

**Reply to Comments on Submissions Received on
the Proposed Sulphur in Diesel Fuel Regulations
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INTRODUCTION

This document responds to the comments that Environment Canada received on the proposed *Sulphur in Diesel Regulations* published in the *Canada Gazette, Part I* on December 22, 2001.

All submissions received were distributed in the March 15, 2002 document entitled "*Submissions Received on the Proposed Sulphur in Diesel Fuel Regulations*."

PARTIES PROVIDING SUBMISSIONS

Submissions on the proposed regulations were received from the following parties:

Provincial and Municipal Governments

- City of Toronto
- Department of Natural Resources, Quebec
- Greater Vancouver Regional District (GVRD)

Vehicle Manufacturers

- Association of International Automobile Manufacturers of Canada (AIAMC)
- Canadian Vehicle Manufacturers Association (CVMA)
- Engine Manufacturers Association (EMA)

Oil Industry

- Canadian Petroleum Products Institute (CPPI)
- Enbridge Pipelines Inc
- Imperial Oil
- Irving Oil
- North Atlantic Refining Limited
- Petro-Canada
- Shell Canada Products Limited
- Sunoco
- Trans Mountain Pipe Line Company
- Trans-Northern Pipelines Inc.
- Ultramar

Others

- Canadian General Standard Board (CGSB)
- Canadian Trucking Alliance (CTA)
- National Automobile, Aerospace, Transportation and General Workers Union of Canada
- Saint John Citizens Coalition for Clean Air
- Mr. & Ms. Tippett

Copies of the submissions received were distributed to stakeholders on March 15, 2002 (document entitled "*Submissions Received on the Proposed Sulphur in Diesel Fuel Regulations*"). That document also included notes of a February 18, 2002 meeting with the Canadian Trucking Alliance, the Canadian Petroleum Products Institute and Environment Canada as well as additional correspondence from the CPPI. Please note that excerpts of comments submitted by the Ministère des Ressources naturelles du Québec and Ultramar cited in this document were translated from the original French submissions that were previously distributed.

COMMENTS AND REPLY

Regulated Sulphur Level and Implementation Date

- Many stakeholders expressed support for the proposed regulatory limits and implementation date. Some urged earlier action and a limit below 15 ppm. One party suggested flexibility for excursions as high as 30 ppm, so long as a 15 ppm average is maintained.

Comments Addressing both Regulated Sulphur Level and Implementation Date

- *"The CVMA strongly supports Environment Canada's direction to reduce the allowable sulphur content in Canadian on-road diesel fuel in a simple one step approach to a maximum of 15 parts per million (ppm) commencing September 1, 2006 thus harmonizing with the required introduction of this low sulphur diesel in the United States."*
- *"EMA strongly supports Environment Canada's proposal to require all on-road diesel fuel to meet a sulphur level of 15 ppm or less."*
- *The AIAMC "urge Environment Canada to adopt a sulphur in diesel fuel regulation that will provide clean diesel to all Canadians by January of 2006 and to consider introducing sulphur free diesel fuel concurrently with the EU [European Union]."*
- *"CPPI and our member companies fully support the goal of the proposed regulations, which is to require all on-road diesel fuel to meet a maximum sulphur content of 15 ppm in 2006..."*

- *“Imperial Oil supports providing the fuel that is needed to enable the introduction of the new on-road heavy-duty diesel engine emission control technology, by September 1st, 2006.”*
- *“Irving Oil supports the Sulphur in Diesel Fuel Regulations published in Canada Gazette Part 1 on December 22, 2001.”*
- *“North Atlantic Refining Limited supports the proposed Sulphur in Diesel regulations and their general alignment with those prescribed by the US EPA.”*
- *“Shell supports the Environment Canada approach to align this diesel regulation with the changes in diesel fuel quality that are planned in the USA.”*
- *Sunoco strongly supports...the primary objective of the proposed regulations, which is to require all on-road diesel fuel to meet a maximum sulphur content of 15 mg/kg in 2006..”*
- *The MRN indicated that “...generally speaking, all concerns raised by MRN have been adequately addressed in the draft regulations.”*
- *The City of Toronto “fully support the government’s proposal to reduce the allowable concentration of sulphur in on-road diesel fuel from 500 ppm to 15 ppm by the deadlines indicated.”*
- *The Saint John Citizens Coalition for Clean Air “support and endorse this proposed Regulation which will lower the maximum limit for sulphur in on-road diesel to 15 milligrams per kilogram of the fuel ...commencing June 1, 2006.”*
- *“The CAW supports the proposed regulations because they will reduce smog thus improving the general health and well being of Canadians.”*

