FINAL REPORT

of the

SBREFA Small Business Advocacy Review Panel

on EPA's Planned Proposed Rule for

Tier 2 Light-Duty Vehicle and Light-Duty Truck Emission Standards, Heavy-Duty Gasoline Engine Standards, and Gasoline Sulfur Standards

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1. Introduction

This report is presented by the Small Business Advocacy Review Panel (SBAR Panel or the Panel) convened for the proposed rulemaking on Tier 2 light-duty vehicle (LDV) and light-duty truck (LDT) emission standards, heavy-duty gasoline engine (HDGE) standards, and gasoline sulfur standards that the Environmental Protection Agency (EPA or the Agency) is currently developing. On August 27, 1998, EPA's Small Business Advocacy Chairperson convened this Panel under section 609(b) of the Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA). Section 609(b) requires convening a review panel prior to publication of the initial regulatory flexibility analysis (IRFA) as described in the RFA. In addition to its chairperson, the Panel consists of the Deputy Director of the EPA Office of Mobile Sources (OMS), the Administrator of the Office of Information and Regulatory Affairs within the Office of Management and Budget (OMB), and the Chief Counsel for Advocacy of the Small Business Administration (SBA).

This report provides background information on the proposed rule being developed and the types of small entities that would be subject to the proposed rule, describes efforts to obtain the advice and recommendations of representatives of those small entities, summarizes the comments that have been received to date from those representatives, and presents the findings and recommendations of the Panel. The complete written comments of the small entity representatives (SERs) are attached to this report.

Section 609(b) of the RFA directs the Panel to report on the comments of SERs and make findings as to issues related to elements of an IRFA under section 603 of the RFA. Those elements of an IRFA are:

- A description of, and where feasible, an estimate of the number of small entities to which the proposed rule will apply;

- A description of projected reporting, recordkeeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements and the type of professional skills necessary for preparation of the report or record;

- An identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule; and

- A description of any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of

the proposed rule on small entities.

Once completed, the Panel report is provided to the agency issuing the proposed rule and included in the rulemaking record. In light of the Panel report, the Agency is to make changes to the draft proposed rule, the IRFA for the proposed rule, or the decision on whether an IRFA is required, where appropriate.

It is important to note that the Panel's findings and discussion are based on the information available at the time that this report was drafted. This particular panel report has been edited to protect confidential business information (CBI) submitted by the SERs in response to the Panel's request for comments. Because of potential impacts that could be imposed on certain small entities subject to the proposed Tier 2/gasoline sulfur requirements, the Panel requested very specific cost and engineering information from the SERs. This information was invaluable in understanding the scope and nature of their businesses. EPA is continuing to conduct analyses relevant to the proposed rule, and additional information may be developed or obtained during the remainder of the rule development process. The Panel makes its report at a preliminary stage of rule development and this report should be considered in that light. At the same time, the report provides the Panel and the Agency with an opportunity to identify and explore potential ways of shaping the proposed rule to minimize the burden of the rule on small entities while achieving the rule's statutory purposes. Any options the Panel identifies for reducing the rule's regulatory impact on small entities may require further analysis and/or data collection to ensure that the options are practicable, enforceable, environmentally sound and consistent with the Clean Air Act (CAA or the Act).

2. Background

In drafting the CAA amendments of 1990, Congress envisioned that it may be necessary to require additional emission reductions from new passenger vehicles in the beginning of the 21st Century to provide needed protection of public health. Section 202 (i) of the CAA outlines a process for assessing whether more stringent exhaust emission reductions from LDVs and LDTs should be required. Congress required EPA to report the results of this assessment to it. Congress also identified specific vehicle emission standards that EPA must consider in making this assessment, but stated that the study should also consider other possible standards. These standards, referred to as the "Tier 2 standards," would be more stringent than the standards required in the CAA beginning in model year 1994 for LDVs (primarily passenger cars) and LDTs (including sport utility vehicles, pickup trucks, and minivans). Tier 2 standards could not be implemented prior to the 2004 model year.

As required by Congress, EPA specifically examined three issues in the Tier 2 Study: 1) the need for further reductions in emissions, 2) the technological feasibility of achieving such reductions from LDVs and LDTs, and 3) the cost effectiveness of such a program. As required by Congress, EPA released a draft Tier 2 Study for comment, made appropriate modifications, and then transmitted to Congress the final study as the *Tier 2 Report to Congress*. While the *Tier*

2 Report to Congress presents information relevant to the three issues, it does not make a formal determination of the appropriateness of more stringent emission standards.

Based on the conclusions of the *Tier 2 Report*, EPA plans to issue a rule by early 1999 that would propose to make the required determination and would propose new, more stringent emission standards for LDVs and LDTs. Final regulations are scheduled to be promulgated by the end of 1999.

A key issue in considering more stringent vehicle emission standards is the sulfur content of gasoline. Sulfur has been shown to affect the performance of catalytic converters and reducing gasoline sulfur is critical to achieving Tier 2 emission standards. EPA expects to propose gasoline sulfur control for refiners as a part of the Tier 2 proposal.

EPA is also working on proposals for heavy-duty vehicles (HDVs). In a rulemaking separate from Tier 2, EPA plans to propose replacing engine-based emission testing for HDG (and other spark-ignition) engines with vehicle-based testing (similar to that used for LDTs). California currently has such requirements in its Medium-Duty Vehicle (MDV) Program. EPA expects to propose a program beginning in 2004 that would include 1) harmonization of the federal HDV program with the California MDV program and 2) HDV standards equal to the current low emission vehicle (LEV) standards. In conjunction with the Tier 2 program, EPA expects to propose more stringent emission standards for these HDGVs beginning in model year 2007.

Also separate from Tier 2, the recently finalized National LEV program is an important step toward cleaner vehicles. This program was developed through a cooperative effort among the states, auto manufacturers, environmentalists, fuel providers, EPA, and other interested parties. Under the National LEV program, vehicles sold in the Northeast in 1999 (model year) and then nationwide in 2001 will meet emission standards more stringent than current federal Tier 1 standards. The program also harmonizes most federal requirements with the more stringent exhaust emission standards established by the State of California.

3. Overview of the Proposed Tier 2/Gasoline Sulfur Program

Although section 202(i) of the CAA requires EPA to propose Tier 2 standards if the *Tier 2 Report to Congress* finds that such standards will be needed and will be feasible and cost effective, it does not specify the actual values of the standards. ("Default" Tier 2 standards are included in the Act and must be considered, but EPA is not restricted from setting different standards if the Agency determines they are more appropriate.) Furthermore, section 211(c) of the CAA permits EPA to propose and promulgate fuel quality standards if the Agency shows that a fuel's emissions 1) cause or contribute to harmful air pollution or 2) impair the performance of emission control systems. Before promulgating such fuel quality standards, however, EPA must consider other technologically or economically feasible vehicle-based means of achieving emissions standards under Section 202 of the CAA. In addition, EPA may not prohibit a fuel or

fuel additive unless the Agency finds that such prohibition will not cause the use of any other fuel or fuel additive which will produce emissions which will endanger the public health or welfare to the same or greater degree than the use of the fuel or fuel additive proposed to be prohibited. Based on information compiled during the development of the *Tier 2 Report to Congress* (submitted July 31, 1998) and during the public comment process, it is likely that EPA will propose Tier 2 vehicle emission standards and gasoline sulfur controls.

EPA has an obligation to carefully consider and provide clear rationales for any specific new vehicle or fuel standards. The Agency is currently analyzing options and has not yet decided on the appropriate numerical levels to propose. However, the Agency believes it is possible to bracket the likely range of potential vehicle and gasoline sulfur standards. Specifically, EPA is likely to propose standards equal to or more stringent than the National LEV standards but probably not more stringent than the California LEV II standards. (Table 1, below, lists the existing and proposed federal and California emission standards for non-methane hydrocarbons (NMHC), non-methane organic gases (NMOG), and oxides of nitrogen (NOx). Table 2 describes California's HD spark-ignition vehicle standards.)

As described above, EPA expects to propose more stringent emission standards for heavy-duty spark-ignition vehicles (including gasoline-fueled vehicles and many alternative fuel vehicle designs) for model year 2007 and later. It is possible that the standards would be as stringent as the standards proposed by California in its June 1998 LEV II proposal, but EPA has not yet made a decision on the standards that would be proposed.

