



## **WRAP Off Road Retrofit Program: WRAP Member Survey**

***Submitted To: WRAP Mobile Sources Forum  
in support of the Off Road Retrofit Program***

***prepared by: Emissions Advantage, LLC.***

**April 25, 2005**

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## **1.0 Report Overview and Background**

As an initial step in implementing the WRAP Offroad Retrofit Program, the Mobile Sources Forum (MSF) and other WRAP members interested in retrofit issues, as well as other individuals and group or project representatives were contacted to gather information, input and feedback on retrofit activities, interests and needs. The goal of this exercise was to collect information and ideas to help support development the Retrofit Program elements. The results were used to help focus and prioritize topics, and identify speakers for the WRAP Member Offroad Retrofit Project Workshop scheduled for January 27-28, 2005 in San Diego, CA. The results will also be discussed at that Workshop to help focus the direction and priorities for the development of the WRAP Offroad Retrofit Guidance Document, education and outreach activities and materials, and other Offroad Retrofit Program initiatives.

## **2.0 WRAP Member Survey**

### **2.1 Participants**

The MSF identified an initial list of individuals to be contacted. Based on telephone contacts with these individuals, the list was modified and expanded. Appendix A lists the names and organizational affiliations of those contacted. Responses collected to date are summarized in this report. In several cases, individuals contacted indicated that they plan to provide additional input. When this information is received, it will be incorporated into the final report.

### **2.2 Information and Suggestions**

#### **2.2.1 Information/Input Questions**

Briefly, the survey was designed to inform the MSF on existing and planned retrofit programs, as well as WRAP member needs, interests and issues. This input will help the MSF effectively design and implement the WRAP Offroad Retrofit Program. The complete list of questions is contained in Appendix B. The range and topics of these questions included the following:

#### *Program Activities and Interested Stakeholders*

- What current or planned retrofit initiatives are underway within the agency or state?
- What is the department or organization's current interest in retrofit programs?
- How will diesel retrofit initiatives help the agency's air quality improvement objectives?
- How might the WRAP Retrofit Program help support agency organizational activities already underway to reduce diesel engine emissions?
- What other stakeholders is your organization already in contact or working with?

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- Do you have any contact information on potential retrofit users or other important stakeholders to share with the WRAP Program?
- Are there other contacts in your state or region that are working with potential users who might provide this type of contact information?
- Are there any upcoming meetings or workshops currently planned for your area?

### *WRAP Retrofit Guidance Document and Information Updates*

- What information would you like to see included in a general guidance document?
- Who should the primary audience for the document be?
- What type of information should be tracked for quarterly reporting for the forum?
- How would you like to receive this information?

### *Public Education and Outreach*

- What types of public education and outreach materials would be most useful?
- Would your agency or organization benefit from having these materials available?
- What types of 'audiences' should these materials be directed to?
- What would be the most valuable and cost effective types of materials?

### *Technical Assistance*

- What types of technical assistance on diesel retrofit and related issues would be most valuable to you and your organization?
- What types of information do you anticipate needing in the next year?

### *Workshops/Conferences*

- For the WRAP Member workshop in January and a WRAP conference later in 2005, what are the issues you would like to see discussed, and who would you like to see participate? Also, are there any dates later this spring and summer that should be avoided?

## **2.2.2 Summary Responses**

Responses to the topics listed above will continue to inform the entire WRAP Offroad Retrofit Program. For purposes of this report, EA has compiled common responses, as well as those that, while more specific, seem to identify an important issue or point of information, as follows.

### *Program Activities and Interested Stakeholders*

Most respondents identified one or more current projects, as well as others being pursued. Most of the retrofit initiatives involve on-road vehicles, but several initiatives are focusing on offroad equipment. (See Appendix C)

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Agency interest in retrofit programs includes use in state and tribal implementation plans (SIPs and TIPS), general public health and environmental quality objectives, reduced toxic emissions and exposure to sensitive populations, public awareness of emission reduction alternatives and regional haze improvements. Use of retrofit programs in SIPs were cited most often as a primary interest to State air quality agencies.