Comments Specific to the Regulated Sulphur Level

- *“Trans Mountain recommends that the provisions for reporting location and sulphur content averaging included in the Sulphur in Gasoline Regulations should be adopted for on-road diesel and that excursions to 30 ppm sulphur be allowed, so long as a 15 ppm average is maintained.”*

Reply: As set out in the Minister’s Notice of Intent on Cleaner Vehicles, Engines and Fuels, the regulations set a limit of 15 ppm coming into effect in June 1, 2006. This level and timing are required to meet new vehicle emission standards that will be required for the 2007 model year.

Test Methods for Sulphur Levels

Stakeholders representing the fuel industry commented on test methods for sulphur levels to use for compliance and reporting purposes. They also

recommended that provisions for alternative test methods be included in the Regulations.

Test Methods for Compliance and Reporting Purposes

- The CGSB indicated that *“Test method ASTM D5453-00 is becoming the method of choice in Canadian petroleum laboratories for diesel fuel, gasoline and Jet fuel. It is not in universal use yet, but when more gasoline is produced with sulphur levels below 50 mg/kg, most likely in mid to late 2003, it can be expected to become the preferred laboratory test method...CAN/CGSB-3.0 No. 16.0-95 should be allowed as a reference method until December 31, 2003 to allow time for laboratories time to purchase and commission ASTM D5453-00 units.”*
- *“Shell recommends that CAN/CGSB-3.0 No. 16.0-95 continue to be the reference method until December 31, 2003 and that effective January 01, 2004 ASTM 5453-00 become the reference method.”*
- In a clarification of its initial comments, Imperial Oil indicated it *“supports and is aligned with the CGSB recommendation that the test method ASTM D5453-00 be used after Dec 31, 2003...”*
- Sunoco indicated that *“If Environment Canada wishes to specify a referee test method for this regulation, we recommend that it be ASTM D5453-00, Standard Test Method for Determination of Total Sulphur in Light Hydrocarbons, Motor Fuels and Oils by Ultraviolet Fluorescence. We do not see a need to specify two separate methods in Sections 4.(1) and (2).”*
- In addition to its initial comments, CPPI confirmed that *“all CPPI members are in support of the CGSB proposal to use the CGSB 16.0 method until the end of 2003, then move to the ASTM D5453 from January 1, 2004.”*

Equivalent Test Methods for Reporting

Many parties requested that the regulations include flexibility to allow use of alternative test methods for reporting purposes.

- *“Most members of the CGSB Middle Distillates Working Group believe that it is important that this provision [providing a mechanism for obtaining permission for use of equivalent methods for sampling and analysis] is added to the Proposed Sulphur in Diesel Fuel Regulations in the same manner as in the Benzene in Gasoline Regulations.”*
- CPPI recommended *“that the provisions for equivalent test methods for reporting purposes that are contained in Section 6 of the “Benzene in Gasoline Regulations” be added to these regulations.”*
- *“Imperial Oil supports the development or adoption of new, improved technologies for sampling and analysis...Imperial believes that it is*

important that a similar provision be added to the Proposed Sulphur in Diesel Fuel Regulations, as used in the Benzene in Gasoline Regulations, section 6.”

- Sunoco “*strongly recommend[ed] that the provisions for equivalent test methods for reporting purposes that are contained in Section 6 of the “Benzene in Gasoline Regulations” be added to these regulations.*”
- Ultramar requested that Environment Canada to “*for this regulation, provide the same flexibility as was provided in the regulations for the concentration of benzene in gasoline.*”
- “*Shell recommends that a mechanism be included in the diesel regulations that would enable refiners or importers to obtain permission for the use of “equivalent methods” for sampling and analysis for reporting purposes.*”

Reply The final diesel regulations incorporate changes to the test methods:

- until December 31, 2003, the reference test method is CAN/CGSB-3.0 No. 16.0;
- after December 31, 2003, the reference test method is ASTM D 5453.