On the fuel side, EPA is likely to propose gasoline sulfur standards at least as stringent as the levels proposed by the American Petroleum Institute (API) and the National Petrochemical & Refiners Association (NPRA). Specifically, API and NPRA have recommended average gasoline sulfur levels of 150 parts per million (ppm) by volume in areas with poor air quality and 300 ppm elsewhere. (These levels are lower than the national gasoline sulfur average which is approximately 340 ppm.) On the other hand, EPA's proposed sulfur program would not be more stringent than a nationwide program with a gasoline sulfur standard equal to California's average standard of 30-40 ppm. (A program similar to the California program has been proposed by the auto manufacturers, state organizations, and environmental organizations.)

Although the specific levels for vehicle and fuel standards that EPA will propose have not yet been determined, potentially affected parties can project the maximum potential impact of EPA's proposal on small entities (and others) by assuming standards near or at the most stringent endpoints of the ranges that EPA is currently considering, as described above. The Panel took this approach in examining the potential economic impacts associated with the proposed Tier 2/gasoline sulfur rulemaking.

Table 1: Existing and Proposed Federal and California Emission Standards (Partial List)

120K Mile Standards
NMHC or NMOG* (grams/mile), NOx (grams/mile)

	LDV/LDT1	LDT2	LDT3	LDT4
Tier 1				
	0.31, 0.6	0.40, 0.97	0.46, 0.98	0.56, 1.53
Clean Air Act Tier 2 "Default"				
	0.125, 0.20	----------	----------	----------
NLEV				
LEV	0.090, 0.30	0.130, 0.50	----------	----------
California "LEV I"				
LEV	0.090, 0.30	0.130, 0.50	0.230, 0.60	0.280, 0.90
ULEV	0.055, 0.30	0.070, 0.50	0.143, 0.60	0.167, 0.90
California "LEV II"				
LEV	0.090, 0.07	same as LDVs	same as LDVs	same as LDVs
ULEV	0.055, 0.07	same as LDVs	same as LDVs	same as LDVs
SULEV	0.010, 0.02	same as LDVs	same as LDVs	same as LDVs

* The federal program measures NMHC, whereas the California program measures NMOG. NMOG is essentially NMHC plus aldehydes (usually formaldehyde and acetaldehyde).

Table 1 (continued)

50K Mile LDV/LDT Standards
NMHC or NMOG* (grams/mile), NOx (grams/mile)

	LDV/LDT1	LDT2	LDT3	LDT4
Tier 1				
	0.25, 0.40	0.32, 0.70	0.32, 0.70	0.39, 1.10
Clean Air Act Tier 2 "Default"				
NO 50K Stds	---------	----------	----------	----------
NLEV				
LEV	0.075, 0.20	0.100, 0.40	----------	----------
California "LEV I"				
LEV	0.075, 0.20	0.100, 0.40	0.160, 0.40	0.195, 0.60
ULEV	0.040, 0.20	0.050, 0.40	0.100, 0.40	0.117, 0.60
California "LEV II"				
LEV	0.075, 0.05	same as LDVs	same as LDVs	same as LDVs
ULEV	0.040, 0.05	same as LDVs	same as LDVs	same as LDVs
SULEV	----------	same as LDVs	same as LDVs	same as LDVs

* The federal program measures NMHC, whereas the California program measures NMOG. NMOG is essentially NMHC plus aldehydes (usually formaldehyde and acetaldehyde).

Table 2: California HD Spark-Ignition Vehicle Standards

Full-Life LEV standards

	NMOG (grams/mile)	NOx (grams/mile)
MDV3[1]	0.280	0.90
MDV4[2]	0.330	1.0

[1] MDV3 has a test weight (see footnote 3 to the LEV II table below) of 5751-8500 lbs.
[2] MDV4 has a test weight of 8501-10,000 lbs.

Table 2: California HD Spark-Ignition Vehicle Standards (continued)

Full-Life LEV II standards (Proposed)

	NMOG (grams/mile)	NOx (grams/mile)
8,500 - 10,000 lbs GVWR[3]	0.230	0.20
10,000 - 14,000 lbs GVWR	0.280	0.50

[3] Gross vehicle weight rating is the curb weight of the vehicle including the full payload. Test weight (TW), also known as adjusted loaded vehicle weight (ALVW), is the weight at which a medium-duty vehicle is tested and is defined as the average of a vehicle's curb weight and gross vehicle weight.

4. Industries that May Be Subject to the Proposed Regulations

A Tier 2 program establishing stringent vehicle emission standards and requiring reductions in gasoline sulfur content would primarily affect manufacturers of LDVs, LDTs, HDGVs, and oil refiners that produce gasoline. Most companies in these industries do not meet the small business definitions provided in the SBA regulations (13 CFR Part 121). However, EPA has identified several companies within these industries that are small businesses as defined by SBA. These businesses may be subject to the Tier 2 vehicle and gasoline sulfur standards and could be significantly impacted by the new standards. The following paragraphs describe the affected industries, including the small business size standards SBA has established for each type of economic activity under the Standard Industrial Classification (SIC) system[1].

Small Refiners

Of the approximately 160 petroleum refineries that currently produce gasoline in the U.S., about 15 meet SBA's definition of a small business. SBA's SIC code for petroleum refining is 2911. According to this code, a petroleum refining company must have fewer than 1500 employees to qualify as a SBA small business. In the event that EPA proposes gasoline sulfur control, the Panel recognizes that some small refiners could have greater difficulty than larger refiners in complying with the standard(s), due to such factors as limited operational flexibility, lack of access to alternate crude oil feedstocks, limited availability of new sulfur reduction equipment, or difficulty in raising capital to finance projects.

Small Petroleum Marketers

[1]Note that the North American Industrial Classification System (NAICS), adopted by OMB last year, is replacing the U.S. Standard Industrial Classification system.

While refiners would be the primary affected parties in a gasoline sulfur control program, some marketers of gasoline, many of which are small by SBA definitions, may be directly subject to the rule and could be adversely impacted by it. This impact appears to be limited to new or expanded requirements for reporting the sulfur content of gasoline samples.

SBA defines small businesses in this category (SIC codes 5171 and 5172) as those with fewer than 100 employees. There are several hundred small gasoline marketers participating at various points in the national gasoline distribution system.

Small Certifiers of Covered Vehicles

In addition to the major vehicle manufacturers, three distinct categories of businesses relating to LDV, LDTs, and HDGVs exist that would be covered by Tier 2 emission standards. Some companies in each of these categories are small businesses according to SBA regulations.

Small Independent Commercial Importers

Independent Commercial Importers are companies that hold a Certificate (or Certificates) of Conformity permitting them to alter imported vehicles to meet U.S. emission standards. As with alternative fuel vehicle converters, these businesses could face greater technical challenges if emission standards are tightened. EPA has identified five businesses in this category that are currently active and that appear to be small entities under SBA regulations. These businesses fall into the SIC codes and thresholds described in Table 3 below.

Table 3: SBA Small Business Categories for Small Independent Commercial Importers

SIC Code	*Description*	*Size Standard*
7533	Auto Exhaust System Repair Shops	$5 million
7549	Automotive Services	$5 million
8742	Management Consulting Services	$5 million

Alternative Fuel Vehicle Converters

Under certain circumstances, current EPA policy permits the conversion of gasoline or diesel vehicles to operate on an alternative fuel without applying for and receiving the EPA Certificate of Conformity (also known as the “certification” process) that is required of conventional manufacturers. However, certification can provide certain benefits to a converter, and a small number of businesses have completed certification or have expressed interest in certifying alternative fueled vehicle models. Beginning in model year 2000, converters must seek a certificate for all of their vehicle models, although there will be some aspects of the

certification process that will be simplified for small volume manufacturers (SVMs), including these converters. To the extent that companies are involved in this business when Tier 2 emission standards become effective, they would be subject to such standards and could face greater technical challenges in achieving the new standards with the vehicles they convert.