Respondents identified a variety of products and services that the WRAP Offroad Retrofit Program could provide to serve their organizations' air quality improvement objectives, including:

- Guidance on obtaining funds from EPA and other sources;
- Information on industry perspectives regarding retrofit programs;
- Strategies to pursue voluntary programs (e.g., available incentives);
- Data on emissions benefits (i.e., real world emission test results);
- Information on health benefits of reducing various diesel engine emissions;
- Information on risk reduction to sensitive populations;
- Help coordinate efforts of states to enter into cooperative agreements on retrofit technology purchases (e.g., Washington School Bus Program);
- Help support preparation of RFP bid proposals; and
- Material to help educate fleet owners/operators

Several respondents stressed the importance of WRAP coordinating with other initiatives like the West Coast Diesel Emissions Collaborative.

Several workshops related to retrofit issues have been held or are being planned including:

- Joint Retrofit Conference co-sponsored by EPA regions 8 and 10 in Pocatello (October 2004)
- Three workshops in Washington (transit, school buses and construction equipment (Fall 2004)
- Las Vegas Clean Cities Coalition meeting with fleet managers to discuss strategies to reduce emissions (April 2005)
- Workshop on Retrofits and Alternative for HDEs in New Mexico (November 2005)

Almost all respondents were able to provide several contacts that would be interested in, and helpful in carrying out, the WRAP Offroad Retrofit Program. An expanded WRAP Offroad contact list is attached as Appendix D.

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### *WRAP Retrofit Guidance Document and Information Updates*

The questionnaire described a lengthy list of topics being considered for inclusion in the WRAP Offroad Retrofit Guidance Document. These topics include:

- Sector- and state-specific technology and administrative options based upon the emission source types most likely to contribute to visibility impairment in federal or tribal Class I areas;
- Retrofit potential for targeted source types, taking into consideration fuel availability, fleet characteristics, current programs/incentives, and other factors of importance to equipment operators and program administrators;
- Current information on retrofit technologies, products, operating and maintenance costs, and benefits;
- Policy options for governments;
- Incentives to equipment owners;
- Check-lists and processes for implementing retrofit projects; and
- Information on availability of grants and other funding sources, and on practices for preparing grant proposals.

Respondents generally agreed that the full range of topics would be useful. Most respondents felt the more information provided in the document, the better, particularly if the document will serve as a reference tool and be updated periodically.

In addition, respondents identified the following information as useful to be included in the guidance document:

- Up-to-date information on funding mechanisms and programs, including current EPA grant programs;
- A ‘how to’ section on pursuing a grant proposal;
- A list of ‘success stories’, i.e., peer contacts who have identified program partners and participants, obtained funding and are engaged in a successful program effort;
- Procedures on how to put a program together;
- Descriptions of the Texas Emission Reduction Program (TERP) and California’s Carl Moyer program as examples;

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- Information for the fleet operators (available incentives, available technologies and strategies, warranties, costs/benefits, impacts on equipment and fuel economy, and success stories with other offroad retrofit programs);
- Guidance to air quality planners regarding how to identify and encourage fleet operators to consider retrofit programs; and
- Information on available SIP credits for retrofit projects

Respondents generally agreed that the Offroad Retrofit Guidance Document should be targeted for the MSF members and their peers with responsibility for air quality, regional haze, and related environmental, energy conservation, and public health issues associated with diesel emissions, engines, fuels and fleets. Several respondents also felt that having portions of the information prepared to be available for a broader group of stakeholders in the form of a ‘Retrofit 101’ for example, would be very valuable. Several respondents identified fleet owners/operators, regulators and legislative bodies as other potential audiences for the Offroad Retrofit Guidance Document.

Regarding the quarterly updating of information, respondents generally agreed that all of the major topics in the Guidance Document should be tracked. Again, respondents made particular mention of maintaining up-to-date information on EPA and other grant source programs. All respondents found the idea of an e-mail alert with the update electronically attached to be acceptable. Several people mentioned that web-based posting of the updates and other information generated by the Offroad Retrofit Program would be very useful to facilitate dissemination of information to others. Also, several respondents indicated that periodic conference calls to discuss recent development and share information would be very useful.

### *Public Education and Outreach*

Again, respondents concurred on the need for, and benefits of, public education and outreach as a key element in launching successful retrofit programs – in both mandatory and voluntary programs, and in both the public and private sector. Also broad support exists among the respondents for the development of outreach tools, including fact sheets, web-based information, and reference materials on specific topics, such as equipment, fuels, filter maintenance, and public health. Several respondents felt that information should include or be accompanied by discussion of the benefits of voluntary program participation to the potential user (e.g., “What’s in it for me?”).

