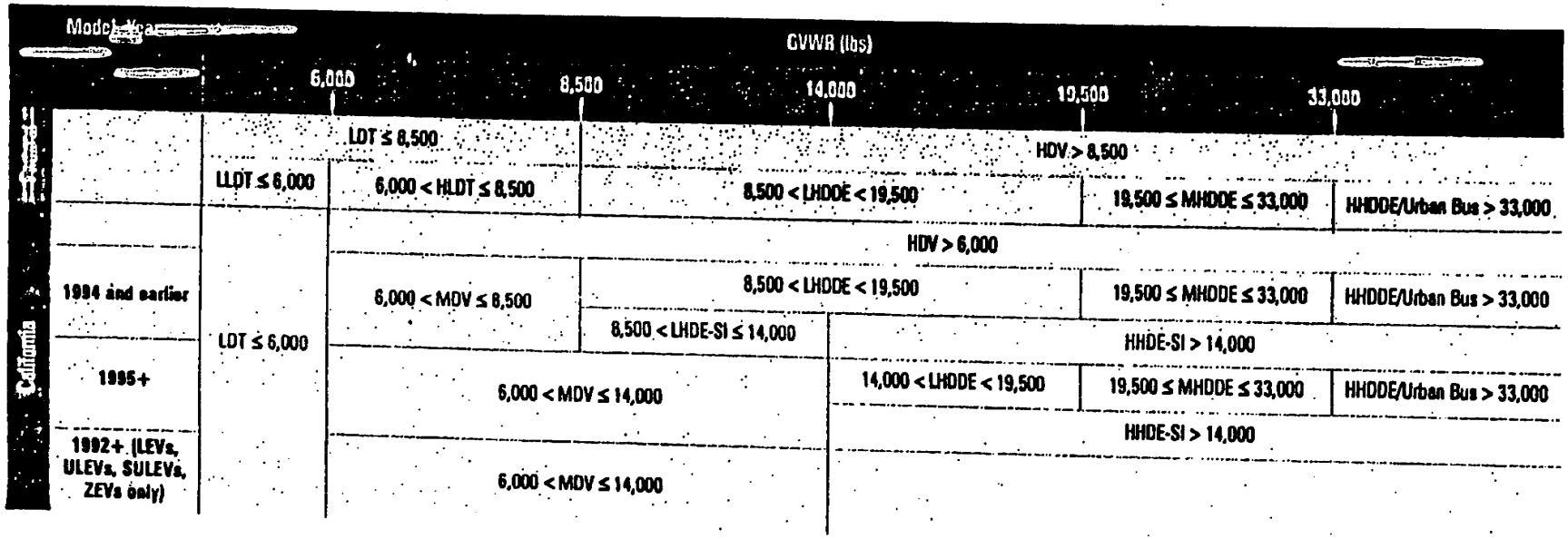
[p] Emission averaging may be used to meet the standard.

[q] Applies to urban buses only.

[r] These standards for urban buses are optional.

[s] A manufacturer may apply for an exemption from this standard based on demonstrated technological need for up to 10 percent of the average of the manufacturer's sales for the three previous model years.

VEHICLE WEIGHT DEFINITIONS



Report to:

U.S. EPA

Under Assistance Agreement CX825906-01-0

ESTABLISHMENT OF SMOKE OPACITY CUTPOINTS FOR SAE J1667 TEST PROCEDURE

Submitted by:

SAE International

Cooperative Research Program

November 1998

ESTABLISHMENT OF SMOKE OPACITY CUTPOINTS FOR SAE J1667 TEST PROCEDURE

Submitted by:

SAE International
Cooperative Research Program
Gary W. Pollak, Program Manager

TABLE OF CONTENTS

TABLE OF CONTENTS

I EXECUTIVE SUMMARY

Cutpoints Recommendation

II BACKGROUND

III DETAILS OF STUDY

1. Identification of Stakeholders
2. Survey
3. Survey Response
4. Survey Response Summary
5. Individual Responses/Reports
6. Stakeholder Consensus
   - 6.1 Conference Call I
   - 6.2 Proposed Position
   - 6.3 Conference Call II
   - 6.4 Basis for Initial Cutpoint Selection
   - 6.5 Consensus Conclusions

APPENDIX

Responses/Reports

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

SAE proposed to assist the EPA in determining the appropriate smoke opacity cutpoints to be used by States who have implemented or who will implement the SAE J1667 Snap-Acceleration Smoke Test Procedure for Heavy-Duty Diesel Powered Vehicles. SAE's proposal was accepted and an EPA Assistance Agreement #CX 825906-01-0 was established.

Under this agreement SAE and the EPA developed a list of key states providing excellent cross country representation, state organizations and industry organizations who would be the key stakeholders affected by any EPA Guidance documents relating to this area. SAE then developed, with input from the EPA, a comprehensive survey. The survey was distributed to all identified stakeholders. An excellent overall response to the survey of approximately 86% was received.

After compilation and review of the responses the following observations were made. Of the states that responded and are using a roadside testing program approximately 86% are using J1667. Of those states using J1667 83% are utilizing cutpoints of 40% for vehicles 1991 or newer and 55% for vehicles 1990 or older. Those states that are using higher cutpoints were found to be high altitude states. It was determined that when these higher cutpoints are corrected for altitude, they are in line with the 40/55% limits.

The original 40/55% limits were developed by the California Air Resources Board random in-use testing and their subsequent truck repair study. The 40/55% limits are based on an analysis of post repair high values for opacities after taking into account associated variability of the engine, the tests, and different meters that were used.

A subgroup of key stakeholders including representative states using J1667, states not using J1667, states using 40/55% cutpoints, states using other cutpoint limits, industry organizations, and state organizations was convened to discuss the results and obtain consensus.

Upon discussion and numerous conference calls the organizations such as EMA, ATA and NESCAUM strongly support the use of J1667 and 40/55% cutpoints. The states currently using J1667 support the 40/55% cutpoints once corrected for altitude and the states not using J1667 (in particular New Jersey) would agree to EPA Guidance in this area if it was understood J1667 does not have to be used exclusively.

The subgroup reiterated the fact that J1667 was designed to identify excessive smoke emitters. There was agreement that during the various pilot programs conducted, cutpoints at the 40/55% levels yielded very good results at screening gross polluters.

Based on the survey results and the discussions with the key stakeholders, this study recommends the following position to the EPA for their use in developing a Guidance Statement.

RECOMMENDATION

Utilize SAE J1667 Procedure for state operated in-use testing programs for highway heavy-duty diesel vehicles.