There appear to be six businesses in this category which appear to be small entities under SBA regulations. They are covered by one or more of the following SIC codes and SBA small-business thresholds:

Table 4: SBA Small Business Categories for Alternative Fuel Vehicle Converters

SIC Code	*Description*	*Size Standard*
3592	Carburetors, Pistons, Rings, and Valves	500 employees
3714	Motor Vehicle Parts and Accessories	750 employees
5172	Petroleum Products	100 employees
5984	Liquefied Petroleum Gas Dealers	$5 million
7549	Automotive Services	$5 million
8742	Management Consulting Services	$5 million
8931	Commercial Physical Research	500 employee

Small Volume Vehicle Manufacturers

EPA permits vehicle manufacturers selling 10,000 or fewer vehicles per year to be designated as SVMs. This status allows vehicle models to be certified under a slightly simpler certification process. More stringent Tier 2 standards could be relatively more difficult for small manufacturers to achieve than larger manufacturers to the extent that research and development resources are more limited. Less than five current SVMs meet the SBA guidelines for vehicle manufacturers of 1000 or fewer employees.

5. Summary of Small Entity Outreach

As summarized in Table 5 below, EPA, alone and in conjunction with SBA and OMB, has had several meetings and conversations with SERs to discuss the potential Tier 2/gasoline sulfur control program. A few months prior to convening the official Panel, EPA staff held two phone conferences with representatives of two small refining companies and a subsequent face-to-face meeting with representatives of four small refining companies. On August 18, shortly before the Panel was convened, representatives from EPA, SBA, and OMB held two pre-panel outreach conference calls with representatives from small businesses in the automotive and refining

industries. Once the Panel was officially convened, two additional meetings (one vehicle-related and one gasoline sulfur-related) were held on September 21 between EPA, SBA, OMB, and the SERs listed in Section 6. Summaries of the August 18 and September 21 meetings are included in Appendix B of this report.

The Panel also had the opportunity to visit Frontier Oil Company's Refinery in Cheyenne, Wyoming, at the company's invitation, during the Panel process. The Panel notes that this was a unique opportunity to gain a "first-hand perspective" on what a refinery would have to do in order to comply with the proposed Tier 2/gasoline sulfur rule. The Panel would like to thank Frontier for allowing almost unlimited access to its facility. Two members of the Panel (SBA and EPA) also met with representatives from the Gary-Williams Energy Corporation (at Gary-Williams' corporate office in Denver, Colorado) to discuss the potential impacts of the rule on Gary-Williams, and would like to thank that company for its hospitality as well.

Table 5: Summary of Small Business Outreach Activities on Tier 2 and Gasoline Sulfur Issues

Date (1998)	*Outreach Activity*
May 28	OMS and Region 8 conference call with small refiners from Rocky Mountain states regarding gasoline sulfur issues.
June 3	OMS conference call with small refiners regarding potential gasoline sulfur rulemaking.
July 8	OMS Fuels & Energy Division meeting (in Ann Arbor, Michigan) with four small refining companies to discuss small business issues related to gasoline sulfur control.
August 18	EPA, SBA, OMB pre-panel outreach conference calls on small business issues: • first call discussed vehicle issues • second call discussed gasoline sulfur issues
September 16-17	EPA, SBA trip to visit Gary-Williams Energy Corporation in Denver, Colorado. EPA, SBA, OMB trip to visit Frontier Oil Corporation in Cheyenne, Wyoming.
September 21	Tier 2 SBREFA Panel meeting (in Washington, DC) with small entity representatives: • first meeting discussed gasoline sulfur issues • second meeting discussed vehicle issues

6. Small-Entity Representatives

Tables 6 and 7 below identify the SERs participating in the Panel process.

Table 6: Fuel Industry SERs

Contact Name	Company Name	Facility Location(s)
Gasoline Refiners (In Alphabetical Order by Company Name)		
Donald Schupp	American Refining Group	Bradford, PA
Vince Memmott	Big West/Flying J	N. Salt Lake, UT
Ronald Stover	Countrymark Co-op Association	Mt. Vernon, IN
Gerald Faudel	Frontier Refining	Cheyenne, WY
Sally Allen	Gary-Williams Energy Corporation	Wynnewood, OK
Kathleen O'Leary	Giant Refining Company	Ciniza, NM
Mike Astin	Inland Refining Company	Woods Cross, UT
Paul Young	Lion Oil Company	El Dorado, AR
Dexter Busby	Montana Refining Company	Great Falls, MT
Jim Britt	Murphy Oil Corporation	Meraux, LA; Superior, WI
Phil Youngblood	Navajo Refining	Artesia, NM
Stephen Lewis	Petro Star	N. Pole, AK; Valdez, AK
Ron Hurst	Placid Refining	Port Allen, LA
Chuck Tilbrook	Pride Refining	Abilene, TX
Henry Respess	Primary Corporation	Richmond, VA
Al Cabodi	U.S. Oil and Refining	Tacoma, WA
Bob Neufeld	Wyoming Refining	Newcastle, WY
Companies Involved in Gasoline Distribution		
Arleen Alexander	National Association of Convenience Stores	
John Huber	Petroleum Marketers Association of America	
Roy Littlefield	Service Station Dealers of America	
Greg Scott	Society of Independent Gasoline Marketers of America	

Table 7: Vehicle Industry SERs

Contact Name	Company Name or Association
Small Volume Auto Manufacturers	
Lance Tunick	Representing: Callaway, Morgan, and DeTamaso small volume auto manufacturing companies
Independent Commercial Importers	
Joe Marino	Champagne Imports, Inc.
Maurice Pinel	CXA Fuel Systems
George Gemayel	G & K Automotive Conversion
Gerry Shaffer	Import Trade Services USA, Inc.
Jonathan Weisheit	J.K. Motorcars, Inc.
Peter Dibernardi	Liphardt Associates, Inc.
Kristin Crowhurst	Northern California Diagnostics Laboratories, Inc.
Les Weaver	Wallace Environmental Testing Laboratories
Alternative Fuel Vehicle Converters	
Roger Galloway	Bachman NGV
Rebecca Royer	Baytech Corporation
Garth Schultz	Beacon Power Systems
Maurice Pinel	CXA Fuel Systems
Karen Szabo Hay	IMPCO
Peter Dibernardi	Liphardt Associates
Tim Wood	Northwest Butane
Sandro Paterno	San Marino Engineering

7. Summary of Input from SERs

As explained in Section 5 above, EPA, SBA, and OMB participated in many outreach activities with the SERs to discuss the potential impacts of the Tier 2/gasoline sulfur proposal on

small businesses. OMS has documented the oral and written comments received during its various outreach activities. In addition, the Panel distributed a questionnaire (Appendix D) to the SERs inviting additional information on the nature and operation of their businesses. The purpose of this additional information was to assist EPA in developing provisions to benefit small businesses impacted by the Tier 2/gasoline sulfur proposal. Responses to the questionnaire and other comments can be found in the individual written comments submitted by the SERs (Appendix C).

The remainder of this section provides a general summary of the written comments received from the small refining companies (gasoline refiners and companies involved in gasoline distribution) and the small vehicle companies (SVMs, independent commercial importers (ICIs), and alternative-fuel vehicle converters).

Fuel-related Comments

a) Program Design / Delay / Phase-in

In general, many small gasoline refiners emphasized that the cost to produce low sulfur gasoline varies by refiner and is a function of three factors: capital equipment cost, operating cost, and the level of sulfur control. The commenters added that each refining company has unique circumstances and needs and that there is no "one size fits all" program design that will solve all the complex issues associated with gasoline sulfur control. Most of the small refiners, however, did state that if the Agency were to adopt a rule that would require them to achieve 30 ppm sulfur levels on average with an 80 ppm per-gallon cap, they would be forced out of business. Thus, the Panel devoted much attention to regulatory alternatives to address this concern. In addition, the small refiners encouraged flexibility in program compliance to allow for turnarounds and unscheduled outages of gasoline desulfurizing units.

Many gasoline refiners and distributors were in support of the July 13, 1998 API/NPRA Enhanced Proposal which suggests a regional, dual-fuel approach. Although, the post-2004 positions of API and NPRA are somewhat different, the commenters supported the fundamental concepts uniting the API and NPRA positions: 1) an environmental impact assessment of the 2004 reductions and 2) a comprehensive study of the environmental necessity and cost-effectiveness (of sulfur and vehicle controls) of further reductions.

