

**Final Report
of the
Small Business Advocacy Review Panel
on EPA's Planned Proposed Rule**

**Control of Air Pollution from New Motor Vehicles: Tier 3
Emission and Fuel Standards**

October 14, 2011

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1. INTRODUCTION

This report is presented by the Small Business Advocacy Review Panel (SBAR Panel or Panel) convened for the proposed rulemaking “Control of Air Pollution from New Motor Vehicles: Tier 3 Emission and Fuel Standards” (or “Tier 3”) that is currently being developed by the U.S. Environmental Protection Agency (EPA). Under section 609(b) of the Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), a Panel is required to be convened prior to publication of the initial regulatory flexibility analysis (IRFA) that an agency may be required to prepare under the RFA. In addition to EPA’s Small Business Advocacy Chairperson, the Panel consists of the Director of the Assessment and Standards Division of the EPA Office of Transportation and Air Quality, the Administrator of the Office of Information and Regulatory Affairs within the Office of Management and Budget, and the Chief Counsel for Advocacy of the Small Business Administration.

This report includes the following:

- Background information on the proposed rule being developed;
- Information on the types of small entities that would be subject to the proposed rule;
- A description of efforts made to obtain the advice and recommendations of representatives of those small entities; and
- A summary of the comments that have been received to date from those representatives.

Section 609(b) of the RFA directs the Panel to report on the comments of small entity representatives and make findings on 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, record keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement 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;
- 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. This analysis shall discuss any significant alternatives such as:
 - the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
 - the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
 - the use of performance rather than design standards; and
 - an exemption from coverage of the rule, or any part thereof, for such small entities.

Once completed, the Panel Report is provided to the agency issuing the proposed rule and is included in the rulemaking record. The agency is to consider the Panel's findings when completing the draft of the proposed rule. In light of the Panel Report, and where appropriate, the agency is also to consider whether changes are needed to the IRFA for the proposed rule or the decision on whether an IRFA is required.

The Panel's findings and discussion are based on the information available at the time the final Panel Report is drafted. EPA will continue to conduct analyses relevant to the proposed rule, and additional information may be developed or obtained during the remainder of the rule development process.

Any options identified by the Panel 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) and its amendments.

2. BACKGROUND

2.1 Background and Regulatory History

EPA's Tier 2 Vehicle and Gasoline Sulfur Program, which was finalized in February 2000, took a systems-based approach to motor vehicle pollution by setting standards for both passenger vehicles and their fuel (gasoline). The program set stricter tailpipe and evaporative emissions standards for criteria pollutants from vehicles beginning with model year (MY) 2004 and phasing in through 2009. The program also lowered the sulfur content of gasoline, to a 30 parts per million (ppm) refinery average, 80 ppm per-gallon cap, and 95 ppm downstream cap; beginning in 2004 and phasing in through 2008. The potential to extend the phase-in for small refiners and approved Gasoline Phase-In Area (GPA) refiners through the end of 2010 was provided in the Highway Diesel Rule (*66 FR 5136, January 18, 2001*) in exchange for early compliance with the diesel program.

2.2 Description of Rule and its Scope

Similar to the Tier 2 rule, the proposed rule "Control of Air Pollution from New Motor Vehicles: Tier 3 Emission and Fuel Standards" (Tier 3) is a comprehensive, systems-based approach to address the impact of light-duty vehicles on air quality and health. The Tier 3 rule will establish new standards for light-duty vehicles and new fuel standards for gasoline. Such standards were assumed in the 2008 NAAQS as part of the strategy for reaching attainment with the NAAQS. Subsequently, a May 21, 2010 Presidential Memorandum directed EPA to "review for adequacy" the current non-greenhouse gas (GHG) emissions regulations for new motor vehicles and fuels, including tailpipe emissions standards for NO_x and air toxics, and sulfur standards for gasoline. The memo further directed EPA to "promulgate such regulations as part of a comprehensive approach toward regulating motor vehicles" if EPA determines new regulations are required.

2.3 Related Federal Rules

The primary federal rules that are related to the proposed Tier 3 rule under consideration are: the Tier 2 Vehicle/Gasoline Sulfur rulemaking (*65 FR 6698, February 10, 2000*), Light-duty

Greenhouse Gas (GHG) proposed rule, and the Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards proposed rule (RTR/NSPS).

The Light-duty GHG proposed rule is a coordinated effort by EPA and the National Highway Traffic Safety Administration (NHTSA) taking steps to enable the production of a new generation of clean vehicles, though reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines.

The upcoming proposed rules to address Petroleum Refinery Sector Risk and Technology Review (RTR) and New Source Performance Standards (NSPS) will focus on developing updated emissions standards for petroleum refineries for multiple pollutants, including GHGs. The proposed rules are based on results of the RTR analyses for both Maximum Achievable Control Technology standards (MACT 1 and 2). The technology review will be conducted to identify any new practices, processes, or control technologies for the industry and cost-effective emission control options. EPA is developing uniform standards for some emission sources in the petroleum refining sector that may serve as the basis for these technology reviews. The proposed rules will also review the standards and rule provisions to determine whether other changes may be needed during periods of start-up, shutdown, and malfunction to ensure the standards are consistent with recent court opinions and other CAA programs. With regard to NSPS, the proposed rules will address remaining NSPS issues under reconsideration from the promulgation of existing NSPS and other NSPS rules affecting the refining sector, and will include the regulation of GHGs and the development of emission guidelines for existing sources.

3. OVERVIEW OF PROPOSAL UNDER CONSIDERATION

Gasoline Fuel

Section 211(c) of the CAA allows EPA to regulate fuels where emission products of the fuel "...cause or contribute to air pollution that reasonably may be anticipated to endanger public health or welfare." In the Tier 3 program EPA is considering provisions to lower the sulfur content of gasoline, address gasoline volatility (RVP), and streamline certain existing gasoline regulations (e.g., reporting requirements).

Lowering the sulfur content in gasoline would improve vehicle catalyst efficiency, thereby both enabling new vehicles to comply with lower standards and also immediately reducing emissions from the existing fleet of vehicles. EPA is considering proposing an average sulfur standard of 10 ppm for refiners and importers to take effect beginning 2017, with a refinery gate cap of 20 ppm and a downstream cap of 25 ppm to take effect beginning 2020. To ensure that finished fuel meets the required sulfur standard, a standard of 10 ppm is also being considered for ethanol, with similar provisions for other gasoline additives.

Controlling RVP would result in immediate emission reductions from the existing vehicle fleet and would respond to the fact that widespread use of ethanol has resulted in higher RVP in conventional gasoline across the country. The proposal may include new conventional gasoline 9-psi and 7.8-psi RVP caps, beginning as early as summer 2016, to which the 1-psi E10 waiver

does not apply. The 7.8-psi standard would only apply to those ozone nonattainment areas that are currently required to have 7.8 psi RVP.

The proposal could also take action on a requirement from the Energy Policy Act of 2005 to consolidate northern and southern reformulated gasoline (RFG) specifications into a single spec which will slightly lower the volatility of RFG in Chicago/Milwaukee.

The proposal may also include additional provisions to streamline existing fuel regulations.

On-highway Vehicles

Section 202(a) of the CAA provides EPA with general authority to prescribe standards for new motor vehicles. The proposal is expected to include revised exhaust and evaporative emission requirements for light-duty vehicles and trucks, as well as pickups and vans up to 14,000 pounds gross vehicle weight rating (GVWR). The proposal is expected to consider more stringent exhaust standards for NO_x, non-methane organic gases (NMOG), and fine particulate matter (PM_{2.5}), on both the Federal Test Procedure (FTP) and Supplemental Federal Test Procedure (SFTP). The proposal is also expected to consider more stringent evaporative emission standards. The Tier 3 standards would be similar to the LEV III standards under consideration by the California Air Resources Board, allowing manufacturers to certify one set of vehicles nationwide. The proposal is expected to take effect with the 2017 model year and phase in through 2022.

The proposal is also expected to revise the specifications for gasoline used as certification test fuel, to better reflect in-use fuel beginning with the 2017 model year. For example, despite the widespread use of ethanol in gasoline, certification test fuel does not currently contain ethanol. The proposal is expected to include use of a 15 percent blend of ethanol in gasoline (i.e., E15) for certification to the Tier 3 standards for light-duty vehicles and trucks, as well as pickups and vans up to 14,000 pounds GVWR. EPA is also considering applying the certification fuel change to other categories of on-highway vehicles, including heavy-duty engines and vehicles, and on-highway motorcycles. While EPA is considering a change to the certification fuel for these sectors, EPA would not plan to change the numerical level of the currently applicable emission standards.

Nonroad Engines and Equipment

Section 213 of the CAA provides EPA authority to regulate emissions from new nonroad engines and vehicles. In response to the widespread use of ethanol in gasoline and the impact such use can have on emissions, EPA believes it may be appropriate to propose requirements for manufacturers to certify their new nonroad engines and equipment using an E15 ethanol-gasoline blend. (In general, manufacturers currently certify using gasoline that does not contain any ethanol for exhaust emissions and generally a 10 percent ethanol in gasoline blend for evaporative emissions.) The categories of nonroad engines and equipment affected include four specific nonroad categories: small spark-ignition (SI) engines (SI engines at or below 19 kilowatts), large SI engines (SI engines above 19 kilowatts), marine SI engines, and recreational

engines and equipment. The change in certification fuel would apply to both the exhaust and evaporative emission standards that apply to these categories of nonroad engines and equipment but would not change the numerical level of the currently applicable emission standards. The requirement to use the new certification fuel would likely start in 2015 and allow a several year period for a phase in.

4. APPLICABLE SMALL ENTITY DEFINITIONS

The Regulatory Flexibility Act (RFA) defines small entities as including “small businesses,” “small governments,” and “small organizations” (5 USC 601). The regulatory revisions being considered by EPA for this rulemakings are expected to affect a variety of small businesses, but would not affect any small governments or small organizations. The RFA references the definition of “small business” found in the Small Business Act, which authorizes the Small Business Administration to further define “small business” by regulation. The SBA definitions of small business by size standards using the North American Industry Classification System (NAICS) can be found at 13 CFR 121.201.

The detailed listing of SBA definitions of small business for affected industries or sectors, by NAICS code, is included in Table 1 in Section 5, below.

5. SMALL ENTITIES THAT MAY BE SUBJECT TO THE PROPOSED REGULATION

Table 1, below, lists industries/sectors potentially affected by the regulation. The estimated number of small firms within each NAICS code and the number of employees in those small firms is shown.

EPA used a variety of sources to identify which entities are appropriately considered “small.” EPA used the criteria for small entities developed by the Small Business Administration under the North American Industry Classification System (NAICS) as a guide. Information about these entities comes from sources including the Energy Information Administration (EIA) within the U.S. Department of Energy, oil industry literature, EPA’s certification data, and previous rulemakings that have affected these industries. EPA then found employment information for these companies using the business information database Hoover’s Online (a subsidiary of Dun and Bradstreet). These entities fall under the categories listed in Table 1, below.

Table 1: Industry Sectors, Definitions & Number of Small Entities Potentially Affected by EPA’s Planned Action

Name of Industry/Sector	2007 NAICS Code	SBA Size Standard for Small Business (less than or equal to):
Gasoline fuel refiners and importers	324110	1,500 employees
Ethanol producers	325193	1,000 employees
Gasoline additive manufacturers	325199,	1,000 employees
	325998,	500 employees
	424690	100 employees
Transmix processors	<i>Varied</i>	1,500 employees
Petroleum bulk stations & terminals	424710	100 employees
Other warehousing and storage- bulk petroleum storage	493190	\$25.5 million (annual receipts)
Light-duty vehicle and light-duty truck manufacturers	336111, 336112	1,000 employees
Independent commercial importers	811111,	\$7 million (annual receipts)
	811112,	
	811198	
Alternative fuel converters	335312,	1,000 employees
	336312,	750 employees
	336322,	”
	336399,	”
	811198	\$7 million (annual receipts)
On-highway heavy-duty engine & vehicle (>8,500 pounds GVWR) manufacturers	333618,	1,000 employees
	336120,	”
	336211,	”
	336312	750 employees
On-highway motorcycle manufacturers	336991	500 employees
Small spark-ignition (SI) engine (≤19 kilowatts) manufacturers	333618	1,000 employees
Large SI engine (>19 kW) manufacturers	333618	1,000 employees
Marine SI engine (including outboard and personal watercraft) manufacturers	333618	1,000 employees
Off-highway motorcycle & motorcycle parts manufacturers	336991	500 employees
Snowmobile & all-terrain vehicle (ATV) manufacturers	336999	500 employees
Manufacturers of evaporative emission components (i.e., fuel tanks and fuel hose) for nonroad SI engines and equipment	326199,	500 employees
	326220	
Gas can manufacturers	326199, 332420	500 employees

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6. SUMMARY OF SMALL ENTITY OUTREACH

6.1 Small Entity Outreach

Before beginning the formal SBREFA process, EPA actively engaged in outreach with entities that would potentially be affected by the upcoming rulemaking. EPA held phone conferences and face-to-face meeting with many of these companies to discuss the upcoming proposed rulemaking and to provide these contacts with an early opportunity to ask questions and discuss their concerns with the upcoming rulemaking.

EPA provided each business with general information on the SBREFA process and background information on the rulemaking process. Once the SBREFA process began and potential SERs were identified, EPA held an outreach meeting with the potential SERs on June 28, 2011. After the Panel convened on August 4, 2011, the Panel then held an outreach meeting with the SERs on August 18, 2011.

6.2 Summary of EPA's Outreach Meeting with Potential Small Entity Representatives

EPA conducted a meeting and teleconference with potential small entity representatives (SERs) on June 28, 2011. To help them prepare for the meeting and teleconference, on June 14, 2011, EPA sent materials to each of the potential SERs via email. A list of the materials shared with the potential SERs during the pre-Panel outreach meeting is contained in Appendix A. For the June 28, 2011 pre-Panel outreach meeting with the potential SERs, EPA also invited representatives from the Office of Advocacy of the Small Business Administration and the Office of Information and Regulatory Affairs within the Office of Management and Budget. A total of 25 potential SERs participated in the meeting. EPA presented an overview of the SBREFA process, an explanation of the planned rulemaking, and technical background.