For reporting purposes only, the regulations also allow ASTM 6428, ASTM 2622, ASTM D 1266 until December 31, 2003. After that date, the approach used in *the Benzene in Gasoline Regulations* for alternative test methods has been adopted: the final regulations allow use of alternative test methods for reporting purposes, provided that the test method is demonstrated by the regulatee to be equivalent to ASTM D 5453 using the comparison method ASTM D 4855.

Potential for Contamination of 15 ppm diesel fuel in the Distribution System

- CPPI noted that “*Pipeline transportation of ultra-low sulphur diesel poses many potential problems that have yet to be fully understood....Should further work indicate that deliveries of <15 ppm sulphur on-road diesel using the existing pipeline system are not feasible, alternative options would need to be developed....We strongly recommend that Natural Resources Canada promptly initiate a study to consider the capabilities and potential limitations of the distribution system and any ensuing commercial issues that may result.*”
- Imperial Oil supported “*the CPPI suggestions and offer our collaboration in the design and study of the distribution systems. This is a high priority for Imperial Oil since the outcome is likely to require*

significant changes to the current distribution infrastructure in order to meet the proposed September 1, 2006 point of sale requirement.”

- *“..Shell in conjunction with other refiners and pipeline companies, is studying potential problems associated with the pipeline shipment of ULSD that may be unique to our country...Shell also suggests that the status of resolution of pipeline distribution issues be considered before Gazette 2 is finalized.”*
- *“Trans Mountain and its shippers do not believe on-road diesel deliveries through its system will be possible after the proposed sulphur in diesel fuel regulations come into effect in June of 2006. However testing will continue to determine if it can be done...The impact on the company could be as much as \$12 million per year in lost revenue if the cost cannot be recovered from its shippers. If this cost were passed on to Trans Mountain’s shippers it would result in a toll increase of approximately 12% which would be passed on to the consumers in the Lower Mainland of BC for all volumes that it transports....The alternative supply options for the on road diesel deliveries to the Lower Mainland are rail from Edmonton or truck or barge from Washington State.there are increased safety and environmental issues associated with such alternate transport.”*
- *Enbridge Pipelines Inc. indicated “Sulphur pick-up in a batched pipeline can be reduced but not eliminated with capital expenditure. This type of capital expenditure was not mentioned in the Canada Gazette article referenced above.”*
- *TNPI indicated that “There is no question, however, that the movement of U.L.S.D. by pipeline will be a challenge. There will be a substantial cost impact on the pipeline distribution component for U.L.S.D., and possibly other petroleum products, for shippers and the consumer.”*

Reply: The presence of higher sulphur products and crude in the distribution system creates the potential for contamination of 15 ppm diesel fuel. In developing its regulations, the EPA examined how pipelines would have to be managed to minimize contamination of low-sulphur diesel fuel. The EPA found that more careful pipeline management, including larger product interface and increased volumes of re-blending contaminated batches would occur, resulting in additional pipeline and distribution system costs.

Canada will face these same types of issues with the introduction of 15 ppm diesel fuel. Natural Resources Canada, in consultation with other federal and provincial government departments and industry, is now considering the structure and terms of reference of a study to investigate the potential constraints of the existing distribution system

and the possible effects in terms of distillate supply. The study has not yet been completed.

The EPA has determined that a level of 15 ppm sulphur in diesel fuel will be necessary for new on-road vehicle emission standards to be met. Therefore, the regulations stipulate a sulphur limit of 15 ppm for sales of on-road diesel fuel.

Northern Issues

Definition of Northern Supply Area

Under the regulations, the 15 ppm limit for sales in the northern supply area comes into effect one year later than in the rest of Canada. The CGSB, Sunoco and Imperial Oil suggested that the definition of “northern supply area” be based on specific geographic boundaries rather than using CAN/CGSB-3.5-99 zones.