Suggestions by respondents varied as to what types of audiences should be targeted for education and outreach material and which types of information would be most useful.

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Suggested target audiences for offroad retrofit initiatives include:

- Construction, forestry and mining industries;
- Large corporations owning or managing fleet equipment on a project or regional basis;
- Fleet operators and mechanics;
- Companies that lease construction equipment;
- The agricultural sector, including industry as well as small to large farming cooperatives;
- Legislators (e.g. city councils) and regulators;
- Tribes; and
- Railroads

Respondents had a mixed reaction to developing a video, both in terms of cost effectiveness and value. Several respondents noted that while prepared information like a video is often requested by others, the pre-prepared video information on technical issues often generates as many questions as they answer. One respondent suggested that WRAP work with ARB, EPA and others to create a video clip library on retrofits that WRAP members and others could access and select clips to be used in creating a video tailored for a particular use and/or audience.

### *Technical Assistance*

In addition to educational and outreach materials, respondents felt other information could be made available to support contacting and interacting with potential retrofit users. This type of information would include broader contact information on whom these participants might be, reference lists of participants across the WRAP region, information that could be provided to prospective participants regarding, for example, funding procedures and limitations. With regard to more internal information needs, many respondents cited the need for up-to-date information on new or open grant opportunities, recent success stories, and technical updates in equipment, fuels, and pilot programs that had been ‘screened’ and determined to be useful additions to WRAP’s information collection efforts. Respondents also cited the need to develop more accurate and consistent (across the WRAP region) means for developing emission inventories of offroad equipment and to be kept current on analytical and modeling tools that are used to evaluate the emission reduction benefits of retrofit programs.

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Based on the range of important technical, policy and financial issues cited, many constructive additional references were provided to broaden the stakeholder group as the WRAP Offroad Retrofit Project goes forward. As mentioned above, this information is being separately developed and will be incorporated into this report as part of Appendix C. Generally, it is clear from the interviews that many of the state resource personnel who are planning and overseeing retrofit initiatives are engaged in this WRAP program.

### *Workshops and Conferences*

Respondents offered a number of suggestions for topics to be covered during the workshop. Many of the suggestions received, such as discussing coordination with other groups such as the West Coast Diesel Retrofit Collaborative, engaging the equipment fleet industry, discussing retrofit experience in the U.S. and elsewhere, and providing opportunities for informal interaction, were incorporated by the MSF into the January 2005 Workshop agenda; and some of the topics suggested were carried over for possible subjects to included the WRAP Retrofit Conference being consider for later in 2005.

Suggestions for the 2005 WRAP Offroad Retrofit Conference include locations such as Las Vegas and Colorado Springs. Other suggestions include:

- Cover both on-road and offroad retrofit programs because there is more experience on the on-road side;
- Have speakers from successful retrofit programs;
- Actively recruit participation by the private sector;
- Have offroad equipment retrofitted with emission control technology on display at the conference or conduct a field trip to a construction site were retrofitted equipment is operating; and
- Presentations by engine manufacturers, retrofit technology providers and idle equipment providers.

In terms of possible conflicts with the dates of other Conferences, the National Clean Cities Conference on May 1-5, 2005 was identified.

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**APPENDIX A**  
**WRAP OFFROAD RETROFIT PROGRAM INITIAL CONTACTS**

Doug Decker, Colorado Department of Public Health and Environment  
Steve McCannon, Denver Regional Air Quality Council  
Leonard Herr, Idaho Department of Environmental Quality  
Howard Haines, Montana Department of Environmental Quality  
Jim Carlin, Montana Department of Environmental Quality  
Chris Wentz, New Mexico Department of Energy, Minerals, and Natural Resources  
Tom Bachman, North Dakota Department of Health  
Sharon Banks, Lane (Oregon) Regional Air Pollution Authority  
Rick Boddicker, South Dakota Department of Natural Resources  
Ran MacDonald, Utah Department of Environmental Quality  
Shawn Kendell, Arizona Department of Environmental Quality  
Sigurd Jaunarajs, Nevada Department of Conservation and Natural Resources  
Dennis Ransel, Clark County Department of Air Quality Management  
Clint Farr, Alaska Department of Environmental Conservation  
Mike Boyer, Washington Department of Ecology  
Dave Kircher, Puget Sound Clean Air Agency  
Kevin Downing, Oregon Department of Environmental Quality  
Elizabeth Waddell, National Park Service  
Janea Scott, Environmental Defense

