



Environment
Canada

Environnement
Canada



**Reply to comments received on the May 2001
discussion document "Reducing the Level of Sulphur in
Canadian On-Road Diesel Fuel"**

Ottawa, Ontario
K1A 0H3

To: Interested Parties
(see Distribution)

Re: Gazette I Publication of the Proposed Sulphur in Diesel Fuel Regulations

The proposed *Sulphur in Diesel Fuel Regulations* were published in the *Canada Gazette, Part I* on December 22, 2001. A copy of the Gazette I package is enclosed.

These regulations would replace the current *Diesel Fuel Regulations*. The new regulations reduce the limit for sulphur in on-road diesel to 15 mg/kg (or parts per million) starting June 1, 2006. The current limit of 500 mg/kg continues in place until that date. The goal of these regulations is to ensure that the level of sulphur in diesel fuel used in on-road vehicles in Canada will not impede the effective operation of advanced emission control technologies planned to be introduced on 2007 and later model year vehicles (i.e., in mid-2006) to comply with stringent new exhaust emission standards. The companion regulations on these exhaust emission standards are expected to be proposed in the *Canada Gazette, Part I* in the spring of 2002.

Interested parties have until February 20, 2002 to provide comments (in writing) to Environment Canada on the proposed *Sulphur in Diesel Fuel Regulations*. Comments should be sent to: Director General, Air Pollution Prevention Directorate, Environment Canada, Ottawa, Ontario K1A-0H3.

Also enclosed is a document providing Environment Canada's reply to comments received on the design of the regulations. These comments were in response to Environment Canada's general discussion paper distributed in May, as well as a discussion paper on Arctic issues that was distributed in July. The actual comments provided by parties were distributed by Environment Canada in July, and the minutes from the Arctic teleconference were distributed in August.

If you have any questions or concerns, please contact me at 819-953-4673 or Mark Tushingham at 819-994-0510.

Yours truly,
Bruce McEwen

Fuels Division
Oil, Gas & Energy Branch

enclosed

DISTRIBUTION LIST

	President	Action Petroleum Sales
James R.	Kitsul	Action Super Save Gas Stations Ltd.
Sherry	Watson	Air and Waste Management Association
Tom	Darlington	Air Improvement Resource Inc.
Harry	Lillo	Alberta Energy and Utilities Board
John	Choi	Alberta EnviroFuels Inc.
Doug	Mitchell	Alberta EnviroFuels Inc.
Larry B.	Begoray	Alberta Environment Protection
Donna	Nay	Alberta government Services
George	Yates	Alberta Government Services
Brian	Rebus	Alberta Research Council

Robert	Caton	Alchemy Consulting Inc
Steve Van	Houten	Alliance of Manufacturers and Exporters Canada
Thomas M.	O'Sullivan	AltaGas
Fred	Hauenstein Jr.	American Power Boat Association
André	Bélisle	AQLPA
Kevin	Wells	Ashwarren International Inc.
Roger	Peart	ASN-Canada FIA Inc.
Mike	Budd	Association of Canada
Jonathan	Hodges	Association of International Automobile
Robert	Auger	Association pour la prévention de la contamination de l'air et du sol (APCAS)
Sonia	Marcotte	Association Québécoise des Indépendants du Pétrole (AQUIP)
Wayne	Schnare	Atlantic Region Motor Sports
Karen	Smith	Atlas Oil Ltd.
George	Iny	Automobile Protection Association
Robert M.	Fishlock	Barristers & Solicitors, Blake, Cassels & Graydon
Don	Green	BDG Budd Conlting Group
James	Tweedie	Bert Riggall Environmental Foundation
Greg	Binks	Binks Petroleum Inc.
Malcolm P.	Smith	Biodiesel Canada
Dan	Theriault	Bitumar Inc.
André	Dumouchel	Bodycote Technitrol Inc.
Susan	Stark	BP (ARCO Products Canada Ltd.)
Robert J.	Schaefer	BP Amoco Research Centre (J-7)
	President	Brown's Fuels
Tom	D'Aquino	Business Council on National Issues
Bryan	Lankester	c/o Spur Refined Products
Rosalinda	Fischer	CAA-Québec
Bart	Ostro	California EPA
		Canadian Association of Physicians for the Environment
Terry	Epp	Canadian Association of Rally Sports
Gary	Webster	Canadian Association of Petroleum Producers
Hu	Williams	Canadian Auto Dealers Association
Nick	DeCarlo	Canadian Auto Workers Union
Jody	Cuifo	Canadian Automobile Association
Phil	Strudwick	Canadian Automobile Sports Clubs
Fred	Wolf	Canadian Boating Federation
Richard	Patton	Canadian Chemical Producers' Association
Victoria	Hughes	Canadian Co-operative Association
Sandra	Darling	Canadian Energy Pipeline Association
Ronald V.	Portelli	Canadian Environment Industry Association
Robert	Charest	Canadian General Standards Board
Philip A.	Miller	Canadian General Standard Board
		Canadian Institute for Environmental Law and Policy
Jaquelyn	Jones	Canadian Institute of Child Health

Kerry	Mattila	Canadian Petroleum Products Institute
Alain	Perez	Canadian Petroleum Products Institute
Kathryn	Tregunna	Canadian Public Health Association
Bliss	Baker	Canadian Renewable Fuels Association
Ken	Hough	Canadian Renewable Fuels Association
Doug	Nixon	Canadian Report on Fuel Ethanol
Daniel	Ralph	Canadian Tire Corporation
Peter	Kilty	Canadian Tire Corporation, Limited
Stephen	Laskowski	Canadian Trucking Alliance
Ron	Lennox	Canadian Trucking Alliance
Mark	Nantais	Canadian Vehicle Manufacturers' Association
Dr. Jim	Salmon	Canadian Wind Energy Association
Spyros	Pandis	Carnegie Mellon University
Lawrence A.	Smith, Jr.	Catlytic Distillation Technologies
Laura	Green	CBC Radio - Daybreak
Carl	Hrenchuk	CCME
Duncan	Fraser	CCMTA
Linda	Whalen	Centre for Longterm Environmental Action in NFLD (CLEAN)
Peter	Duda	Chevron Canada Limited
Kevin	Kidd	Chevron Canada Limited
Bill	Stone	Chevron Canada Limited
Patricia E.	Yarrington	Chevron Canada Limited
Marcel	Fontaine	Circuit de courses de motoneige du Québec Inc.
Gordon	Dalzell	Citizens Coalition for Clean Air
		Citizens Environmental Alliance of Southwestern Ontario
Colin	Kinsley	City of Prince George
Bruce	Williamson	City of St-Catharines
Pierre	Sallafranque	Comité Environnement 1992
Yves	Bourassa	Communauté urbaine de Montréal
Annick Le	Floch	Communauté urbaine de Montréal
Brian	Kohler	Communications, energy and Paperworkers Union of Canada
John	Clarke	ComSep Canada Inc.
David	Coon	Conservation Council of New Brunswick
Fred W.	Lipfert	Consultant
Judith	MacPhail	Consultant
C. Arden	Pope	Consultant
J.W.	Culic	Consumer Co-operative Refineries Ltd.
R.D.	Harris	Consumer Co-operative Refineries Ltd.
François	Gingras	Coopérative Fédérée de Québec
Perry	Bowen	D.A. Stuart Inc.
David	Dubois	Daigle Oil Limited
Catherine	Fitzpatrick	David Suzuki Foundation
		Delk Aviation Fuels Inc.
Bruce	Dudley	Delphi Group

David	Bezak	Department of Environment
Dave	Crump	Department of Environment and Energy
Maurice	Mazerolle	Department of Environment
Derrick	Maddocks	Department of Environment and Labour
Ken	Dominie	Department of Environmental & Lands
Todd	Fraser	Department of Fisheries and Environment
Don	Jardine	Department of Technology and Environment
Nabil	Elhadi	Department of the Environment
John	Mann	DiamlerChrysler Canada Inc.
Larry	Robertson	DiamlerChrysler Canada Inc.
Gaston	Salvas	DIRT
Bruce	Chwartacki	Domo Gas Corporation Limited
Cory	Reed	Drivers Independant Race Track Motorsports
Russel	Drummond	Drumond Fuels
Pierre	Dufresne	EKO
Tom	Lewinson	Electric Vehicle Association of Canada
		Energy Probe
John	Ferguson	Engine Manufacturers Association
Kevin	Kokrda	Engine Manufacturers Association
		Environment Canada
Steve	Arrell	Environment Canada
John	Ayres	Environment Canada
Peter	Blackall	Environment Canada
Marise	Boudriau	Environment Canada
Toby	Brodkorb	Environment Canada
Jeffrey	Brook	Environment Canada
Robert	Chénier	Environment Canada
Ed	Crupi	Environment Canada
Tom	Dann	Environment Canada
Dominique	Doré	Environment Canada
Jean-Pierre	Gauthier	Environment Canada
Fred	Hendren	Environment Canada
Margaret M.	Hills, Ph.D.	Environment Canada
Patrick	Hollier	Environment Canada
Lionel J.	King	Environment Canada
Morrie	Kirshenblatt	Environment Canada
Sandro	Leonardelli	Environment Canada
Stan	Liu	Environment Canada
Arthur M.	Martell	Environment Canada
Bruce	McEwen	Environment Canada
John	Mills	Environment Canada
Lyne	Monastesse	Environment Canada
Bill	Moore	Environment Canada
Hossein	Naghadianei	Environment Canada
Carmelita	Olivotto	Environment Canada
Robert	Pépin	Environment Canada