Frontier Oil in Cheyenne, Wyoming commented that a national gasoline sulfur standard would require consumers in the West to pay substantially more for reducing automobile emissions than consumers living in more concentrated areas where the air quality problems are worse and cleaner gasoline is actually needed (Frontier's facility and others are located in attainment areas for ozone, particulate matter (PM-10) and carbon monoxide). Because of this perceived inequity, Frontier and other SERs expressed support for a regional, dual-fuel approach. Frontier also noted, on several occasions, that perhaps it would be more cost-effective to promote research and development of new automotive catalysts or require certain engine cycles (for new vehicles) to remove sulfur from the vehicle catalyst rather than require refiners to make huge capital investments to desulfurize gasoline. Frontier and other refiners also noted that although

gasoline desulfurization technologies (on which a sulfur control rule would likely be based) are in the pilot stage, they have not been proven "full scale" in actual refineries.

However, Gary-Williams Energy Corporation expressed concern about a potential regional program. Gary-Williams stated that, under a regional approach, gasoline sulfur standards in one region might be set at a lower level than the standards in another region that the company also serves. Under this approach, this company and others in similar situations would be required to produce gasoline at the lower sulfur level because of their heterogeneous marketing areas.

In regard to the issue of program delay and/or phase-in, most commenters strongly supported a delayed compliance time of two to five years. This delay would provide additional time for small refiners to study options, optimize strategies, perform engineering and permitting, and construct new facilities. In addition, the delay would allow time for the majors to test and prove the emerging sulfur removal technologies.

On the other hand, most small refiners were opposed to a phase-in of gasoline sulfur standards. The refiners stated that a phase-in would not be helpful because it would be more cost-effective for them to install the maximum technology required for the most stringent sulfur levels that would ultimately be imposed.

b) Factors Unique to Small Refiners

In addition to the general comments on program design, the Panel received many comments on the factors unique to small refiners that would affect their ability to comply with a gasoline sulfur standard. The primary factors on which the Panel received comment include 1) economies of scale, 2) access to capital and the cost of new equipment, 3) access to different types of crude oil, and 4) access to engineering, design, and construction contractors.

First and foremost, the small refiners stated that they are significantly disadvantaged in today's marketplace because they lack of economies-of-scale in capital projects and operating costs. One commenter added that, in comparison to large refining companies, it is extremely difficult for small refining companies to recover capital project dollars with smaller income revenues.

Secondly, the small refiners commented that capital recovery would affect their ability to comply with a gasoline sulfur standard. Commenters stated that capital costs do not exhibit a linear relationship to capacity and that fixed operating costs are higher per barrel for small refiners. Some commenters added that small refiners do not produce enough gasoline volume to substantially influence the gasoline market. The commenters said that, as a consequence, the major refiners essentially set gasoline prices and thus capital recovery rates. Small refiners also explained that they do not have the financial backing that large, integrated refiners have and that financing for a project that has questionable return on investment will be expensive and difficult for them to obtain.

The third factor concerns access to different crude oil types. The small refiners pointed out that they have limited access to low-sulfur crude oil types and supplies. Indeed, some commenters noted that they had no access at all to low-sulfur crude supplies. Many of the small refining companies are concerned that more stringent sulfur standards will result in increased demand for sweet crude, further reducing its availability and significantly increasing its price.

The fourth factor unique to small refiners concerns access to engineering, design, and construction contractors. The commenters contended that because many U.S. refiners (both large and small) will need to install additional processing equipment to meet the future sulfur requirements, there will be tremendous competition for technology services, engineering manpower, equipment, construction management, and construction labor. Vendors supplying the above services will be more likely to contract with major refining companies since their projects will be larger and have more profit potential. Small refiners want to be assured that they will be able to meet the compliance schedule.

c) Concurrent Establishment of a Diesel Fuel Sulfur Specification

Some refiners support establishing diesel fuel specifications concurrently with gasoline sulfur specifications. Other refiners say that it would be extremely difficult to handle diesel sulfur reductions at the same time as gasoline sulfur reductions. These refiners contend that it would be too difficult to formulate a strategy for gasoline and diesel sulfur removal without regulatory time frames or specific diesel sulfur specifications. In addition, these refiners foresee minimal synergies or improved return on investment from building equipment to meet stricter or multiple standards all at once.

d) Other Issues

Many refiners emphasized that their businesses are essential to the communities in which they operate. During the Panel's trip to the Frontier refinery, a member of the Cheyenne City Council, and the Administrator of the Wyoming Department of Environmental Quality supported these concerns. Commenters indicated that on a local scale, many businesses and contractors supply goods and services to the small refineries. They provided many statistics to show that employee spending and investments, as well as sales, property, and use taxes all contribute to the financial security of the local communities. The small refiners have also stated that they provide competition which requires the larger integrated companies to better meet the needs of the consuming public. Furthermore, the small refiners believe that they serve a necessary and important national security function by providing almost 30% of JP-8 military jet fuel.

The Society of Independent Gasoline Marketers of America (SIGMA) commented that EPA should consider giving relief not only to refiners that meet the SBA definition of small refiner but also to small refineries (in terms of capacity) owned by large refining companies. SIGMA asserted that a large refiner facing a significant upgrade of one of its smaller refineries will not make any different decisions than a small refiner facing a similar investment for its sole facility. SIGMA added that the impact of these company decisions on independent gasoline

marketers does not change with the size of the parent company and that small gasoline marketers will be affected by the closure of any small refinery, whether owned by a large integrated oil company or an SBA-defined small refining company. (The Panel would like to note that this argument is beyond the scope of the SBREFA process and therefore will not be addressed in this report.)

Finally, legal consultants to three small refiners offered opinions that potential relief provisions for small domestic refiners would be consistent with applicable international law.

Vehicle-related Comments

The Panel is very interested in the nature and degree of additional burdens that may result from new Tier 2 vehicle emission standards in the 2004-7 time frame, as well as new standards for HDGVs. These burdens may include the need to design or acquire and install new, more complex emission control technology (e.g., more sophisticated computer control and catalyst systems). EPA is aware of a number of aspects of *current* vehicle regulations that create significant hardship for many, perhaps all small companies that seek EPA Certificates of Conformity, independent of Tier 2 standards. Throughout the SBREFA process, the Panel encouraged SERs to focus their comments on the impacts specifically attributable to potential Tier 2 regulations.

a) Comments from Independent Commercial Importers

ICIs provided the following suggestions and comments to the Panel:

First, ICIs suggested that the Agency should reevaluate the categories of SVMs. They proposed that standards should be based on annual vehicle production volume. Specifically, they suggested the "phase-in" approach described in Table 8 below.

Table 8: Tier 2 Phase-in Approach Proposed by SVMs

Phase #	*Number of Vehicles Produced per Year*	*Vehicle Emission Requirement*
I	0-100	1990 vehicle requirements
II	101-500	1994 vehicle requirements
III	501-1000	1996 vehicle requirements
IV	1001-5000	1998 vehicle requirements
V	5001-9000	Apply requirements for the current model year

Secondly, the ICIs requested that small testing labs should be permitted to use older technology dynamometers. The Agency is proposing to change (effective 2002) the

dynamometer specification for vehicle emissions testing from the current twin roll hydrokinetic dynamometer to a single-roll electric dynamometer. The ICIs stated that the cost and installation of an electric dynamometer is prohibitive for small businesses. Furthermore, in consideration of EPA's new driving trace, they remarked that they are confident they can meet Tier 2 tailpipe emission standards with the older technology twin roll dynamometer.

Finally, the ICIs commented that the certification process should be waived for foreign vehicles with a U.S. companion model similar to what is currently permitted for vehicles six or more years old. They added that vehicles that do not have a U.S. companion model should be subject to "Phase 1" of the SVM program described above.

b) Comments from Small Volume Automobile Manufacturers

Mr. Lance Tunick represented the SVMs (DeTomaso and Morgan) in the Tier 2 SBREFA process. He provided the following comments for consideration by the Panel.

To begin with, Mr. Tunick stated that the SVMs need considerable lead-time to modify models to comply with new regulations. He explained that the SVMs have additional problems obtaining technology from outside suppliers and funding the acquisition of such technology. He added that DeTomaso and Morgan supported all of the SVM regulatory flexibilities outlined by the Panel in the September 11 SBREFA package. Specifically, the SVMs noted the following:

- A Phase-in of Tier 2 is essential. SVMs should not be required to comply with Tier 2 standards until the end of the phase-in period.
- The compliance date for SVMs should not be before model year 2007.
- EPA should adopt a new category of manufacturer – Ultra Small Volume Manufacturer (USVM).
- A credit program should be established with "incentives" for large manufacturers to make credits available to the SVMs.
- The Tier 2 rule should include a provision for case-by-case hardship relief for small businesses.
- California LEV or LEV II standards should not be the benchmark for Tier 2 standards. The California standards present certain technological issues that are not necessarily resolvable by SVMs, such as the evaporative and refueling requirements contained therein.