**APPENDIX B**

WRAP DIESEL OFFROAD RETROFIT PROGRAM COORDINATION INITIATIVE:  
INPUT FROM WRAP MEMBERS  
November 30, 2004

Date:

Name:

Agency/Organization:

Telephone Number:

E-mail:

**Background Information.** Emissions Advantage, LLC (EA) is a consulting firm focusing on diesel emission reduction strategies, and is the contractor working with the WRAP Mobile Sources Forum to implement the WRAP Offroad Retrofit Program. The objective of this Project is to promote emission reductions from existing offroad diesel engines by providing WRAP members and equipment owners and operators with a wide variety of professional services including:

- written guidance
- technical support
- outreach services
- identification of incentives
- public policy options

WRAP defines “retrofit” broadly to include not only technology retrofits like diesel particulate filters, but fuel-based strategies like ULSD, biodiesel, emulsions and alternative fuels, engine rebuilds, engine repowers, equipment replacement, and operational strategies like reduce idling.

By providing your input on the subjects below, you will help the WRAP Mobile Sources Forum design and implement an effective project that will help us serve your needs and interests. If more space is needed than is provided on this form, please provide the information requested on a separate sheet.

**GENERAL INFORMATION**

- 1. Please provide on the attached Retrofit Project List document a listing of the current, planned, under consideration, and completed retrofit initiatives in your state or area. Please return the list with this document.**

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2. Please describe your organization's current needs, interests, and capabilities in conducting retrofit initiatives.
3. Please describe how diesel retrofit initiatives will help serve your organization's air quality improvement objectives, including, but not limited to regional haze.
4. Please describe how the WRAP Offroad Retrofit Program can help support your activities to reduce emissions from offroad diesel engines?
5. Could you identify other stakeholders, with contact information, who you recommend that we should try to involve in the Program as it moves forward?
6. Do you plan to conduct or would you be interested in a workshop or conference in your state or area focusing on emission reductions from existing offroad or onroad diesel engines?

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### TASK 3: GUIDANCE DOCUMENT

*As part of the Offroad Retrofit Initiative, Emissions Advantage will be developing a Retrofit Guidance Document. This guidance document will serve primarily as a resource for WRAP participants interested in pursuing offroad retrofit projects, and will:*

- *Provide an outline of sector- and state-specific technologic and administrative options based upon the emission source types most likely to contribute to visibility impairment in tribal and federal mandatory Class I areas*
- *Assess the retrofit potential for emission source types, taking into consideration fuel availability, fleet characteristics, current programs/incentives, and other factors of importance to equipment operators and program administrators.*
- *Describe mechanisms and metrics for measuring program success and emission reductions will also be described.*
- *Provide the latest information on:*
  - i. *retrofit technologies*
  - ii. *product costs*
  - iii. *operating and maintenance costs*
  - iv. *benefits (including secondary, economic development benefits)*

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- v. *policy options for governments*
- vi. *advantages/incentives to equipment owners*
- vii. *implementation issues*

- *Provide a decision tree and checklist processes for implementing retrofit projects, availability of grants and other funding sources, and information on practices for preparing grant proposals.*

- 7. Does the information described above cover the topics that would be of interest to you? Do you have any suggested additions or revisions? Which topics are most important to you and other potential users of the guidance document?**
- 8. Who do you expect will use the guidance document? For whom should be written**
- 

### TASK 4: TRACKING RETROFIT DEVELOPMENT

*As part of this Program, Emissions Advantage can track:*

- *Ongoing and emerging developments related to diesel retrofit technologies*
- *Relevant projects and their results (including results from transferable on-road projects)*
- *Retrofit issues*
- *Innovative implementation approaches*

*EA will provide updates on these topics on approximately a quarterly basis.*

- 9. What types of information related to retrofit experience would you like to see featured in the quarterly reports? Do you have any suggested revisions or additions to the list of topics described above?**
- 10. In what form would the report be of most use to you and others – posted on a website, e-mailed to a list serve, other forms? Also, would a conference call after the Guidance Document is published be helpful to provide an opportunity to discuss/clarify the Document? Do you have other suggestions?**