- *“The CGSB Gasoline Working Group is currently developing new zones due to the acquisition of a new weather data set. The zones as referenced in this Regulation will change in an upcoming edition of CAN/CGSB-3.5. To avoid possible confusion in the future it may be better to define this area using lines of latitude and provincial boundaries.”*
- *Sunoco suggested that the Northern Supply Area definition “be based on specific geographic boundaries rather than using CAN/CGSB-3.5-99 zones, which may be subject to change from time to time as new weather data is acquired. This should help avoid confusion in the future.”*
- *Similarly Imperial Oil indicated that the “Gasoline Committee in CGSB is currently developing new zones based on more current weather data. To avoid the reference becoming obsolete, when the provisions of the proposed regulations come into force, we recommend that the Northern Supply Area be defined by latitude and province.”*

Reply: The final diesel regulations have modified the definition of Northern Supply Area so it is based on geographic boundaries. The definition has also been revised to exclude primary roads in the North in order to address concerns expressed about potential misfuelling as discussed below. On this issue, there were subsequent consultations with the CTA, CPPI and the governments of Yukon, Northwest Territories, Quebec and Newfoundland. The resulting definition is a consensus of the above parties. Maps showing the Northern Supply Area are provided in Appendix 1.

Point-of-sale requirements in the North and Misfuelling

Concerns were raised by the CVMA, EMA and the CTA regarding potential misfuelling in the North due to the later effective date for sales in the northern supply region.

- CVMA indicated that *"...delaying 15 ppm sulphur diesel to northern regions until September 1, 2007 could also delay availability of vehicles equipped with sulphur-sensitive after-treatment devices in this region. Therefore, we do not support delaying the Sept. 1, 2006 implementation date in order to accommodate a later northern launch. Mandatory pump labelling is essential to address the delay period that applies to the northern regions."*
- *"EMA urges Environment Canada to adopt a single nationwide implementation date of September 1, 2006 for sale limits... In the event that an implementation delay is allowed for northern regions, Environment Canada should require pump labeling to identify the higher sulphur fuel."*
- The CTA indicated that *"Carrier not based in the north, but who service this area [Northern Supply Area], could not dispatch their 2007 equipment into these communities without a guaranteed ULSD fuel supply... We believe it may be possible to come up with a solution to this problem, as it would appear to be limited to a fairly small number of northern communities served by road."*

Reply: The implementation date for sales in northern regions is September 1, 2007, reflecting fuel distribution and logistical difficulties in northern Canada. To address the concerns raised, the final regulations have modified the definition of Northern Supply Area to exclude Newfoundland and most primary roads in the North. Environment Canada believes that this will mitigate potential need for labelling of high sulphur diesel fuel in the North.

Potential for Misfuelling

- *"CVMA remains concerned about the possibility of misfuelling prior to September 1, 2006 (September 1, 2007 for northern regions) and the potentially severe harm to engines and after-treatment devices that may occur as a result."*

Reply: Potential for misfuelling of diesel on-road vehicles exists presently, as diesel fuel for off-road use can have a sulphur level higher than the existing limit for on-road diesel fuel. This situation will continue to exist when sulphur in on-road diesel fuel is reduced to 15 ppm. With the more stringent 15

ppm limit, there will be a greater risk of contamination from higher sulphur products resulting in the regulated limit being exceeded. As discussed above, this will require more careful pipeline and storage tank management an issue Natural Resources Canada will be studying .

Incentives for Early Introduction of Low Sulphur Diesel Fuel

A number of parties commented on the potential use of economic instruments to promote the early introduction of low sulphur on-road diesel fuel.