This outreach meeting was held to solicit feedback from the potential SERs on their suggestions for the upcoming rulemaking. EPA asked the potential SERs to provide written comments by July 12, 2011. Comments raised during the June 28 outreach meeting and written comments submitted by the potential SERS are summarized in Section 8 of this document.

6.3 SBAR Panel's Outreach to Small Entity Representatives

On August 18, 2011 the SBAR Panel held an outreach meeting/teleconference with the SERs. In addition to the materials that the SERs received for the pre-Panel outreach, the SERs were provided with background information (SERs were sent an outreach packet, which can be found in Appendix A) to help them prepare for the teleconference and prepare their comments on the planned proposed rulemaking.

During the Panel Outreach Meeting, 16 representatives that were selected for this SBREFA process participated in the conference call. The meeting opened with a short introduction for SERs on the purpose of the SBREFA Panel process and the Panel Outreach Meeting, and a brief description of the Panel process. The remainder of the Outreach Meeting itself focused on the Outreach Packet that was sent to SERs and potential regulatory flexibilities.

Lastly, EPA asked that the SERs provide feedback on the Outreach Packet materials as well as the outreach meeting itself, and SERs were asked to send any written comments by September 1, 2011. The outreach meetings with SERs were held to solicit feedback on the information provided and their suggestions for the upcoming rulemaking. At the meetings, the SERs were asked to also provide written feedback on ideas under consideration for the proposed rulemaking and responses to questions in the Outreach Packet. Comments made during the outreach meetings and written comments submitted by the SERS are summarized in section 8 of this document. Written comments received are included in Appendix B.

7. LIST OF SMALL ENTITY REPRESENTATIVES

Table 2 lists all Small Entity Representatives (SERs) for the Tier 3 rulemaking. Three additional SERs were added to include representatives of new industry sectors that may be potentially affected by the proposed rule.

Table 2: List of Small Entity Representatives

Name	Industry/ Sector	Company
Sally Allen	Refiner	Gary-Williams Energy Corporation
Bob Neufeld	Refiner	<i>Hermes Consolidated Inc. dba</i> Wyoming Refining Company
Ron Hurst	Refiner	Placid Refining Company LLC
Dexter Busby	Refiner	Montana Refining Company, Inc.
Matthew Smorch	Refiner	Countrymark Cooperative
Stephen L. Sherk	Refiner	American Refining Group, Inc.
Steve Uebelhoer	Transmix Processor	Gladieux Trading and Marketing
R. Peter Weaver	Terminal Operator	International Liquid Terminals Association (ILTA)
Andrea Grant	Terminal Operator/ Importer Trade Group	Independent Fuel Terminal Operators Association (IFTOA)
Sean Moore	Fuel Additive Manufacturer Trade Group	Automotive Specialty Products Alliance (ASPA)
Clayton Parks Jim Moffitt	Fuel Additive Manufacturer	Bar's Products
Larry G. Beaver	Fuel Additive Manufacturer	Radiator Specialty Company
Dan Nowlan	Fuel Additive Manufacturer	Berryman Products, Inc.

Name	Industry/ Sector	Company
James Heidel	Fuel Additive Manufacturer	Marvel Oil Company/Turtle Wax Inc.
Kristy Moore	Ethanol Producer Trade Group	Renewable Fuels Association (RFA)
Chuck Woodside	Ethanol Producer	KAAPA Ethanol
Jim Leiting Brian Schasel	Ethanol Producer	Big River Resources
Mark Morgan	Petroleum Marketer Trade Group	Petroleum Marketers Association of America (PMAA)
Mark Handley	Automobile Manufacturer	Vehicle Production Group
Paul Boskovitch	Automobile Manufacturer	Fisker Automotive
Miles George	Alternative Fuel Vehicle Converter	Altech-Eco Corporation
Roger Galloway	Alternative Fuel Vehicle Converter	BAF Technologies
Les Weaver	Independent Commercial Importer	Wallace Environmental Testing Laboratories
Lance Tunick	Vehicles	Vehicle Services Consulting, Inc.
Greg Haidemenos Glenn Amber	Engine Manufacturer	Westerbeke
Rich Costa	Engine Manufacturer	Solo USA
Paul Lee Tom Wooding	Engine Manufacturer	Wisconsin Motors
Rich Waggoner	Engine Manufacturer	Indmar
George Roykouff	Engine Manufacturer	Sterling Performance
Harry Roberts	Snowmobile Manufacturer	H.J. Roberts Associates
Tom Blais	Off-highway Motorcycle Manufacturer	Rokon
Haim Yanai	ATV Manufacturer	Tomcar USA
Joe Berk	On-highway Motorcycle Manufacturer	California Scooter Company
Mr. Jan Smith	On-highway Motorcycle Manufacturer	S&S Cycle
Geoff Ward	Blow-molded Fuel Tank Manufacturer	Agri-Industrial Plastics
Steve Slicker	Roto-molded Fuel Tank Manufacturer	Kracor
Bruce Sumpter Ray Podesta	Primer Bulb Manufacturer	RL Hudson & Company
Magnus Lindback	Hybrid Bus Manufacturer	Bluways USA Incorporated
John McKnight	Marine Industry Trade Group	National Marine Manufacturers Association (NMMA)
Dan Weibel	Portable Gas Can Manufacturer	Blitz USA

8. SUMMARY OF COMMENTS FROM POTENTIAL SMALL ENTITY REPRESENTATIVES

8.1 Summary of June 28, 2011 Pre-Panel Outreach Meeting

The Pre-Panel Outreach Meeting was conducted as follows:

- 8:30am: Introductions and opening presentation by EPA-OP (on behalf of the SBAC) regarding the SBREFA Panel process and more information about being a SER
- 9:00am: Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards (RTR/NSPS) rule (A SBREFA for a separate rulemaking carried out in parallel with the Tier 3 meetings to minimize burden on refinery sector SERs.)
- 10:30am: Tier 3 rule- Fuels
- 1:00pm: Tier 3 rule- Vehicles
- 2:30pm: Tier rule- Certification Fuel

Tier 3 Rule Fuels Pre-Panel Outreach Meeting Summary

- EPA-OTAQ walked through the presentation “Pre-Panel Small Entity Outreach Meeting on EPA’s Proposed Tier 3 Rulemaking”
 - The presentation discussed the background on the current Tier 2 program, drivers for going further and doing a Tier 3 program (need for additional air quality improvements, 2007 Energy Independence and Security Act anti-backsliding mandate, 5/21/10 Presidential memorandum)
- EPA-OTAQ walked through “Tier 3 Fuel Program Summary” document
 - Described provisions that EPA is considering proposing for fuels-related sectors
 - Gasoline sulfur standards: 10 ppm refinery average beginning Oct 1, 2016; 20 ppm refinery gate cap beginning Oct 1, 2019; 25 ppm downstream cap beginning Jan 1, 2020 (plan to also request comment on appropriate cap levels)
 - 10 ppm sulfur standard for ethanol added to gasoline
 - Gasoline additives, beginning in 2016
 - Aftermarket consumer additives would be required to meet a 10 ppm sulfur cap
 - Other additives would be split into two categories (>10 ppm and ≤10 ppm)
 - Product transfer document and/or labeling requirements
 - Performance-based sulfur test methods (similar to the diesel program requirements)
 - Bring gasoline volatility (RVP) standards from 10 psi to 9 psi and 8.8 psi to 7.8 psi, beginning Summer 2017
 - Consolidation of Northern and Southern reformulated gasoline (RFG) areas
 - Regulatory streamlining of existing fuels provisions
 - Described potential flexibilities
 - Delay in refiner sulfur standards for small refiners, until Oct 1, 2019

- Current downstream 80 ppm and 95 ppm caps would remain in effect until Oct 1, 2019 and Jan 1, 2020 respectively
 - Averaging, banking, and trading program to begin Jan 1, 2014
 - RVP phase-in (2016 to 2019)
 - Provisions for Alaska (retain Tier 2 sulfur caps, continued RVP exemptions) and Hawaii (continued RVP exemptions)
- Questions/comments/discussion:
 - A potential SER asked how anti-backsliding related to a 10 ppm sulfur standard, or if it was just related to RVP
 - EPA response: Sulfur is driven by NAAQS attainment and RVP is more driven by anti-backsliding, however neither are exclusive
 - A potential SER asked if there will be labeling requirements
 - EPA response: If the cap is reduced, there could be a need for labeling requirements; labeling requirements for additives could also be required
 - One potential SER commented that those SERs that are also affected by the RTR/NSPS rule might have trouble meeting the 2-week comment deadline due to the RTR/NSPS information collection request (ICR)
 - A potential SER commented that going from 8.8 to 7.8 psi is a little harder to do than going from 10 psi down to 9 psi
 - The SBA Panel member asked if EPA would share the list of regulatory streamlining items with the Panel and potential SERs, and also noted to the potential SERs that the pre-rulemaking time is the SERs opportunity to provide preliminary feedback to EPA and also to ask questions of EPA to gain a better understanding of the rule
 - The Panel member also encouraged potential SERs to think about possible regulatory alternatives, and to really consider how they could work in a regulatory program (i.e., enforcement, etc.)
 - One potential SER commented that EPA should consider including fuel importers in the credit trading program to provide incentive for importers to import more 10 ppm gasoline; the SBA Panel member also asked if this would be possible for additives as well
 - EPA committed to looking into these options in developing the rule
 - The SBA Panel member asked if there is anything that is attractive about an RVP phase in (versus one standard)
 - EPA noted that since RVP control can be costly a phase-down concept was an idea for a way to help the market handle the transition
 - A Panel member also questioned if a longer RVP phase-in would make more sense considering the economic impacts of sulfur control, or if sulfur and RVP controls are independent
 - EPA noted that RVP flexibility would have to be done industry-wide (not for a subset of industry), and EPA is looking to implement a program in a way that minimizes market disruption
 - EPA also noted that some refiners may need more help on RVP than on sulfur (many refineries are already at 10 ppm sulfur), however a phase-in past two or three years may be a stretch

- A potential SER commented that downstream parties such as terminals are impacted by the decisions that refiners/fuel owners make in complying with the regulations—the degree to which the refiners stick closely to the specs will impact the terminals
 - The potential SER also noted that the largest players may drive what the terminals and other downstream parties will need to do to comply; it was further noted that they are cautiously optimistic on sulfur, and more concerned about RVP controls
- A potential SER commented that the Department of Homeland Security may have concerns regarding butane
 - The SBA Panel member asked if the potential SER could provide any related cost information

Tier 3 Rule Vehicles Pre-Panel Outreach Meeting Summary

- EPA-OTAQ walked through the presentation “Pre-Panel Small Entity Outreach Meeting on EPA’s Proposed Tier 3 Rulemaking”
 - The presentation discussed the background on the current Tier 2 program, drivers for going further and doing a Tier 3 program (need for additional air quality improvements, 2007 Energy Independence and Security Act anti-backsliding mandate, 5/21/10 Presidential memorandum)
- EPA-OTAQ walked through “Expected Tier 3 Light-Duty Tailpipe Program Summary” document
 - Described provisions that EPA is considering proposing for the light-duty-vehicle and truck sectors
 - Federal Test Procedure (FTP) standards – NMOG and NO_x: Corporate average standard of 30 mg/mi NMOG+NO_x
 - The fleet-average standards would begin in model year 2017 at a higher level and reach the 30 mg/mi level in model year 2022 and would be identical to those being proposed by the California Air Resources Board for the LEV_{III} program
 - Manufacturers would average their passenger cars and light trucks in separately during the phase in
 - A bin structure for the emission standards to which manufacturers may certify their vehicles
 - The bin structure would include seven specified levels from 160 mg/mi to 0 mg/mi from which to choose
 - FTP standards – PM: 3 mg/mi standard starting in model year 2017
 - The FTP PM standards would be phased in (25% in 2017, 50% in 2018, 75% in 2019, and 100% in 2020 and later)
 - Supplemental Federal Test Procedure (SFTP) standards – NMOG and NO_x with a declining fleet average NMOG+NO_x standard during a phase-in period
 - The phase-in would start in model year 2017 and run through model year 2022

- The standards would match the CARB LEVIII SFTP standards and would be 50 mg/mi for model year 2022 and later
 - SFTP standards – PM: A PM standard for the first time
 - 10 mg/mi for passenger cars and light-duty trucks (LDT1/LDT2)
 - 20 mg/mi for larger light-duty trucks (LDT3/LDT4)
 - EPA directed potential SERs to the document titled, “Expected Tier 3 Emission Control Technologies” for our description of technologies and cost associated with the Tier 3 exhaust standards under consideration
- Described exhaust provisions that EPA expects to propose for heavy-duty complete vehicles between 8,500 and 14,000 pounds Gross Vehicle Weight Rating (GVWR)
 - Fleet average NMOG+NOx standards built around a bin structure
 - Bin-specific PM and CO standards
 - Add SFTP standards
 - Phase-in between model year 2018 and model year 2022
- EPA-OTAQ walked through “Evaporative Emission Standards” document
 - Described evaporative emission provisions that EPA expects to propose for light-duty vehicles, light-duty trucks, and heavy-duty vehicles up to 14,000 pounds GVWR
 - EPA expects to propose new diurnal + hot-soak emission standards that align with CARB’s LEVIII Option 2 standards
 - Includes a new canister test (i.e., a “bleed emission test”)
 - Averaging and banking would be available to comply with the new diurnal+hot-soak standards
 - A phase-in would start in model year 2016 at 40% (or the manufacturer’s CARB PZEV fraction), increase to 60% in model year 2018, 80% in model year 2020, and 100% in model year 2022 and later
 - EPA expects to propose a new leak test for the fuel tank/evap system
 - This would apply for both certification and in-use testing
 - Would be based on a maximum allowable pressure loss in the fuel tank over time
 - EPA expects to propose a new onboard refueling vapor recovery (ORVR) requirement for heavy-duty vehicles between 10,000 and 14,000 pounds GVWR
 - EPA directed potential SERs to the document titled, “Assessment of Technology Development and Estimate Costs for Meeting Light-Duty Vehicle Tier 3 Evaporative Emission Standards” for our description of technologies and cost associated with the standards under consideration
- Questions/comments/discussion:
 - Two of the potential SERs asked if the EPA Tier 3 and CARB LEVIII program, including onboard diagnostic (OBD) requirements be consistent and allow one certification for 50-states
 - EPA response: EPA noted that this is the goal to have consistent programs
 - A potential SER asked what the declining average FTP standards would be and asked if the “bags” collected during emissions testing would still be weighted the same as today.