### TASK 5: DEVELOP EDUCATION AND OUTREACH PRODUCTS

*As another aspect of the Offroad Retrofit Program, Emissions Advantage can develop one or more education and outreach products to assist in actively promoting retrofit opportunities on behalf of WRAP members. These education and outreach tools can take several forms, including, but not limited to, brochures, videos, website(s), contacts with trade associations, etc. We would like to receive your thoughts on the subject of education and outreach.*

**11. First, would you be interested in any such products?**

**YES      NO**

**12. If so, who do you see as being the primary audience for the education and outreach products and how do you see these products being used (e.g., general education on the benefits of reducing emissions from offroad diesel engines, help in planning retrofit programs, building support for retrofit programs, help in soliciting funds for projects)?**

**13. What types of information would you recommend be included in the education and outreach products?**

**14. In terms of value and cost effectiveness, how would you rate the various possible forms this information could take (e.g., posted on a website, electronic versions available, printed material, a video, others)?**

**15. Do you have suggestions of other education/outreach material that would be beneficial?**

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**Task 7: TECHNICAL ASSISTANCE TO WRAP MEMBERS**

*Also, as part of the Offroad Retrofit Program, Emissions Advantage can provide various forms of technical assistance to WRAP members. We anticipate such technical assistance to be aimed at supporting WRAP members and equipment owners interested in pursuing retrofit projects, and can take the form of:*

*Specifying equipment*

*Estimating costs*

*Providing general consultation*

*Identifying and facilitating markets for emission reduction credits*

*Identifying project funding sources*

*Assisting the preparation/review of grant applications and requests for proposals.*

**16. What types of technical assistance would be of the most value to you?**

**17. What types of technical assistance do you anticipate needing within the next 12 months?**

**TASK 2: SURVEY OF POTENTIAL RETROFIT USERS**

*Emissions Advantage can also survey potential retrofit users, such as equipment owners in the WRAP region, to determine their awareness of retrofit options, costs, and*

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*implementation requirements, what would motivate them to retrofit, and their technical support requirements. We would plan to use the results of this survey (and any subsequent updates) in helping to guide the development of future retrofit demonstration project(s) in the WRAP region.*

- 18. Please provide any suggestions for equipment owners – or their trade representatives (e.g., regional offices of suppliers like Cummins) -- (with contact information) in your state that should be contacted to determine their willingness to provide information.**
- 19. Please suggest other sources in your state that may be able to provide contact information for equipment owners in your state.**

### **TASK 8: WRAP MEMBER WORKSHOP**

*We are planning a workshop for WRAP members in January 2005 to discuss the preliminary results of the WRAP member and equipment owner surveys, the draft guidance document, the development of educational and outreach products and recent retrofit developments, including updates on WRAP member retrofit initiatives.*

- 20. In addition to the items mentioned above, are there other topics or objectives that you would like to have addressed at the workshop?**
- 21. Please indicate dates in January 2005 for which you currently have a conflict that would prevent you from attending the WRAP workshop.**
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### **TASK 8: WRAP CONFERENCE**

*We are also planning a WRAP-sponsored conference that is expected to be held in the spring of 2005. The conference will provide an opportunity to showcase retrofit initiatives in the WRAP region, as well as major programs outside the region, and to share information on retrofit issues.*

- 22. Do you have any suggestions regarding conference topics, speakers, venues and dates? Are there any dates in the spring we should avoid?**

### **FOLLOW-UP ACTIVITIES**

- 23. Would you be willing to be contacted in the future to provide further input and updates or would you prefer that someone else be contacted? If you prefer, we can contact someone else in the future. Could you provide that person's contact information?**

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Thank you for taking the time to provide your input to topics listed above. Your comments will be extremely helpful in planning and implementing the WRAP Offroad Retrofit Program.