8. Panel Findings and Discussion

a. Major Topics of Panel Discussion

The Panel discussed each of the issues raised in the two outreach meetings and in written comments submitted by the SERs. Regarding small refiner issues, the panel discussed the nature of refining operations and economics, how operations and economics differ between small and larger refiners (and among individual small refiners), and the kinds of regulatory alternatives that might assist small refiners. In regard to small gasoline marketers, the Panel discussed the potential that gasoline sulfur requirements may add to existing recordkeeping and reporting

requirements (for other gasoline regulations) with which various parties in the gasoline distribution system must already comply. The Panel also considered the relationship of small refiner relief options to international trade issues and believes that such options bear further examination in the context of domestic environmental policy goals and U.S. international trade considerations. Regarding the comments of several small certifiers of vehicles, the Panel considered each of the ideas and concerns raised by these companies and their representatives.

b. The Types and Number of Small Entities to Which the Proposed Rule Would Apply

Small Refiners: About 15
Small Gasoline Marketers: Several hundred
Small Certifiers of Covered Vehicles: About 15

c. Projected Reporting, Record Keeping, and Other Compliance Requirements of the Proposed Rule

EPA does not expect the rule, when proposed, to include any significant new recordkeeping and reporting requirements on any party. As described earlier, the proposed rule may be include a new requirement for gasoline distributors to add sulfur content to the set of gasoline quality parameters they currently report or record. The Panel believes that this would be likely to add little, if any, burden to small gasoline marketers since sulfur content is generally measured along with other parameters and the results would simply need to be recorded and reported. The Panel encourages EPA to continue to request comment on this during the rulemaking.

d. Other Relevant Federal Rules Which May Duplicate, Overlap, or Conflict with the Proposed Rule

The regulations EPA expects to propose in regard to gasoline sulfur content and vehicle emission standards would be similar in many respects to existing regulations, often replacing earlier requirements with more stringent requirements for refiners and vehicle manufacturers. However, the Panel is not aware of any area where the new regulations would duplicate, overlap, or conflict with the existing federal, state, or local regulations.

e. Regulatory Alternatives

The Panel considered a wide range of options and regulatory alternatives for providing small businesses with flexibility in complying with potential Tier 2 vehicle emission and gasoline sulfur standards. As a part of the process, the Panel requested and received comment on several early ideas for compliance flexibility that were suggested by SERs and Panel members. Taking into consideration the comments received on these ideas as well as additional business and technical information gathered about the affected small entities, the Panel is prepared to recommend that EPA solicit comment on several of them. As described below, the Panel recommends some of these concepts individually and, in the case of small refiners, recommends a comprehensive option that incorporates several ideas. The Panel took considerable time in

addressing the concerns of the small refiners, who indicated their belief that their businesses may have to close if relief is not considered for their industry. Taken together, the Panel believes that these options would provide meaningful relief to small businesses in each of the industry sectors potentially affected by a Tier 2/gasoline sulfur control program while protecting the environmental goals of the program.

Small Refiners

The Panel recommends that small refiners be provided a four- to six-year period during which less stringent gasoline sulfur requirements would apply. Each refinery's gasoline sulfur limit would be based on its individual average sulfur level as reported in its most recent batch report (submitted under the reformulated gasoline program, e.g., for 1997) available at the time of the proposed rule. This four- to six-year period of relief would begin at the time that final standards become effective for the refining industry as a whole. Following this period of relief, small refiners would be required to meet the industry-wide standard, although temporary hardship relief would be available on a case-by-case basis. The Panel believes that the additional time that this approach would provide would allow 1) new sulfur-reduction technologies to be proven out by larger refiners, 2) the costs of advanced technology units to drop as the volume of their sales increased, 3) industry engineering and construction resources to be freed up, and 4) additional time for capital acquisition by small refiners.

Although EPA has not decided on an approach for a proposed sulfur control program, it is helpful in discussing small refiner options to make an assumption about the program that might be in place. Among the program designs that EPA is considering, it appears that the "worst case" scenario for small refiners would be a national, year-round sulfur requirement of 30 ppm on average with an 80 ppm per-gallon cap beginning in 2004. The following discussion of the specific small refiner relief provisions assumes the existence of the "worst case" scenario and a scenario where the gasoline sulfur standards are higher than 30 and 80 ppm. The Panel emphasizes that EPA has not yet made decisions regarding the level and scope of sulfur controls that it intends to propose.

a) <u>Interim Sulfur Standards</u>

In the Panel's recommended approach, small refiners covered by this special provision would be assigned interim sulfur standards based on their individual refinery gasoline sulfur levels today, according to Table 9 below.

Table 9: Federal Gasoline Sulfur Program with Sulfur Standards of 30 ppm on Average and an 80 ppm Per-Gallon Cap

Average Refinery Sulfur Level (ppm)	*Interim Sulfur Standards (average/cap, ppm) **
0 to 30	30/80
31 to 80	80 (Cap only)
81 to 200	Average: Maintain current average level Cap: Factor of 2.0 above the average
201 and above	Average: One-half current average level, 200 ppm minimum and 300 ppm maximum Cap: Factor of 1.5 above average level

* Note that if the federal program were to include a phase-in of sulfur standards, and if a refiner's current average sulfur level was below the phase-in level, the phase-in level would become the refiner's compliance level for the period of the phase-in.

More generally, if standards higher than 30/80 ppm were promulgated, the recommended interim standards for small refiners would be at the levels described in Table 10 below.

Table 10: Federal Gasoline Sulfur Program with Sulfur Standards Above 30 ppm on Average and an 80 ppm Per-Gallon Cap

Average Refinery Sulfur Level (ppm)	*Interim Sulfur Standards (average/cap, ppm)**
0-200	Average: Maintain federal standard or current average level Cap: Factor of 2 times the average
201-400	Average: 200 ppm or federal standard Cap: Factor of 1.5 times the average
401-600	Average: One-half of current average level Cap: Factor of 1.5 times the average
601 and above	300/450

* Note that if the federal program were to include a phase-in of sulfur standards, and if a refiner's current average sulfur level was below the phase-in level, the phase-in level would become the refiner's compliance level for the period of the phase-in.

b) Duration of Interim Standards

In addition to recommending that EPA propose a duration of four to six years during which the interim standards would apply, beginning from the effective date of the sulfur standard, the Panel also recommends that EPA specifically request comment on an alternative duration of 10 years.

c) Hardship Relief

The Panel is believes that it is impossible to predict what the nature of the refining industry will be in the latter part of the next decade, when small refiners will need to comply with the final gasoline sulfur standard(s). Given this uncertainty, the Panel recommends that EPA propose provisions for small refiners that would allow the Agency on a case-by-case basis to extend some form of relief from the standards for an additional period of time in cases of severe hardship. The Panel recommends that EPA design such a proposed hardship relief provision to include, at a minimum, the following characteristics:

- Criteria for granting of hardship relief that are sufficiently specific to help assure fairness among recipients of such relief while allowing a degree of flexibility for EPA to address special problems that may face individual refiners. Such criteria should be designed to require a demonstration that the refiner faces extreme economic consequences absent the relief and has exhausted other channels that could limit the consequences. EPA should consider including in proposed hardship relief provisions criteria such as, demonstrated inability on the part of the small refiner to develop sufficient capital, the temporary unavailability of new lower-cost sulfur removal technology, or the temporary unavailability of engineering or construction resources necessary for the design and installation of the new equipment.

- A provision for a small refiner to propose an appropriate time period for this additional relief. The Panel believes that the refiner should be expected to carefully document the need for a specific period of additional relief. The Panel also believes that such a period should be a minimum of two years so that the refiner can demonstrate a degree of stability into the future when seeking capital or credit.

The Panel is hopeful that the time provided by the interim standards for small refiners (perhaps added to any time provided by a phase-in of the industry-wide program) will allow for industry technology prove-out and cost reductions and for individual refiner planning such that hardship relief would be seldom or never needed. The Panel is also satisfied that current OMS management is committed to providing hardship relief if and when the need is demonstrated and we encourage future OMS management to be similarly open to small refiners facing dire economic impacts due to gasoline sulfur reduction standards.