Utilize opacity cutpoints of:

- **40% for vehicles 1991 or newer**
- **55% for vehicles 1990 or older**

(It should be noted that the above are intended to be net cutpoints after correction for altitude, in fact all opacities should be corrected for all ambient test conditions by applying the SAE J1667 Appendix B "Corrections for Ambient Test Conditions" model)

The recommended cutpoints are based on current technologies for HDDV engines. However, lower cutpoints might be appropriate in the future, as more advanced emission control technologies are developed. States such as California and New Jersey are looking at exploring more stringent cutpoints in later iterations of their programs.

BACKGROUND

BACKGROUND

There is a need for consistent measurement procedures for States to adopt in their in-use testing program related to smoke evaluations for highway heavy-duty diesel vehicles (HDDV). As part of its ongoing efforts to provide assistance to states regarding in-use testing programs and to promote uniformity with respect to smoke test procedures, EPA published a guidance (dated April 3, 1997) recommending the use of the SAE J1667 test procedure. The use of the SAE J1667 by States would bring uniformity to in-use smoke evaluations nationwide, with respect to inspections programs for HDDV.

EPA enlisted SAE to help determine appropriate smoke opacity cutpoints to be used by States who have implemented or will implement the SAE J1667 test procedure. The development of these cutpoints had to be accomplished with the consensus of the stakeholders which include: States, Trucking Industry, Manufacturers, State Organizations, Environmental Groups and the EPA.

The objectives of the SAE study were to:

- Identify and evaluate existing state-operated smoke testing programs and other pertinent in-use data on SAE J1667.

- Make a recommendation on the best smoke opacity cutpoints for the SAE J1667 test procedure. The recommendation would involve the stakeholders and an attempt at consensus support would be made.

- Publish a report to include descriptions of the current programs, results obtained, basis for recommendations, indication of support and final cutpoint recommendations.

DETAILS OF STUDY

IDENTIFICATION OF STAKEHOLDERS

1. IDENTIFICATION OF STAKEHOLDERS

Utilizing SAE and EPA background and contact databases a list of known stakeholders was compiled. Two lists were put together, one of key States and State Organizations and one of related organizations.

The following list was the result.

STATES/STATE ORGANIZATIONS

NAME	ORGANIZATION	PHONE #	FAX #
Mark Klinger	Arizona Department of Environmental Quality	602-207-7013	602-207-7020
Dave Gourley	British Columbia AirCare	604-775-0097	604-775-0105
Don Chernick	California Air Resources Board (ARB)	916-322-7061	916-322-8274
Macie LaMotte/ Jerry Gallagher	Colorado Dept. of Public Health & Environment	303-692-3133 303-692-3128	303-782-5693
Tymon Lodder	Colorado Regional Air Quality Council	303-629-5450	303-629-5822
Shelton Edwards	Connecticut Dept. of Environmental Protection	860-424-3387	860-424-4063
David Maestrini	Connecticut Dept. of Motor Vehicles	860-566-3569	860-566-3716
Reginald Sanford	Florida Environmental Protection Commission	813-272-5530	813-272-5605
Darwin Burkhart	Illinois Dept. Of Air Quality Planning	217-524-4343	217-524-4710
John Welch	Indiana Dept. of Env. Management Air Programs	317-233-5677	317-233-2342
Harrison Smith	Maryland Dept. of the Environment	410-631-3272	410-631-4435
Hank Southworth	Massachusetts Dept. of Environmental Protection	617-292-5836	617-556-1049
Ed Glick	Nevada Division of Environmental Protection	702-687-4670	702-687-6396
Tony Iavarone/ Dave West	New Jersey Dept. of Environmental Protection	609-530-4064 609-530-4036	609-530-5342
Mike Klewin	New Jersey Dept. of Transportation-Motor Vehicles	609-633-9472	609-633-9366
Steve Flint/Ken Newkirk	New York Dept. of Environmental Conservation	518-485-8913	518-457-8831
Arthur Marin/Coralie Cooper/Jason Grumet	Northeastern States for Coordinated Air Use Management (NESCAUM)	617-367-8540	617-742-9162
Andrea Stevenson	Ohio Environmental Protection Agency	614-644-3059	614-644-3681
Dave Foerter	OTC	202-508-3840	202-508-3841
Thomas Barry	Rhode Island Office of Air Resources	401-277-2808	401-277-2017
Nancy Krueger	STAPPA-ALAPCO	202-624-7864	202-624-7863
Joe Thomas	Utah Dept. of Environmental Quality	801-536-4715	801-536-4099
Tom Moy	Vermont Dept. of Environmental Conservation	802-241-3819	802-241-2590
John Poffenroth	Washington Dept. of Ecology	509-456-3283	509-456-6175
John Raymond	Washington Dept. of Ecology, Air Quality Programs	360-407-6856	360-407-6802

RELATED ORGANIZATIONS

NAME	ORGANIZATION	PHONE #	FAX #
Michael Block	EMA	312-644-6610	312-321-5111
Tim Carmichael	Coalition for Clean Air	310-441-1544	310-446-4362
Bill Gary	Owner/Operator Independent Driver Assoc.	202-342-8858	202-338-5534
Doug Greenhaus	American Truck Dealers	703-821-7040	703-448-5824
Roland Hwang	Union of Concerned Scientists	510-843-1872	510-843-3785
Antonio Santos	Manufacturers of Emission Controls Assoc.(MECA)	202-296-4797	202-331-1388
Allen Schaeffer	American Trucking Association (ATA)	703-838-1844	703-838-1992
Bill Staiger	Bosch	708-865-5374	708-786-3546
Chris Stevens/ Janet Hathaway	Natural Resources Defense Council-San Francisco	415-777-0220	415-495-5996
Jim Williams	American Petroleum Institute (API)	202-682-8155	202-682-8051
Stephanie Williams	California Trucking Association	916-373-3548	916-371-7346

SURVEY

2. SURVEY

A comprehensive survey was developed, reviewed with the EPA, revised and refined.

The following was the final version distributed to all identified stakeholders on November 17, 1997.

DIESEL TESTING SURVEY

ORGANIZATION/STATE/AGENCY:		
1. Do you have a Diesel Testing Program?		
In Place	Planned (please circle one)	Neither
2. Brief Description:		
3. If in place when initiated:		
4. If planned when will it commence:		
5. Testing Frequency:		
6. What procedures are/will be used?		
7. What emission standards are/will be specified?		
8. What vehicles are/will be tested?		
9. Do you have enforcement regulations in place (please describe)?		