David	Poon	Environment Canada
Keith	Puckett	Environment Canada
Anthony	Rinaldi	Environment Canada
Gerry	Ternan	Environment Canada
Jean	Tremblay	Environment Canada
Richard	Turle	Environment Canada
Mark	Tushingham	Environment Canada
Mark	Vanderlaan	Environment Canada
Mark	Vanderlean	Environment Canada
J.	Vollmershaven	Environment Canada
Ross	White	Environment Canada
Marianne	Wickham	Environment Canada
Anita	Wong	Environment Canada
Ian	Waugh	Environmental and Outdoor Education Council
Ann	Cox	Environmental Commissioner of Ontario
Dolores	Noga	Environmental Law Centre
Doug	Harper	Environmental Liaison Office
Rick	Wiess	Environmental Protection
Brian	Wilson	Environmental Protection
George	MacKenzie-Grieve	Environmental Protection Branch
Marie-France	Bérard	Environnement Canada
Steve	Hancock	Equiva services LLC
J.D.	Hanes	Ethyl Canada Inc.
Kenneth W.	Steinberg	Exxon Engineering and Research
Jim	Jones	Fas Gas Oil Ltd.
Bryan	Dykes	Federated Cooperatives
Eric	Lawrenz	Federated Cooperatives Limited Saskatoon
André	Rivest	Fédération Auto Québec
M.	Haworth	Fédération Nautique du Canada
Dr. Y.M. (Ming)	Yip	Fleet Technical Services - Coast Guard
Alan R.	Goelzer	Fluor Daniel Inc., Philadelphia Office
Robert	Belanger	Ford Motor Co. of Canada Ltd.
Walt	Kreucher	Ford Motor Company
R.W.	Pattee	Ford Motor Company of Canada Ltd.
C.B.	Smith	Ford Motor Company of Canada Ltd.
David	Chock	Ford Research Laboratory
Brent	Francis	Francis Fuels, Petro-Francis, Francis Canada
Suresh H.	Moolgavkar	Fred Hutchinson Cancer Research Center
Beatrice	Olivastri	Friends of the Earth
Doug	McFarlane	Gasland Oil Ltd.
Mike	Ricciuto	General Motors of Canada Limited
Bryan	Smift	General Motors of Canada Limited
Jenson	Suen	Gibson Petroleum Company Ltd.
Martin	Mittelstaedt	Globe and Mail

Walter	Blondin	GNWT, Public Works and Government Services
Raynald	Archambault	Government du Québec
Margaret	Eckenfelder	Government of British Columbia
Don	Grass	Government of New Brunswick
Emery	Paquin	Government of North West Territories
Earle	Baddaloo	Government of Nunavut
Maureen	Hall	Government of Nunavut
Brian	Austin	Government of the Northwest Territories
Karen	Johnson	Government of Yukon
Joy	Waters	Government of Yukon
Stewart	Lindale	Government Policy Consultant
Lori	Pike	GPC Gouvernement Consultant
Bruce	Graham	Graham Oil Energy
Alan	Penn	Grand Conseil des Cris
Alan	Vordermeier	Grand National Hydro Committee
John	Newhook	Greater Vancouver Regional District
Greg	Boucher	Greg Boucher Fuels Ltd.
Mark	Kaneb	Group Pétrolier Olco Inc.
Jean-François	Lebre	Groupe de Recherche appliqué en macroécologie (GRAME) - Lachine
Hilary	Pearson	Groupe SECOR
Douglas W.	Dockery	Harvard School of Public Health
Joel	Schwartz	Harvard School of Public Health
Jack	Spengler	Harvard School of Public Health
Richard T.	Burnett	Health Canada
Paul	De Civita	Health Canada
Kathy	Hughes	Health Canada
Barry	Jessiman	Health Canada
Mark	Raizenne	Health Canada
Rod	Raphael	Health Canada
Bob	Rowe	Higler-Bailly Consulting Inc.
Glenn	Bryksaw	Honda Canada Inc.
Julia	Phillips	Honda of Canada Manufacturing
Vaughn	Hibbits	Honda of Canada Mfg.
Dr. Michael	McGuigan	Hospital for Sick Childred
		Hughson Trucking Inc.
Vince	Chin	Husky Energy Inc.
Don	Ingram	Husky Energy Inc.
Peter	Osis	Husky Oil
David	Long	Husky Oil Limited
T.R.	Ashe	Imperial Oil
Alan G.	Chesworth	Imperial Oil
Cindy	Christopher	Imperial Oil
R.J. (Bob)	Falkiner	Imperial Oil
Gilles	Morel	Imperial Oil
Brian	Fischer	Imperial Oil Limited
Manju	Sekhri	Independent Retail Gasoline Marketers Association

John	Banigan	Industry Canada
Alison	Bunting	Industry Canada
Janice	Dickey	Industry Canada
Peter	Forristal	Industry Canada
Suzanne	Galloway	Industry Canada
Amrik S.	Rakhra	Industry Canada
Slawek	Skorupinski	Industry Canada
Deborah	Toll	Industry Canada
Nada	Vrany	Industry Canada
Ron	Leavitt	Insurance Corporation of B.C. (B.C. Air Care)
Pierre	Legault	Interdepartmental Working Group on Storage Tanks
Paul	Argyropoulos	International Fuel Quality Centre
John	McDonald	International Joint Commission
Michael	Budd	IRGMA
Michael	Hanrahan	Irving Oil Limited.
A.	Irving	Irving Oil Ltd.
John	Hutchison	John D. Hutchison Consulting
Kerry	Morris	KerMorTrading Company Ltd.
Terry	Dean	Kinetic Resources LPG
Serge	Therrien	Les Pétroles Therrien Inc.
Richard	Boyer	MacEwen Petroleum Inc.
Earl	Mackenzie	Mackenzie Petroleum Ltd.
Anne	Lindsey	Manitoba Eco-Network/Réseau Écologique du Manitoba
H. Clarke	Moster	Manitoba Energy and Mines
Alice	Chambers	Manitoba Naturalists Society
David S.	Hirshfeld	Math Pro Inc.
Agathe	Bujold	McCarthy Tétrault
Allan	MacEwen	McEwen Petroleum Inc.
Warren	Bell	MEMPR
Lorna	Lanctot	Methanex
Bruce W.	Heine	Methanex Methanol Company
Kurt	Wipp	Methanex Methanol Company
Kevin	Loughborough	Metro Works Toronto
Conrad	Anctil	Ministère de l'environnement
Luc	Berthiaume	Ministère de l'Environnement et de la Faune
Raynald	Brulotte	Ministère de l'environnement et de la faune du Québec
Michel	Paquet	Ministère de l'environnement et de la faune du Québec
Alain	Lefebvre	Ministère des ressources naturelles du Québec
George	Mandrapilias	Ministry of Economic Dev't, Trade and Tourism
Martin	Whicher	Ministry of Economic Dev't, Trade and Tourism
Grant	McVicar	Ministry of Energy and Mines
Betty	Morgan	Ministry of Energy, Science and Technology
John	Onderdonk	Ministry of Environment
Ken	Smith	Ministry of Environment