- The City of Toronto recommended “*promoting non-regulatory tools, for example tax incentives, to encourage the early introduction of the lower sulphur on-road diesel fuel.*”
- North Atlantic indicated “*It is our view that the Canadian government should rethink its position on incentives and adopt either a tax incentive or credit trading program modeled after that adopted by the US EPA.... A fiscal incentive for companies to make early investment given the potential benefits to the population, in our opinion, warrants consideration.*”
- Irving Oil Limited recommended “*...Canada should consider the use of non-regulatory instruments to provide an incentive for earlier introduction of cleaner transportation fuels... We recommend the Government of Canada consider developing a strategy to manage the outcome of limited North American construction resources being unable to meet the deadlines... This situation is urgent. To address this potential outcome, we recommend the Government develop an incentive program that would serve to stagger construction throughout the next four and one half years.*”
- “*CTA does not support the line of argument used by Environment Canada that the potential for regional disparities mitigates against the use of fiscal incentives for the early introduction of ULSDS. An excise tax cut that would, for example, bring the price of ULSDS down to the same level as conventional diesel might speed the introduction of ULSDS in those parts of the country that do not rely on a common-carrier pipeline distribution system.*”
- *CPPI members are committed to achieving the goal [of the Regulations] without any need for fiscal measures of any kind.*”
- Ultramar requested that Environment Canada “*do not put in place tax incentives for accelerating the availability of diesel at 15 ppm on the market.*”

Reply Environment Canada has worked with the National Round Table on the Economy and the Environment (NRTEE), which has explored opportunities to apply fiscal instruments to complement the cleaner vehicles and fuels agenda, including the early introduction of low-sulphur diesel prior to 2006. The

Cleaner Transportation Working Group under the NRTEE was not able to reach agreement on a recommendation regarding the use of a tax differential to accelerate the introduction of low-sulphur diesel.

In its final analysis, the Government of Canada determined that Regulations under CEPA are the most appropriate measure.

Cost to Consumers

- The CTA indicated concerns *“as to how Environment Canada arrived at the Gazette’s additional cost estimate per truck to operate on ULSD fuel - \$240 to \$470 annually. Based on CTA’s own calculations...CTA’s cost projections vary from \$1,017 to \$3,714 annually per tractor.”*

Reply: Environment Canada’s cost estimate is based on the EPA estimate which is an average cost of vehicles ranging from light heavy-duty trucks to heavy heavy-duty trucks and urban buses. Environment Canada recognizes that cost estimates vary depending on factors such as the cost of the fuel, the distance traveled, size of engine and the fuel consumption rate of the engine. Accordingly, the information provided by the CTA has been added to the RIAS.

Miscellaneous Issues

Definition of Diesel fuel

- CPPI suggested that the definition of Diesel Fuel: *“...be amended to change the lower end of the boiling range from 150°C to 130°C to better reflect actual data on Canadian diesel fuels.”*
- Shell also suggested to *“..change specification of diesel fuel to have a lower end boiling range of 130°C instead of 150°C.”*

Reply: The final diesel regulations have modified the definition of Diesel Fuel to change the lower end boiling range to 130°C. In addition, the definition has also been modified to include any fuel sold or represented as diesel fuel.

Reporting Requirements

- CPPI indicated it *“can understand that quarterly monitoring will be useful during the period in 2006 and 2007 that will see the switch to 15 ppm sulphur diesel fuel , but prior to 2006 an annual report with quarterly data should be quite sufficient. If the transition to 15 ppm is*

smooth, it should also be possible to revert to annual reporting of quarterly data.”

- *“Shell requests that Environment Canada modify the reporting frequency requirements in Section 5(1) to annual submission of quarterly reports from the proposed quarterly report submission. Shell recognizes that closer tracking of the fuel quality may be needed in the 2006-2007 period. Quarterly submissions should be required for this period only.”*

Reply: Environment Canada considers that a certain minimum amount of information is required to be reported for monitoring and enforcement purposes. The regulations retain the requirement for quarterly reporting of diesel sulphur levels that is already required under the existing *Diesel Fuel Regulations*. The date specified for submission of reports has been extended from 30 days after the quarter in the existing regulations to 45 days after the quarter in the new regulations to make it consistent with other fuel regulations.