10. Please provide any testing results that may be available. Of interest would be any distribution summaries depicting dates, number of vehicles tested, models, models years, opacity readings, average opacities, reference standards, % not meeting reference standards, or any other pertinent summaries.
11. If the SAE J1667 test procedure is being used, have you collected any correlation results regarding comparison to other test procedures or to other pollutant levels (eg. Nitrogen oxides, particulate matter or hydrocarbons)?
12. If the SAE J1667 test procedure is being used, have you collected any correlation results regarding repeatability of vehicles or measuring equipment?
13. a) If you have set reference opacity cutpoints what was your rationale for these limits?
b) Do you have supporting data?
c) Supporting technical analysis?
14. Other Comments:

Contact Name

Address

Phone _____ Fax _____ E-mail

RETURN TO: Gary Pollak/Barbara Roth
SAE Cooperative Research Program
400 Commonwealth Drive
Warrendale, PA 15096-0001
Fax: 412-776-0243

It is requested you return your response by MONDAY, DECEMBER 8, 1997.

SURVEY RESPONSE

3. SURVEY RESPONSE

The stakeholder list contained 18 key States and 3 State Organizations.

Continued follow-up by SAE resulted in survey responses from these States.

Arizona
British Columbia
California
Colorado
Connecticut
Florida
Illinois
Maryland
Massachusetts
Nevada
New Jersey
New York
Rhode Island
Utah
Vermont
Washington

In addition these organizations responded:

NESCAUM
(Northeast States for Coordinated Air Use Management)

MECA
(Manufacturers of Emission Controls Association)

Response to this survey was extremely high. Responses were received from 16 of 18 states (89% response) and from 2 of 3 organizations (67% response).

Overall response rate: 86%

SURVEY RESPONSE SUMMARY

4. SURVEY RESPONSE SUMMARY

The following table summarizes the key survey responses from the states.

SAE DIESEL TESTING SURVEY RESPONSES

Survey: December 1997
Update: July, 1998

State	Program In-Place/Planned; Date	Does Program Use J1667 or Other Procedures?	What Vehicles Are Included?	Frequency of Inspection	Opacity CutPoints Being Used	Source
Arizona	Current program steady state loaded mode. New program J1667 for HD in Oct. 1998	Current program steady state loaded mode. New program J1667 for HD in Oct. 1998	All diesel > 90 cc	Annual	Cutpoints for J1667: 1991+ 40% 1990 - 55%	Survey
British Columbia	J1667; Sept. 1998	J1667; Sept. 1998	All diesel > 5000 kg GVWR	Random	1991+ 40% (suggest 25%) 1990 - 55%	Survey
California	Yes Roadside 1991 Fleet 1993	J1667	HDDV & HDGV over 6000 GVW	Fleet-annual Roadside-as needed	1991 + 40% 1990 - 55% - 69% fix it ticket > 69% fine	Survey
Colorado	Yes; 1987	HD LD Diesel lug down on dynamometer HD in fleet have option of on-road full throttle, full load J1667 not used	--	Annual	--	Survey
Connecticut	Yes; 1995 pilot; Spring 1998	J1667	HD	Random	1991+ 40% 1990 - 55% 1973 - 70% for 1st 5 years then 55%	Survey
Florida	No program	--	--	--	--	Survey

Illinois	State Rule	Use a snap idle test similar to J1667	Diesel Vehicles > 8,000 GVWR	--	1991+ 40% 1990 - 55%	Survey
Maryland	Pilot 1993 - March 1995	J1667	Vehicles over 26,000 lbs.	--	55% for all considering: 1991 + 40% 1990 - 1974 55% 1973 - 70%	Survey
Massachusetts	Planned; mid 1999	HD SAE J1667 LD dynamometer	HD LD	Biennial	1991 + 40% 1990 - 55%	Survey
Nevada	Yes; July 1, 1996	J1667	Diesels over 8500 GVW	Random	Fail at 70%	Survey
New Jersey	Planned	Rolling/stall accel. Pilot Program used J1667	> 18,000 GVWR	Annual	--	Survey
New York	No	Most likely would be J1667, if implemented	--	--	1991 + 40% 1990 - 55%	Survey
Rhode Island	Planned; 2000	J1667	LDDV, HDDV, Busses	Annual	LDDV 20% Busses 1988 + 30% 1987 - 40% HDDV 1991 + 40% 1974-1990 55% 1973 - 70%	Survey

Utah	In place; Nov. 1, 1994 LDDV - 1998	LDDV dynamometer HDDV J1667	All diesel 1968 or newer	–	Some counties: 80% HD or LD HD 70% LD w/turbo 30% LD w/o turbo 35% LD	Survey
Vermont	In place; Oct. 1996	SAE J1667 and Bosch RT100	HDDV > 8500 lbs GVWR	2-3 times/mo.	1991 + 40% 1990 - 55%	Survey
Washington	In place; August 1993	J1667 - considering dynamometer for LDDV	All diesel	Biennial: Private Annual: Govt.	1992 + 40% 1974 - 1991 60% 1968 - 1973 70%	Survey

INDIVIDUAL RESPONSES AND REPORTS

5. INDIVIDUAL RESPONSES

See Appendix 1 for copies of all individual responses and submitted reports.

STAKEHOLDER CONSENSUS

6. STAKEHOLDER CONSENSUS

After the results from the survey were tabulated and reviewed with the EPA it was decided a smaller group needed to be formed. The purpose of this group would be to discuss the results and discuss issues needed to be resolved in order to achieve consensus.

The following group was established:

Study Coordinators:	SAE, EPA
Key Organizations:	ATA, EMA, NESCAUM, STAPPA-ALAPCO
Key States using J1667 and 40/55% Cutpoints:	California, NESCAUM States
Key States using J1667 and other than 40/55% Cutpoints:	Nevada, Utah
Key States not using J1667:	New Jersey, Colorado

CONFERENCE CALL I

6.1 CONFERENCE CALL I

A conference call meeting was convened on March 18, 1998 of the targeted consensus group.

The following reports the summary of this conference call meeting.

SUMMARY

EPA CUTPOINTS CONFERENCE CALL
WEDNESDAY, MARCH 18, 1998

PARTICIPANTS:	Gary Pollak	SAE
	Connie Hurney	SAE
	Ines Storhok	EPA
	Joe Thomas	Utah Dept. of Environmental Control
	Macie LaMotte	Colorado Dept. of Public Health
	Allen Schaeffer	ATA
	Nancy Krueger	STAPPA-ALAPCO
	Ed Glick	Nevada Division of Environmental Protection
	Paul Jacobs	California EPA Air Resources Board
	Donald Chernich	California EPA Air Resources Board
	John Moore	California EPA Air Resources Board
	Michael Block	EMA
	Harry Diegel	Ford
	Fred ?	Caterpillar
	Coralie Cooper	NESCAUM
	David West	New Jersey Dept. of Env. Protection
	Tony Iavarone	New Jersey Dept. of Env. Protection
	Ed Sienicki	Navistar

PURPOSE

- Rationale for States implementing a Diesel Testing Program
  - Why
  - Driving Forces
  - Benefits
- Reasons for using J1667 Vs. other Testing Methods
- Establishment of Cutpoints at 40-55% Vs. other limits
- Issues relating to:
  - Effectiveness of Programs
  - Benefits of Program
  - Desirability of Consistency

Gary Pollak from SAE discussed the summary of recently conducted survey.