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APPENDIX C  
Active WRAP Member Retrofit Projects List  
As of February 23, 2005

| <b>STATE/LOCAL</b>         | <b>Project Description</b>  | <b>Retrofit Technology, Fuel-based and/or Other Emission Reduction Strategy</b> | <b>Project Contact (name/tel./e-mail)</b>   | <b>Status</b>   | <b>Comments</b>  |
|----------------------------|---|---|---|-----------------|------------------|
| <b>Alaska</b>              | <b>Anchorage School Bus Retrofit Program</b>                        | <b>DOCs</b>   | <b>Clint Farr, DEC<br/>907.465.5127</b>   | <b>On-going</b> |                  |
|                            | <b>Alaska/National Park Service (vehicles &amp; equipment)</b>      |   | <b>Clint Farr, DEC<br/>907.465.5127</b>   |                 |                  |
| <b>Colorado, Denver</b>    | <b>Clean Yellow Fleets for Blue Skies Program</b>                   | <b>DOCs plus Biodiesel</b>  | <b>Steve McCannon, Denver RAQC,<br/>303.629.5450</b>  | <b>On-going</b> | <b>Voluntary</b> |
|                            | <b>Littleton Public Schools</b>                                     | <b>67 buses with Biodiesel</b>  | <b>Jerry Ryan, Littleton Public Schools,<br/>303-347-4790</b>                                 | <b>On-going</b> | <b>Voluntary</b> |
| <b>Nevada/Clark County</b> | <b>Government fleets (Las Vegas, North Las Vegas, &amp; Hudson)</b> | <b>Biodiesel (B20)</b>  | <b>Sigurd Jaunarajs, Nevada DPH&amp;E<br/>775.853.5610</b><br><br><b>Dennis Ransel, Clark</b> | <b>On-going</b> | <b>Voluntary</b> |

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| <b>STATE/LOCAL</b> | <b>Project Description</b>  | <b>Retrofit Technology, Fuel-based and/or Other Emission Reduction Strategy</b> | <b>Project Contact (name/tel./e-mail)</b>   | <b>Status</b>       | <b>Comments</b>                               |
|--------------------|---|---|---|---------------------|---|
|                    |   |   | <b>County DAQM</b><br><b>702.455.1660</b><br><br><b>Dan Hyde,</b><br><b>City of Las Vegas</b><br><b>702.229.6971</b>        |                     |   |
|                    | <b>Las Vegas Valley Water District Fleet</b>  | <b>Biodiesel (B20)</b>  | <b>See above</b><br><br><b>Doug Keene,</b><br><b>Fleet Manager,</b><br><b>702.258.3151</b>                                  | <b>On-going</b>     | <b>Voluntary</b>                              |
|                    | <b>Somerset Development/Q&amp;D Construction equipment</b>                            | <b>Biodiesel B5 to start but may progress to B10 or B20</b>                     | <b>See above</b><br><br><b>Norma McCusker,</b><br><b>Western Energetix</b><br><b>(fuel supplier)</b><br><b>775.689.1234</b> | <b>On-going</b>     | <b>Voluntary</b>                              |
| <b>Idaho</b>       | <b>Agricultural DSL Retrofit Pilot Prg.</b><br>--                                     | <b>mixed use</b>  | <b>Leonard Herr, Idaho</b><br><b>DEQ- 208.</b><br><b>373.0457</b>   |                     | <b>Follow up to EPA grant for DOC filters</b> |
| <b>Oregon</b>      | <b>Clean School Bus Program;</b><br>-----<br><b>DSL Trucks Aux. Power/Idling Prg.</b> | <b>Idling study with small fleet operators</b>                                  | <b>Sharon Banks, Lane</b><br><b>Regional Air Poll. Authrty</b><br><b>541.736.1056</b>                                       | <b>Both ongoing</b> | <b>DOE grant</b>                              |

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| <b>STATE/LOCAL</b>               | <b>Project Description</b>  | <b>Retrofit Technology, Fuel-based and/or Other Emission Reduction Strategy</b>      | <b>Project Contact (name/tel./e-mail)</b>          | <b>Status</b>                  | <b>Comments</b>  |
|----------------------------------|---|--|--|--------------------------------|--|
| <b>Utah, Salt Lake City</b>      | <b>Salt Lake City Clean School Bus Program-</b>                                   |  |  | <b>Planning Stage</b>          |  |
| <b>Washington</b>                | <b>State Clean School Bus Program</b>   | <b>Currently DOCs, but expected to expand to include crankcase emission controls</b> | <b>Mike Boyer, DOE<br/>360.407..6863</b>           | <b>On-going</b>                | <b>State funding</b>   |
| <b>Washington, PSCAA</b>         | <b>Multiple projects<br/><br/>School Bus (50+)<br/>Transit (5)<br/>Misc. (20)</b> | <b>DOCs, DPF, crankcase emission controls, ULSD, Biodiesel</b>                       | <b>Dave Kircher<br/>PSCAA<br/>206.689.4050</b>     | <b>Planning/<br/>On-going</b>  | <b>Various sources of funding: Fed., State, and local; SEPs; private</b> |
| <b>CA<br/>ARB and<br/>Others</b> | <b>Multiple Projects<br/><br/>Onroad<br/>Offroad</b>                              | <b>DOCs, DPF, crankcase emission controls, NOx cat, ULSD, Biodiesel</b>              | <b>Annette Herbert,<br/>CARB,<br/>626-575-6973</b> | <b>On-going/<br/>expanding</b> | <b>Mandatory</b>   |