Reporting of Sales Data

- CPPI indicated that:
 - *“The requirements of Section 5(2) are of concern. Specifically, records of diesel fuel sold are not kept by “facility”, as required by Schedule 1. The distribution and marketing operations of the industry make this a virtually impossible requirement.We believe that sales data can be supplied on a Provincial basis, as is currently done for Statistics Canada (report 45-004-XPB, Refined Petroleum Products).*
 - *Sections 5 & 6: “...without greater clarity, this provision causes major problems. ...This rebranding can and does take place well down the distribution system and can be extremely difficult to track.”*
 - *“The very general wording of this section [Section 6 (1) (b)] needs much greater clarity to yield consistent and useful data. CPPI is prepared to work with Environment Canada and other stakeholders to better define this requirement.”*
 - *“There is also a problem with the requirement of Section 6(2) to identify the volume to be dispatched or imported prior to the dispatch or import. This is impossible to do accurately, as the final volumes of a transaction are determined after the delivery is completed”.*
- Ultramar indicated that *“We are unable to inform you of the final use of our road diesel production given that a large part of our production is sold by third parties (trading partners, wholesalers...)”.*
- *“Shell does not track diesel sales by facility. Due to the integration of the Canadian distribution system this is not possible. Shell suggests this*

requirement for reporting of diesel fuel “sold” be removed from Section 6 and Schedule 1 6(a)(iii) and 6(b)(iii). Sales data by fuel by province is available in the Refined Petroleum Products report of Statistics Canada...In addition, only refiners and importers are required to complete Schedule 1. There are many facilities that sell diesel fuel that are not producers or importers therefore, the sales data would be incomplete.”

- CPPI indicated that:
 - *“Schedule 1 needs revision. Sales data should be reported separately from the facility data.”*
 - *“Schedule 2 also needs to be revised to clarify what data should be supplied for non-road diesel...”*
- Petro-Canada stated that *“...providing numbers volumes of diesel fuel “produced at the facility” and “sold” will not yield reconcilable numbers for the two categories of diesel fuel called for in the Schedule 1 report. Indicating that the volume are those “intended for (any) use” may be an acceptable solution.”*

Reply: With respect to volumes of diesel fuel sold, the final regulations have been modified to require only reporting of on-road diesel fuel sold by a company by province. The reporting for volumes of high and low sulphur diesel fuel produced or imported is required on the basis of the sulphur content of the fuel as opposed to the final use of the fuel (on-road versus off-road).

Record Keeping

- Sunoco recommended that *“reports and records be kept for three years instead of five years in order to harmonize with other regulations.”*
- CPPI recommended that *“more flexibility be incorporated in Section 5(8) to allow for centralized record keeping by companies with multiple facilities.”*
- Shell indicated that *“Section 6(1) requires that records be kept for the production import and sale of diesel fuels. Section 5(5) requires producers and importers of diesel to register with Environment Canada. How will Environment Canada know who is selling diesel fuels in Canada and who should be keeping records under Section 6(1)? What is the value of keeping records if you don’t know who is keeping them?”*

Reply: With respect to these concerns, the requirements of the final regulations have not been modified for the following reasons. Environment Canada:

- requires that records be kept at facilities or place of business in Canada in order to allow enforcement officers

to have ready access to records when carrying out inspections under the Act or regulation;

- considers that records should be maintained at a production facility or place of business in Canada for a five year period in order to keep in line with most regulations made under CEPA, 1999.

Date of compliance at point of production

- CPPI suggested that *"In adopting a single step approach in Canada, the value of a date for compliance at the point of production or import seems to have been made redundant and should be removed."*
- Shell also recommended to *"Eliminate the compliance date for production of ULSD (Section 3) since the compliance date for point of sale (September 2006) is all that is required."*

Reply: The final regulations do not incorporate any changes in this regard. As set out in the Minister's Notice of Intent on Cleaner Vehicles, Engines and Fuels, the proposed regulations set a limit of 15 ppm coming into effect on June 1, 2006 for diesel produced or imported. Environment Canada considers that this requirement will facilitate a smooth transition to low sulphur diesel fuel in the marketplace. The requirement aligns with that passed by the U.S. EPA.