- EPA response: EPA shared the levels of the declining averages and noted that the weighting of the “bags” would remain the same
- The SBA Panel member questioned if EPA would consider a fleet average PM standard versus a percent phase-in
- One potential SER asked if the PM standards were deteriorated standards at the end of the useful life
 - EPA response: EPA noted that the PM standards were at the end of useful life
- The SBA Panel member questioned the ability of manufacturers to average to a 30 mg/mi exhaust NMOG+NO_x standard when there are so few bins below the 30 mg/mi level and suggested potential SERs think about that as they prepare comments
- A potential SER asked about the GHG rules for their vehicles
 - EPA response: EPA noted that it believed small manufacturers were exempt from the existing GHG rule
- A potential SER noted concerns about switching to a certification fuel with 15 percent ethanol for the Tier 3 program and suggested a technical review in the future to determine if such a fuel was appropriate based on the marketplace
 - The SBA Panel member suggested that potential SERs think about how often EPA should change certification fuel
- The SBA Panel member asked why EPA was proposing a separate canister test (i.e., the “bleed emission test”)
 - EPA response: EPA noted that the new test was meant to ensure the evaporative emission canister is trapping essentially all of the evaporative emissions
- A potential SER commented that EPA should consider making adjustments to the temperature and RVP requirement for high-altitude testing
- A potential SER asked whether emission trading (i.e., between manufacturers) would be allowed in the Tier 3 program and noted their interest in allowing trading
 - EPA response: EPA noted that it may not have trading in the Tier 3 program

Tier 3 Rule Certification Fuel Pre-Panel Outreach Meeting Summary

- EPA-OTAQ walked through the presentation “Pre-Panel Small Entity Outreach Meeting on EPA’s Proposed Tier 3 Rulemaking”
 - The presentation discussed the background on the current Tier 2 program, drivers for going further and doing a Tier 3 program (need for additional air quality improvements, 2007 Energy Independence and Security Act anti-backsliding mandate, 5/21/10 Presidential memorandum)
- EPA-OTAQ walked through “Certification Fuel Change: Nonroad Gasoline Engines, Heavy Duty Gasoline Engines and On-Highway Motorcycles” document
 - EPA described why it is planning to propose a new certification fuel for all categories of engines and vehicles that use gasoline
 - EPA would maintain the current emission standards

- EPA presented the specifications it expects to propose for the certification fuel
 - Includes 15% ethanol, and lower sulfur levels
- EPA noted its assumption that manufacturers design their equipment to be compatible with in-use fuels and noted that the goal of the proposed certification fuel change is to ensure products are tested and operated on fuels representative of the potential future in-use fuels
- EPA presented data showing the impacts of ethanol blends on exhaust emissions if no adjustments are made to the engines
 - EPA noted that it believes manufacturers would need to readjust their engines/vehicles to certify on the new fuel while emission levels would remain similar to current certification levels
- EPA discussed the impacts of ethanol blends on evaporative emissions
 - EPA expects permeation levels should be comparable on the new certification fuel (since the evap test fuel already contains 10% ethanol)
 - EPA expects diurnal levels should remain the same (assuming the RVP of the test fuel would stay at 9.0 psi)
- EPA noted several options for implementing the new certification fuel requirements
 - Specify a start date if 2017
 - Specify an end date of 2022
 - Require recertification only when a manufacturer “redesigns” its products
- Questions/comments/discussion:
 - One potential SER noted its concerns about the impact of a 15% ethanol blend on fuel economy
 - One potential SER raised the question of what Canada is going to do with in-use fuel requirements and noted their concerns with operating equipment certified on a 15% ethanol blend on gasoline with no ethanol in it
 - A potential SER asked if evaporative emission components (e.g., fuel tanks) would be required to recertify on the 15% ethanol blend since those products currently certify on a 10% ethanol blend
 - Two potential SERs noted that small manufacturers often out-source their emission testing so their costs to recertify will be high
 - One suggested that EPA consider hardship provisions like it has done in previous programs
 - One suggested that EPA consider design-based certification (i.e. allow manufacturer to rely on emissions data from other programs) so that new testing would not be required
 - The SBA Panel member suggested that EPA might want to consider a small volume grandfather provision in which a manufacturer would not have to recertify a specific number of its products even if the product had been redesigned for the new certification fuel
 - The SBA Panel member suggested that EPA might want to consider allowing manufacturers to choose a 10% ethanol blend for certification now and require certification by 2017 plus EPA could perform a market review to see where in-use fuels are and determine if the certification fuel should be revised again

8.2 Summary of Written Comments from Potential SERs Submitted After June 28, 2011 Pre-Panel Outreach Meeting

8.2.1 Summary of Comments on Tier 3 Fuels

8.2.1.1 Costs of Compliance and Lead Time

CountryMark commented that they installed a low sulfur gasoline unit in 2010 to meet the Tier 2 gasoline 30 ppm refinery average standard; in order to further go to a 10 ppm refinery average, the commenter believes it would require additional energy input which would increase GHG emissions and cost over \$100,000 per year, and would shorten catalyst life by 25% (requiring more shutdowns to replace catalyst). The commenter believes that there would not be any lead time for implementation. CountryMark also commented that sulfur would need to be removed from its alkylation unit, estimated at a capital cost of over \$5 million dollars and potentially two to three years for start-up.

Gary-Williams Energy Corporation (GWEC) commented that to meet the potential proposed sulfur and RVP standards, the company's compliance costs would be \$10-15 million dollars a year (0.02 cents per gallon). The commenter further stated that the reduction of sulfur only will cost \$5-7.5 million per year (primarily operating costs, but there will be some capital expenditure due to the need for more frequent catalyst change). The commenter stated that, based on 2010 data, going from 8.8 psi to 7.8 psi fuel could cost GWEC approximately \$6.5 million per year.

The Small Refiner SERs suggested that EPA extend the current 80 ppm refinery gate cap until October 2021 for product shipped in pipelines, and that the current 95 ppm downstream cap should be extended until a 25 ppm cap is required January 1, 2021.

Marvel Oil Company commented that the high sulfur content in its additive is due to the base oil used in the manufacturing, any change in the base oil that would meet the 10 ppm of sulfur limit would void the product's grandfathered status and require extremely cost-prohibitive testing that could exceed \$1.5 million. The commenter stated that total timing for this testing could encompass two years, and would include the capital cost expense of acquiring a sufficiently new automobile that meaningful tests could be run for the life of the vehicle. Marvel Oil Company stated that it believes that with sufficient lead time, re-labeling of this additive, similar to that required by the diesel fuel regulations, could be accomplished rather quickly and smoothly, but the formula cannot be brought into compliance with the 10 ppm sulfur level with current technology.

Marvel Oil Company commented that there currently are no suitable naphthenic, low sulfur base oils available for reformulation; if low sulfur naphthenic base oils do become available, the company would consider reformulation as long as the CAS number does not change (as any change in the CAS number would be viewed as a deviation from the formula by EPA and require full testing). The commenter stated that if EPA was able to relax the requirements for testing and allow us to substitute either a paraffinic base oil or poly alpha olefin

synthetic oil for the naphthenic base oil without requiring testing, we could comply with this regulation. Lastly, Marvel Oil Company commented that if low sulfur base oils are available and can be used successfully, confirmatory lubrication tests would need to be run to confirm that no adverse effects are present by the removal of the sulfur, and such tests could run several hundred thousand dollars.

8.2.1.2 Level of the Standard

Gasoline Sulfur

Big River Resources commented that the current make-up of ethanol in the marketplace is well below the potential 10 ppm standard. The commenter further noted that ethanol is currently meeting fuel specifications for some pipeline operators as well as the state of California, so this standard would not present a problem for the commenter, or likely others in the ethanol industry.

GWEC commented that a 10 ppm sulfur standard would require a 5-6 ppm refinery production for product shipped via pipeline, as the pipeline would probably require 7-8 ppm in order to comply with 10 ppm. With regard to the refinery gate cap, the commenter further stated that it believes a 20 ppm cap would be burdensome because it could require costly reprocessing of any off-spec batches. The commenter advocates retaining the 80 ppm cap until October 2021 for product shipped in pipelines and then imposing a cap no lower than 60 ppm. GWEC commented that it also believes a 25 ppm downstream cap is too low. The commenter suggested that the 95 ppm cap be retained until a 25 ppm cap is required (January 2021). The commenter noted that product shipped via pipeline is fungible, so when the small amounts of small refiner gas is shipped via pipeline with other 10 ppm fuel, the final pipeline product would likely meet the reduced sulfur ppm requirements.

Marvel Oil Company commented that it cannot support any changes that would require gasoline additives to meet a 10 ppm sulfur cap, and noted that the maximum contribution of its additive to gasoline sulfur levels is 2.0 ppm. The commenter stated that it could support a provision that is similar to the one for diesel fuel additives at 40 CFR 80.59(d) that requires labeling to show that the product does not meet the 10 ppm sulfur content for gasoline. The commenter further stated that if a higher level of sulfur is allowed from the pump, it would support the same level from the additives as for the fuel itself.

Gasoline Volatility (RVP)

Big River Resources also noted that EPA indicated a concern regarding an end-use air quality issue related to the higher RVP allowance for E10, and that EPA has also stated in the recently released E15 misfueling mitigation rule that the higher RVP allowance would not be granted for E15. The commenter believes that this issue is highly technical and will likely require more examination. The commenter noted that on one hand, identical RVP requirements (and therefore petroleum blendstock) for E10 and E15 will allow retailers to offer both products and provide customer choice based on fuel economics. The commenter believes that this is challenging under the existing E10 and proposed E15 rules given that E15 requires a different

(lower RVP) petroleum blendstock that may not be available. In contrast, the commenter stated, eliminating the higher RVP allowance would have significant impact on the refiners and blenders and may not provide flexibility to the obligated parties to meet the requirements of the Renewable Fuels Standard. Big River Resources recommended that before EPA proposes to make this blanket change, they encourage the agency to get significant input from the ethanol producers, blenders, refiners and marketers concerning this item.

CountryMark commented that the 1 psi waiver is critical to them in meeting their RFS2 obligation—the commenter would need to spend capital and sell butane at a significant economic penalty. The commenter further stated that RVP would need to be reduced with the installation of either a new distillation tower or replacement of an existing tower; and lowering the RVP would require additional energy, thus increasing GHG emissions, and the modifications would take two to three years to implement at an estimated cost of \$10-15 million. Lastly, CountryMark commented that meeting the lower RVP requirement would increase their butane production, but the capability to blend it into gasoline would be significantly reduced—the commenter believes that it would either need to build additional storage capacity at significant capital cost or sell butane at depressed prices in the summer months; the commenter stated that selling the butane rather than blending it would result in a penalty of over \$3 million per year and would require upgrades to their existing rail loading facilities.

GWEC commented that bringing 8.8 psi fuel to 7.8 psi will reduce available gasoline volume through back-out of butane blending and will hurt its refinery economics through loss of butane margin and will further reduce gasoline available to sell through required makeup of lost butane octane at the refinery which will make benzene that must be converted or removed.

8.2.1.3 ABT Program

GWEC commented that they have not participated in or benefited from previous fuels rulemaking credit programs to any significant degree. The commenter stated that, from its perspective, credit programs involve great risk and administrative hassle that is difficult to manage for a small company with limited staff and tight credit restrictions. The commenter does, however, endorse options to utilize banked Tier 2 credits for compliance with the Tier 3 program.

8.2.1.4 Related Federal Rules

CountryMark commented that taken together, the Tier 3 rule and the RTR/NSPS rule will have significant financial impact on the company; the capital expense of the rules on top of existing requirements would stress the company's financial stability and put the farmer owners' investment at risk.

GWEC commented that they are facing a compliance deadline in 2015 for the MSAT2 rule. The commenter noted that adding the \$20-30 million capital costs of a benzene reduction unit (plus any associated operating costs) to Tier 3 costs would be challenging. The commenter further noted that it believes that if the costs of the Tier 3 rule are incurred at the same time that

they are expected to comply with the MSAT2 requirements will impose overwhelming disproportionate economic hardship for the company.

8.2.1.5 Regulatory Flexibility Alternatives

CountryMark commented that, based on the de minimis environmental impacts that small facilities have compared to larger refineries and foreign competition, and capital spending at such a small refinery would have negligible effects and diminishing returns, the commenter believes that small refiners should be exempt from additional requirements. However, the commenter requested that if an exemption is not possible, small refiners should at a minimum have extended compliance deadlines (consistent with previous EPA fuels programs).

GWEC suggested the following flexibilities for small refiners:

- Allowance to delay gasoline benzene (MSAT2) compliance from 2015 to 2019 (an additional four years) in exchange for compliance with Tier 3 standards.
- Endorsement of the SER proposal to allow the use of any existing Tier 2 gasoline sulfur credits (banked and registered) for the 10 ppm gasoline sulfur limit when it becomes effective for small refiners.
- Allowance to either receive an additional five or more years to comply with RVP restriction (until 2022, at the earliest) instead of instituting phase-down options, or add three years to RFS2 compliance (January 1, 2016 instead of January 1, 2013 for those companies with an extension of the RFS small refinery/small refiner exemption). (The commenter noted that some small refiners may face RVP market constraints, e.g., sales in non-attainment areas with local RVP limits).