Finally while the Panel is recommending a refinery-based compliance option for small refiners, as discussed above, OMB notes that the Panel received comments from SERs supporting a geographically-based sulfur program proposed by API and NPRA. In light of these comments, OMB recommends that EPA evaluate the API and NPRA proposal.

Small Marketers of Gasoline

The Panel believes that adding gasoline sulfur to the fuel parameters already being sampled and tested by gasoline marketers will likely result in little, if any, additional burden. The gasoline marketer SERs that commented to the Panel did not address this issue. The Panel does not recommend any special provisions for gasoline marketers. (These parties raised concerns about indirect effects of a sulfur control program on marketers, especially if some refiners go out of business and reduce the number of gasoline suppliers. However, the focus of

the RFA and SBREFA is on direct effects of a potential rule on small entities, which in this case do not appear to be problematic.)

Small Certifiers of Covered Vehicles

The Panel recommends that EPA solicit comment on several ideas suggested by small companies that certify LDVs, LDTs, and HDGVs, as discussed further below. However, several other concerns that these businesses raised to the Panel do not appear to be affected by potential new Tier 2 emission standards but rather involve existing regulations. While the Panel does not believe that these "non-Tier 2" issues would be appropriately addressed in a Tier 2 rulemaking, the Panel encourages EPA to meet with small certifiers designated as ICIs to discuss those issues.

The Panel recommends that EPA solicit comment on the following potential regulatory options:

1) For small certifiers that convert imported vehicles to U.S. standards or that convert vehicles to operate on alternative fuels, provide a delay in required compliance of two years after Tier 2 standards apply to the model (engine family) involved.

2) If the Tier 2 program involves a phase-in of standards, allow small certifiers to comply at the end of such a phase-in.

3) If the Tier 2 program does not involve a phase-in of standards, delay compliance for small certifiers until 2007 (or three years after the program begins industry-wide).

4) Establish a credit program as a part of the Tier 2 program, and provide incentives for large manufacturers to make credits available to small certifiers. In addition, develop a program to provide credits to small certifiers for taking older vehicles off the road (scrappage).

5) Design a case-by-case hardship relief provision that would delay required compliance for small certifiers that demonstrate that they would face a severe economic impact from meeting the Tier 2 standards.

The Panel believes that each of these ideas, individually or in combination, could potentially provide significant relief to small certifiers at little cost to the environment and should be considered in the Tier 2 rulemaking.

Appendices:

Appendix A: List of Acronyms in this Report
Appendix B: Summary of Small Entity Outreach Meetings
Appendix C: Complete Written Comments Received from Small Entity Representatives
Appendix D: Documents Distributed to Small Entity Representatives

Appendix A

List of Acronyms in this Report

CAA or the Act	Clean Air Act
EPA or the Agency	U.S. Environmental Protection Agency
GVWR	gross vehicle weight rating
HDGE	heavy-duty gasoline engine
HDGV	heavy-duty gasoline vehicle
HDV	heavy-duty vehicle
ICI	independent commercial importer
IRFA	initial regulatory flexibility analysis
LDT	light-duty truck
LDV	light-duty vehicle
LEV	low emission vehicle
MDV	medium-duty vehicle
NACS	National Association of Convenience Stores
NMHC	non-methane hydrocarbons
NMOG	non-methane organic gases
NOx	oxides of nitrogen
NPRA	National Petrochemical & Refiners Association
OMB	Office of Management and Budget
OMS	Office of Mobile Sources
PMAA	Petroleum Marketers Association of America
RFA	Regulatory Flexibility Act
SBA	U.S. Small Business Administration
SBAR Panel	Small Business Advocacy Review Panel
SBREFA	Small Business Regulatory Enforcement Fairness Act
SER	Small Entity Representative
SIC	Standard Industrial Classification
SIGMA	Society of Independent Gasoline Marketers of America
SULEV	super ultra low emission vehicle
SVM	small volume manufacturer (of vehicles)
TW	test weight
ULEV	ultra low emission vehicle

Appendix B

Summary of Small Business Outreach Meetings

Meeting #1

Tier 2 Light-Duty Vehicle and Light-Duty Truck Emission Standards and Gasoline Sulfur Standards

Pre-Panel Outreach Conference Calls on Small Business Issues

August 18, 1998

Vehicle Related Issues: 3:30-4:30 p.m. EDT
Gasoline Sulfur Related Issues: 4:30-5:30 p.m. EDT

Attendance

Government Representatives*:

Name	Agency / Office
Eric Haxthausen	Office of Management and Budget, Office of Information and Regulatory Affairs (OMB)
Damon Dozier	U.S. Small Business Administration, Office of Advocacy (SBA)
Mary Manners	U.S. EPA, Office of Mobile Sources (OMS)
Glenn Passavant	OMS
Karl Simon	OMS
Tad Wysor	OMS
Tom Kelly	*EPA Small Business Advocacy Chair, Office of Policy (OP)*
Jennifer Greenamoyer	OP
Stuart Miles-Mclean	OP
Jennifer Kim	OP
Michael Horowitz	U.S. EPA, Office of General Counsel (OGC)
Paul Cort	OGC
Maureen Delaney	U.S. EPA, Office of Policy Analysis and Review (OPAR)
Tom Eagles	OPAR

** Panel members are:*

Don Arbuckle	*Office of Management and Budget, Office of Information and Regulatory Affairs*
Jere Glover	*U.S. Small Business Administration, Office of Advocacy*
Christopher Grundler	*U.S. EPA Office of Mobile Sources*
Tom Kelly	*U.S. EPA Small Business Advocacy Chair, Office of Policy*

Vehicle Representatives:

Name	Company
Peter Dibernardi	Liphardt Associates
Roger Galloway	Bachman NGV
Lance Tunick	Coalition of Small Volume Auto Manufacturers (COSVAM**)**
Bill Wallace	Wallace Environmental Testing Labs
Jonathan Weisheit	J.K. Motorcars, Inc.
Tim Wood	Northwest Butane

Fuel Representatives:

Name	Company
Gerald Faudel	Frontier Oil Corporation
Walter Gore	Petrostar Refining
Bob Neufeld	Wyoming Refining
Dave Roderick	Gary-Williams

Agenda

Vehicle Related Issues Session

3:30-3:35	Welcome and Introductions *Tad Wysor, EPA Office of Mobile Sources*
3:35-3:40	Summary of Small Business Advocacy Panel Process *Tom Kelly, EPA Office of Policy*
3:40-3:50	Background on Potential Regulations *Tad Wysor*
3:50-4:25	Open Discussion
4:25-4:30	Wrap-up, Next Steps *Tad Wysor, Tom Kelly*

Gasoline Sulfur Related Issues Session

4:30-4:35	Welcome and Introductions *Tad Wysor, EPA Office of Mobile Sources*
4:35-4:40	Summary of Small Business Advocacy Panel Process *Tom Kelly, EPA Office of Policy*
4:40-4:50	Background on Potential Regulations *Mary Manners*
4:50-5:25	Open Discussion
5:25-5:30	Wrap-up, Next Steps *Mary Manners, Tom Kelly*

Meeting Summary

Part 1 – Vehicle Related Issues Session – Open Discussion

Tad Wysor, OMS
Tad reviewed packet of material (agenda and attachments) distributed to all attending parties. "The Tier 2 Study has led us to believe there is a need for new regulations - important for EPA to be looking to all sources for reductions - motor vehicles are part of that. Packet includes a discussion of issues that need decisions."

Lance Tunick, representing DeTomaso and Morgan SVMs
The Panel is a welcomed event. This process should provide flexibility without compromising air quality. The extra time we may need [to comply with the new Tier 2 standards] does not contribute significantly to air pollution. The current credit system in California is not working very well -- large companies are unwilling to part with their credits. Tier 2 may have to address this issue.

Tim Wood, Northwest Butane
Are you covering after-market conversions? How do they compare with clean fuel vehicle standards?

Glenn Passavant, OMS
Clean fuel vehicle standards are essentially the same as CA standards. In regard to potential Tier 2 standards, there are essentially two levels: 1) Tier 2 default standards described in the Clean Air Act or 2) Other more stringent standards that could/should be done.

Tim Wood, Northwest Butane
Regarding Attachment 2: Is this [Tier 2] considered a significant reg action? If so, it would conflict with EPACT [U.S. Department of Energy's Energy Policy Act]?

Glenn Passavant, OMS
Tier 2 wouldn't conflict with EPACT.