- Survey included issues in Agenda. Sent to approximately 18 states and approximately 3 state organizations.

- Results – Completed surveys from approximately 15 states including Arizona, California, Colorado, Connecticut, Florida, Maryland, Massachusetts, Nevada, New Jersey, New York, Rhode Island, Utah, Vermont, Washington State, British Columbia.

- The majority of states with programs are using J1667 and cutpoints of 40-55%.

- Offered summary results of survey to anyone who called, faxed or E-mailed Gary Pollak or Connie Hurney at SAE requesting it.

Information contained in the survey results was for the most part up to date with the exception of New Jersey. New Jersey reported they conducted a pilot program using J1667 for roadside testing. However, they stated that a more comprehensive program was being planned using a dyno test.

Discussed that although Nevada and Utah seemed to be using higher opacity cutpoints as their limits, they actually are in line with 40-55% limits after altitude correction.

EMA proposed a goal for a draft federal guidance to have a National Program that utilizes J1667 for roadside testing with consistent opacity cutpoints.

General consensus to above statement using J1667 with 40-55% cutpoints. New Jersey, however, still has plans for more comprehensive testing using a dyno test.

NESCAUM reported they are close to an agreement which will include the use of J1667 and the 40-55% cutpoints.

SAE will draft a straw man position for circulation to all participants- target date mid-April with a conference call to follow in early May.

PROPOSED POSITION

6.2 PROPOSED POSITION

As a result of the general agreement of the consensus group, SAE was instructed to draft a proposed cutpoints position including background support leading to this position.

Following is the draft circulated to the consensus group. It includes:

- Background
- Proposed Position
- Support for this Position

DRAFT

April 3, 1998

HDDV IN-USE SMOKE TEST PROCEDURE

BACKGROUND

The US EPA issued on April 3, 1997 a Guidance to States on In-Use Smoke Test Procedure for Highway Heavy-Duty Diesel Vehicles.

In this document the EPA recommends that uniformity in smoke test procedures is appropriate and recommends the use of SAE J1667 procedure for smoke evaluations in state operated in-use testing programs.

The need for consistency is important. The trucking industry is concerned that trucks which travel across the country may be subject to inspections in different states with different procedures. States using consistent procedures would have the advantage of being able to compare test results. Also, environmental benefits will be easier to monitor and quantify in regions that use the same test methods.

A goal to establish consistent opacity cutpoints used in conjunction with the above procedure is now being addressed by this proposal.

PROPOSED POSITION

Utilize SAE J1667 Procedure for state-operated in-use testing programs for highway heavy-duty diesel vehicles.

Utilize opacity cutpoints of:

- **40% for vehicles 1991 or newer**
- **55% for vehicles 1990 or older**

(It should be noted that the above are intended to be net cutpoints after correction for altitude)

SUPPORT FOR THIS POSITION

SAE conducted a survey of 18 states and 3 state organizations

Approximately 80% returned the survey. Included are Arizona, California, Colorado, Connecticut, Florida, Maryland, Massachusetts, Nevada, New Jersey, New York, Rhode Island, Utah, Vermont, Washington DC and British Columbia which give an excellent cross country representation. Of these states that have a roadside testing program, 85% are using J1667.

Of those states that use J1667, 83% are utilizing 40/55% cutpoints.

Those states that are using higher cutpoints are high altitude states. It was determined that when these higher cutpoints are corrected for altitude, they are in line with the 40-55% limits. This essentially brings all states using J1667 for roadside testing into agreement on 40-55% limits.

EMA and ATA have expresssed strong support for a National roadside program using consistent cutpoints.

SAE conducted a conference call of a cross section of the survey respondents including those using J1667 and those not, as well as those using 40/55% cutpoints and those not. This conference call resulted in a general consensus to accept the proposed position. (Exception was New Jersey, whose program calls for tests other than J1667).

Participants in the conference call reiterated the fact that J1667 was designed to identify excessive smoke emitters. There was agreement that during the various pilot programs conducted, cutpoints at the 40/55% yielded good results at screening gross polluters. Vehicles either had modest opacities below the 40% or clearly exceeded the 55%, in some cases significantly.

NESCAUM has a set of Memorandum of Understandings (M.O.U's) which have been accepted and are very close to being signed. This set of M.O.U.'s contain and support the proposed position.

CONFERENCE CALL II

6.3 CONFERENCE CALL II

A conference call meeting was convened on May 14, 1998 of the targeted consensus group.

The following reports the summary of this conference call meeting.

SUMMARY

EPA CUTPOINTS CONFERENCE CALL
THURSDAY, MAY 14, 1998

Participants:	Ines Storhok	EPA
	Joe Thomas	Utah DEQ
	Paul Jacobs	California EPA
	Michael Block	EMA
	Coralie Cooper	NESCAUM
	David West	New Jersey EPA
	Tony Iavarone	New Jersey EPA
	Gary Pollak	SAE
	Connie Hurney	SAE

SAE had circulated a Draft Position dated April 3, 1998 utilizing SAE J1667 with opacity cutpoints of 40% for vehicles 1991 or newer and 55% for vehicles 1990 or older. (Net- after correction for altitude).

NESCAUM, EMA, California, Utah and EPA all supported the position. New Jersey can support the Position basically as long as it is understood J1667 does not have to be used exclusively.

A number of the organizations indicated they would submit their support in writing with a few comments to be considered. Some of these comments included the question of whether a third category of cutpoint should be used for vehicles older than 1973; provisions for exemption; accept position as is but incorporate a footnote to provide a placeholder for new vehicles possibly having a new yet to be established cutpoint.

All written support statements with comments will be submitted to SAE within two weeks.

SAE was requested to contact the participants not able to be part of this conference call.

(Note: subsequent calls to ATA, Nevada and Colorado all resulted in support for the Position)

Once all written support and comments are received, SAE will circulate and poll the group as to the need for one more conference call to finalize the recommended Position to the EPA.