The Small Refiner SERs commented that they believe EPA should include the following small refiner flexibilities for the 10 ppm gasoline sulfur standard:

- Small refiner delay of at least five years, until October 1, 2021 (instead of October 1, 2019).
- Extend the life, and allow the use, of existing Tier 2 gasoline sulfur credits (banked and registered) for the 10 ppm gasoline sulfur limit when it becomes effective for small refiners (and small refiners would still be required to meet small refiner refinery gate and downstream caps).
- Option to delay MSAT2 compliance from 2015 to 2019 in exchange for compliance with the Tier 3 sulfur standards on time.
- Allow refinery gate and downstream caps in Alaska to remain at the current 80 ppm and 95 ppm caps, respectively.

The Small Refiner SERs commented that they believe EPA should include the following small refiner flexibilities for the proposed RVP standards:

- Allow small refiners an additional five years for compliance with the RVP standards (until 2022 at the earliest) rather than phase-down options, or an additional three years to

comply with RFS2 for those refiners that received an RFS2 small refinery/refiner exemption extension.

- Allow the 1 psi waiver to stay in effect for any ethanol blended gasoline up to 15% for small refiners that did not receive the RFS2 extension.
- Continued exemptions for Alaska and Hawaii as governed by ASTM.

8.2.1.6 Other

Big River Resources commented that they were disappointed to hear that EPA would be unlikely to propose an aromatics standard as part of the Tier 3 rulemaking. The commenter strongly encouraged EPA to closely examine the components of today's gasoline and determine whether these compounds are indeed harming the environment and endangering public health, the commenter further stated that they believe that any close examination of the data will show that these compounds are very harmful. Lastly, Big River Resources commented that if EPA chooses to move forward without a 1.0 lb RVP waiver for E10, the commenter has concerns that aromatics present in consumer-intent fuels will become increasingly used in gasoline formulations detrimental to public health issues.

8.2.2 Summary of Comments on Tier 3 Vehicle Emission Standards

8.2.2.1 Exhaust Emission Standards and Test Procedures

Given the limited resources that small manufacturers have, Vehicle Services Consulting (a company that represents several small manufacturers) commented that EPA should consider separate passenger car fleet average exhaust emission requirements over the Federal Test Procedure (FTP) for small-volume manufacturers. The fleet average standards suggested by Vehicle Service Consulting for passenger cars would not start until model year (MY) 2018. The FTP NMOG+NO_x standard for MY2018 through MY2021 would be 125 mg/mi (i.e., the ULEV125 level) and for MY2022 and later the NMOG+NO_x standard would drop to 70 mg/mi (i.e., the ULEV70 level).

Vehicle Services Consulting also commented that EPA should consider separate passenger car standards over the Supplemental FTP (SFTP) for small-volume manufacturers. The passenger car SFTP requirements for small-volume manufacturers would not start until MY2018 and would be based on the corresponding SFTPII LEV levels. Starting in MY2022 and later, the SFTP standards would be based on the same mix of bins chosen by the manufacturer for FTP compliance (e.g., the corresponding SFTP standards for LEV, ULEV70, ULEV50 bins).

The Vehicle Production Group (VPG) which manufactures wheelchair accessible vehicles in both a gasoline fueled and natural gas fueled version, expressed concerns about the cold start standards for natural gas vehicles. Given the cooler exhaust operating temperatures with natural gas, VPG is concerned that developing technology to meet the emission requirements will impose a significant burden. VPG commented that EPA should establish the feasibility of the Tier 3 cold start standards for natural gas fueled vehicles prior to implementation of the new standards.

VPG commented that EPA should publish, especially for CNG, multiplicative factors to allow use of NMHC or other reliable measurements to be used to accurately estimate NMOG. Also, if a reactivity adjustment factor (RAF) is to be used for any particular fuels, VPG suggested that these be published for relevant fuels and available in a timely fashion in order to help small manufacturers avoid unnecessary testing costs when possible.

8.2.2.2 Evaporative Emission Standards and Test Procedures

Vehicle Services Consulting commented that EPA should adopt a procedure to allow small-volume manufacturers to deduct background evaporative emissions during full vehicle testing. For example, the requirement could be the whole vehicle standard minus background (background = non engine/fuel system test results obtained by using a procedure that would be the mirror of the rig test used to certify under CARB's Option 1).

VPG commented that EPA should review test data to see if certain evaporative procedures could be eliminated or streamlined. They cited the following examples for consideration:

- Is a 3-day diurnal test worthwhile, since the ORVR requirement has become the limiting factor for sizing the carbon canister? The 2-day test may be more than adequate to demonstrate compliance, would be more cost-effective for testing facilities and would allow more throughput for both manufacturers and EPA.
- Since purge rates (determined by calibration and hardware) have to be set aggressively enough to pass the 2-day test, is there any reason to run a running loss test anymore? It seems very unlikely that a properly functioning vehicle that passes a 2-day (or 3-day) evaporative test with diurnals could ever come close to failing or building vapor during the running loss portion.
- If the running loss test could be eliminated or replaced with something more realistic and efficient, the fuel tank temperature profile (FTTP) might be eliminated. If so, this would remove a costly burden, especially for small manufacturers that do not own their own wind tunnels.
- Should the canister filling procedure be reviewed to be more realistic? Currently, there seems to be no real advantage to adding more canister volume (other than a bleed canister) in order to provide added compliance assurance and better control emissions during extremely harsh real-world conditions. This is because the only working canister space is that which is created by purging from the butane filled canister during the test. Larger canisters are simply loaded with more butane. It might be more realistic to only fill canisters for testing with an amount that is representative of some typical or worst case mass of vapors. This amount might be specific to that particular vehicle or perhaps standardized and based on a study of real data from typical vehicles, perhaps based on vehicle type (truck or car), fuel tank volume, fuel system type (return or returnless), etc. In any case, some realistic canister loading requirement that would give flexibility to manufacturers (especially smaller manufacturers) to be able to improve purge system testing results with more or better hardware to avoid development and testing costs, and vice versa, is suggested here.

- For sealed evaporative and/or fuel systems (such as CNG), VPG suggests that it might be feasible in the future to allow a “certification by design” approach if best practice joint types and practices could be established between the agencies and industry. With this approach, a manufacturer could potentially avoid certification testing in some cases by showing that they used “certification standard” parts and meet particular design requirements (such as torque specifications and control procedures) for their fuel system such that no properly built and functioning vehicle should have any emissions issue.

8.2.2.3 Phase-In Schedule

Because small-volume manufacturer have few emission families, Vehicle Services Consulting commented that EPA should allow small-volume manufacturers to wait until MY2022, the final year of the phase-in, to require compliance with the new evaporative emission standards.

VPG commented that it supports a phase-in plan that would exempt small businesses from the early years of the Tier 3 regulations.

8.2.2.4 Assigned Deterioration Factors

Vehicle Services Consulting commented that it supports the use of assigned deterioration factors for small-volume manufacturers for both exhaust and evaporative emission standards.

VPG supports the use of assigned deterioration factors. However, VPG commented that the current multiplicative assigned deterioration factors are not realistic enough to make their use worthwhile except in unlikely cases. VPG suggested that a more realistic additive DF value could be calculated based on a model of current industry performance at various tailpipe emission levels or perhaps determined for each Tire 3 exhaust “bin”.

8.2.2.5 High-Altitude Evaporative Emission Requirements

VPG commented that EPA should review the high-altitude test methods to be sure that altitude test conditions (e.g., fuel specifications and fuel tank temperature profile) are representative. Alternatively, VPG commented that the fuel tank temperature profile procedure could be adjusted to reflect the typical temperatures observed at altitude. Finally, VPG also commented that if a small manufacturer wishes to avoid the cost of creating a new altitude FTTP or running additional tests, the manufacturer could perhaps have the option to only test the worst case with the hotter fuel tank temperature profile.

8.2.3 Summary of Comments on Certification Test Fuel

8.2.3.1 Certification Fuel Specifications

Big River Resources, an ethanol producer, supported a 15% ethanol blend for certification fuel because they believe that fuel blend will permeate the market by 2017. They also commented that EPA should align the other fuel properties with gasoline in the marketplace,

specifically citing the octane rating of the fuel. Big River Resources commented that EPA should adopt an octane value to between 87 and 89 (R+M)/2 unless the engine is specifically designed for premium fuels.

8.2.3.2 Implementation for Light-duty Vehicles and Trucks

Vehicle Services Consulting commented that small-volume manufacturers of light-duty vehicles should be allowed to wait until MY2022 to use the new certification fuel for demonstration of compliance with the Tier 3 exhaust and evaporative emission standards.

8.2.3.3 Implementation for Nonroad Engines and Equipment

The National Marine Manufacturers Association (NMMA), a trade organization that represents many marine engine and boat manufacturers, commented that they are opposed to increased ethanol in gasoline. They noted that most nonroad engines do not have combustion feedback sensors capable of adjusting the air/fuel ratio of the engine to match the properties of the fuel. As a result, when the ethanol level of the fuel is increase, engines will run hotter causing durability issues and increased emissions. Additionally, NMMA noted that ethanol is hygroscopic (i.e., it has an affinity for water) which poses serious problems as a marine fuel. NMMA noted that it is not impossible for manufacturers to certify and design their engines and fuel system components to operate on 15% (and higher) ethanol blends, but it will result in significant costs to the manufacturers and there will be an increase in NOx emissions and a reduction in fuel efficiency associated with such a change.

NMMA suggested that EPA consider a small volume exemption from the new certification fuel requirements for marine engines. Due to the resources required to certify marine engines and since many small businesses outsource testing at a significant expense, NMMA recommended allowing a volume exemption of 15,000 engines per year that allows manufacturers the option to continue certifying on current certification fuel. Alternatively, NMMA recommended that EPA allow for a five-year phase-in starting in 2017 and that existing marine engine families that are carryover families be grandfathered.

With regard to evaporative emissions, NMMA commented that the effect of a shift to a 15% ethanol blend is minor. This is because permeation testing is performed on a 10% ethanol blend and diurnal testing, which is sensitive primarily to the volatility of the fuel would remain the same. Therefore, NMMA commented that no changes are required to the current evaporative emission regulations if a 15% ethanol blend is adopted for certification fuel. Current test data and certificates should be appropriate and allowed to be carried over if a 15% ethanol blend is adopted as the certification fuel. NMMA commented that they would be willing to work with EPA to conduct testing to establish if there is a meaningful permeation difference between a 10% and 15% ethanol blend.

Westerbeke, a nonroad engine manufacturer, commented that small businesses should be allowed to certify on a 10% ethanol blend during the period in which a 15% blend is mandated and until such time that the 15% blend is the only fuel in the marketplace and not prohibited for use in nonroad and marine engines. Westerbeke commented that carryover engine families

should be grandfathered and not need to be recertified with a 15% ethanol blend. Westerbeke noted that harmonization with CARB is important in order to keep compliance costs to a minimum.

H.J. Roberts, a company that certifies snowmobiles, commented that the small business provisions adopted in the snowmobile program should be extended and perhaps even expanded for the Tier 3 rulemaking. They specifically noted the following flexibilities: design based certification, assigned deterioration factors, using certification and emission standards from other EPA programs, and hardship provisions. One expansion of flexibilities they supported in their comments was allowing snowmobiles to use engines certified under standards in another jurisdiction (e.g., engines certified to Euro 4 standards for cars) that through good engineering judgment could be extrapolated to demonstrate that the engine would meet or exceed the applicable EPA standards for snowmobiles.

H.J. Roberts commented that EPA should tailor its standards to be consistent with other North American jurisdictions, citing California and Canada specifically. They noted their concerns on certifying snowmobile engines on a 15% or 20% ethanol blend and then operating the engine in an area where gasoline with no ethanol in it is present. They believe EPA should consider the ramifications of such a scenario in deciding whether to require certification on a 15% ethanol blend.

With regard to permeation standards, H.J. Roberts commented that EPA should not require recertification with the new certification test fuel. In support of their comments, they cited EPA's presentation on the Certification Fuel change which noted that EPA expected comparable results with the use of a 15% or 20% ethanol blend. They noted the costs of retesting are significant for small businesses that sell limited numbers of products like they do, with total North American sales of around 20 units.

Agri-Industrial Plastics, a manufacturer of non-automotive fuel tanks, noted that they are not aware of any public data on the effect of ethanol content on the various technologies used for permeation control on nonroad fuel tanks. They noted that generally reported data suggests permeation rates will increase as the ethanol content rises to around 50%, at which point the permeation rates level off or begin to decrease. Based on this, Agri-Industrial commented that permeation rates will increase if the ethanol content of the certification fuel is raised from 10% to 15%. However, the level of the increase and the effect on current permeation control technologies is not known. Agri-Industrial Plastics commented that the most important part of the transition to a new certification fuel will be early generation of data to quantify the effect of the change in ethanol content. They recommended a phased-in approach where new models starting at some point before 2017 would be tested with a 15% ethanol blend certification fuel. If that data shows no changes are required to the existing technologies to meet the permeation standards, then that data could be used to justify extending the certification of existing tanks. If it is determined that process changes are required to the control technologies, the data could be used to justify similar changes to existing tanks and moving them into new emission families.

8.2.3.4 Market Review

VPG commented that it supports the use of representative fuels in emission testing. However, they recommend a review of the performance of ethanol containing fuels, especially street fuels, be done and incorporated in the new standards prior to the release of the standards. EPA should consider the realistic worst-case to avoid situations in which designing and calibrating for an unrealistic certification condition might compromise real-world operation for end users.

NMMA recommended that EPA perform a market review in 2017 to determine what parts of the country, if any, have moved from a 10% ethanol blend to a 15% ethanol blend as the primary in-use fuel. NMMA believes it is premature to assume that a 15% ethanol blend will be the primary fuel in 2017 and a review in 2017 would allow the natural process of the market to take place before EPA decides if a 15% ethanol blend is the appropriate certification fuel.