Edwin J.	Yee	Ministry of Environment
Doug	Harper	Ministry of Environment (Ontario)
Robert	Bloxam	Ministry of Environment and Energy
Anne	Powell	Ministry of Environment and Energy
Marcia	Weaver	Ministry of Environment and Energy
Andrew	Hazelwood	Ministry of Health
Toros	Topalaglu	Ministry of Transportation
David	Gourley	Ministry of Transportation & Highway AirCare
Kelvin	Hicke	Ministry of Water, Land & Air Protection
Kirk	Spinks	Montank Transit Inc.
		Moose Jaw Asphalt Ltd.
Garry J.	MacDonald	Motor Vehicle Manufacturer's Association
Mourad	Mikhail	Mourad Mikhail
Bryan	Lankester	Murphy Oil Company Ltd.
Neil	Earnest	Muse, Stancile & Co.
Robert	Chemecki	National Automobile, Aerospace, Transportation & General Workers Union of Canada
Craig	Fairbridge, Ph.D.	National Centre for Updrading Technology
Bill	Dawson	National Centre for Upgrading Technology
Major	Lauzon	National Defence Headquarters
Barry	Lynch	National Energy Board
Graham	Light	National Hot Rod Association
Mary	Manners	National Vehicle and Fuel Emissions Laboratory
Peter	Reilly-Roe	Natural Resource Canada
Suzanne	Clément-Cousineau	Natural Resources Canada
Mike	Hnetka	Natural Resources Canada
Valentin	Konza	Natural Resources Canada
Dr. S.W.	Lee	Natural Resources Canada
Bob	Lyman	Natural Resources Canada
Maureen	Monaghan	Natural Resources Canada
Eva	Waldron	Nature-Action Saint-Bruno
Morton	Lippmann	Nelson Institute of Environmental Medicine
J.R..	Komorowsky	Neste Petroleum
Mary Ann	Coleman	New Brunswick Environmental Network
Ken	Maybee	New Brunswick Lung Association
Dale	Morehouse	New Brunswick Power
George D.	Thurston	New Yor University School of Medicine
Ian	Macpherson	Newfoundland & Labrador Hydro
Gerald M.	Miller	Niagra Holdings Ltd.
Nile D.	Coble	Nile D. Coble
Jerry	Dolan	Norgas Limited
Tom	Martin	North 60 Petro Limited
Roger	Bennett	North Atlantic Refining Ltd.
Mike	Manvel	North Atlantic Refining Ltd.
		North Toronto Green Community
Greg	Whitlock	Northern Transportation Co. Ltd.

Richard J.	Connors	Northern Transportation Company Limited
Rick	Henson	NOVA Chemicals (Canada) Ltd
Brian	McFadden	Nova Chemicals (Canada) Ltd.
Steve	Schmidt	Nova Chemicals (Canada) Ltd.
Arun	Chatterjee	Nova Scotia Department of the Environment
Don	Black	Nova Scotia Environmental Network
Lee	Jamieson	Nova Scotia Power Inc.
Mark	Eikland	Office of the Grand Chef
Rodney H.	Clarke	Olco Petroleum Group Inc.
Louis	Senechal	Olco Petroleum Group Inc.
		Ontario College of Physicians
Randy	Turner	Ontario Fuel Dealers Association
		Ontario Lung Association
Dr. Ted	Boadway	Ontario Medical Association
Barry	Bower	Ontario Ministry of Energy, Science and Technology
Peter	Mar	Ontario Ministry of Environment and Energy
Robyn	Tsallis	Ontario Ministry of the Environment
René	Chartier	Ontario Propane Association
		Ontario Public Health Association
		Ontario Public Interest Research Group
		Ontario Public Interest Research Group
		Ontario Public Interest Research Group
		Ontario Society for Environmental Education
Claude	Landry	OPTEC Energy Services Inc.
Lloyd	Bailey	Other Co-op
John	Wheelhouse	Other Co-op
Michael	MacNeil	Oxygenated Fuels Association
Fred	Musial	Pacesetter Enterprises
		PAL Energy Corp.
J.C.	Donald	Parkland Industries
R.J.	Leflar	Parkland Refining Ltd.
Don	Jardine	PEI Ministry of Fisheries, Aquaculture and Environment
Matt	McCulloch	Pembina Institute for Appropriate Development
Rob	Macintosh	Pembina Institute for Appropriate Development
Dan	Smith	Pembina Institute for Appropriate Development
Gene	Carignan	Petro-Canada
Boris	Jackman	Petro-Canada
Farahad	Seif	Petro-Canada
Doug	Evans	Petro-Canada Institute
Nigel R.	Hills	Petro-Canada Product Ltd.
		Petro-Plus
Bruce	Pawson	Petrocor Petroleum Corporation
Richard	Côté	Pétroles Norcan Inc.
Garry	Garcin	Pétroles Norcan Inc.
James	Flindall	Pioneer

Brian	Kitchen	Pioneer Petroleum
		Pollution Probe
Ken	Ogilvie	Pollution Probe
John	Wellner	Pollution Probe
Martha	Kostuch	Prairie Acid Rain Coalition
David	Ramkumar	Prince Edward Island Environmental Network
Mitch	Markusigh	Pro Racing Fuels
Joe	Muldoon	Province of Saskatchewan
Adrian	Mitterhuber	Provmar Fuels
Gaston	Morin	Québec Cartier Mining Company
M. Robert	Lamarche	Radio Canada, Les années lumières
Marc	Rousse	Régate internationales de Valleyfield
Henri	Jacob	Regroupement écologistes Val D'or et Environs., (Le R.E.V.E.)
Gabrielle	Pelletier	Réseau Québécois des Groupes Écologistes
Alan	Krupnick	Resources for the Future
René	Pigeon	Ressources naturelles Canada
David V.	Bates	Retired
Franco	Germano	Revenue Canada
Colin	Robbins	Robbins Feed & Fuel Ltd.
Phil	Koven	Rosen Fuels Ltd.
Anton	Davies	Rowan, Williams, Davies, Irwin Inc.
Kevin	Kent	Roy-L Canadian Fuels Co. Ltd.
Robert	Anderson	S.C.C.A. Pro Racing Ltd.
Rob	Elson	S.C.C.A. Pro Racing Ltd.
Joanne	Blythe	Saskatchewan Eco-Network
Les	Bernier	Saskatchewan Energy and Mines
Joe	Muldoon	Saskatchewan Environment and Resource Management
Dennis	Perras	Saskatchewan Environment and Resource Management
Ann	Coxworth	Saskatchewan Environmental Society
Larry	Lechner	Saskatchewan Ministry of Environment
Anna	Tilman	Save the Oak Ridges Moraine Coalition (STORM)
Dan	Hrebenyk	Senes Consultants
Tom	Chan	SGS
Dave	Bussey	SGS Canada Inc.
Elizabeth	Malinowski	Shell Canada
Ken	Mitchell	Shell Canada
John	Wills	Shell Canada Limited
Geoff	Granville	Shell Canada Ltd.
Dana	Atwell	Shell Canada Products Ltd.
Gerry	Ertel	Shell Canada Products Ltd.
Lurdes	Martins	Shrader Canada Ltd.
Louise	Comeau	Sierra Club Canada
Clint W.	Ensign	Sinclair Oil Corporation
Bruce	Torrie	Skies Above Foundation

Jean T.	Fournier	Sous-solliciteur général
Bill	Runciman	Southland Canada, Inc.
George	Mycroft	Statia Terminals
Dino	Chakraborty	Stone & Webster Canada
Bruce	Walker	STOP
Bob	Landry	Strategex
Bob	King	SUN Company
F.	Suleman	Suncor Energy Inc.
Tony	Coffey	Suncor Inc. OSG
Mike	O'Brien	Sunoco
Don	Cook	Sunoco Inc.
Marty	Dunlop	Sunoco Inc.
Paula Marie	Jannetta	Sunoco Inc.
Robert W.	King	Sunoco Inc.
David	MacMillan	Sunoco Inc.
Tom	Ryley	Sunoco Inc., Suncor Energy Inc.
John	Ellingsen	Syncrude Canada Ltd.
C.T.	Hammond	T.G. Hammond Ltd.
Tom	McCann	T.J. McCann & Associates
Susan	Herbert	TerraChoice Environmental Services Inc.
Jim	Grossl	Tesoro Alaska Company
K.D.	Cox	Texaco
Ronald D.	Tharby	Tharby & Associates Consultants
Alanna	Fox	The Canadian Lung Association
Stacey	Hunt	The Environmental Compliance Report
Chris	Severson-Baker	The Pembina Institute
Steve	McKenna	Toronto Public Health
Kim	Perrotta	Toronto Public Health
Steve	Smith	TOSCO Corporation
John	Askounis	Tosco Ferndale Refinery
Dwight	Stevenson	TOSCO Refining and Marketing
Gary	Miller	Trans Mountain Pipe Line Company
Gary	Robinson	Trans Northern Pipelines Inc.
Brad R.	Howard	TransCanada Energy Ltd.
Normand	Parisien	Transport 2000
Lui	Hrobelsky	Transport Canada
Nicole	Pageot	Transport Canada
Saleem	Sattar	Transport Canada
Laurie	Gourlay	Turning 2000 Project - Commons Co-op
Susan	Willis	U.S. EPA-National Vehicle and Fuel Emissions Laboratory
Terry	Geldreich	Ultra Fuels
Chuck	Husell	Ultra Fuels
Steve	McLaren	Ultra Fuels/United Petroleum
Joseph C.	MacDonald	Ultramar Lté
Danielle	Beaulieu	Ultramar Ltée

