

## APPENDIX C: SUMMARY OF SURVEY RESULTS

Staff conducted a survey of Off-Road fleets to garner feedback regarding different compliance options and suggested amendments to the Off-Road Rule. A total of 81 surveys were returned. Of the surveys returned, 23 were from large fleets, 7 were from medium sized fleets and 28 were from small fleets. There were an additional 23 surveys that did not indicate the size of their fleets. While the results varied quite a bit, several things stood out. First, nearly everyone had recommended changes, nearly everyone complained about the complexity of the regulation, and most said the current economic recession would make compliance difficult. While there were many suggested “rewards” for fleets that complied with the 2010 compliance date, they generally fell in two categories: either they wanted an exemption from compliance for one or two years (in one case, five years) or they wanted credits (in some cases double or triple) that would not expire. A more detailed breakdown of the responses to each question is below.

*Question 1: When looking at your fleet's future compliance requirements, what requirements are the toughest for your fleet to meet, a. or b.? a. Installing exhaust retrofits, b. Accelerating turnover to newer vehicles or engines.*

The results of this question were nearly evenly split with 43% of respondents (36 respondents) saying that (a) retrofit requirements were the toughest to meet and 48% (40 respondents) saying (b) turnover requirements were the toughest. Four respondents said that both (a) and (b) would be tough to meet while two respondents simply left the question blank. One interesting outcome from this question was that over 60% of small fleets answered that (b) was the toughest to meet. This possibly reflects a miscommunication since small fleets are not subject to the turnover requirements. Of medium and large fleets (i.e., those not identified as small fleets), 54% (29 respondents) said (a) retrofit requirements would be more difficult.

*Question 2: Which is more beneficial to your fleet, a. or b.? a. A 2 year delay in the compliance requirements, while maintaining the current regulatory requirements for turnover and retrofitting. b. Keep the current compliance timeline, but decrease the turnover and retrofit requirements and/or loosen the fleet average targets.*

The results of question 2 definitely show a clear favoring of option (b), keeping the timeline but decreasing annual requirements, with 60% (50 respondents) identifying this option as the most beneficial to their fleet. 29% (23 respondents) chose (a) a two-year delay as more beneficial, with the remainder stating that neither option was favorable. One additional comment was made when answering this question. A respondent who did not make a selection suggested that we only make new vehicles comply.

*Question 3: Low use vehicles are exempt from all requirements except reporting and labeling. If the low-use definition was increased to more than 100 hours per year, would that help your fleet comply? (If yes, put yes, then number).*

Virtually everyone (> 90%) felt that increasing the number of hours per year defined for low use vehicles would help their fleets comply. Less than 10% of respondents said that increasing the number of hours per year would not help. While the suggested increases ranged anywhere from 150 hours per year to 1500 hours per year, 23% of respondents (19) reported that an increase to 200 hours per year would help. The second most number of respondents (18% or 15 respondents) wanted an increase to 500 hours per year while 14% (12 respondents) requested 300 hours and 13% (11 respondents) requested 250. There were additional comments made by two respondents when answering this question. One respondent indicated that most times their vehicle may be under 100 hours per year but there are some years where they would reach 200 or even 300 hours. This respondent requested 500 hours. The other respondent, who identified 300 hours as their choice, said that this would help keep them in business as the cost of retrofits is "impractical."

*Question 4: If your fleet met the March 1, 2010 compliance requirements, which are not being enforced, what type of "reward" or credit would you like to receive in the future?*

Most respondents wanted a compliance exemption of at least one year with others suggesting two years and five years. Several other suggestions for exemptions were 4 years, six to eight years, 2013 or when Tier 4 engines were available (whichever was later) and even until such time that the economy has been stable for one full year (although that respondent did not make clear his/her definition of stable). Many other respondents suggested credits as a reward for compliance. These varied from requesting five years of double credit for retrofits, retirements, and repowers, freezing of credits until start date, credit for fleet updates, yearly hourly requirements, carryover of credits until they have been exhausted, and even triple credit.

Some respondents wanted compensation for their 2010 compliance efforts. These primarily involved vehicle purchases (including help purchasing Tier 4 vehicles) or financing. Other requests involved relaxing the rules, including 2014 PM targets and BACT requirements and targets, decreasing turnover and retrofit requirements, extended time for vehicle turnover and purchase, decreasing the percentage horsepower requirement, keeping the requirements from being "front loaded," and relaxed rules on future tractors. Several respondents also asked for an increase of horsepower limits to 3000 hp for the definition of small fleets or just a general increase.

Some miscellaneous requests included a couple requests for complete elimination of the program, and general requests for relief from the On-Road Rule.

*Question 5: What do you feel is the most complicated or hard to understand part(s) of the off-road regulation?*

A large number of respondents (approximately 15%) felt that the entire regulation was difficult to understand. Several responses indicated that the PM/NOx credits (including expiration timeline) were difficult to understand. Several also said they were frustrated that there are no Tier 4 vehicles available yet, which means vehicles bought now may need to be turned over again before the regulation is fully implemented. Lastly, meeting

requirements for PM and turnover/retrofit requirements were cited as complicated (including calculations for turnover requirements, horsepower and BACT).