8.2.3.5 Hardship Relief

NMMA commented that hardship relief for small businesses that are unable to meet testing burdens and deadlines due to economic reason is a viable form of relief. NMMA supported such relief but strongly urged EPA to include language that requires EPA to conduct not only a thorough investigation of the company requesting the relief, but also a thorough investigation to determine whether allowing relief for one small business will negatively impact the market share of competing small businesses.

8.2.3.6 Service Tanks

Agri-Industrial Plastics commented that service tanks (i.e., replacement parts that are produced for previous model year vehicles/equipment) should be grandfathered and not required to be recertified on any new certification fuel. Agri-Industrial Plastics commented that this would allow production for replacement purposes of any fuel tanks that were certified with the existing certification fuel with 10% ethanol that are no longer production models after 2017.

8.2.3.7 Emission Impact

Big River Resources noted that there was some discussion about increased NOx emissions with higher blends of ethanol. They commented that EPA should closely examine this issue and look at on-highway vehicles and nonroad engines separately. They believe the data will show that the bulk of passenger vehicles will not show significant increases in NOx emissions.

8.3 Summary of August 18, 2011 Panel Outreach Meeting

The Panel Outreach Meeting was conducted as follows:

- 9:00am: Introductions and opening presentation by EPA-OP (on behalf of the SBAC) regarding the SBREFA Panel process and more information about being a SER; additional questions and discussion on rulemaking processes

- 9:30am: Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards (RTR/NSPS) rule
- 11:15am: Tier 3 Rule- Fuels
- 1:00pm: Tier 3 Rule- Vehicles
- 2:20pm: Tier Rule- Certification Fuel

Tier 3 Rule Fuels Panel Outreach Meeting Summary

- EPA-OTAQ highlighted possible changes in EPA's thinking since the June Pre-Panel Outreach Meeting:
 - Potential for proposing small volume refinery provisions (in addition to small refiner provisions)
 - Looking at other options for the refinery gate and downstream caps—leaving caps as-is or lower caps (above 20/25 ppm but lower than 80/95 ppm)
 - Only lowering RVP from 10 psi to 9 psi (not 8.8 to 7.8 psi)
- Questions and further discussion with SERs
 - Q: Why did EPA choose 10 ppm versus another standard, and what benefits do we gain from going to 10 ppm?
 - EPA Response: From an emissions and technology standpoint, we need to bring sulfur down as low as possible, keeping feasibility and distribution impacts in mind; lower sulfur standard may be requested, but we believe this is the lowest that we could go (considering feasibility and impacts to the distribution system)
 - Q: What are the drivers for the Tier 3 rule—Clean Air Act provisions?
 - Response: The SBA Panel member explained that auto companies requested that the President look at lowering emissions from vehicles; EPA further noted that this has also been part of the ozone NAAQS, as well as a CAA 211(c) and 211(v) (anti-backsliding and vehicles, respectively) rule
 - Q: What would the timing for the RVP standards be?
 - EPA Response: EPA is currently considering a start date of 2017 for the RVP program, or a phase-in that would begin in 2016
 - Q: Is EPA aware of the winter RVP standards?
 - EPA Response: The winter RVP standards are industry standards that existed before EPA began regulating RVP—EPA does not have any winter RVP requirements; we are not changing those standards in this action, and we have not heard any indication of ASTM changing the standards either
 - SERs raised concern about butane, and noted that they will include information in their comments on whether or not they can use winter gasoline for excess butanes
 - Q: What is the summer ozone season?
 - EPA Response: May 1 to September 15
 - Q: Will small refiners be able to continue to use Tier 2 credits during the Tier 3 delay period (when they're still meeting the Tier 2 standards)?
 - EPA Response: Yes, this is perfectly reasonable (however, Tier 2 credits cannot be used for compliance with Tier 3)

- Q: Can EPA explain why Tier 2 credits cannot apply for Tier 3 and/or why EPA believes it would not work?
 - EPA Response: Environmentally, this would create a glut of credits; further, the two programs are very different—Tier 2 used a baseline, Tier 3 will not, so the credits will not be equal or interchangeable
- Q: With respect to ethanol, can it add up to 1 ppm sulfur to fuel?
 - EPA Response: Ethanol should not change things very much, and the Tier 3 program will be based on a “finished fuel” standpoint
- Q: One SER noted that its company will need to triple the investment from the Tier 2 investment (which was half the cost of the refinery), and asked what EPA’s thoughts were on five years versus three for leadtime?
 - EPA Response: EPA would need to be able to justify such a delay; EPA requested that SERs need to explain in detail what the reasoning is for requesting five years (rather than simply stating that five years is preferred), as EPA will need compelling reasons to put such a delay in the rule
 - Another SER mentioned economic depreciation, and will send EPA (confidential) cost data
- Q: Can EPA explain the concerns over an MSAT-for-gas option?
 - EPA Response: Some of the reasoning is political (as there were concerns during the MSAT2 rule from Western states about benzene), however if this is something that EPA were to propose, EPA would need help from SERs to explain why a relaxation of the benzene standards is needed
 - SERs were also asked to comment on this from an environmental, investment, and engineering front; since this could also be a local issue, SERs should provide comment on any positive or negative effects this could have on their respective areas
- Question to SERs: Please comment on the notion of annual credit accounting versus use of credits immediately
- Terminal operator SERs commented that the terminal requirements will be largely dependent on what refiners do—if everything is done upstream, there will not be a problem; if anything will need to be added downstream, terminals would potentially need to put in some investments and could potentially be subject to other Federal requirements (i.e., Homeland Security, etc.)
- Q: How likely is the option of EPA to retain the 80 and 95 ppm caps?
 - EPA Response: EPA is still briefing management on this issue, especially on making the case for going below 80 ppm
 - EPA is aware that lowering the caps could have impacts on transmix processors, pipelines, terminals, additive manufacturers, and refiners during turnarounds; thus, EPA requested that SERs provide feedback on why the caps need to remain the same, or if there is an intermediate level that EPA could go down to (is there a specific threshold that would be problematic or not?)
- Q: What is EPA’s response to the anti-backsliding study?
 - EPA Response: The study will be released with the proposed rule, so it will be done before EPA makes any final decisions

Tier 3 Rule Vehicles Panel Outreach Meeting Summary

Exhaust

- EPA walked through background and indicated that no changes had been made since June Pre-Panel Outreach Meeting
 - Along with a review of the program, EPA noted that there is a strong effort on EPA's to have a program compliant/compatible with California's program
- Q: A SER noted that his company has been working as an informal group with California and stated that it would be helpful sooner rather than later on exhaust, evap, and SFTP to know where EPA is thinking differently that CA LEVIII (e.g., EPA is considering E15 while California is considering E10)?
 - EPA Response: EPA is working very closely with California; the main difference is that their standards would start earlier (2015 vs. 2017), EPA expects to be harmonized with California or to accept California's test data (and vice versa)
- It was noted that EPA is also considering small volume manufacturer provisions
 - The SBA Panel member requested that these be kept in consideration as they could also help small businesses; and small businesses may have feedback on an appropriate threshold
- One SER noted that a small business can turn into a small volume manufacturer
 - The SBA Panel member asked if SERs could provide information on past few years on the growth of small manufacturers
- Another vehicle SER noted that they were "flirting with the line of small business vs. small volume manufacturer"
 - The Panel agreed that this is a good illustration of someone that we would like to hear from
- A Panel short discussion on flexibilities suggested by the SERs then took place
 - EPA noted that we believe that the delay and hardship provisions seem most like provisions that could be proposed in the rule
 - The SBA Panel member also prompted SERs to comment on the usefulness and ease (or lack thereof) of hardship provisions
 - One SER commented that Tier 2 had a hardship provision for small businesses and small volume manufacturers and it worked out well; another SER seconded that comment
- A SER commented that EPA should update the deterioration factors (DFs)—as they get better and lower (EPA should) update them so small businesses are not put at a disadvantage, and also on the notion of reduced testing burden and speciation issues
 - SERs were asked to provide more information on this and to provide any data that they may have to support this

Evap

- Discussion on the SER-recommended flexibility of reduced testing requirements
 - EPA commented that if this change is appropriate here, then it seems that it should be appropriate everywhere, and this would be hard to justify

- EPA also noted that the biggest constraint is how to stay harmonized with California if the three-day test was eliminated
 - It was suggested that EPA look into letting a company “sign off” after meeting one standard
- A SER commented that with California, as the standard goes down, “background” emissions start to go up/become more prominent
 - EPA noted that California’s standard is intended to take background emissions into account
 - EPA requested that manufacturers provide information on vehicle baking in their comments
- EPA noted that the agency is exploring the concept of reduced testing requirements
 - The SBA Panel member requested that SERs provide comment on these provisions
 - EPA also noted that for many of the SER-suggested flexibilities, EPA needs more feedback from industry to justify the provisions and that the agency may also need to seek comment on whether or not some provisions should be extended to non-small manufacturers as well
 - Vehicle SERs commented that they believe EPA understands the comments and thoughts put forth by SERs at the meeting

Tier 3 Rule Certification Fuel Panel Outreach Meeting Summary

- EPA walked through background and began discussion with the SERs on certification fuel changes
- SER– Want one North American/World certification fuel – for engines sold worldwide – products cross nations and states all the time
 - ARB is bringing E10 to board in December ’11 – with 2019 implementation date
 - E0 still in the marketplace
 - Canada – what is their stance? (do they have other fuel sources other than ethanol?)
- What will future fuels be like?
 - Ethanol SER– state E15 is indicative of what will be in marketplace
 - A SER commented that Dupont and others at a conference state that ethanol may not be the future fuel
 - Another SER commented that the engine industry doesn’t see E15 being widely accepted
- The SBA Panel member asked the SERS – if doE10 today and E15 later – then higher impact on cert costs?
 - SER Response: \$200,000 cert costs per engine (not engine family)
 - Panel asked SERs how the proposal would affect a company’s bottom line?
 - If lifetime of product is 10 years then 5 year recert not useful
- E10 v E15 engine operation issues mentioned by SERs:

- If cert on E15 and E0 still out there – then engine will not run very well – if cert on E10 then may be ok, a SER commented that marine can cert to E10, but have to redesign for E15 use – wants E10 cert
 - Marine – would not warranty their engines for anything over E10 – ethanol and fuel distributors on the line
- A SER commented that if EPA requires E15 and CA requires E10 and there's reciprocity – if manufacturer wants to cert to E10 then can't cert in California and sell nationwide – ARB won't allow it
 - California is a big market – when SERS were asked if anyone didn't have a CA certification – no one responded
 - What if ARB doesn't move to E15?
 - Snowmobiles - no cert/standards in CA – interested in ethanol in their engines – would have to certify to EPA
- Emission durability on E15?
- Pump label revisit – newly certified engine can allow use of E15 fuel
 - Consumer confusion—they will not know year of engine manufacturer for nonroad – Fuel cap: Black cap/green cap? Need something more permanent that can't be removed?
- EVAP: A SER mentioned EPA/ARB – E10 for permeation of fuel tanks – Fuel tanks 1.5 g/m²/day on E10 – marginally meeting – E15 not pass, E15 permeates at a higher rate, E15 is in effect lowering the rates or standards need to be adjusted
 - EPA asked for any data that supports the thought that E15 more permeable than E10
- Tanks/fuel lines – already E10 compliant – do they have to do E15 if supposedly no difference?
- SBA outlined options and requested info from SERS:
 - E10 (quicker timeframe)
 - E10 market review before E15
 - E10 with definite transition to E15 in future
 - Definite E15
- Market Review –
 - Some SERs suggested market review, but unsure on year and what such a review would look like
- Grandfathering – implies no change in fundamentals but E15 may result in change in durability
 - Grandfather – cert by design – small volume
 - Question to SERs on suggested timing
- Small Volume Exemption – not much discussion – John McKnight asked about it
- Grandfathering for evap families
 - Grandfather – cert by design – small volume

- Question to SERs on suggested timing
- Discussion and request for SERs to provide more feedback on extending existing flexibilities and replacement fuel tanks

8.4 Summary of Written Comments from SERs Submitted After August 18, 2011 Panel Outreach Meeting

8.4.1 Summary of Comments on Tier 3 Fuels

8.4.1.1 Costs of Compliance and Lead Time

Costs

A transmix processor commented that the 1 psi waiver reduction will force transmix processors to make up the loss of octane, resulting in higher blending costs with toluene to make up for the octane loss.

CountryMark commented that the FCC gasoline desulfurization process unit that was installed and commissioned in 2010 (for Tier 2 compliance) will need to be modified, and sulfur would need to be removed from the alkylation unit gasoline, to meet a 10 ppm sulfur standard at an estimated total cost of \$15 million; with additional operational costs of \$200,000 annually (in increased natural gas and catalyst costs). The commenter further estimated that resultant modifications could reduce approximately 12.7 tons of sulfur per year at a cost of nearly \$150,000 per ton.

CountryMark commented that potential capital costs for RVP could be \$10-15 million for a new distillation tower/replacement of an existing tower and fired heater, and an annual economic penalty of \$3 million annually due to butane sales versus blending. The commenter also noted that butane sales would also require an expansion of its existing rail facilities to handle the increased traffic.

Gary-Williams Energy Corporation (GWEC) commented that costs to meet the Tier 3 requirements could be \$5-7.5 million annually for sulfur control (operating costs, and capital costs to account for the need for more frequent catalyst change) and \$6.5 million annually for RVP control. The commenter noted that it is also facing a compliance deadline for benzene reduction (MSAT2) in 2015, and initial estimates for the cost of a benzene reduction unit are \$20-30 million.

Lead Time

CountryMark commented that in total, modifications to its facility could take three to five years for implementation.

RFA commented that it believes EPA should strongly consider bifurcating the rule so that the cert fuel changes and RVP standard are on one track, and sulfur changes on a separate track;

the commenter believes that sulfur requirements are likely to require more lead time and a more gradual phase-in.