Tim Wood, Northwest Butane
Will we be required to meet Tier 2 or clean fuel vehicle standards?

Michael Horowitz, OGC
Clean fuel vehicle (CFV) standards are nominally the same as CA LEV standards -- CFVs must meet LEV or better. Presume that Tier 2 will be the same or more stringent than LEV. If more stringent, CFVs would have to meet Tier 2.

Glenn Passavant, OMS
Because of implementation time frames the standards will not conflict.

Lance Tunick, representing DeTomaso and Morgan SVMs
Will Tier 2 follow CA proposal?

Glenn Passavant, OMS
We have no specific numbers yet for Tier 2. A comparison of Tier 2 default numbers and others gives us a range of options.

Lance Tunick, representing DeTomaso and Morgan SVMs
CA proposal specifically addresses small volume manufactures. Urges that this approach be used in Tier 2 rulemaking - not only a time extension but also a less stringent standard.

Damon Dozier, SBA
Specific examples?

Lance Tunick, representing DeTomaso and Morgan SVMs
CA proposal does not add burden on small volume manufacturers until 2007 -- small volume manufacturers feel that California LEV and LEV II are particularly difficult -- don't want anything more stringent.

Roger Galloway, Bachman NGV
It would be most beneficial to have an understanding that meeting a standard is one thing but reverse engineering is tougher - be aware of time window.

Lance Tunick, representing DeTomaso and Morgan SVMs
Encouraged recalculation of deterioration factors.

PART 2 – Gasoline Sulfur Issues Session – Open Discussion

Mary Manners, OMS
Walked everyone through attachments 1, 3, 4, 5, and 6.

Gerald Faudel, Frontier Refining
What types of refiners will be affected? Are diesel fuel refiners included in this rulemaking?

Glenn Passavant, OMS
No.

Bob Neufeld, Wyoming Refining
Attachment 5 -- why hasn't ozone improved to the same level as CO?

Glenn Passavant, OMS
1) CO is cold weather phenomena – there aren't as many non-attainment areas for CO as there are for ozone.
2) The new NAAQS (national ambient air quality standard) for ozone was recently enacted to reduce ozone levels.
3) We've become more concerned about the environmental and health impacts of ozone. We're learning more about it -- how it's formed, etc. – ozone has complex atmospheric chemistry.

Mary Manners, OMS
What kinds of costs would you incur?

Gerry Faudel, Frontier Refining
Most companies are just beginning to look at this -- examining a range of costs and sulfur levels. Different types of crude are not feasible -- there is not enough light sweet crude on the market.

Damon Dozier, SBA
What kinds of capital costs would you incur? What kinds of capital changes?

Gerald Faudel, Frontier Refining
Rough estimate: $20 - 100 million (high end). Capital costs are based on conversations with other companies. Frontier has a crude capacity of 41,000 barrels/day and the facility is worth $80 million.

Dave Roderick, Gary-Williams
$20-50 million are the preliminary cost estimates -- referenced in our written comments. We are looking for some kind of monetary support such as loans or guarantees. Our equipment may be subject to down time. We would need flexibility in our product fuel specifications.

Bob Neufeld, Wyoming Refining
Small refining companies do not have control over the price of products. We would be interested in an investigation of the pipeline system, refinery locations and respective sizes, etc. to determine what locations will be affected.

Meeting #2

Tier 2 Light-Duty Vehicle and Light-Duty Truck Emission Standards and Gasoline Sulfur Standards

Tier 2 SBREFA Panel
Meeting with Small Entity Representatives

September 21, 1998

Gasoline Sulfur Related Issues: 10 a.m. - noon EDT
Gasoline Sulfur Related Issues: 1 - 3 p.m. EDT

Attendance

Government Representatives*:

Name	Agency / Office
Eric Haxthausen	Office of Management and Budget, Office of Information and Regulatory Affairs (OMB)
Jere Glover	*U.S. Small Business Administration, Office of Advocacy (SBA)*
Damon Dozier	SBA
Christopher Grundler	*U.S. EPA, Office of Mobile Sources (OMS)*
Mary Manners	OMS
Glenn Passavant	OMS
Tad Wysor	OMS
Tom Kelly	*EPA Small Business Advocacy Chair, Office of Policy (OP)*
Jennifer Greenamoyer	OP
Jennifer Kim	OP
Michael Horowitz	U.S. EPA, Office of General Counsel (OGC)
Susmita Dubey	OGC

** Panel members are:*

Don Arbuckle	*Office of Management and Budget, Office of Information and Regulatory Affairs*
Jere Glover	*U.S. Small Business Administration, Office of Advocacy*
Christopher Grundler	*U.S. EPA Office of Mobile Sources*
Tom Kelly	*U.S. EPA Small Business Advocacy Chair, Office of Policy*

Fuel Representatives:

Name	Company
Gerald Faudel	Frontier Oil Corporation
Sally Allen	Gary-Williams Corporation
David Roderick	Gary-Williams Corporation
James Horton	Giant Industries
Jim Britt	Murphy Oil Corporation
Frederick Green	Murphy Oil Corporation
Arleen Alexander	NACS
Ron Hurst	Placid Refining
Keith Passman	Placid Refining
John Huber	PMAA
Greg Scott	SIGMA
via teleconference:	
John Deaton	Countrymark Co-op
Mike Astin and another company representative	Inland Refining Company
Virgil Langford	Navajo Refining
Ron Wade	Primary Corporation

Vehicle Representatives: *(via teleconference)*

Name	Association / Company
Jonathan Weisheit	J.K. Motorcars, Inc.

Meeting Summary

Note: No agendas were prepared for today's meetings.

Part 1 – Gasoline Sulfur Related Issues

Tom Kelly, OP
Opening remarks and introductions
- Mentioned Frontier trip - "put forward as representative of others' concerns, too"

Damon Dozier, SBA
- Gary-Williams meeting, too

Jere Glover, SBA
Background on SBREFA and timing of the panel
- Data on industry & alternatives -- would like to have before the rulemaking process
- Hasn't occurred yet, asking you for basic information
- Very significant, very significant impact
- Stay involved thru process

Greg Scott, SIGMA/NACS
- Impact on supply
- CA experience - significant reduction in independent refiners & marketers
- No direct impact, higher prices
- SIGMA & NACS - number of suppliers is critical
- PADD 4 especially -
- Regional approach +Phase I - 2004-2010
  - support for regional efficiency (not over control when not needed)
  - time for refiners to get there

Sally Allen and David Roderick, Gary-Williams
- 45,000 barrels per day (bpd) crude capacity refinery
- 300 total employees, 200 at the refinery
- Privately owned – no bond market or stocks – must go to bankers for loans
- Located in PADD 2, competes with majors
- Refinery must make money, majors can make money from production
- Private means can't seek bonding - rely on banks
- Can attain 200 ppm sulfur thru operational changes, could attain 100 ppm through capital expenditures of $50 million, to go lower would cost $100 million.
  - $100 million exceeds value of facility
- Support staged approach
- Market via pipeline
- Borderline of regional proposal - not big benefits
  - Some gasoline would be low sulfur, some would be high sulfur under a regional approach

- Panel should consider the idea of creating a fund from cars sold that would go to small

refiners to keep them in business
- Small refiners did not profit (or even recoup costs ?) from diesel desulfurization (1993 reg that limited sulfur levels in on-highway diesel fuel to 500 ppm)
- Would also support government insured loans

Ron Hurst, Placid Refining
- Similar to Gary-Williams
- 50,000 bpd (crude capacity) facility in Louisiana - compete with Gulf Coast Refiners
- Approximately 214 employees
- Market in 6 Southeast states – market unbranded fuel to independent marketers
- Gather their crude from small producers in Louisiana
- Would cost $25-30 million in capital equipment to get to 30 ppm sulfur -- equivalent to 3-5 years of company net income
- No return on investment for environmental compliance
- Little ability to secure capital for investments
- Small refiners have no control on fuel price
- Would support a delay in the "number of years" to attain compliance
  - perhaps a two-phased approach
- Damon Dozier (SBA) asked if Placid markets in nonattainment areas
  - Placid's answer: just heard they may need to produce reformulated gasoline (RFG) for Baton Rouge (will cost them approximately $10-15 million to do this).
- Jere Glover (SBA) asked: Can you ever get there? How useful is a delay?
  - Placid's answer: Yes - a delay would provide time for the majors to work out the problems with the new sulfur removal technologies and for technical development of these technologies.