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### APPENDIX D Expanded WRAP Offroad Contact List

| State | Organization   | Name              | Title             | Organization Subdivision           | Address | State | Zip Code | Phone        | Email                            |
|-------|--|-------------------|-------------------|------------------------------------|---------|-------|----------|--------------|----------------------------------|
| AK    | State Dept. of Environmental Conservation              | Clint Farr        |                   |                                    |         | AK    |          | 907-465-5127 | clint_farr @dec.state.ak.us      |
| AZ    |  |                   |                   |                                    |         | AZ    |          |              |                                  |
| CA    |  |                   |                   |                                    |         | CA    |          |              |                                  |
| CO    | State Dept. of Public Health & Environment             | Doug Decker       |                   |                                    |         | CO    |          | 303-692-3126 | doug.decker@state.co.us          |
|       | State Dept. of Public Health & Environment             | Shirleen Tucker   |                   |                                    |         |       |          | 303-692-3109 | shirleen.tucker@state.co.us      |
|       | Denver Regional Air Quality Council                    | Steve McCannon    |                   |                                    |         |       |          | 303-629-5450 | smccannon@raqc.org               |
|       | Denver Regional Air Quality Council                    | Ken Lloyd         |                   |                                    |         |       |          | 303-629-5450 | klloyd@raqc.org                  |
| ID    | State Dept. of Environmental Quality                   | Jorge Garcia      |                   |                                    |         | ID    |          | 208-373-0480 | jpgarcia@deq.state.id.us         |
|       | State Dept. of Environmental Quality                   | Leanord Herr      |                   |                                    |         |       |          | 208-373-0457 | lherr@deq.state.id.us            |
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| NV    | State Dept. of Conservation & Natural Resources        | Sigurd Jaunarajs  |                   |                                    |         | NV    |          | 775-687-9392 | sjaunara@ndep.nv.gov             |
|       | Clark County Dept. of Air Quality Management           | Dennis Ransell    | Manager           | Planning Section                   |         |       |          | 702-455-1660 | Ransell@co.clark.nv.us           |
| NM    | State Dept. of Energy, Minerals, and Natural Resources | Chris Wentz       | Division Director | Energy Conservation and Management |         | NM    |          | 505-476-3312 | cwentz@state.nm.us               |
| ND    | State Dept. of Health                                  | Tom Bachman       |                   |                                    |         | ND    |          | 701-328-5188 | tbachman@state.nd.us             |
| OR    | State Dept. of Environmental Quality                   | Kevin Downing     |                   |                                    |         | OR    |          | 503-229-6549 | downing.kevin@deq.state.or.us    |
|       | Lane Regional Air Pollution Authority                  | Sharon Banks      |                   |                                    |         |       |          | 541-736-1056 | sharon@lrapa.org                 |
| SD    | State Dept. of Natural Resources                       | Rick Boddicker    |                   |                                    |         | SD    |          | 605-773-6706 | rick.boddicker@state.sd.us       |
| UT    | State Dept. of Environmental Quality                   | Ran Macdonald     |                   |                                    |         | UT    |          | 801-536-4071 | rmacdonald@utah.gov              |
| WA    | State Dept. of Ecology                                 | Mike Boyer        |                   |                                    |         | WA    |          | 360-407-6863 | mboy461@ecv.wa.gov               |
| WY    | National Park Service                                  | Elizabeth Waddell |                   |                                    |         | WY    |          | 206-220-4287 | elizabeth_waddell@nps.gov        |
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