The small refiner SERs commented that they believe that a five-year delay for small refiners is warranted, and can be justified, because: individual SERs have estimated sulfur reduction costs of \$5-\$15 million dollars annually (operating costs for some small refiners due to more frequent catalyst changes, capital costs for those who need to install or modify current systems optimized for 30 ppm); small refiners are facing significant financing and credit issues due to the costs of compliance of RFS2, MSAT2 and other rules; and many small refiners have just recently turned on Tier 2 projects and need time to recoup costs.

The small refiner SERs specifically noted that the Internal Revenue Service (IRS) regulations recognize a depreciable life of ten years for tax purposes. The commenters suggest that this standard for cost recoupment should be consistent from one agency to another, and thus that Tier 3 compliance should be delayed until tax depreciation for Tier 2 investments is complete.

8.4.1.2 Level of the Standard

Gasoline Sulfur

A transmix processor commented that they are concerned that a portion of the jet fuel in transmix will distill into the naphtha (CBOB) cut, and jet fuel could have up to 2,000 ppm sulfur. The commenter further noted that they could receive older transmix at some point in the future with have a higher CBOB sulfur content than is allowed to be used and would be a problem for transmix processors. The commenter further stated that some of the ultra low sulfur diesel fuel (ULSD, diesel fuel with 15 ppm sulfur or less) will end up in the naphtha yield stream, thus raising the CBOB sulfur. The commenter suggested that EPA let transmix processors sell what transmix they process in the future and look at how transmix processors have done in the previous years (e.g., the past two years) as a reference with the rules that are in place for naphtha; transmix processors could then report the future sulfur results on CBOB in order for EPA to monitor transmix processors' future sulfur reduction progress.

CountryMark commented that a 20 ppm refinery gate cap could have significant economic impact since any gallon above that limit would not be salable; unlike diesel fuel, gasoline production is more complex and off-spec product (due to a refinery upset or operating problem) would leave little to no opportunity to retreat the finished product. The commenter believes that maintaining the 80 ppm refinery gate cap would provide operating flexibility to account for upset conditions. The commenter further noted that a 10 ppm sulfur limit will require more frequent catalyst change-outs, the refiner would not be able to blend any FCC gasoline during desulfurization unit shutdowns and would be less likely to be able to produce salable gasoline. The small refiner SERs further stated that if the refinery gate cap is reduced to 20 ppm, during a 5-10 day catalyst change-out the lost revenue from not being able to produce & sell gasoline during this time period could be the difference between positive or negative annual income for a small refiner.

RFA commented that most ethanol producers are currently producing 10 ppm sulfur ethanol. The commenter noted that since the primary source of sulfur in denatured ethanol is the hydrocarbon denaturant itself, the main concern for ethanol producers is continued access to low sulfur hydrocarbon denaturants. RFA stated that they believe that to ensure maximum flexibility, EPA should consider allowing “corporate average” sulfur levels for ethanol manufacturers (similar to what is being proposed for refiners), or setting a sulfur maximum for denaturant similar to California’s regulations.

The small refiner SERs commented that they strongly support allowing the 80 ppm sulfur gate cap to remain unchanged. The commenters noted that this higher cap would provide needed flexibility in the event that a facility experienced operation upsets and/or an occasional off-spec batch. The commenters further stated that a higher cap would allow a facility to continue to produce and sell gasoline rather than needing to build additional storage tanks for slightly off-spec product, and would be particularly essential during turnarounds.

The small refiner SERs also recommended that EPA allow small refiners the option of complying with a refinery gate standard of 25 ppm and be exempt from the 10 ppm average standard, to allow some small refiners to continue using their existing sulfur removal capital investment for compliance.

The small refiner SERs commented that the downstream cap must remain at 95 ppm for as long as the refinery gate cap remains at 80 ppm. The commenters also stated that they believe that the 80 ppm and 95 ppm caps should remain in place in Alaska.

The Independent Liquid Terminals Association (ILTA) commented that it does not foresee problems meeting a 25 ppm downstream cap, provided that refiners are successful in delivering compliant fuel to terminals and terminals are not asked to blend higher sulfur additives into the fuels.

Gasoline Volatility (RVP)

CountryMark commented that eliminating the 1 psi ethanol waiver would make their RFS2 compliance more complex and more expensive.

RFA commented that it is not opposed to the proposed RVP standard; however, the commenter believes that EPA should be consistent in its treatment of RVP requirements for all ethanol blends up to 15%. The commenter further stated that if the 1 psi waiver continues to apply to E10, there is no logical reason that it should not also be applied to E15.

The small refiner SERs commented that RVP exemptions for Alaska and Hawaii should be continued (as governed by ASTM).

ILTA commented that there is significant uncertainty regarding the potential impact of lower RVP on terminal operations, because this is largely contingent on actions by refiners. The commenter stated that a better understanding of how refiners plan to comply with the new

requirements, and how they intent to rely on the terminal industry to achieve compliance, is needed before the terminal industry can really comment on the likely impact of the rulemaking.

8.4.1.3 ABT Program

CountryMark commented that it believes that sulfur credit generation and sales have done little to offset the high cost of compliance of previous fuels regulations.

The small refiner SERs recommended that small refiners be allowed to use existing Tier 2 gasoline sulfur credits for compliance during any small refiner delay. The commenters further requested that once small refiners are subject to the Tier 3 sulfur standard, Tier 2 credits should be allowed to be used for Tier 3 compliance or exchanged for Tier 3 credits but discounted at a two-to-one or three-to-one rate.

8.4.1.4 Related Federal Rules

The Renewable Fuels Association (RFA) commented that it believes that the Tier 3 program should complement the RFS program and be structured to facilitate expanded use of renewable fuels in the marketplace consistent with Congressional intent.

8.4.1.5 Regulatory Flexibility Alternatives

CountryMark commented that it believes that a five year delay (versus three years) for small refiners is warranted considering the time that it would take to install potential facility modifications. The commenter noted that a longer delay period would provide small refiners the flexibility to coincide commissioning of new equipment with existing turnaround schedules, thus minimizing the financial impact of process unit shutdowns.

CountryMark also commented that if a complete exemption from the standards for small refiners is not possible, it believe that several flexibility options should be offered, including: 1) extending compliance deadlines for at least five years, 2) maintaining the 80 ppm sulfur refinery cap and excluding this production from the annual average, and 3) continuing to provide the 1 psi waiver for ethanol blending.

The small refiner SERs recommended that there be an extensive hardship provision where small refiners could apply for additional flexibilities. For example, the SERs commented that in exchange for on-time compliance with Tier 3, a small refiner could maybe receive a delay in their MSAT2 compliance or an extension of the small refiner benzene compliance. However, the SERs noted that if the Tier 3 rule is finalized in late 2012, there will be a very compressed window of time for refiners to submit, and EPA to review, hardship applications.

The small refiner SERs commented that a five-year delay, rather than instituting RVP phase-down options, is a significant economic issue.

GWEC suggest that, to address EPA's concerns about a potential MSAT2-for-Tier 3 gasoline flexibility provision, a less problematic approach to such a flexibility option would be to

have the MSAT2 cap go into effect in 2016 for small refiners (as originally intended), but allow small refiners an exemption from the 0.62 volume percent average for some period of time. The commenter stated that it believes that this approach could also help address timing issues associated with the hardship application submission and approval process in relation to MSAT2 compliance deadlines.

8.4.1.6 Other

The small refiner SERs commented that small refiners recently made investments for Tier 2 without knowing that Tier 3 was just on the horizon; the commenters stated that had they been given such information, small refiners and refineries could have planned scalable projects for the Tier 3 standard and saved millions of dollars in capital.

8.4.2 Summary of Comments on Tier 3 Vehicle Emission Standards

8.4.2.1 Exhaust Emission Standards and Test Procedures

Vehicles Services Consulting commented that EPA should adopt the same exhaust FTP and SFTP standards for LDVs that CARB has agreed to adopt for small volume manufacturers. The FTP standards would start in model year 2020 at the ULEV125 level and then be tightened in model year 2025 to the ULEV70 level. Starting in MY2020 and later, the SFTP standards would be based on the same mix of bins chosen by the manufacturer for FTP compliance (e.g., the corresponding SFTP standards for LEV, ULEV70, ULEV50 bins).

RFA noted that vehicle manufacturers have expressed serious concerns about the inability to certify emissions of flex fuel vehicles (FFV) under California's LEVIII standards when those vehicles are operating on E85. They noted that control of NMOG emissions during cold start conditions is more difficult on E85 due to the fuel's volatility characteristics and NMOG emissions from FFVs tend to exceed NMOG standards before the catalyst is warmed up. RFA noted that the inability to certify FFVs under the California LEVIII program has resulted in greatly restricted sales of FFVs in the state. RFA believes the increased availability of FFVs is paramount to the successful implementation of the RFS, as EPA itself has acknowledged. Thus, RFA encouraged EPA to carefully consider how certification of emissions from FFVs should be handled under the proposed new Tier 3 light-duty exhaust standards.

8.4.2.2 Evaporative Emission Standards and Test Procedures

Vehicle Services Consulting commented that EPA should apply the same evaporative emission standards to small manufacturers, but wait until model year 2022, the last year of the phase-in for the evaporative emission standards. During model years prior to 2022, small manufacturers could comply with the existing Tier 2 evaporative emission standards.

8.4.2.3 Phase-In Schedule

Vehicle Services Consulting commented that requiring small manufacturers to comply at the start of a given phase-in puts an inequitable burden on small manufacturers, a burden that the

specialty models of large manufacturers do not face, since those models can comply with the new requirements at the very end of the phase-in. In short, phase-ins are not of much use to small manufacturers who typically have one or two engine families. They recommend that a compensating factor be written into the rules and recommended a delay in the start for the standards.

8.4.2.4 Assigned Deterioration Factors

Vehicle Services Consulting supports the continued use of assigned deterioration factors for both exhaust and evaporative emissions under the Tier 3 program.

8.4.3 Summary of Comments on Certification Test Fuel

8.4.3.1 Certification Fuel Specifications

The National Marine Manufacturers Association (NMMA) and H.J. Roberts commented that EPA should adopt E10 as the certification fuel not E15. Both commenters noted that E10 is still not the fuel of choice for their product markets with many customers actively seeking out E0 for their equipment/vessels. Both commenters noted that it is important the certification fuel requirements be the same as California and Canada since their products are sold in these markets to ensure further testing will not be required.

RFA commented that it strongly supports moving to a certification fuel that contains the highest level of ethanol that is likely to be in broad commercial use in the next 5-10 years. In light of EPA's recent approval of E15 for use in light-duty automobiles built in 2001 or later, they believe E15 is a good starting point for discussions on a new certification fuel specification. RFA noted that EPA should be mindful that RFS requirements and the increasing desire for higher octane fuels to maximize engine efficiency are likely to drive average ethanol content above E15 over the course of the next 10 years. RFA strongly supported EPA's proposal to apply the E15 certification fuel to nonroad and believes it is necessary to ensure new non-road equipment is properly engineered. RFA believes EPA should move as expeditiously as possible to implement a new certification fuel. RFA recommended that EPA should consider bifurcating the rulemaking such that changes to the certification fuel and RVP requirements can be effectuated sooner than proposed changes to sulfur limits.

While RFA agreed with EPA's general direction on certification fuel specifications, they encouraged EPA to strongly consider what other fuel properties and characteristics, such as minimum octane rating, will be necessary to achieve the recently finalized 2017 mileage and vehicular GHG emissions standards. RFA noted that EPA should be mindful of these properties and characteristics as it designs the specifications for the new certification fuel.

8.4.3.2 Implementation for Light-duty Vehicles and Trucks

Vehicle Services Consulting commented that the new certification fuel should apply to small manufacturers of LDVs starting in the same year the Tier 3 standards take effect. This

would be model year 2020 for exhaust emissions testing and model year 2022 for evaporative emissions testing.

8.4.3.3 Implementation for Nonroad Engines and Equipment

H.J. Roberts commented that EPA should extend the flexibilities adopted for snowmobile manufacturers in the original snowmobile rule to the Tier 3 rule including the following provisions: Design based certification, Assigned Deterioration Factors, Using Certification and Emission Standards from other EPA programs, Hardship Provisions. In addition, H.J. Roberts commented that EPA should expand the ability to use certification and emission standards from another non-EPA jurisdiction (e.g., the European Union) if the manufacturer can show that the standards which apply in the other jurisdiction are at least as stringent as the applicable EPA regulations.

H. J. Roberts noted EPA stated that no anticipated impact on permeation emission is expected with E15. Therefore, H.J. Roberts commented that permeation testing performed on an E10 fuel should not need to be recertified should EPA adopt an E15 certification fuel. H.J. Roberts commented that manufacturers should be allowed to use up existing inventories of fuel lines certified under the current standards if EPA switches to an E15 certification fuel.

H. J. Roberts commented that if EPA does a two-step switch in certification fuels from E10 to E15, then EPA should not require manufacturers to re-test their products. Instead, EPA should allow manufacturers to utilize some type of extrapolation of the E10 test results to estimate emissions from the same product using E15.

Rokon commented that EPA should allow certification by design for offroad motorcycles. They noted that they use engines certified to the small spark-ignited nonroad engine standards, but they have to test the engines under the offroad motorcycle test procedures in order to certify the engines for the offroad motorcycle market. The test results show that the current engines they are using are well below the standards for offroad engines. Rokon would not want to have to test the engines again, at a significant cost, just because EPA switches to a new certification fuel.

NMMA supported E10 as the certification fuel and recommended that EPA make the change using the same timing as CARB. They commented that a switch to E15 as the certification fuel would require recalibration of their engines and prevent world calibrations. This will at least double the number of unique models and make it very difficult to manage keeping the right engines in the right country. In addition, boat builders would need to order non-US engines for their export boats and it would be very difficult to control.