BASIS FOR INITIAL CUTPOINT SELECTION

6.4 BASIS FOR INITIAL CUTPOINT SELECTION

In 1996 and 1997 the California Air Resources Board conducted extensive testing. The first part of the test used SAE J1667 to profile random in-use opacity readings of over 1000 HDDVs. The second part of the test conducted a "truck repair study" to gauge the effectiveness of repairing engines to manufacturing specifications in lowering snap acceleration smoke emissions. Over 70 vehicles underwent this repair.

After an analysis of the effect of repair and taking into account the associated variability of the engine, the test and the different meters used, the post repair high values for opacity cutpoints were established at 55% for pre 1991 vehicles and 40% for 1991 or newer.

A number of states conducted their own pilot programs and studies utilizing these cutpoints. The NESCAUM states kept statistics that showed that by utilizing these cutpoints approximately 84% of the vehicles would be in compliance. Although each state kept statistics in slightly different manners this same finding of approximately 15% failure rate was similar in many of the programs.

CONSENSUS CONCLUSIONS

6.5 CONSENSUS CONCLUSIONS

As a result of conference calls I and II and follow-up by SAE the following outlines the consensus agreement obtained:

Conference Call I: General agreement by all but a request for a written position.

Written Position circulated on April 3, 1998 (see Sec. 6.2)

Conference Call II: Agreement and support for the Proposed Position was stated by:

- -EPA
- -EMA
- -NESCAUM
- -California
- -Utah
- -New Jersey

(provided it is understood J1667 does not have to be used exclusively)

Follow up by SAE: Agreement and support for the proposed Position was received via telephone calls placed to:

- -ATA
- -Nevada
- -Colorado

Written Support: Written statements of support were received by: (see attachment 6.5)

- -ATA
- -EMA
- -NESCAUM

NESCAUM whose participating states include Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont is developing a Reciprocity Agreement Workplan which will set cutpoints for use with those states using SAE J1667 at 40% for model year engines 1991 and newer and 55% for model year engines 1990 and older.

NESCAUM is also considering a 70% cutpoint for vehicles 1973 and older. This is not that significant in the fact that data from several states indicate only 2% to 4% of the vehicles are 1973 or older. Further, only about 40% of this already small number would exceed the 70% cutpoint. Thus choosing this additional less stringent cutpoint may have little air quality effect.

AMERICAN TRUCKING ASSOCIATIONS

2200 Mill Road • Alexandria, VA 22314-4677

Allen R. Schaeffer
Vice President
Environmental Affairs

(703) 838-1844
Fax: (703) 838-4992
Aschaeff@trucking.org

May 19, 1998

Mr. Gary Pollak
SAE Cooperative Research Program
400 Commonwealth Drive
Warrendale, PA 15096-0001

Dear Gary:

I just wanted to confirm that ATA supports the cutpoints for smoke opacity that the SAE Cooperative Research Program has been discussing. The cutpoints are 20% for 1991 and later model years and 55% for pre-1991 model year engines when measured using the J-1667 standard.

Sincerely,

Allen R. Schaeffer

Engine Manufacturers Association
michael_block@sbcglobal.com
401 North Michigan Avenue
Chicago, Illinois 60611-4267
312/644-6610
fax: 312/321-5111

Thursday, July 2, 1998

Gary Pollak
SAE Cooperative Research Program
400 Commonwealth Drive
Warrendale, PA 15096-0001

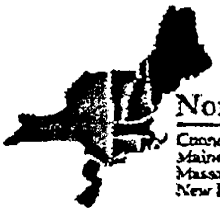
Dear Gary,

This letter confirms that the Engine Manufacturers Association (EMA) supports the opacity cutpoints recommended by the SAE Cooperative Research Program in their April 3, 1998 draft entitled "HDDV In-Use Smoke Test Procedure". Those cutpoints – 40% for vehicles 1991 or newer and 55% for vehicles 1990 and older – are the appropriate opacity cutpoints, when used with the SAE J1667 Test Procedure, for federal guidance for inspection/maintenance (I/M) programs.

Sincerely,

Michael C. Block,
Technical Director,
Engine Manufacturers Association

cc.: Ines Storhok - EPA



NESCAUM

Northeast States for Coordinated Air Use Management

Connecticut Bureau of Air Management
Maine Bureau of Air Quality Control
Massachusetts Division of Air Quality Control
New Hampshire Air Resources Division
New Jersey Office of Air Quality Management
New York Division of Air Resources
Rhode Island Office of Air Resources
Vermont Air Pollution Control Division

July 20, 1998

Mr. Gary Pollak
SAE Cooperative Research Program
400 Commonwealth Drive
Warrendale, PA 15096-0001

Dear Gary:

The Northeast States for Coordinated Air Use Management (NESCAUM) is writing to express support for the United States Environmental Protection Agency (U.S. EPA) effort to establish guidance for smoke opacity testing of heavy-duty diesel highway vehicles. This guidance will assist states in crafting smoke opacity enforcement programs to reduce smoke emissions from this source.

Specifically, NESCAUM supports the establishment of the proposed smoke opacity testing standards which are: 40% for 1991 and newer heavy-duty diesel vehicles and 55% for 1990 and older vehicles. These standards when enforced by states will reduce gross smoke emissions from in-use heavy-duty diesel vehicles.

We encourage your continued efforts to establish national guidelines for smoke opacity testing.

Very truly yours,

Coralie Cooper
Mobile Source Analyst

Jason S. Grumet, Executive Director
129 Portland Street
Boston, Massachusetts 02114
Tel. (617) 367-8540 Fax (617) 742-9162

APPENDIX

APPENDIX

The appendix contains the hard copies of the original responses and supporting documentation for these responses to the survey contained in Section 2 of this report.

These copies of the survey responses are from the states and organizations listed in Section 3 of this report. The summary of these responses is contained in Section 4 of this report.

As a result of the volume of pages and the hand written form of these responses, this appendix is not included in the report but will be kept on file at either:

SAE International
400 Commonwealth Drive
Warrendale, PA 15096-0001
Attn: Gary W. Pollak

or

US Environmental Protection Agency
National Vehicle & Fuel Emissions Lab
52565 Plymouth Road
Ann Arbor, MI 48105
Attn: Ines Storhok

APPENDIX C

Information on Vehicles Evading Emission Compliance Requirements and
Potential Number of Vehicles Qualifying for Repair Incentive Program in Clark County

KENNY C. GUINN
Governor

STATE OF NEVADA

RICHARD KIRKLAND
[redacted]
Director

DEPARTMENT OF MOTOR VEHICLES AND PUBLIC SAFETY
MOTOR VEHICLES BRANCH
COMPLIANCE ENFORCEMENT DIVISION
555 Wright Way
Carson City, Nv 89711
(775) 684-4790

January 8, 2001

Mr. Don Williams, Chief Principle Research Analyst
Legislative Council Bureau
401 South Carson Street
Carson City, Nv 89701

Re: SB 432

Dear Mr. Williams,

In response to questions raised during the Legislative Commission hearing held on December 11, 2000 relative to SB 432, I am providing the below listed responses on behalf of the Department of Motor Vehicles and Public Safety. My understanding is that there were three basic questions/issues on which you were seeking Department input. They were: 1.) The number of vehicles thought to be evading the vehicle emission compliance standards in Clark County? 2.) How many vehicles in Clark County might potentially fall under a repair incentive program if one were to be adopted? 3.) What was the outcome of the pilot vehicle repair program conducted by Clark County?