Gilles	De Bellefeuille	Ultramar Ltée
Jacques	Jobin	Ultramar Ltée
Jean	Bernier	Ultramar Ltée.
Frank	Ries	Union Gas Limited
Kelly	Eaton	United Farmers
Jaun	Benitez	United Farmers of Alberta Co-operative Ltd.
David	Worthman	United Refining
Barry	D'Andrea	United Refining Company
Dr. Nicola	Cherry	University of Alberta
Bonny	Lambert	University of Alberta
Steven	Rogak	University of British Columbia
Sverre	Vedal	University of British Columbia
Janice	Dickie	University of Waterloo
Naila	Siddique	University of Waterloo
Bill	Keesom	UOP
Robert	Sicard	UPI Inc.
Bob	Redd	US Oil and Refining
Michel	Palmer	Voice of the Earth Society
Leonard W.	Kata	Volkswagen
Steve	Eisenburg	VP Racing Fuels - Western Canada
Steve Jr.	Burns	VP Racing Fuels, Inc.
Fred	Morrison	VP Racing Fuels, Inc.
Beth	Benson	Waterfront Regeneration Project
Chris	Rolfe	West Coast Environmental Law Assoc. Research Foundation
		Western Canada Motorsport Association
Ian	Wilson	Wilson Fuel Co. Ltd.
Rick	Coronado	Windsor and District Labour
Joe	Ballantyne	Yukon Department of Renewable Resources
Pat	Paslawski	Yukon Department of Renewable Resources

Reply to Comments on Submissions Received on the Proposed Sulphur in On-Road Diesel Fuel Regulations

Oil, Gas, and Energy Branch
Environment Canada

December 2001

Table of Content

INTRODUCTION

PARTIES PROVIDING SUBMISSIONS

COMMENTS AND REPLY

Comments on Alignment of the Regulations with US Requirements

Comments on Regulated Sulphur Level and Implementation Date

Comments Specific to the Regulated Sulphur Level

Comments Specific to the Implementation Date

Comments on One-step Implementation Versus a Phase-in

Comments on Possible Impacts of Fuel Costs if two Grades were Allowed
Comments on Including Flexibility Provisions in the Regulations
Comments on Potential for Contamination of 15 ppm diesel Fuel in the Distribution System
Comments on Potential for Misfuelling

Northern Issues

Point-of-Sale Requirements in the North
Northern Fuel Quality Issues
Costs in Northern Canada
Implementation Timing for Point-of Sales Limits in Northern Regions
Imports from Alaska
Dyeing Requirements
Definition of Northern Supply Area
Comments on Test methods for Sulphur Levels
Incentives for Early Introduction of Low Sulphur Diesel Fuel

Miscellaneous Issues

Point of Compliance
Reporting Requirements
Application of Regulations to Military Vehicles
Sulphur Credit Trading Program
Delay of Regulations
Companion Vehicle Emission Regulations
Federal Government Procurement
Off-Road Diesel Fuel
PM 2.5 Standard

APPENDIX A

List of Issues from May 3, 2001 Discussion Document

APPENDIX B

Notes from the Teleconference on the Development of the Federal Low-Sulphur On-Road Diesel Fuel Regulations in Relation to Northern Communities, July 30, 2001

Comments from Gerald Ertel, Shell Canada on the Teleconference notes, August 3, 2001

Comments from Allan Pen, Cree Regional Authority, following the Teleconference, July 30, 2001

INTRODUCTION

In May, 2001 Environment Canada distributed a Discussion document entitled "*Reducing the Level of Sulphur in Canadian On-Road Diesel Fuel*" to parties with an interest in fuel issues. The cover letter invited parties to provide their views on the approach and design of new regulations to reduce the level of sulphur in Canadian on-road diesel fuel. Appendix A shows the list of issues included in that discussion paper.

This document responds to the comments that Environment Canada received on the discussion paper.

Excerpts of comments submitted by the Ministère des Ressources naturelles du Québec cited in this document were translated from French. Please refer to the copy of the Ministère's letter distributed as part of the July 2001 package entitled "*Submissions Received on the Proposed Sulphur in On-Road Diesel Fuel Regulations*" for the original French version.

PARTIES PROVIDING SUBMISSIONS

Submissions on the discussion paper were received from the following parties:

Federal, Provincial and Municipal Governments

Alberta Environment
City of Toronto
Health Canada
Industry Canada
Ministère des Ressources naturelles du Québec (MNR)
Natural Resources Canada
Northwest Territories
Nunavut
Ontario Ministry of the Environment

Vehicle Manufacturers

Canadian Vehicle Manufacturers Association (CVMA)
Engine Manufacturers Association
Ford Motor Company of Canada (Ford)

Oil Industry

Canadian Petroleum Products Institute (CPPI)
Consumers' Co-Operative Refineries Limited (CCRL)
Imperial Oil
Irving Oil
Northern Transportation Company Limited
Petro-Canada
Shell Canada Products (Shell)
Sunoco
Ultramar

Others

Canadian Public Health Association
Canadian Trucking Alliance (CTA)
Friends of the Earth
Lung Association
New Brunswick Lung Association
Pollution Probe
Saint John Citizens Coalition for Clean Air
Tharby Technology Consultants

Copies of the submissions received (excluding the Lung Association submission, which was received late and mirrors the submission by Friends of the Earth) were distributed to stakeholders in July 2001. The July package also included additional correspondence with CPPI regarding addressing potential for flexibility provisions in the regulations.

Additional Consultation on Northern Issues

A number of parties commented on issues specific to implementation of the regulations in northern regions of Canada. To address these concerns, Environment Canada prepared a short *Discussion Paper on Development of the Federal Low-Sulphur On-Road Diesel Fuel Regulations in Relation to Northern Communities* (see Appendix B). A teleconference was held on July 30, 2001 with parties that had

commented on northern issues to further discuss the impact of the proposed low sulphur on-road diesel fuel regulations on northern communities. (The minutes from this call as well as comments received on the notes are included in Appendix B.)

COMMENTS AND REPLY

Comments on Alignment of the Regulations with US Requirements

Many industry stakeholders and governments expressed support for alignment of requirements for level and timing in Canada's regulations with those of the U.S.

"CPPI members remain committed to supplying on-road diesel fuel with the same ultra low sulphur limit and at the same time as required by the US EPA."

"Imperial Oil remains committed to supplying on-road diesel fuel with the same ultra low sulphur limit and at the same time as required by the US Environmental Protection Agency."

"Sunoco is committed to supplying on-road diesel fuel with the same ultra low sulphur limit and at the same time as required by the U.S. EPA."

"Petro-Canada fully supports aligning the environmental performance of Canada's vehicles and fuels with those of the USA".

Irving Oil recommended that *"the Government of Canada harmonize the diesel sulphur standard, timing and level, with that of the United States."*

Alberta Environment *"support[s] Environment Canada's intention to develop a low sulphur diesel regulation that is in line with the US EPA requirements, in terms of sulphur levels and timing."*

EMA recommended that *"Environment Canada should adopt fuel and emission requirements that are harmonized with those in the U.S."* EMA pointed out that *"If fuel requirements are not harmonized, U.S. vehicles traveling in Canada and operated on high-sulphur fuel would suffer severe operational problems and damage to emission control systems"*.

CTA indicated support for *"a regulatory approach that would lead to North American harmonization of both engine and fuel standards"*.

"NRCan supports the initiative to reduce sulphur in on-road diesel, and is pleased that Environment Canada has taken the approach of alignment with the fuel specifications and implementation timing in the U.S."

"In principle, Industry Canada supports the idea of a regulation that would be aligned with the new standard in the United States, both in terms of level (i.e., a maximum limit of 15 parts per million (ppm) sulphur) and timing (i.e., to come into force in June 1, 2006)."

"The Ontario Ministry of the Environment supports Environment Canada's intention to align Canada's on-road diesel fuel standards with those of the U.S., both for level and for timing."

"MNR supports the Environment Canada approach of harmonizing the standard for sulphur content in automotive diesel fuel used in Canada with the U.S. EPA requirements, which are aimed at limiting the maximum sulphur content to 15 parts per million (ppm) as of June 2006."

Reply: The proposed regulations align with the U.S. EPA requirements for both level and timing.

Comments on Regulated Sulphur Level and Implementation Date

Numerous parties commented on the regulatory limits and implementation date. Many urged earlier action and a limit below 15 ppm. It is noteworthy that no one suggested a limit higher than 15 ppm nor timing on limits on production and imports later than 2006.

Comments Addressing Both Regulated Sulphur Level and Implementation Date

"CVMA strongly support Environment Canada's direction to reduce the allowable sulphur content in Canadian on-road diesel fuel to a maximum of 15 parts per million (ppm) commencing June 2006".