8.4.3.4 Market Review

H. J. Roberts commented that EPA should do a market review before any future switch to E15 as a certification fuel.

9. PANEL REPORT AND FINDINGS

9.1 Number and Types of Entities Affected

For a complete description of the small entities to which the proposed rule may apply, see Section 5. For businesses potentially impacted by the Tier 3 vehicle standards, this includes vehicle manufacturers, alternative fuel converters, and independent commercial importers. For businesses potentially impacted by the Tier 3 fuel standards, this includes gasoline refiners and importers, distributors, fuel additive manufacturers, transmix producers, and ethanol producers. For businesses potentially impacted by the change in certification fuel, this includes manufacturers of engines used in on-highway motorcycles, heavy-duty vehicles, nonroad equipment such as lawn and garden equipment, recreational vehicles, and marine vessels, as well as manufacturers of fuel tanks and fuel hoses used for these types of products.

9.2 Potential Reporting, Record Keeping, and Compliance

For any emission control program, EPA must have assurances that the regulated products will meet the standards. The program that EPA is considering for manufacturers subject to this proposal will include testing, reporting, and record keeping requirements for manufacturers of vehicles covered by the proposed Tier 3 regulations, and manufacturers of on-highway motorcycles, heavy-duty gasoline engines, and gasoline-powered nonroad engines. Testing requirements for these manufacturers could include certification emission (including deterioration factor) testing, in-use testing, and production line testing. Reporting requirements would likely include emission test data and technical data on the vehicles. Manufacturers would have to keep records of this information.

For any fuel control program, EPA must have assurance that fuel produced, distributed, sold and used meets the applicable standard. EPA expects that the recordkeeping, reporting, and compliance provisions of the proposed rule will be fairly consistent with those in place today for other fuel programs. Further, we expect to use existing registration and reporting systems that parties in the fuel production and distribution industry are already familiar with.

9.3 Related Federal Rules

The Panel is aware of the following primary federal rules that are related to the proposed Tier 3 rule under consideration: the Tier 2 Vehicle/Gasoline Sulfur rulemaking (*Federal Register Vol. 65, p. 6698, February 10, 2000*), Light-duty Greenhouse Gas (GHG) proposed rule, and the Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards proposed rule (RTR/NSPS).

The Light-duty GHG proposed rule is a coordinated effort by EPA and the National Highway Traffic Safety Administration (NHTSA) taking steps to enable the production of a new generation of clean vehicles, though reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines.

The upcoming proposed rules to address Petroleum Refinery Sector Risk and Technology Review (RTR) and New Source Performance Standards (NSPS) will focus on developing updated emissions standards for petroleum refineries for multiple pollutants, including GHGs. The proposed rules are based on results of the RTR analyses for both Maximum Achievable Control Technology standards (MACT 1 and 2). The technology review will be conducted to identify any new practices, processes, or control technologies for the industry and cost-effective emission control options. EPA is developing uniform standards for some emission sources in the petroleum refining sector that may serve as the basis for these technology reviews. The proposed rules will also review the standards and rule provisions to determine whether other changes may be needed during periods of start-up, shutdown, and malfunction to ensure the standards are consistent with recent court opinions and other CAA programs. With regard to NSPS, the proposed rules will address remaining NSPS issues under reconsideration from the promulgation of existing NSPS and other NSPS rules affecting the refining sector, and will include the regulation of GHGs and the development of emission guidelines for existing sources.

9.4 Regulatory Flexibility Alternatives

As described above, EPA is developing standards for vehicles and fuels to be addressed in this rulemaking. Because of the potential costs and technology challenges involved in meeting these standards, the Panel recommends that EPA consider and seek comments on the flexibility options described below. We believe that the following set of flexibility options, taken together, have the potential to significantly reduce compliance burden without compromising the environmental benefits of the program.

9.4.1 Tier 3 Fuels

The Panel discussed several regulatory flexibility alternatives with SERs for small businesses in the gasoline production and distribution, fuel additive manufacturing, and ethanol production industries subject to the proposed fuel requirements. Panel recommendations on these approaches are discussed below.

9.4.1.1 Lead Time—Sulfur

The Panel recommends that EPA propose a delay option, similar to previous fuels rulemakings, in the Tier 3 proposed rule. The Panel recommends that EPA allow small refiners to postpone their compliance with the Tier 3 program for up to three years. Small refiners choosing this flexibility option would have from January 1, 2017 through December 31, 2019 to continue production of gasoline with an average sulfur level of 30 ppm (per the Tier 2 gasoline sulfur program). Compliance with the 10 ppm sulfur standard would begin on January 1, 2020. Any small refiner choosing this proposed option would be allowed to continue use of their Tier 2 gasoline sulfur credits through December 31, 2019 to meet the refiner average 30 ppm sulfur standard.

The Panel also recommends that EPA request comment on case-by-case hardship provisions that would provide additional relief for any refiner experiencing extreme difficulty in compliance with the Tier 3 requirements, as discussed in Section 9.4.1.6.

9.4.1.2 Lead Time—RVP

The Panel is aware that EPA is likely to propose a start date of 2017 for the RVP standards; as such, the Panel recommends that EPA request comment on the concept of either a phase-in or a delay of the RVP requirements. While a phase-in could take any number of forms, the Panel recommends that EPA consider: 10.0 psi (current levels), 9.7 psi beginning summer of 2016, 9.4 psi beginning summer of 2017, and 9.0 psi beginning summer of 2018. The EPA Panel member also noted that any proposed RVP flexibilities may need to be industry-wide flexibilities, as small refiner-specific flexibilities could result in situations where there would be two different types of gasoline in the distribution system. EPA further noted that this could also create a need for additional compliance and enforcement requirements for small refiners and segregation of the fuel from fuel produced by non-small refiners, which could result in more compliance burdens and costs for small refiners. The Panel also recommends that EPA request comment on the trade-offs of the additional burden with a small refiner delay for RVP versus one industry-wide start date.

9.4.1.3 Provisions for Additive Manufacturers

The Panel recommends that EPA provide flexibilities for gasoline additive manufacturers. Following discussion with EPA, the Panel suggested that EPA propose the following flexibilities:

- For additives used downstream of the refiner: Differentiating bulk additives based on whether they meet a 20 or 25 ppm sulfur standard.
- For aftermarket consumer additives: Allow for aftermarket additives to meet either a 20 ppm or 25 ppm sulfur cap.
- For additives not meeting a 10, 20, or 25 ppm sulfur limit: Allow for the use of volume accounting reconciliation (VAR) records for additives that would not be able to meet a 25 ppm sulfur cap to show that use of the additive would not cause the sulfur level of the finished fuel to exceed 10 ppm (similar to the Nonroad Diesel Rulemaking, *69 FR 39088, June 29, 2004*), and require product labeling for aftermarket additives.

9.4.1.4 Refinery Gate and Downstream Caps

With regard to the 20 ppm refinery gate cap discussed above in Section 3, the Panel has concerns that this standard could cause operational problems for small refiners during a refinery turnaround or an upset, because a cap of this level could result in a refiner not being able to produce gasoline (as noted in their comments in Section 8). The Panel likewise has concerns that a downstream cap of 25 ppm may cause problems for small downstream entities, such as transmix processors, because they may not be able to reprocess finished gasoline down to this level (also noted in their comments in Section 8, above).

Thus, the Panel recommends that EPA assess and request comment on retaining the current Tier 2 refinery gate and downstream caps of 80 and 95 ppm, respectively, to help provide maximum flexibility and avoid system upsets for the entire refining and distribution system. However, the SBA and OMB Panel members recommend that EPA propose retaining the 80 ppm and 95 ppm caps.

The Panel also recommends that EPA request comment on additional refinery gate and downstream caps that are above 20/25 ppm but below 80/95 ppm.

9.4.1.5 Special Provisions for Alaska and Hawaii

The Panel recommends that EPA allow the current Tier 2 80 ppm sulfur refinery gate cap and 95 ppm sulfur downstream cap in Alaska to remain at these levels indefinitely. The Panel also recommends that EPA continue the RVP exemptions for Alaska and Hawaii, as governed by ASTM International (ASTM).

9.4.1.6 Hardship Provisions

EPA has stated that it intends to propose hardship provisions (for all gasoline refiners and importers) similar to those in prior EPA fuels programs: a) the extreme unforeseen circumstances hardship provision and b) the extreme hardship provision. A hardship based on extreme unforeseen circumstances is intended to provide short term relief due to unanticipated circumstances beyond the control of the refiner, such as a natural disaster or a refinery fire. An extreme hardship is intended to provide short-term relief based on extreme circumstances (e.g., extreme financial problems, extreme operational or technical problems, etc.) that impose extreme hardship and thus significantly affect a refiner's ability to comply with the program requirements by the applicable dates. In the context of the proposal, the Panel agrees that such relief could consider long-term relief on the sulfur cap (similar to that for Alaska) if the circumstances both warrant it and can be structured in a way to allow for it. The Panel agrees with the proposal of such provisions and recommends that EPA include them in the Tier 3 proposed rulemaking.

While the Panel understands EPA's concerns that small refiner flexibilities for RVP (e.g., small refiner-specific standards or a small refiner delay) could result in situations where there would be multiple types of gasoline (that could not be commingled) in the distribution system or additional compliance and enforcement burdens for small entities, the Panel nonetheless recommends that EPA continue to explore and consider hardship provisions for refiners who are facing hardship with the RVP standards under consideration. The Panel further recommends that EPA request comment on potential hardship relief for the RVP standards.

9.4.2 Tier 3 Vehicles

As discussed earlier in section 5, in addition to vehicle manufacturers, two distinct categories of businesses relating to highway light-duty vehicles and trucks would be covered by the new vehicle standards: independent commercial importers (ICIs), and alternative fuel vehicle converters. As discussed below, EPA expects to propose a set of flexibilities that would be available to all small entities in these three business categories as well as any businesses in these

categories that sell less than 5,000 vehicles per year. The Panel identified a number of entities covered by the vehicle standards that qualify as small businesses under the SBA definition. Six of these companies participated as SERs.

The Panel discussed several regulatory flexibility alternatives with SERs for small businesses that certify vehicles subject to the proposed Tier 3 emission standards. As described in Appendix A (and similar to provisions in the Tier 2 rule), we sought comment from the SERs on allowing small entities to simply comply with the proposed emission standards with 100 percent of their vehicles during the last year of the phase-in period. In addition, we sought comment on the following flexibilities: 1) a hardship provision that would allow these businesses to apply for additional time to meet any of the 100 percent phase-in requirements, 2) use of assigned deterioration factors for certification purposes, and 3) reduction in the number of tests required in the manufacturer in-use verification testing program (see 40 CFR 86.1845-04). SERs were generally supportive of these flexibility provisions. However, one SER requested that we consider providing relaxed standards for exhaust emissions in addition to the delay and another SER requested that we consider eliminating some of the evaporative emission testing requirements.

Panel recommendations on these approaches are discussed below.

9.4.2.1 Exhaust Emission Standards and Leadtime

In the types of businesses subject to the potential Tier 3 standards, small businesses have limited resources available for developing new designs to comply with new emission standards. In addition, it is often necessary for these businesses to rely on vendor companies for technology. Moreover, percentage phase-in requirements pose a dilemma for a small manufacturer that has a limited product line (e.g., the manufacturer certifies vehicles in only one or two test groups). Thus, similar to the flexibility provisions implemented in previous vehicle rules, the Panel recommends that we allow small businesses the following flexibility options for meeting the potential Tier 3 exhaust emissions standards.

The Panel recommends that small businesses be given additional leadtime to comply with the potential Tier 3 exhaust standards and allow small businesses to comply with the standards with 100 percent of their vehicles starting in model year 2022. (This is similar to the Tier 2 rule where EPA allowed small manufacturers to wait until the end of the phase-in to comply with the Tier 2 standards.) The proposed Tier 3 rule is expected to have several different phase-in schedules; with the final dates varying from model year 2021 for the new exhaust PM standards and use of the new E15 certification fuel, to model year 2022 for the new evaporative emission standards, to model year 2025 for the new exhaust gaseous pollutant standards. Requiring all small businesses to comply with the full slate of Tier 3 requirements in model year 2022 should provide sufficient lead time for manufacturers to plan for and implement the technology changes needed to comply with the Tier 3 standards.

One of the SERs recommended that EPA adopt relaxed exhaust standards for small manufacturers. They noted that the exhaust emission averaging program being proposed by EPA will allow large manufacturers that have many engine families to certify their small, niche

products at levels numerically higher than the standards. Small manufacturers that typically do not have more than one or two emission families generally cannot use averaging to the same extent because of their limited product offerings. The SER is concerned that the high-performance vehicles produced by large manufacturers which they compete against will be able to certify at numerically higher levels at less cost than the SER would incur. While EPA is planning to propose the same standards for all manufacturers, the Panel recommends that EPA request comment on allowing small manufacturers to meet relaxed exhaust emission standards. This could also be included as part of the hardship provision discussed below. The Panel recommends that EPA request comment on the relaxed standards recommended by the SER. The SER-recommended relaxed NMOG+NO_x standards over the Federal Test Procedure (FTP) are 0.125 grams/mile in model year 2020 and 0.070 grams/mile in model year 2025. In addition, the Supplemental FTP standards would be the standards for the corresponding bins which the manufacturer selected for complying with the FTP standards. For example, if the manufacturer certified to the proposed Tier 3 Bin 125 standards over the FTP, the manufacturer would have to comply with the corresponding Tier 3 Bin 125 standards for the Supplemental FTP.

9.4.2.2 Evaporative Emission Standards and Leadtime

The Panel recommends that small businesses comply with the Tier 3 evaporative emission standards, including the leak standard, with 100 percent of their vehicles starting in model year 2022. For evaporative emissions, where the Tier 3 standards begin as early as 2017 and phase-in through 2022, this provision would allow small businesses and SVMs to wait until the last year of the Tier 3 phase-in period for evaporative emission standards for all of their vehicles. This start date is consistent with the start date described above for the Tier 3 exhaust emission requirements being recommended by the Panel for small businesses.