For your convenience, I have responded to the questions in the order that they were presented.

Q-1: Number of vehicles thought to be evading the vehicle emission compliance requirements in Clark County?

During FY2000 the Department collected 1,069 Residency Affidavits from Clark County residents who requested an exemption from the emission requirements based upon claims the exempted vehicle was based outside Clark County. Each waiver represents the potential for evading the emission testing and compliance requirements in Clark County. Of the 1,069 requests submitted, the Department investigated 514 for authenticity. Fourteen of those were confirmed as evading the emission program.

In addition to Residency Affidavits, the Department also received 382 information referrals regarding potential emission evaders. Investigations were initiated on 158 of the referrals, resulting in the identification of 16 program evaders. (Note: Information referrals are generated by DMV Technicians when they note address discrepancies in registration applications, i.e., drivers license address does not match listed address for the registration to vehicle, etc.)

While certainly not all inclusive, the 1,451 reports received during FY2000 are considered to be the most objective and tangible means by which to identify potential program evaders.

Q-2: How many vehicles in Clark County might potentially fall under a repair incentive program if one were to be adopted?

The current pilot incentive program operated by Clark County offers to subsidize vehicle emission related repairs for vehicles which have failed to pass the annual emission test and the owners of which meet certain financial qualifications. The Department does not have data on the financial requirements aspect of the program. However, based upon FY2000 initial test failures, we can state that 45,668 vehicles in Clark County could conceivable fall under such a program annually. The target population of vehicles will be significantly refined one information from the pilot program is made available by Clark County officials.

Q.-3: What was the outcome of the pilot vehicle repair program conducted by Clark County?

The Department has contacted the Clark County Comprehensive Planning Department and requested the final report on the program. Officials there advise the final report from the contractor overseeing the program has not yet been produced, although a draft report has been completed. One the final report is completed the Department will be provided a copy.

I hope this information will assist you with your task. If I can be of further assistance or you need additional information, please do not hesitate to contact me at 684-4790.

Sincerely,

Russ Benzler, Administrator

RB:sj

APPENDIX D

Report by the Clark County District Attorney's Office on Investigation of the Air Quality Division of the Clark County Health District

OFFICE OF THE DISTRICT ATTORNEY

Clark County Courthouse • 200 S Third St • PO Box 552212 • Las Vegas NV 89155-2212
(702) 455-4711 • Fax: (702) 455-2294

STEWART L. BELL
District Attorney

J. CHARLES THOMPSON
Assistant District Attorney

MICHAEL D. DAVIDSON
Assistant District Attorney

MEMORANDUM

TO: DR. DONALD S. KWALICK, CHIEF HEALTH OFFICER, CLARK COUNTY HEALTH DISTRICT

FROM: JOEL MOSKOWITZ, INVESTIGATOR, CLARK COUNTY DISTRICT ATTORNEY'S OFFICE

DATE: SEPTEMBER 20, 2000

RE: REQUESTED INVESTIGATION

Attached hereto please find my report concerning your requested investigation.

If you have any questions, please feel free to contact me.

BACKGROUND

On August 2, 2000, Dr. Donald S. Kwalick, Chief Health Officer of the Clark County Health District, asked District Attorney Stewart Bell for an independent investigation of alleged wrongdoing by employees of the Air Quality Division (AQD).

The District Attorney assigned me, Joel Moskowitz, to conduct this investigation. Over the next few weeks I interviewed a Board of Health member, a federal investigator, a private citizen and several past and present employees of AQD.

This report is:

- a summary of my findings of fact surrounding the allegation(s)
- a description of unfavorable perceptions by those interviewed relating to AQD
- my concerns and recommendations as an objective investigator

FINDINGS OF FACT

The following is a summary of the facts obtained during my investigation:

- Graphics West (GW) is a printing company located in Clark County. Michael Naylor, former Director of the AQD is married to Wendy Naylor, who was formerly married to Don Kreitzburg. Don is the brother of Jack Kreitzburg, the former principal of Graphics West. Naylor admitted these facts during an interview.
- In July 1994, Naylor indicated to one of his employees who had been assigned this application that he did not want to be involved in this adjudication as it was a former family member.
- AQD staff determined that Emission Reduction Credits (ERC) were required of GW. The dollar value assigned to these credits could have been $50,000-$60,000.
- Naylor, in his supervisory capacity, determined these credits were not due as the program was voluntary and the date this business opened would require this business to be grandfathered in under the program requirements.
- A subsequent inspection in 1999 by a different staff member determined ERC was due in this situation.
- A decision to override that recommendation was made by Michael Sword, Assistant Director of AQD, citing as a reason that the amount of emitants is exempt based upon AQD past practices.
- The primary reason for this investigation was to determine the criminal culpability of Naylor.

- The complexity of the program requirements as well as the various interpretations does not lend itself to a simple determination of the correctness of Naylor/Sword decisions.

Although the conduct may have been inappropriate I don't believe the requisite criminal intent can be demonstrated.

UNFAVORABLE PERCEPTIONS OF INTERVIEWEES CONCERNING AQD

In conducting this investigation, the following general unfavorable perceptions of interviewees surfaced which I will summarize:

- Many of the persons interviewed expressed great concern about the GW adjudications. They lack confidence in management and feel the interpretations are motivated by other than technical considerations.
- This perception by staff is also bolstered by adjudication of permits by staff/management personnel wherein there was a previous work relationship.
- That a "Good old boy network" exists within AQD management, which is being continued with Sword as acting director.
- Former employees of consulting companies adjudicating petitions where that consulting company is involved.
- Perception that Naylor caught with "hand-in-the-cookie jar" and resigned then hired on as a consultant with same duties, staff and office.
- Current and former staff took great satisfaction in the public good they felt they could accomplish. The fact that EPA has levied large fines against many companies leads many employees to feel they are not being supported in their mission.
  (Note: I have determined that EPA does as a matter of course fine many companies in other areas similarly large amounts.)
- Some persons believe the Emissions Reductions Credit program is a boondoggle. The assessment of whether credits are due as well as the collection and accounting of the movies has been questioned by staff as well as the public.