Other portions of the regulation cited as difficult to understand included how the information was compiled, the moving fleet average targets, how to evaluate present and past fleets, record keeping, planning, the fleet calculator, paperwork, diesel particulate filters (DPF) verification, engines and retrofits not on the market, identifying the inventory, finding old vehicles in DOORS, finding the right DPF, hours in fleet average compliance, low use vehicle vs. small fleets vs. attainment counties, on road versus off-road regulation requirements, Surplus Off-road Opt-in for NOx (SOON) program, wording, exemptions, and deadlines. Finally, one respondent reported that it was hard to understand the reason for the regulation.

*Question 6: What part(s) of the off-road regulation are the most challenging to fleets?*

One of the common responses to this question was cost. Nearly 45% of respondents said that cost is the most challenging part of the off-road regulation – with the cost of installing retrofits being of the greatest concern (approximately 32% of cost respondents overall). Approximately 34% of respondents cited retrofits as the most challenging with about 43% of those respondents linking it to cost. Other challenges related to retrofitting identified were finding locations for the retrofits and the visibility of the retrofits. Many respondents seemed to believe that the technology for retrofits was either costly as mentioned above or non-existent. Also identified were challenges such as turning over vehicles, where respondents felt that they were eliminating vehicles that still had a useful life. Other respondents felt that the challenges were in meeting the requirements with a lack of available Tier 4 engines and vehicles. Several respondents also indicated the difficulties in keeping track of and complying with more than one different regulation (i.e., off-road, on-road, and PERP). Finally, respondents also felt that the costs for complying were not evenly distributed over the compliance timeline and that they would be spending the most money up front.

*Question 7: What part(s) of the off-road regulation are the least cost effective for your fleet?*

Almost half of the respondents (45%) reported that retrofits were the least cost effective part of the regulation. Another significant number of respondents, approximately 20%, cited the requirement to purchase new vehicles or replace existing vehicles. Also, a large number of respondents (12%) indicated that none of the regulation is cost effective (or everything about the regulation was least cost effective). Other items listed as the least cost effective were buying new machines, upgrading engines or vehicles to newer engines, the 2014 PM Target, replacing old vehicles (specifically Tier 0), retrofitting “low use” (200 – 300 hour) vehicles, inability to purchase Tier 4, lack of clear enforcement policy ensuring equality, time and effort obtaining grants, reporting and labeling, and the limit for low use being too low. One respondent wanted financial assistance for the regulation and another respondent suggested that Carl Moyer funding should go to buying up Tier 0 vehicles.

*Question 8: What part(s) of the off-road regulation fit in with normal business cycles, and what part(s) do not?*

Most respondents who felt that there were aspects of the regulation that fit within normal business cycles cited vehicle replacement and turnover as the best fitting cycle. However, these respondents expressed concern that the cycles proposed in the regulation were too short and preferred cycles more in line with vehicle life cycles. Others felt that registration and labeling of vehicles as well as planning, and maintaining vehicle logs fit with normal business cycles. One respondent believed that the time table fit into normal business cycles but suggested aligning the regulation timeline with the fiscal year (i.e. July 1 to June 30).

Of the respondents who identified aspects that do not fit within business cycles (33%), 44% of those respondents cited retrofits as the leading concern. A significant number of respondents (23%) also believed that none of the regulation was fitting to normal business cycles. These respondents mentioned that vehicle replacement and turnover did not fit due to the accelerated schedule of that requirement. Other aspects that were cited as not fitting into normal business cycles were planning, conflicts in standards among regional air quality control entities (such as air districts), and emission standards that do not parallel with an Original Equipment Manufacturer's (OEM's) ability to meet target dates.

*Question 9: Are there any other changes to the off-road regulation you would suggest?*

There were nearly as many ideas listed with this question as there were people surveyed. Some of the ideas mentioned here were ideas mentioned in previous questions. These include decreasing the turnover and retrofit requirements, loosening the annual targets and increasing the low use definition. Some other previously mentioned recommendations included delaying the regulation anywhere from two to five years. Other concepts that were mentioned by respondents were to provide incentives for compliant vehicles, provide credit to companies selling old vehicles and buying new vehicles, increase the fleet averages and BACT to a two year period and postpone the regulation until Tier 4 engines become available.

*Question 10: Have you installed exhaust retrofits on any of your off-road vehicles? If so, what has your experience been?*

Less than a quarter of those who did answer said that they had installed retrofits. Of those that had installed retrofits, most reported problems with clogging and frequent regeneration/service cycles leading to many instances of down time. Some respondents reported complaints by the operator (mostly due to visibility) and difficulty locating installations. One respondent reported that the majority of their retrofits worked well. Another respondent said they had one and didn't mention any problems. However, they said it was too early to tell if it would properly function and if it was practical. Of those who reported they had not installed retrofits (approximately 77% who answered the question), most cited cost as the reason for not installing retrofits.

Many also cited the issues that those who installed retrofits had as reasons for not installing retrofits. Some said that there were not any retrofits available for their vehicle.

Other concerns that were cited among respondents that did not install retrofits were limited engine installation, fines for unsafe location, lack of durability and that retrofits do not make sense in the rental industry (due to the difficulty of getting renters to perform regeneration).