Gerald Faudel, Frontier Oil Corporation
- September 17th meeting at the refinery in Cheyenne, WY covered Frontier's concerns
- Appreciated that EPA, SBA, and OMB visited the facility/met with the company

Virgil Langford, Navajo Refining (on the phone)
- Navajo Refining owns two refineries – one in New Mexico (60,000 bpd crude capacity) and one in Montana (7000 bpd capacity)
- "Merchant refiners" -- buy crude on the open market
- Compete with majors, both in crude & market
- Market in Texas, Arizona, New Mexico, and Mexico by pipeline.
- Current sulfur level is 400 ppm. They have begun a project to come down to 50-60 ppm at a cost of $50 million
  - don't believe will recoup investment
- Would prefer a regional fuel program
  - If regional approach is not feasible, would like to see help on the financing side to help farm capital

A Representative from Countrymark Co-op (on the phone)
- Refinery privately owned by130 farm cooperatives in Indiana, Ohio & Michigan
- 60 years of refinery operation
- 23,000 bpd capacity -- 140 people

- Country-mark is one of two major crude oil gathering facilities (Marathon is the other)
- Own & operate products pipeline
- Operate 3 farm oriented terminals
- Supply high sulfur diesel fuel for non-road use (100% of their diesel pool)
- Market is primarily farm operations
- Sulfur content of crude and existing desulfurization equipment: currently Countrymark only desulfurizes naphtha stream
- Facilities to reduce sulfur content of FCC stream would require sulfur recovery equipment
  - Also would need to make up for octane loss
- Concern about similar specs for diesel fuel -- diesel desulfurization at the same time "would be difficult"
- Countrymark does not have a large technical staff
- In favor of a delay – follow developments in trade journals and wait for technologies to be developed and tested by the majors

A Representative from Inland Refining (on the phone)

- Parent company is public, Inland Refining is wholly-owned subsidiary
- Refinery has12,000 bpd capacity and is located in Woods Cross, UT
- Recently closed on purchase of second refinery in Utah (previously mothballed)
- Inland is in favor of early incentives such as, averaging, banking, and trading -- credits would even-out compliance costs
- Inland currently produces conventional gasoline only (it does not produce RFG)
- Concerned about paperwork and recordkeeping -- Inland does not want additional reporting required beyond simple increment of sulfur

Ron Wade, Primary Corporation (on the phone)

- Facility is located in Richmond, Virginia
- Facility is a transmix processor -- does not produce gasoline
  - Re-processes co-mingled products
- Cannot control what gets into stream
- Need most lenient treatment since they are never sure whose product they will be processing

James Horton, Giant Industries

- Giant owns two refineries - Gallup, New Mexico and Farmington, New Mexico
- Most concerns have been raised by others today
- Giant also owns a number of service stations
- Giant will respond in written comments on capital impacts of sulfur requirements

John Huber, PMAA

- What will happen to the distillate pool? Will there be "dumping" as a result of decreasing gasoline sulfur levels?
- Refer to refiners' written comments on effect of higher sulfur on heating oil supplies
  - Impact on price?
- Different test for sulfur content may not be helpful – sulfur testing is cheap
- East St. Louis, Illinois example - Metro region divided by state boundary

Jim Britt and Fred Green, Murphy Oil

- Murphy Oil is fully integrated: exploration, production, and refining
- Two refineries in the U.S.: Superior, Wisconsin and Meraux, Louisiana
- Wisconsin facility is smaller than the Louisiana facility, limited in what it can do
- All excess product from the WI facility is marketed in Minneapolis, Minnesota
- (Presentation)
- Support O'Keefe /API comments

Lelan Griffin, Montana Refining

- 7,000 bpd refinery in Montana with 100 employees
- Montana supports the API/NPRA regional approach
- Montana supports delayed implementation
- At low levels (below 100 ppm) sulfur is very difficult to remove

Open Discussion

- *Glenn Passavant, OMS*: question about interim.

- *Jim Britt, Murphy*: no opposition, could be useful.

- *Gerald Faudel, Frontier*: hasn't heard opposition.

- *Gregg Scott, SIGMA*: panel should consider all small refineries (e.g., as defined by capacity), not just refineries owned by SBA-defined small businesses.

- *Jere Glover, SBA*: would resent taking the time here to discuss Amoco (a large refiner with small refinery(s)), this is not the right forum.

- *Jim Britt and Fred Green, Murphy*: regional approach is designed to recognize Colonial and Plantation pipelines.

- *Gerald Faudel, Frontier*: would need more tankage to accommodate high and low sulfur gasolines.

- *Sally Allen, Gary-Williams*: Gary-Williams pays Colonial pipeline for more tankage.

- *Jere Glover, SBA*: share processes, purchase streams, be creative, "tax your minds" for better options.

- *Gerald Faudel, Frontier*: also look at automobiles – is desulfurization of fuel the best approach.

- *Glenn Passavant, OMS*: mentioned the General Agreement for Tariffs and Trade (GATT) issue.
  - *Gerald Fauldel, Frontier*: will send information within the week.
  - *Greg Scott, SIGMA*: rather than exempting small refineries, do one-size-fits-all regional program applying to all refiners.

- *Jim Britt and Fred Green, Murphy*: Question regarding reversibility.
  - *Glenn Passavant, OMS*: data doesn't have vehicles with a lot of operation.

- *Jere Glover, SBA*: cost/benefit analysis is not here...disconnect between autos and oils?

- *Gerald Faudel, Frontier and Jim Britt/Fred Green, Murphy*: raised the API/NPRA proposal.
  - *Greg Scott, SIGMA*: not the first time that the majors have used environmental standards as "anti-competitive tool."

- *Sally Allen, Gary-Williams*: would like to see sufficient delay for technology to catch up, then Gary-Williams will need at least two years to find capital and three more for equipment installation. Sally also inquired about SBA loan guarantees.
  - *Jere Glover, SBA*: SBA loans $750,000 maximum per business. Would require and act of Congress to increase this amount.

- *Sally Allen, Gary-Williams*: what about a fund (a certain number of $ per car) by the autos to help the small refiners.
  - *Glenn Passavant, OMS*: compared Sally's suggestion to the onboard example.

- *Gerald Faudel, Frontier*: A national gasoline sulfur program is unjust and unreasonable. Consumers in attainment areas will have to pay more for gasoline than consumers in non-attainment areas where the cleaner gasoline is needed.

- *Tom Kelly, OP*: next steps/closing remarks...described the rest of the SBREFA process.
- *Jere Glover, SBA*: emphasized the importance of the Panel report.
- *Eric Haxthausen, OMB*: agreed that the report is very serious.

Part 2 – Vehicle Related Issues

Jonathan Weisheit, J.K. Motorcars (on the phone)

- His business is to help people around the world to get their cars. Customers are people like service men who travel around the world.
- Cars after 1996 with OBD II are a problem.
  - Businesses like his do not have access to technology.
  - Manufacturers are absolutely uncooperative.
  - To go out and buy wiring harnesses and sensors costs $10-12,000 in parts and labor.
- In Europe, everyone drives at wide-open throttle and testing is conducted at 1800°.
- Do not have trouble with emission levels – it's the deterioration factors (DFs).
- Department of Transportation (DOT) registered importers program – similar to independent commercial importers (ICIs). Licensing fee is $350/year and registration fee is $150.
- Approximately 4000 cars come in from Canada every month.
- After 1996 model years: full certification and OBD II are required – need flexibility.
- Europe is approximately two years behind the U.S. Europe will be at NLEV in 2002-2004.
- Jonathan explained how the industry works – ICIs depend on auto manufacturers. ICIs buy all of their certified parts from manufacturers. Catalytic converters are efficiency tested (3 bag tests and 2 SHEDs).
- European converters are extremely durable, made out of ceramics to withstand higher temperatures. Europe has higher sulfur levels and higher speeds.
- Jonathan can't use aftermarket converters.
- Glenn explained Memorandum 1A.
- Upshot of all this: ICIs need more time to comply – approximately two additional years.

- *Tom Kelly, OP*: next steps/closing remarks...described the rest of the SBREFA process (i.e., completion and signing of the report).

Appendix C

Complete Written Comments Received from Small Entity Representatives

Appendix D

Documents Distributed to Small Entity Representatives