Date of Coming Into Force of the Regulations

- CPPI *"...strongly recommend that the regulations come into force either: (a) on the date that they are published in the Canada Gazette Part 2, or (b) on a specific date (we recommend January 1, 2003 to simplify records keeping)."*
- Ultramar suggested that *"...the entry into force of the regulations to be in accordance with standard practice, i.e., upon publication in the Canada Gazette or on a date stipulated on publication in the Canada Gazette."*
- Shell suggests that *"the regulations come into force on the date the regulations are published in the Canada Gazette 2."*

Reply: The final diesel regulations specify January 1, 2003 as the coming into force date.

Revisions to Standards and Methods

- The CGSB and Imperial Oil recommended that *"In order to give stakeholders reasonable time to adapt to revised regulations and standards for sampling and analysis, Subsection 1(2) of the*

Proposed Sulphur in Diesel Fuel Regulations be amended to read as follows:

- *1(2) Any regulation, standard or method that is incorporated by reference in these Regulations is incorporated as amended from time to time. The amended regulation, standard or method is incorporated in these Regulations 120 days after the date of its publication.”*
- *Sunoco recommended that “Section 1.(2) be amended to allow a period of 120 days from the date of publication for any amendments to be incorporated into the regulation.”*
- *“Shell recommends that such incorporation [amendments to standard and methods] occur 120 days after the date of publication of the amended regulations, standard or method. This would give primary suppliers adequate time to be in compliance with the changes.”*

Reply: Modifying subsection 1(2) as suggested would result in two reference test methods being specified during the 120 day transition period which could create difficulties in enforcing the regulations. In addition, it is noted that the above comments address a broad issue that is pertinent not just to the *Sulphur in Diesel Fuel Regulations*, but to most fuels regulations and even to most environment regulations. As such, the recommended changes would establish a precedent and therefore would require broad consideration of potential implications across various regulations and industries.

The final regulations do not incorporate any changes in this regard.

Lubricity

- *“CTA would request that the Government of Canada work with the oil industry and engine manufacturers to ensure that ULSD will not impact diesel fuel lubricity.”*

Reply: In its final rule establishing the low sulphur diesel fuel regulation for the U.S., the EPA recognized that refiners would likely rely on hydrotreating to achieve the 15 ppm sulphur limit and that this process may reduce concentrations of those components of diesel fuel which contribute to adequate lubricity. The EPA indicated that this may result in an increased need for the use of lubricity additives. However the EPA did not establish a regulatory limit for lubricity, deciding it was best to allow the industry and the market to address the lubricity issue in the most

economical manner and in a way that provides the greatest flexibility.

Environment Canada is taking a similar approach. The Canadian Petroleum Products Institute (CPPI) has informed Environment Canada that unlike the previous reduction in the sulphur content of diesel fuel to 500 ppm, this time refiners are fully aware of the potential problem and are therefore prepared. CPPI does not anticipate lubricity problems as 15-ppm diesel fuel is introduced in Canada.

Other Diesel Parameters

- The AIAMC suggested that “*..other diesel attributes such as cetane, lubricity, aromatics, density and distillation need to be at the recommended levels specified in the WWFC [World Wide Fuel Charter] to ensure that future advanced diesel vehicles become reality... .Environment Canada should recognize the influence of cetane number on emissions and fuel consumption... In Europe, diesel fuel is approximately 10 cetane numbers higher than North American diesel fuel and it has a significant effect on NOx emissions.*”
- The CVMA indicated it would “*... welcome on-going efforts to continue improvements to on-road fuels based on the Worldwide Fuel Charter recommendations.*”
- North Atlantic recommended “*that, the Canadian government look at establishing a target for [cetane number] on road diesel in the 45 to 50 range as a means of reducing emissions at source rather than relying solely on the after treatment technology planned for diesel engines by 2007.*”

Reply: Environment Canada does not intend to regulate other properties of diesel fuel at this time. Under the Notice of Intent, Environment Canada stated it would gather data on diesel fuel properties under a voluntary survey with refiners and importers. Properties addressed in the survey include cetane, aromatics, and polycyclic aromatic hydrocarbons. The survey commenced in July 2001.

Off-Road Diesel Fuel

Some stakeholders recommended that the proposed regulations also set sulphur limits for off-road diesel.