"Pollution Probe strongly supports Canada's proposal to limit sulphur concentrations in on-road diesel fuel to 15 parts per million (ppm) by June 1, 2006."

The New Brunswick Lung Association recommended that Canada *"take a stronger position than exists in the U.S. by reducing sulphur levels to 15 ppm by 2005 and to zero by 2008"*.

Saint John Citizens Coalition For Clean Air *"totally support[s] Environment Canada developing regulations to restrict the level of sulphur in on road diesel fuel to a maximum of 15 ppm commencing on June 1, 2006"*.

Comments Specific to the Regulated Sulphur Level

The Engine Manufacturers Association urged *"Environment Canada to consider adopting a near-zero (5 ppm or less) level of sulphur in diesel fuel"*.

CVMA suggested that *"further decreases in sulphur levels beyond 15-ppm to near zero may be required for the introduction of future emission control technologies especially for light-duty diesel applications."*

Ford indicated that *"further reductions, to near-zero sulphur, are required for future technologies, especially for light-duty diesel applications."*

The Canadian Public Health Association stated *"The 15 ppm limit represents an important next step on the road to improving air quality and protecting Canadians from respiratory conditions, some of which have increased alarmingly during the past few years."*

Friends of the Earth and the Lung Association called *"for the sulphur level in all diesel fuel be regulated to 0-15 ppm."*

Comments Specific to the Implementation Date

The Canadian Public Health Association urged *"Environment Canada to explore ways and means of advancing the timetable for these proposed changes"*.

The Saint John Citizens Coalition For Clean Air *"would have preferred [the implementation date] to have been 2005"*.

The Engine Manufacturers Association indicated that *"Environment Canada should require all on-road diesel fuel to meet the 15 ppm sulphur requirement as early as January 1, 2006. Given the agency's expectation of a three-month implementation delay, EMA urges Environment Canada to adopt an effective date for the 15 ppm diesel fuel sulphur requirement of January 1, 2006 and in no event later than April 1, 2006. In order to support the advanced technologies that are expected in the marketplace for model year 2007, it is essential that lower sulphur diesel fuel be commercially available nationwide by those dates. Typically, heavy-duty engine manufacturers begin releasing their new model year engines in September and October. But, the 2007 model year could begin as early as January 2, 2006... Environment Canada should recognize that engines using exhaust gas recirculation technology will begin to be available in Canada as early as mid-2002. While these engines can tolerate the current 500 ppm sulphur fuel, their durability will be improved by having early access to ultra low sulphur fuel."*

Reply 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 in mid-2006. The implementation date for sales in northern regions is September 1, 2007, reflecting fuel distribution and logistical difficulties in northern Canada.

Comments on One-step Implementation Versus a Phase-in

Comments received from stakeholders indicated that they universally preferred a simple, one-step implementation of 15 ppm sulphur in on-road diesel starting in 2006, without the complexities of the U.S. EPA-style 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.

CPPI indicated that its *"analysis of the Canadian industry suggests that an interim two grade on-road diesel scenario is not practical or compatible with the distribution system in the majority of the country"*.

Petro-Canada was of the view that *"to prevent stranded capital investments in the existing Canadian distribution system the new fuel should be introduced in a one step manner."*

Shell indicated: *"Any scheme that would lead to a two grade phase-in is an implementation approach which we believe would not be practical in Canada. For this reason, Shell supports a one step conversion to ULSD [Ultra Low Sulphur Diesel]."*

Sunoco Inc. expressed concern that *"a phase-in approach in the U.S. and a one-step approach in Canada will result in lower-cost 500-ppm on-road diesel availability in the U.S. with none in Canada. This could create an incentive for cross-border refueling pre-2007 vehicles in the U.S., thereby creating a market discontinuity."*

The EMA

"opposes any sulphur phase-in process that would have two on-road fuels in the marketplace at the same time."

expressed concern that *"the existence of two separate heavy-duty fuel streams would be environmentally unsound as it would likely result in the delayed purchase of newer, lower-emitting, heavy-duty engine technologies if truck owners were able to save the costs of operating on lower fuel sulphur levels by keeping their older trucks longer"*.

suggested that to avoid any potential for misfuelling that Environment Canada should put in place *"a uniform, nationwide, single fuel sulphur requirement"*.

"CVMA strongly recommends that a "simple" regulation (as described in the discussion paper) be put in place."

Friends of the Earth and the Lung Association advocated that "The new regulations should be simple - a single target of 2006 with no flexibility".

Pollution Probe *"does not believe that two grades of on-road diesel should be allowed, even for a short period of time."*

Saint John Citizens Coalition For Clean Air was of the view that *"The proposed Canadian regulation definitely should not allow for a second on road diesel grade in Canada"*.

The Canadian Public Health Association stated "Of the two options proposed, CPHA favours the simple approach of requiring all Canadian on-road diesel fuel to meet a 15 ppm limit."

Alberta Environment was of the view that *"a simpler regulation approach [than the EPA's] is desirable given the relatively small size of the Canadian refining industry"*.

The MNR indicated it *"favorise également la mise en vigueur d'une norme unique, applicable à tous dans un esprit d'équité et à une date donnée selon les capacités de l'industrie pétrolière à réaliser les modifications des procédés de désulphuration requis."* [TRANSLATE

Ford *"support[ed] the "simple" regulations ...that require a 15 ppm limit starting June 1, 2006"*.

Reply The proposed regulations have a one-step implementation of 15 ppm sulphur in on-road diesel fuel starting in mid-2006

Comments on Possible Impacts of Fuel Costs if two Grades were Allowed

CVMA indicated that *"the likelihood that the lower-sulphur fuel will have a higher price than the old fuel ... will impede the acceptance and use of the 15-ppm fuel, rather than encourage users to use the new fuel."*

CTA pointed out that *"A scenario under which higher-priced ULSD co-exists with conventional diesel may also inspire companies to delay purchases of trucks with cleaner burning engines."*

Reply The proposed regulations require a one-step implementation of 15 ppm on-road diesel fuel, and therefore there will only be one on-road diesel fuel in the marketplace.

Comments on Including Flexibility Provisions in the Regulations

Many parties commented on the possibility of including flexibility provisions in the regulations, particularly to address the possibility of unforeseen circumstances that could delay the introduction of low sulphur diesel fuel.

CPPI stated that *"There should be no doubt that some kind of flexibility, as a minimum to cover uncontrollable events, is beneficial to supply continuity... Perhaps the most serious unknown is the ability of engineering, procurement and construction resources to complete their work in time for the effective date of this proposed regulation."*

Imperial Oil indicated that

"Given the constraints of the Canadian distribution system, Imperial Oil prefers a simple one step approach to the regulation but it must include flexible and accessible "safety valve" provisions to ensure supply continuity should uncontrollable events occur."

"Environment Canada should keep aware of the process in the US and maintain flexibility to adjust should the US rules be significantly amended with regard to level or timing."

Petro-Canada stated that *"to accommodate timing of the USA regulation and refinery construction requirements there needs to be appropriate program safety valves integrated into any final regulation."*

Shell encouraged *"Environment Canada to closely track developments in the US regulatory system as it pertains to the ULSD issue and to retain the flexibility to ensure Canadian action on ULSD is aligned with our major trading partner."*

Irving Oil pointed out that *"Allowing some companies to import, refine, or market non-compliant diesel after the proposed June 2006 deadline serves to penalize those companies that have invested in infrastructure, or in securing compliant diesel for import."*

CVMA does not support the inclusion of U.S. style flexibilities for refiners and importers in the proposed on-road diesel sulphur regulations."

Ford *"want[s] policies in place that allow Environment Canada to bring low-sulphur diesel to the market place as quickly and completely as possible. If flexibility mechanisms will help bring that about then we will not oppose them"*.

According to Pollution Probe, *"Flexibility mechanisms or so-called "safety valves" that weaken the proposed sulphur reductions, or allow for delayed compliance, will have environmental and health costs and are not acceptable."*

Saint John Citizens Coalition For Clean Air made the following points

"[do] not permit our regulation to get tangled up in "a safety valve" ... This should be avoided in Canada, as it will be expensive and difficult to manage and very confusing for the consumer when he or she purchases the diesel fuel in 2006."

"These "safety valves" or escape hatches can be abused, manipulated and result in making a mockery of an otherwise decent public policy objective."

Industry Canada believes *"that a "safety valve" needs to be included in the Canadian regulation.... The mechanism should only be available to a refiner who can demonstrate that all reasonable actions are being taken to comply with the regulation, but who will be in default for a period of time due to events beyond the refiner's control."*

Natural Resources Canada recommended that *"a safety valve must be built into the regulations, preferably according to the Minister of the Environment's discretion to grant temporary exemptions, to allow for project delays and other unforeseen events that may delay implementation of ULSD in specific areas."*

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." Reply 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."