I could neither confirm nor deny the perceptions of those interviewed in a totally objective way.

CONCERNS AND RECOMMENDATIONS

My concerns and recommendations are:

- Poor morale in AQD
- The inconsistent interpretations of program requirements

Adjudication of permits by those formerly employed by consulting companies. Better oversight by management can avoid this in the future. Status of ERC. I viewed several management audits for procedures but no financial audits. I did view a set of entries in the ERC register that indicated the AQD charged different prices for credits on the same day. If a reason for this difference exists it should be noted in the public record to avoid any misperceptions by staff/public. I would recommend an independent audit. I believe a good place to focus would be what happens to any interest generated by this account, the mechanism by which payments are mandated.

The above information is by no means comprehensive but only a report of ancillary information developed during the course of my investigation concerning Michael Naylor.

APPENDIX E

Legal Opinion on the Clark County Health District's Emission Reduction Credit Program

STATE OF NEVADA
LEGISLATIVE COUNSEL BUREAU
LEGISLATIVE BUILDING
401 S. CARSON STREET
CARSON CITY, NEVADA 89701-4747
Fax No.: (775) 684-6600

LORNE J. MALKIEWICH, *Director*
(775) 684-6800

LEGISLATIVE COMMISSION (775) 684-6800
ANN O'CONNELL, Senator, *Chairman*
Lorne J. Malkiewich, *Director, Secretary*

INTERIM FINANCE COMMITTEE (775) 684-6821
MORSE ARBERRY, JR., *Assemblyman, Chairman*
Mark W. Stevens, *Fiscal Analyst*
Gary L. Ghiggeri, *Fiscal Analyst*

Wm. GARY CREWS, *Legislative Auditor* (775) 684-6815
ROBERT E. ERICKSON, *Research Director* (775) 684-6825
BRENDA J. ERDOES, *Legislative Counsel* (775) 684-6830

October 6, 2000

Senator Jon C. Porter, Sr.
601 Whitney Ranch Dr., Ste. 16
Henderson, NV 89014-2643

Dear Senator Porter:

As Chairman of the Legislative Commission's Subcommittee on Air Quality Programs in Clark County, you have asked this office whether the Clark County Health District ("CCHD") has the authority to assess fees pursuant to its emission reduction credit program.

Under the emission reduction credit program operated by the CCHD, a new or expanding source of air pollutants that increases certain particulate matter (PM10) in the air by more than 1 ton per year is required to offset its emission increases by obtaining emission reduction credits. Environ International Corporation, Draft of Final Report, Study of Air Quality Programs in Clark County, Nevada, 3-7 (June 23, 2000). There are four methods by which such a source may obtain the credits: (1) by directly funding the paving of publicly maintained roads; (2) by paying a prescribed fee to the CCHD which is passed on to participating public works departments to finance paving projects; (3) by making reductions at the source, such as shutting down emission units or installing equipment to control emissions; or (4) by planting or funding the planting of trees in certain areas. Id. at 3-7, 3-8.

There is no specific authority in Nevada Revised Statutes to create and operate an emission reduction credit program. However, pursuant to NRS 455B.500, the district board of health, county board of health or board of county commissioners in each county whose population is 100,000 or more is required to "establish a program for the control of air pollution and administer the program within its jurisdiction unless superceded." Pursuant to this statute, the Board of County Commissioners of Clark County serves as the local air pollution control agency for Clark County, carrying out its duties through the

Department of Comprehensive Planning and the CCHD. When enacting NRS 445B.500, the Legislature did not prescribe the specific details of the statutorily required program for the control of air pollution. Instead, the Legislature simply provided that:

> (b) The program must:
>
> (1) Include standards for the control of emissions, emergency procedures and variance procedures established by ordinance or local regulation which are equivalent to or stricter than those established by statute or state regulation; and
>
> (2) Provide for adequate administration, enforcement, financing and staff.

Paragraph (b) of subsection 1 of NRS 445B.500. Thus, the Legislature in NRS 445B.500 required the program for the control of air pollution and gave the local air pollution control agency broad authority to design the program. Given this broad authority, NRS 445B.500 would not preclude the inclusion of an emission reduction credit program in the program for the control of air pollution established by a local air pollution control agency.

The statement of legislative intent for chapter 445B of NRS, which is set forth in NRS 445B.100, similarly expresses the broad authority given to a local air pollution control agency to formulate its program for the control of air pollution. That provision states that:

> 1. It is the public policy of the State of Nevada and the purpose of NRS 445B.100 to 445B.640, inclusive, to achieve and maintain levels of air quality which will protect human health and safety, prevent injury to plant and animal life, prevent damage to property, and preserve visibility and scenic, esthetic and historic values of the state.
>
> 2. It is the intent of NRS 445B.100 to 445B.640, inclusive, to:
>
> (a) Require the use of reasonably available methods to prevent, reduce or control air pollution throughout the State of Nevada;
>
> (b) Maintain cooperative programs between the state and its local governments; and
>
> (c) Facilitate cooperation across jurisdictional lines in dealing with problems of air pollution not confined within a single jurisdiction.
>
> 3. The quality of air is declared to be affected with the public interest, and NRS 445B.100 to 445B.640, inclusive, are enacted in the exercise of the police power of this state to protect the health, peace, safety and general welfare of its people.

* * *

(Emphasis added.) As the materials prepared by the consultant to the Subcommittee indicate, emission reduction credit programs are not unique to Clark County. Environ International Corporation, Draft of Final Report, Study of Air Quality Programs in Clark County, Nevada, 3-8 (June 23, 2000). Several such programs are operated in California. Id. Michigan developed a voluntary "Emission Averaging and Emission Reduction Credit Trading Program" in 1996, to "improve air quality, create market-based incentives for making emission reductions, and to encourage early emission reductions an technological innovations to reduce and quantify emissions."[1] Thus, there is evidence that emission reduction credit programs are a "reasonably available method to prevent, reduce or control air pollution."