- The City of Toronto recommended “*limiting the allowable sulphur concentration in off-road diesel fuel to 15 ppm to harmonize with the level in on-road diesel fuel.*”

- The CTA *“believes that the removal of sulphur from diesel is needed regardless of whether it is consumed on or off-road - both pollute our air. ...if Environment Canada would firmly commit to one grade of diesel fuel being produced in Canada, or greatly restrict the consumers of this product, the off-road/on-road supply debate may be mute.”*

Reply: The Minister’s Notice of Intent on Cleaner Vehicles, Engines and Fuels addresses off-road diesel fuel. It states:

“Environment Canada plans to recommend a regulatory limit for sulphur in off-road diesel. The limit would be established in the same time frame that the EPA plans for developing limits for sulphur in U.S. off-road diesel (expected to be in 2001). In preparation for this, Environment Canada will gather information on where off-road diesel is used, the effects of sulphur reduction on emissions, and the costs of reducing sulphur in diesel for use in all off-road engines and vehicles, including rail and marine applications.”

It is currently anticipated that the U.S. will move forward with proposing a sulphur limit for off-road diesel sometime in 2002. Environment Canada will continue monitor U.S. activities in this regard.

Comments on Including Flexibility Provisions in the Regulations

Petro-Canada commented on the possibility of including flexibility provisions in the regulations to address the possibility of unforeseen circumstances that could delay the introduction of low sulphur diesel fuel.

- Petro-Canada believed *“the principle of alignment with the USA will require an amendment of the regulation in the event that there is a substantial shift in the USA approach to either the diesel fuel quality, or to the implementation timing. Similarly, if engineering, materials procurement, or construction constraints occur for any of these major projects then we again believe that an amendment will be warranted. Alternatively, as generally discussed in the past, a parallel regulation could be created under CEPA to broaden the Minister’s discretionary powers to temporarily waive product quality or to extend the compliance deadline.”*

Reply: Environment Canada discussed this issue at length in the December 2001 document responding to comments from stakeholders on the proposed Regulations. It states:

- *“Given the initial comments by refiners seeking some form of flexibility in the regulations, Environment Canada sought clarification from CPPI on the circumstances under which industry considered that flexibility might be necessary. CPPI’s response stated that “The ULSD flexibility objective can be adequately served at this point in time by an appropriate statement in the RIAS [Regulatory Impact Assessment Statement]”... The RIAS should recognize that Canadian refiners are competing both internationally and domestically for specialized engineering and construction resources. These implementation issues are expected to be manageable, but are difficult to predict with absolute certainty several years in advance.”*
- *“The proposed regulations adopt a simple, straightforward approach, requiring 15 ppm sulphur in on-road diesel fuel across Canada starting in 2006. The regulations do not include U.S. EPA-style flexibility or “safety valve” provisions that would allow a small part of the on-road diesel pool to exceed the 15 ppm limit for a short period of time. The RIAS accompanying the regulations includes the following statement: “One consequence of aligning with the U.S. is that Canadian refiners will be competing for specialized engineering and construction resources with the U.S. refiners. The Canadian refiners have indicated that they expect this implementation issue to be manageable, but that it is difficult to predict with absolute certainty several years in advance. Environment Canada will monitor this situation over the years prior to 2006 to see if any serious widespread difficulties arise.”*

Consequently, no changes have been made in this regard to the final regulations.

Significant Digits

- *The CGSB indicated that “Section (3) lists the maximum allowable sulphur concentration in mg/kg. The existing Diesel Fuel Regulation quotes a maximum level of 0.05% by weight sulphur. ... The use of differing significant digits and forms is confusing. The different test methods quoted also require reporting to different levels of significant digits, this adds to the confusion.”*
- *“Shell believes it is important to avoid any confusion or inconsistency related to the significant digits of limits and reporting format.”*

- CGSB and Shell both recommended that *“the document ASTM E29-Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications be utilized to help alleviate these concerns*

Reply: Environment Canada has reviewed the significant digits of the limits specified in the Regulations and is satisfied that expressing limits in mg/kg does not create issues with significant figures. Therefore, no changes have been made to the regulations in this regard.

Appendix 1: Maps of Northern Supply Area