Comments on Potential for Contamination of 15 ppm diesel Fuel in the Distribution System

CPPI noted that *"Potential contamination of ultra low sulphur products is a serious issue for pipelines and the whole distribution system..."*

Natural Resources Canada noted that *"Contamination of ULSD batches is a concern even with only one grade of on-road diesel in the distribution system. ... Consideration should be given to allowing some tolerance between the sulphur level exiting the refinery and at the engine, at least during a phase-in period."*

CTA pointed out that *"it will be critical to assure consumers that 15 ppm diesel is in fact what it claims to be, and that the possibility of contamination at the pump is all but eliminated. This suggests the need for the Canadian regulation to include rigorous standards for quality control and testing of all fuels sold as ULSD"*.

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. This issue and the estimated additional costs were discussed at length in the discussion document distributed in May 2001.

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 proposed regulations stipulate a sulphur limit of 15 ppm for sales of on-road diesel fuel.

Comments on Potential for Misfuelling

Stakeholders expressed concern regarding potential misfuelling and possible implications on warranty of after-treatment devices. Most of these comments related to the situation of two grades of on-road diesel fuel being allowed during a transition period.

The CVMA indicated that

"Misfuelled vehicles will not only have higher emissions than if they were correctly fueled, the after-treatment devices will eventually fail due to sulphur poisoning and plugging."

"Another concern with a fuel phase-in is the potential incompatibility of the older, high-sulphur fuel with the lubricating oils that are to be used with the 15-ppm sulphur diesel fuel. Presence of sulphur in the fuel creates acids, which means that current lubricating oils contain additives to counteract acidity Thus, if higher-sulphur fuel is used with the lubricating oil designed for the 15-ppm fuel, no correction of the acidity will occur and there is a potential for increased engine wear and damage."

The EMA made a number of points regarding misfuelling:

"In order to avoid the myriad potential problems with contamination and misfuelling, and the increased distribution cost posed by a complex fuel phase-in, Environment Canada should adopt a straightforward, simple fuel requirement: all commercially available on-road diesel fuel must meet a 15 ppm cap on sulphur content."

"The harm to engine and aftertreatment systems from using higher level sulphur fuel would be severe. Engine systems may be poisoned, and irreversible damage may occur."

The CTA submitted that should *"the federal government opt for a U.S. style rule permitting two grades of diesel, it is obvious that Canada will have to follow the U.S. lead in developing an awareness program to reduce the possibility of misfuelling at the pump."*

Irving Oil suggested that the *"The best safeguard to minimize or eliminate misfuelling and contamination of low-sulphur diesel fuel would be to ensure market penetration of ULSD in advance of the regulated deadline."*

Sunoco encouraged *"Environment Canada to ensure that enforcement provisions are rigorous to prevent the occurrence of misfuelling."*

Industry Canada suggested that *"Misfuelling could be addressed in the same manner as today - on-road (low sulphur) diesel would be clear and off-road diesel would be dyed"*.

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 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.

Northern Issues

Nine parties submitted comments addressing specific issues associated with the northern regions of Canada. These issues were summarized in a discussion paper and discussed with parties on a teleconference on July 31, 2001 (see Appendix B). The comments and a discussion of each issue are presented below.

Point-of-Sale Requirements in the North

"Industry Canada recommends that, for the Arctic, fuel shipped after June 1, 2006 should meet the 15 ppm level, but that there should be no requirement for a point-of-sale sulphur level."

NRCan recommended *"that compliance be regulated no further downstream than the regional shipper or point of importation into the Arctic"*.

"CPPI believes that it will prove to be more practical to defer "point of sale" issues for the Arctic."

Reply The *Diesel Fuel Regulations* would be made under the Fuels sections of the *Canadian Environmental Protection Act, 1999* (CEPA). Regulations under these provisions set out the requirements for a fuel. The prohibition on sales, as well as on production and importation, is actually set out in section 139(1) of CEPA. The Act itself sets out the prohibition that *"no person shall produce, import or sell a fuel that does not meet the prescribed requirements"*.

Therefore, there is no flexibility in the *Diesel Fuel Regulations* regarding the setting of point-of-sale sulphur levels in the Arctic.

Northern Fuel Quality Issues

Concerns were raised by Industry Canada, the Government of Northwest Territories and the Northern Transportation Company Limited as to whether the quality of 15-ppm diesel fuel would be satisfactory under Arctic conditions. Industry Canada also raised the issue of understanding the implications of 15-ppm sulphur distillate that may be used for other uses, particularly aviation fuel.

The Northern Transportation Company Limited stated that an *"already challenging minimum viscosity at 500 ppm of sulphur, may present insurmountable manufacturing/sourcing problems at such a low sulphur level as 15 ppm and thus supplies may not be guaranteed"*.

Industry Canada noted *"It will be important to fully understand the implications of 15 ppm sulphur on these other uses, particularly on aviation fuel, prior to finalizing the regulation."*

The NWT indicated that it has *"engaged a consultant to explore whether or not the reduced sulphur levels will have any impact on the usefulness of the fuel for heating and other purposes."*

Reply Low sulphur diesel fuels have been and will continue to be used in arctic regions. Since the early 1990's, low sulphur diesel (10 ppm) has been used successfully in Finland and Sweden which, like the Canadian Arctic, face severe climatic conditions.

In 1998, the European Union passed a directive that sets the maximum limit for sulphur in on-road diesel fuel at 50 ppm in 2005. In May 2001, the European Union proposed to go further and to introduce "zero" sulphur (defined as less than 10-ppm sulphur) gasoline and on-road diesel fuel in every member state commencing January 1, 2005.

Lubricity is one property of low sulphur diesel that was reviewed by the U.S. EPA who decided not to include any requirements for lubricity in its low-sulphur diesel rule, but instead to rely on a voluntary approach. The U.S. EPA found that:

"[It is] uncertain about the potential impacts of the 15-ppm sulfur standard on fuel lubricity. There is evidence that the typical process used to remove sulfur from diesel fuel - hydrotreating - can impact lubricity depending on the severity of the treatment process and characteristics of the crude. Because refiners will likely rely on hydrotreating to achieve the proposed sulfur limit, there may be reductions in the concentration of those components of diesel fuel which contribute to adequate lubricity. As a result, the lubricity of some batches of fuel may be reduced compared to today's levels, resulting in an increased need for the use of lubricity additives in highway diesel fuel."

As noted in the May discussion document on the design of the regulations, one oil company (BP-Arco) has stated that *"lubricity is addressed in all our products. We continue to work on optimizing lubricity for both performance and cost."* It is expected that other companies will make similar efforts for lubricity, as well as the other needs of the fuels that they sell.

It is possible that the State of Alaska could end up proposing a state program. This type of state program could possibly include other fuel quality issues, in addition to sulphur, to reflect arctic conditions. In the event that this happens, areas with northern regions in Canada may want to consider imposing similar requirements to ensure the fuel quality meets their needs. At this time, Environment Canada is not considering regulating any additional requirements for on-road diesel.

Northern communities when planning their fuel supply should consider whether or not 15-ppm diesel fuel that will be required for on-road diesel fuel will continue to be suitable for other uses. The Government of Northwest Territories has engaged a consultant to explore whether the reduced sulphur levels will have any impacts on the usefulness of the 15-ppm fuel for heating and other purposes.

It can be noted that the commercial specification for diesel in Canada (which companies in Canada voluntarily comply with) has specific requirements for diesels used in low-temperature operations. The vehicle manufacturers' World-Wide Fuel Charter provides for relaxation of minimum limits of some properties of low-sulphur diesel fuels including cetane number, cetane index, density and viscosity for low ambient temperatures (below -30°C).

Costs in Northern Canada

The Governments of Northwest Territories and Nunavut presently purchase only low-sulphur (500-ppm) diesel fuel because of their limited infrastructure which cannot support multiple grades. This is also true in most other northern communities where they purchase one grade of multi-purpose distillate fuel (less than 500-ppm sulphur content) to meet their heating, transportation and power generation needs. Less than 5% of diesel supplied is for on-road consumption. In some communities, the on-road consumption may be less than 1% of the total diesel usage.

NWT indicated that

"The introduction of 15 ppm standard will mean additional incremental costs to consumers in the magnitude of some \$185,000 per year."

If it "needs to segregate its diesel....The cost of the new infrastructure is estimated at \$1.2 million."