9.4.2.3 Assigned Deterioration Factors

Under EPA's regulations, manufacturers must demonstrate that their vehicles comply with the emission standards throughout the "useful life" period. This is generally done by testing vehicles at low-mileage and then applying a deterioration factor to these emission levels. The deterioration factors are determined by aging new emission control systems and then testing the aged systems again to determine how much deterioration in emissions has occurred. In order to reduce the testing burden on small manufacturers, EPA suggested that small manufacturers could use deterioration factor values assigned by EPA instead of performing the extended testing. A manufacturer would apply the assigned deterioration factors to its low-mileage emission level to demonstrate whether it complied with the Tier 3 emission standards. EPA currently allows this flexibility for small manufacturers. The Panel recommends EPA propose that small businesses be allowed the option to use EPA-developed assigned deterioration factors in demonstrating compliance with the Tier 3 exhaust and evaporative emission standards. In the past, EPA has relied on deterioration factor data from large manufacturers to develop the assigned DFs for small manufacturers. EPA would expect to follow a similar procedure to determine the assigned DFs for the Tier 3 standards once large manufacturers start certifying their Tier 3 designs. Given that larger manufacturers will begin phasing in to the Tier 3 standards in model year 2017, EPA should have a significant set of emissions deterioration data upon which to base the assigned DFs for small businesses within the first few years of the Tier 3 program. EPA recognizes that

assigned DFs need to be determined well in advance of model year 2022 in order to provide sufficient time for small businesses to decide whether or not to use the assigned DFs for certification purposes.

9.4.2.4 Reduced Testing Burden

Under EPA's regulations, manufacturers must perform in-use testing on their vehicles and demonstrate their in-use vehicles comply with the emission standards. The current in-use testing regulations provide for reduced levels of testing for small manufacturers, including no testing in some cases. EPA suggested that these provisions should continue for small manufacturers with the Tier 3 program. The Panel recommends EPA propose that small businesses be allowed to have reduced burden under the in-use testing program for Tier 3 vehicles.

One SER requested that EPA eliminate some of the evaporative emission testing requirements for small businesses based on its belief that some of the tests may be duplicative. While EPA understands the reasons behind the manufacturer's suggestion, we believe it may be premature to consider such an option in the Tier 3 rule given the impact of the CO₂ emission standards on engine and fuel system development. Currently, it is generally understood that the 2-day diurnal test drives the purge characteristics of evaporative control systems, while the refueling test, and to a lesser degree the 3-day test, drive the capacity requirement of evaporative canisters. Prospectively, due to expected changes in engine and fuel system designs in response to upcoming CO₂ emission standard requirements, this may not be the case. Therefore, at this point in time EPA believes it is appropriate to retain all of the evaporative test procedures. It can be noted that under current regulations, EPA does allow manufacturers to waive 2-day diurnal testing for certification purposes (see 40 CFR 86.1829-01(b)(2)(iii)) and perform only the 2-day diurnal test as part of the in-use testing program (see 40 CFR 86.1845-04(c)(5)(ii)). These provisions would continue in the Tier 3 program. In general, EPA is open to changes that reduce test burden while maintaining the environmental effectiveness of its programs and could consider changes like those suggested by the SER in the future as the impacts of the future regulations on engine and vehicle design become clearer. EPA intends to request comment in the Tier 3 proposal on streamlining the current test procedures for small businesses in ways that would still maintain the overall stringency of the tests.

9.4.2.5 Hardship Provisions

The Panel recommends that hardship provisions be provided to small businesses for the Tier 3 exhaust and evaporative emission standards. Under the hardship provisions, small businesses would be allowed to apply for additional time to meet the 100 percent phase-in requirements for exhaust and evaporative emissions. All hardship requests would be subject to EPA review and approval. Appeals for such hardship relief must be made in writing and must be submitted well before the earliest date of noncompliance. The request should identify how much time is being requested. It must also include evidence that the noncompliance will occur despite the manufacturer's best efforts to comply, and must contain evidence that severe economic hardship will be faced by the company if the relief is not granted. The above provision should effectively provide the opportunity for small businesses to obtain more time to comply with the

new Tier 3 standards. (The existing hardship provisions limit the extra time that can be requested to 1 year, but such a limit may or may not be included in the proposed Tier 3 hardship provisions.)

9.4.2.6 Applicability

Under EPA's current Tier 2 regulations, EPA provides a number of flexibilities for small volume manufacturers. The criteria for determining if a company is a small volume manufacturer is based on the annual production level of vehicles and is based on whether the company produces less than 15,000 vehicles per year. Unlike EPA's small volume manufacturer criteria noted above, SBA defines which manufacturers are small businesses (and therefore should be considered under the SBAR Panel process) based on the number of employees for vehicle manufacturers and annual revenues for ICIs and alternative fuel converters. For example, SBA defines a small business vehicle manufacturer as those who have less than 1,000 employees. Similarly, SBA defines a small business ICI as those who have annual revenue of less than \$8 million per year.

The Panel recommends that EPA propose to allow all small businesses that meet the SBA criteria be eligible for the flexibilities described above. In addition, EPA is expecting to propose that manufacturers that meet a specified sales-based criteria to be eligible for the flexibilities described above. It is relatively easy for a manufacturer to project and ultimately determine sales. Determining the annual revenues or number of employees is less straightforward. In the recent rule setting the first light-duty vehicle and truck CO₂ emission standards, EPA adopted provisions for small manufacturers based on a sales cutoff of 5,000 vehicles per year as opposed to the 15,000 level noted earlier that is used in the Tier 2 program. EPA expects to propose a small volume manufacturer definition based on the 5,000 vehicle per year level for the Tier 3 program. EPA believes the 5,000 unit cut-off for small volume manufacturers would include all of the small business vehicle manufacturers, ICIs, and alternative fuel converters that meet the applicable SBA definition as well as some additional companies that have similar concerns to small businesses. EPA expects to propose the flexibilities described above to be available to any manufacturer that meets either the SBA small business criteria or the sales-based criteria.

9.4.3 Certification Test Fuel

EPA expects to propose a revised certification fuel specification for light-duty vehicles, light-duty trucks, medium-duty passenger vehicles, and complete heavy-duty vehicles with GVWR at or below 14,000 pounds that are subject to the new Tier 3 requirements. As noted earlier in section 3, EPA expects the following additional regulatory categories also will be subject to the new certification fuel requirement.

- On-highway heavy-duty engine manufacturers
- On-highway motorcycle manufacturers
- Small spark-ignition (SI) engine (≤ 19 kilowatts) manufacturers
- Large SI engine (> 19 kW) manufacturers
- Marine SI engine (including outboard and personal watercraft) manufacturers
- Off-highway motorcycle & motorcycle parts manufacturers

- Snowmobile & all-terrain vehicle (ATV) manufacturers
- Manufacturers of evaporative emission components (i.e., fuel tanks and fuel hose) for nonroad SI engines and equipment
- Portable gas can manufacturers

The Panel presented several ideas regarding regulatory flexibility alternatives for these additional regulatory categories based on initial comments from SERs that will be impacted by the proposed change in certification fuel. Panel recommendations for small businesses impacted by the certification fuel change in these additional categories are discussed below. (Panel recommendations with regard to flexibilities for the Tier 3 vehicle requirements are described above in section 9.4.2.)

Assuming EPA proposes an E15 certification fuel requirement for these other categories of engines, vehicles, equipment, and fuel system components, the Panel recommends that EPA assess and request comment on two other possible options for the new certification fuel requirement. First, EPA should request comment on adopting an E10 certification fuel for these other categories. Second, EPA should request comment for these other categories on an initial switch to an E10 certification fuel followed by another switch to an E15 certification fuel either based on a market review that shows E15 is in widespread use throughout the country or triggered based on E15 use meeting some market threshold (e.g., 30%). The Panel recommends that EPA provide a robust analysis of these two possible options in order to be able to finalize either of these options as part of the final rulemaking.

9.4.3.1 Lead Time

EPA is expecting to propose a multiple year period in which manufacturers would start using the new certification fuel. Given the expected timing of the final rule, we would likely start allowing manufacturers to use the new certification fuel as early as the 2014 model year, but that would be at the manufacturer's option. Starting in model year 2015, any "new" certifications would need to be done on the new certification fuel. (By "new" certifications, EPA means an emission family that is not being certified based on carryover emissions data.) Starting in model year 2020, all certifications would need to be done on the new certification fuel. During the intervening years, manufacturers could continue to carry-over certifications based on the existing certification fuel tests. Given that EPA is expecting to allow six years for switching over to the new certification fuel, EPA does not believe it is necessary to offer any additional lead time for small businesses. However, the Panel recommends that EPA request comment on whether the phase-in period could be adjusted to appropriately align with life-cycle redesign periods for engines, vehicles, equipment, or fuel system components.

9.4.3.2 "Grandfathered" Certifications and Small Volume Exemptions

Given that exhaust certification testing is currently performed on a fuel that contains no ethanol, and because ethanol can impact emissions significantly depending on how manufacturers adjust and recalibrate their engines to operate on an ethanol-containing fuel, EPA does not believe it can allow current certifications to be carried over indefinitely or allow small volume exemptions once a new certification fuel is required. EPA believes that eventually

manufacturers must recertify all of their engines on the new certification fuel, and will provide several years of leadtime in which the manufacturer can make the transition, as described above in section 9.4.3.1.

In the situations where evaporative certifications are performed on a fuel with 10 percent ethanol (i.e., fuel tank and fuel line permeation emissions), the Panel recommends that EPA allow existing certifications to continue indefinitely whether EPA adopts a new certification fuel that contains 10 percent or 15 percent ethanol. For permeation emissions, EPA expects the differences in emission levels should not be significant between an E10 and E15 certification fuel. For diurnal emissions, which only apply in some of the regulatory categories and are currently performed with no ethanol in the fuel, EPA does not believe it can allow current certifications to be grandfathered because tank permeation emissions are measured as part of the diurnal test and increasing the ethanol in the fuel from zero percent to 10 or 15 percent will potentially have a noticeable impact on permeation emissions and the associated diurnal emissions measured during the test. As noted earlier, EPA expects to provide several years of leadtime in which the manufacturer can make the transition to the new certification fuel, as described in section 9.4.3.1.

9.4.3.3 Certifying with Alternative Emissions Data

A wide range of engines have been certified with EPA's nonroad programs. In some situations, engines certified in one nonroad program could potentially be used in applications regulated under another of EPA's nonroad programs. For example, there is a large variety of engines certified to EPA Small SI standards some of which could be used in recreational vehicles. Two SERs commented that EPA should allow manufacturers to certify to EPA standards based on engines certified in a different emission control program (whether certified by EPA or a different entity such as Europe). The Panel recommends that EPA propose allowing small businesses to request certification for a given nonroad category based on data collected for another EPA emission control program provided that through tests data the manufacturer can demonstrate that the controls and emission rates are at least as stringent as the nonroad category for which the manufacturer is attempting to certify. The Panel also recommends that EPA consider developing a process to allow small businesses to request certification on the basis of non-EPA data provided that the manufacturer can demonstrate that the controls and emission rates are at least as stringent as the nonroad category for which the manufacturer is attempting to certify. Under such a flexibility, the small business using the engine would not have to retest the engine provided the manufacturer does not alter the engine in such a way as to cause it to exceed the emission standards it was originally certified as meeting.

9.4.3.4 Replacement Fuel Tanks

The Panel recommends that EPA propose to allow manufacturers to sell replacement fuel tanks that were originally certified on an E10 certification fuel if a switch in the certification fuel to E15 is adopted. This would be consistent with the flexibility noted earlier in which the Panel recommended that manufacturers be allowed to carry-over evaporative certifications performed on E10 if a switch in the certification fuel to E15 is adopted.

9.4.3.5 Extending Current Flexibilities

In most of the categories of engines, vehicles, equipment and fuel system components affected by the change in certification fuel, EPA has adopted a variety of flexibilities for small businesses. For example, in some categories, EPA has allowed small businesses to use assigned deterioration factors and broad engine family criteria, among others. The Panel recommends that EPA propose to extend those existing flexibilities available to small businesses in each of the categories as the switch to the new certification fuel is implemented.

One SER raised concerns regarding the start of the new certification fuel requirements and whether manufacturers would be allowed to use up existing products in their inventory. Under current regulations (see 40 CFR Part 1068, section 1068.105), when a new set of requirements take effect, EPA allows manufacturers to use up their normal inventory of products that were manufactured before the date of the new or changed standards. (It should be noted that the regulations prohibit manufacturers from stockpiling products that were built before new or changed standards take effect in an attempt to take advantage of this provision.) Therefore, EPA does not believe any new flexibilities are necessary to continue to allow this practice. The Panel recommends that EPA request comment on whether the current regulations are sufficient to address the concerns raised by the SER.

Appendix A:
List of Materials EPA Shared with Small Entity Representatives

- Fact Sheet: What Small Entities Should Know About the Regulatory Flexibility Act and the Small Business Regulatory Enforcement Fairness Act
- Fact Sheet: What Potential Small Entity Representatives Should Know About the Small Business Advocacy Review Panel Process
- Power Point presentation- “Pre-Panel Small Entity Outreach Meeting on EPA’s Proposed Tier 3 Rulemaking”
- List of SERs
- Questions for SERs
- Flexibility Chart
- Fuel-related Information
 - Tier 3 Fuel Program Summary
- Vehicle-related information
 - “Expected Tier 3 Emission Control Technologies” Power Point presentation
 - “Evaporative Emission Standards” Program Summary
 - “Assessment of Technology Development and Estimated Costs for Meeting Light-Duty Vehicle Tier 3 Evaporative Emission Standards”
 - Expected Tier 3 Light-Duty Tailpipe Program Summary
 - Expected Tier 3 Heavy-Duty Tailpipe Program Summary
 - “Certification Fuel Change” Power Point presentation
- August 18, 2011 Outreach Packet

**Appendix B:
Written Comments Submitted by Small Entity Representatives**

Appendix B is a compilation of documents containing all written comments received from SERs.