Although an emission reduction credit program is not specifically created or authorized by statute, the Legislature enacted a provision during the 1999 Legislative Session which references such a program. Section 9 of Senate Bill No. 394 of the 1999 Legislative Session, now codified as NRS 445B.508, provides that:

> 1. If a county operates a program in which a person operating or responsible for the existence of a source of air contaminant may earn credits for maintaining or reducing the level of air contaminant emitted from the source, such a program:
>
> (a) Must allow the person to earn credits for reducing the level of air contaminant emitted from that source through the use of solar energy; and
>
> (b) Must not allow the person to earn credits for reducing the level of air contaminant emitted from that source if such a reduction is required as a component of a penalty imposed against the person.
>
> 2. As used in this section, "credit" means an administratively created right that:
>
> (a) Entitles a person operating or responsible for the existence of a source of air contaminant to allow the source to emit a certain level of air contaminant; and
>
> (b) May be traded or sold to another person.

Chapter 425, Statutes of Nevada 1999, at p. 1976 (emphasis added). Thus, the Legislature has specifically acknowledged the existence of emission reduction credit programs in the Nevada Revised Statutes.

Several years ago, the issue of whether the CCHD had statutory authority to implement an emission reduction credit program and assess accompanying fees was raised in a lawsuit against the CCHD by the Southern Nevada Home Builders Association. The lawsuit was settled, however, before a judicial resolution had been

[1] http://www.newenvironmentalism.org/comflex/mi-emission.html

obtained, thus precluding any opportunity for Nevada's judiciary to opine directly on this issue. During the 1995 Legislative Session, the CCHD requested the introduction of a bill to clarify the issue of its authority to implement such a program. Senate Bill No. 247 ("S.B. 247") would have authorized local air pollution control agencies to establish a program for the receipt and exchange of credits to reduce and control air pollution as part of its program for the control of air pollution established pursuant to NRS 445.546 (now codified as NRS 445B.500). Section 1 of S.B. 247 provided that:

> *1. A district board of health, county board of health or board of county commissioners may, as a part of its program for the control of air pollution established pursuant to NRS 445.546:*
>
> *(a) Require each source within its jurisdiction to obtain credits issued by the board for air contaminants the source emits or will emit. The board shall establish the number of credits required to be obtained by each source, but in no case may a new source be required to obtain less than one nor more than two credits for each ton of air contaminants the source will emit.*
>
> *(b) Award credits to sources within its jurisdiction which successfully carry out projects that reduce the air contaminants those sources emit. The board shall establish guidelines to determine which projects qualify for credits and the number of credits which will be awarded for those projects.*
>
> *(c) Authorize a source which has been awarded credits pursuant to paragraph (b) to sell, exchange or otherwise transfer those credits to another source within the jurisdiction of the board which awarded the credits.*
>
> *2. If a source is required to obtain credits pursuant to subsection 1, the source may:*
>
> *(a) Obtain the number of credits needed from another source that has been awarded credits pursuant to paragraph (b) of subsection 1;*
>
> *(b) Purchase the number of credits needed from the appropriate board for a fee established by the board; or*
>
> *(c) Obtain credits from another source and purchase any additional credits needed from the appropriate board.*
>
> *3. The district board of health, county board of health or board of county commissioners shall establish the fees authorized by this section as follows:*
>
> *(a) The fee for a credit purchased by a new source must be established in an amount which reasonably reflects the cost of reducing air pollution, but in no case may the fee exceed $650 per ton of air contaminants that will be emitted by the source.*

(b) The fee for a credit purchased by an existing source must be established in an amount not to exceed $80 per ton of air contaminants emitted by the source.

4. Money received from fees assessed in accordance with this section must be:

(a) Accounted for separately; and

(b) Expended, in accordance with intergovernmental agreements, on projects to reduce air contaminants within the jurisdiction of the district board of health, county board of health or board of county commissioners, including, without limitation, projects to pave roads.

After passage by the Senate, S.B. 427 was indefinitely postponed by the Assembly Committee on Natural Resources, Agriculture and Mining on June 14, 1995. This reasonably raises the question of what effect the Legislature's consideration and failure to adopt S.B. 247 has on the CCHD's program.

The Nevada Supreme Court has held that "'[w]here . . . the legislature has had ample time to amend an administrative agency's reasonable interpretation of a statute, but fails to do so, such acquiescence indicates the interpretation is consistent with legislative intent.'" Hughes Properties v. State of Nevada, 100 Nev. 295, 298 (1984) (citation omitted). During the hearings regarding S.B. 247, there was extensive testimony regarding the fact that the CCHD had already established an emission reduction credit program and had been operating the program and collecting offset fees for 10 years. *See* Minutes of Senate Committee on Natural Resources, at p. 5 (Apr. 26, 1995); Minutes of the Assembly Committee on Natural Resources, Agriculture and Mining, at p. 2, 6, Exhibit C (May 29, 1995). Thus, to date, the Legislature has had approximately 15 years to override the CCHD's interpretation that it has authority to operate an emission reduction credit program. The Legislature has failed to correct this interpretation despite the specific opportunity to do so in 1995 with S.B. 247. Therefore, it is the opinion of this office that the indefinite postponement of S.B. 247 in 1995 does not create a presumption that CCHD does not have the authority to operate an emission reduction credit program. Instead, the Legislature's acquiescence indicates that the interpretation is consistent with legislative intent.

In conclusion, it is the opinion of this office that the broad authority given to a local air pollution control agency to formulate its program for the control of air pollution as required pursuant to NRS 445B.500 provides the CCHD with the authority to operate an emission reduction credit program. In addition, there is ample evidence of legislative intent for the CCHD to possess such authority in light of: (1) the statement of legislative intent set forth in NRS 445B.100; (2) the reference in NRS 445B.508 to such a program; and (3) the record of legislative acquiescence to the existence of such a program. It is important to note, however, that in the future the Nevada Legislature is free to amend the provisions of chapter 445B of NRS to specifically authorize (or prohibit) the

establishment and operation of an emission reduction credit program and the assessment of any accompanying fees by a local air pollution control agency. Such legislation would likely prevent any remaining speculation about the validity of such a program. This office would be happy to prepare any such bill draft if that is the desire of the Subcommittee.

If you have any further questions regarding this matter, please do not hesitate to contact this office.

Very truly yours,

Brenda J. Erdoes
Legislative Counsel

By Eileen O'Grady
Eileen O'Grady
Principal Deputy Legislative Counsel

EGO:dtm

APPENDIX F

Suggested Legislation*

BDR -790	Implement proposal of local governments to restructure air quality programs in Clark County.
BDR 40-791	Authorize establishment and operation of emission reduction credit program in large counties.
R -792	Urge Congress to require the BLM and USEPA to work more closely regarding certain air quality issues in Nevada.
BDR 23-793	Extend statutory whistleblower protection to local government employees.
BDR 40-794	Makes various changes regarding air quality programs in Clark County.

*The bill draft requests for this study are not included in this appendix, but they will be available during the 71st Legislative Session, which convenes on February 5, 2001.