Nunavut indicated that it would *"have to invest significant amount of dollars to comply by 2006 as additional tankage would have to be built to segregate the diesel product."*

The Northern Transportation Company Limited considered that *"the cost of pursuing such a specification if indeed feasible, could be unreasonably punitive to the people of the Arctic regions given that 95% of consumption is non-road."*

Reply In 1998, when the *Diesel Fuel Regulations* came into force, businesses and communities throughout Canada had to make decisions as to how they would handle the logistics of transporting, handling and storing a low-sulphur grade of diesel fuel. At that time, Arctic communities chose to purchase one grade of distillate fuel instead of the more costly option of building additional storage tanks.

With new requirements for lower levels of sulphur in on-road diesel fuel now forthcoming, Arctic communities may want to once again assess the same issue of purchasing cleaner low-sulphur diesel fuel for all distillate

uses versus building of additional storage tanks. There are also some other considerations that communities may want to keep in mind as they assess their supply options:

Once requirements for 15-ppm on-road diesel fuel are in place, 500-ppm diesel fuel may not be available as it will no longer be a standard commercial product; and
The requirement to control sulphur in off-road diesel fuel can be expected in the 2006 to 2010 time frame at a level expected to be set somewhere between 15 ppm and 500 ppm (and more likely at the low end of the range).

Implementation Timing for Point-of Sales Limits in Northern Regions

Fuel shipments to northern communities take place from mid-May to September along the Mackenzie River and the Arctic Coast. In mid-winter, the fuel is shipped to sites which are only accessible by ice roads. Because fuel shipments are infrequent, turnover of tank volumes is often slow.

The Northern Transportation Company Limited suggested that *"there should be a lag for imposition of any new specification for the Arctic of at least two years behind a general application."*
The Government of Northwest Territories stated that *"if we do not have to segregate our diesel fuel then additional time to blend down existing diesel stocks to meet the requirements of the new regulation will be required. It is anticipated that this would take about 2 years to accomplish"*.
The Government of Northwest Territories indicated that, even with segregation of fuels, *"refiners will need to have the 15 ppm product available for us as early as January, 2006. ... If the product is not available to coincide with our resupply strategy then [NWT's Petroleum Products Division] will need a waiver from Environment Canada, allowing us to comply by September 2007."*
The Government of Nunavut asked whether they would *"be given an option to apply to Environment Canada for 15 ppm diesel transition program as EPA has given this option to Alaska"*.
Alberta Environment stated that *"the issues of restricted fuel delivery schedules and residual fuel in storage tankage need to be considered in determining practical and appropriate compliance time schedules for low sulphur diesel fuel destined for Arctic areas."*

Reply This is one of the main issues that was addressed during a July 30, 2001 teleconference with parties. As proposed during the teleconference, the regulations provide an additional 12 months in northern regions of Canada for implementation of the 15 ppm limit for sales of on-road diesel fuel.

Imports from Alaska

Under the U.S. EPA regulations, the State of Alaska can make an application to the U.S. EPA for its own 15-ppm diesel transition program. There is the possibility, that Alaska could have a different 15-ppm program in effect during an interim period.

Industry Canada recommended that *"Beginning in June 2006, shipments from Alaska should meet the regulation in the same way that domestic suppliers will be required to meet the regulation."*
"CPPI would suggest that supplies of diesel imported from Alaska be treated no differently than supplies imported from any other jurisdiction or supplied from Canadian refineries."
Natural Resources Canada stated that *"Imports from Alaska to the Yukon also highlight the need to maintain alignment with the U.S. ... As Alaska must declare its intent by April 2002, Canadian regulations concerning product specifications in the Yukon should not be finalized until after this date."*
Regarding imports from Alaska, Irving Oil noted *"that providing exemptions or extensions serves to penalize compliant companies"*.
"Pollution Probe does not believe that the Canadian regulations should permit companies to produce or import even small amounts of on-road diesel that does not meet the 15-ppm requirement after June 2006."

Reply Alaska will be subject to the new 15-ppm limit. It is expected that, even under a state program, there would be a significant portion of Alaska on-road diesel fuel production meeting the 15-ppm level on the same timing than the rest of the U.S. (although presumably less than the 80% portion in the rest of the U.S.).

Under the U.S. rule, the State of Alaska has until April 2002 to make an application to the U.S. EPA for its own 15-ppm diesel transition program. The U.S. EPA would likely take several months or more to evaluate the proposed Alaska program. It should be noted that Canadian refiners have informed Environment Canada that the timing for the publication of the final regulation (tentatively scheduled for the summer or fall of 2002) is just sufficient lead time for them to design, install and test the necessary equipment.

There are some very limited authorities under CEPA to provide for a separate program in environmentally-sensitive or health-sensitive regions of Canada on the condition that such programs are more stringent than in the rest of Canada.

The proposed regulations do not provide any special treatment for Alaskan imports.

Dyeing Requirements

The Government of Northwest Territories indicated a preference that "*15-ppm diesel not to be dyed*".

Reply The proposed regulations do not set any requirements for dyeing of diesel fuel. (Dyeing is a provincial requirement for off-road diesel fuel and is related to provincial taxation of the on-road diesel fuel.)

Definition of Northern Supply Area

Cree Regional Authority (James Bay) noted in a later communication with Environment Canada that a number of coastal communities in northern Ontario and Quebec around James Bay get their diesel via barges through Hudson Bay (see Appendix B). These communities are not covered by the definition of Northern Supply Area in the *Benzene in Gasoline Regulations*, yet face the same difficulties as other communities in the North.

Reply The proposed diesel regulations have modified the definition of Northern Supply Area to include these coastal areas around James Bay and Hudson Bay.

Comments on Test methods for Sulphur Levels

The CVMA, Irving Oil, and Tharby Technology Consultants recommended ASTM D5453 test method.

the Government of Northwest Territories indicated that "*The Canadian General Standards Board specification, CAN/CGSB 3.517-93 for Automotive Low Sulphur Diesel recommends three methods for testing the level of sulphur. They are ASTM D 4294, ASTM D 1266 or ASTM D 2622. If any of these methods are acceptable for testing to 15 ppm then they should be maintained.*"

Ford recommended, "*as per the Worldwide Fuel Charter, ASTM D2622-94, ISO 4260-87 and JIS K2541-96.*"

Natural Resources Canada indicated that the "*ASTM D-6428-99 was developed for determining sulphur levels in chemical streams, not diesel fuel, and no precision statement is available on its accuracy in diesel fuel.*"

CPPI recommended that "*the Middle Distillate Committee of the Canadian General Standards Board be asked to advise on the most appropriate method or methods to use.*"

Irving Oil suggested that "*Alternative methods should always be considered for the purposes of record keeping and reporting.*"

Reply: Environment Canada has consulted the Chairs of the Canadian General Standards Board's Middle Distillate Working Group and its Petroleum Test Methods Committee regarding appropriate test methods. Based on the advice received and further analysis by Environment Canada, the proposed regulations specify ASTM Test Method D5453-00 as the reference method for the 15-ppm standard, with ASTM 6428-99 and ASTM 2622-98 also allowed for reporting purposes only. For the existing 500-ppm limit, the methods allowed under the existing *Diesel Fuel Regulations* will continue to be allowed until the 15-ppm limit comes into effect in June 2006.

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.

Friends of the Earth and the Lung Association indicated that *"Once the target date for compliance with the regulation is set, the government should provide incentives for the marketplace to move quickly to sell and buy sulphur-free diesel."*

The New Brunswick Lung Association supported *"the implementation of tax reduction incentives for fuels meeting or exceeding the standards prior to compliance deadlines"*

Pollution Probe indicated that *"additional non-regulatory mechanisms and incentives to speed up this timeline, or to go to lower concentrations would prove even more beneficial to the health of Canadians."*

The City of Toronto recommended that Environment Canada *"develop tax differentials to promote the early introduction of on-road diesel with 15 ppm of sulphur"*.

CVMA believed *"that any instruments or incentives that encourage the early introduction of low sulphur diesel should be given serious consideration by the government of Canada. CVMA would also support the concept of incentives to equalize the pump prices of current diesel fuel and the 15-ppm sulphur fuel prior to full implementation by January 1, 2006."*

Ford indicated that it supported *"the idea of a reduction in the federal excise tax on low-sulphur diesel (15 ppm or lower) to promote the introduction of low sulphur diesel fuel in the Canadian marketplace ahead of regulation."*

CPPI believed that *"the use of fiscal instruments to stimulate an early introduction of some quantity of ULSD will face the same kind of logistical barriers as short-term two grade diesel system."*

Irving Oil recommended that *"The use of the excise tax to establish a differential between regular diesel (up to 500 ppm) and ultra-low sulphur diesel (<15 ppm) in advance of regulations should be adopted."*

The CTA believed that a *"UK-style incentive could bring this product to market quicker, along with the attendant environmental benefits. ... A similar tax benefit for the purchase of cleaner engines (which is driving the push for cleaner diesel fuel) is something CTA has long argued for, and should be considered as well."*

Industry Canada indicated that *"There may be merit to considering the use of such incentives in this case, provided enough lead time is available to refiners so they can make effective use of the incentive."*

Natural Resources Canada, while supporting the use of economic instruments *"as useful approaches to encourage emission reductions"* expressed some concerns regarding the ability of the distribution network in Canada to delivering the low sulphur diesel fuel. It suggested that *"a better understanding of the distribution network in Canada is required in order to determine the potential outcome of the incentives, and to ensure that ULSD can be delivered to the consumer."*

The MNR indicated that any other measures that could affect the market forces or principles of fairness by creating unique cases should not be used.

Sunoco believed that *"while fiscal incentives might encourage some early production of ULSD, the issue of having a two-fuel distribution system would likely prevent 15-ppm sulphur diesel from reaching the marketplace. Also, and perhaps more importantly, the expected timing of the final regulation and the expected implementation date of mid-2006 does not really allow sufficient time for early introduction, given the lead time required for engineering, procurement and construction of the required facilities."*

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 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. Many stakeholders including the governments, industries and non-governmental organizations were involved in this process

The RIAS accompanying the regulations indicates that:

"In the final analysis, both trading and fiscal instruments have not been accepted ... Nevertheless, the use of instruments, including fiscal instruments, as complements to regulations are being explored by the government as a way of promoting earlier availability and use of low-sulphur diesel."

Miscellaneous Issues

Point of Compliance

Sunoco suggested that *"Enforcement of the regulation should be at one point only in the supply system."*

Reply The *Diesel Fuel Regulations* are made under the Fuels sections of the *Canadian Environmental Protection Act* (CEPA). Regulations under these provisions set out the requirements for a fuel. The prohibition on production, importation and sales is set out in section 139(1) of CEPA. The Act itself sets out the prohibition that *"no person shall produce, import or sell a fuel that does not meet the prescribed requirements"*.

Therefore, there is no flexibility for the regulations to specify only one compliance point in the supply system.

Reporting Requirements

Irving Oil suggested that Environment Canada should consider *"reducing the record keeping and reporting requirements of companies that consistently refine, import, and/or distribution transportation fuels that meet or exceed regulated standards. ... Eventually, compliant companies with a proven record should be allowed to report only on an "as requested" basis. The Record keeping will be ongoing and available for auditing at any time, however the administrative burden would be reduced."*

Reply Environment Canada considers that a certain minimum amount of information is required to be reported for monitoring and enforcement of regulations. The proposed regulations retain the quarterly reporting of diesel sulphur levels that is already required under the existing *Diesel Fuel Regulations* (which would be revoked).

Application of Regulations to Military Vehicles

The Saint John Citizens Coalition for Clean Air requested that *"Canadian military vehicles must follow and not be exempted from the new sulphur content regulation."*

Reply The proposed regulations prohibit the sale of diesel fuel with more than 15 ppm sulphur for use in on-road vehicles. The term *"on-road vehicle"* is defined as *"a self-propelled vehicle designed for transporting persons, property, material or permanently or temporarily affixed apparatus on a common or public road, street, avenue, parkway or highway"*. Environment Canada expects that most military vehicles would classify as on-road vehicles, and thus would use low-sulphur diesel.

Sulphur Credit Trading Program

Health Canada pointed out that *"there may be concern that programs which are not regionally based would result in disparities in pollution prevention efforts. Population density may be a critical aspect to consider when characterizing the impact of a trading program on regional air sheds."*

Natural Resources Canada expressed the view that *"there are not enough individual refineries in each area of Canada to warrant a regulated sulphur credit trading system."*

Irving Oil advocated that *"Environment Canada should consider adopting a sulphur credit trading program very similar to the one currently being used by the United States Environmental Protection Agency"*.

Pollution Probe stated *"Sulphur credit trading is a very complex proposition. Pollution Probe has concerns about the local variances in the health benefits that would accrue, due to the potential for*

Reply A credit trading system would greatly complicate the proposed regulations. All the stakeholders who commented on the May 2001 Discussion Paper supported simple one-step regulations. Accordingly, a credit system similar to the one in the U.S. rule is not included in the proposed regulations.

Delay of Regulations

Natural Resources Canada recommended *"that Canadian regulations restricting the level of sulphur in on-road diesel should be delayed until after the U.S. situation is better defined."*

Reply The U.S. EPA passed final regulations in January 2001 requiring 15 ppm on-road diesel fuel commencing in 2006. CPPI, representing Canadian refiners has indicated that final Canadian regulations should be in place by mid-2002 in order to provide industry with adequate lead time. In order to achieve that timing, the proposed regulations must be published in Part I of the Canada Gazette by early 2002.

Companion Vehicle Emission Regulations

Petro-Canada pointed out that *"to receive maximum societal benefit from the introduction of the new fuel there needs to be a parallel initiative to ensure vehicle emissions are also aligned with those of the USA."*

Sunoco expressed the view that *"it is essential that a regulation requiring alignment of the 2007 diesel engine emissions standards proceeds on a parallel track"*.

Reply New vehicle emission regulations are under development by Environment Canada and are intended to be published in Part I of the Canada Gazette early in 2002.

Federal Government Procurement

Friends of the Earth and the Lung Association recommended that *"the federal government should take a leadership role through the procurement of low sulphur diesel fuel for its own fleet. They both called "for the federal government to procure on-road diesel fuel for off-road fuel use."*

Reply Environment Canada has committed to explore complementary measures to promote the early introduction of low sulphur fuels, including examining purchasing cleaner fuels for use in government vehicles. Environment Canada plans to develop a handbook for purchasers to use to facilitate procurement of low sulphur fuels. The target audience includes the federal government, municipalities and other agencies. We will also continue to work with federal government departments and other agencies to increase awareness of cleaner fuels procurement issues.

Off-Road Diesel Fuel

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

Friends of the Earth and the Lung Association encouraged *"the harmonizing of an off-road diesel regulation with that for on-road by 2006"*.

Pollution Probe expressed concerns *"about the sulphur concentrations in off-road diesel fuel and supports any effort on the part of the Canadian government to reduce sulphur levels in this fuel to the same level as proposed for on-road diesel."*

The Canadian Public Health Association indicated that it was *"regrettable that the strategy, as outlined in the report, does not pertain to off-road fuel."*

The New Brunswick Lung Association would have preferred that Environment Canada includes *"all diesel fuels (on-road and off-road) in this regulation"*.

The Ontario Ministry of the Environment encouraged *"further action to limit the level of sulphur in off-road diesel fuel."*

The City of Toronto called on Environment Canada "to harmonize sulphur standards for off-road diesel with those being established for on-road diesel".

Tharby Technology Consultants recommended that "Action on the reduced sulphur for on road diesel fuel must be done in parallel with a significant reduction for off road diesel fuels especially those used in equipment operating in urban environments such as construction, railway and some agricultural equipment."

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.

PM 2.5 Standard

The Canadian Public Health Association requested that Environment Canada "consider including PM 2.5 in the standard".

Reply The proposed *Sulphur in Diesel Regulations* address the sulphur content of on-road diesel fuel. However, by reducing the level of sulphur in diesel fuel, these regulations will reduce emissions of PM2.5 from vehicles. Furthermore, the lower sulphur level will enable more stringent companion vehicle emission standards to be enacted, which will further reduce emission of PM2.5 from new diesel-powered vehicles.

APPENDIX A

List of Issues from May 3, 2001 Discussion Document

1. Should the Canadian regulations permit companies to produce or import a small amount of on-road diesel fuel that does not meet the 15-ppm requirement between for a short period of time after June 2006, recognizing that doing so would require complex regulations to address downstream issues? Working within the legal constraints of CEPA, 1999, which, if any, of the U.S.-style flexibilities for refiners and importers should be considered? What would be the costs and benefits of this relative to regulations without such flexibilities?
2. If two grades of on-road diesel were allowed for some short period of time:
 - (a) How could the availability of 15-ppm diesel throughout Canada be assured? What specific regulatory provisions would be required?
 - (b) What safeguards would need to be put into place to minimize misfuelling and contamination of low-sulphur diesel fuel?
 - (c) How could contamination of low-sulphur diesel batches be handled?
 - (d) Should a temporary sulphur credit trading program be included? How would trading regions be defined? Should generation of early credits be allowed?
3. Is extra time required for the Arctic's diesel distribution system to prepare for the 15-ppm requirement (in addition to the three months likely to be allowed elsewhere in Canada)?
4. Working within the legal constraints of CEPA, 1999, how should Canadian regulations handle imports of on-road diesel from Alaska during the U.S. transition period?

5. What is the appropriate test method for measuring sulphur in on-road diesel at concentrations of less than 15 ppm? Should alternative methods for the purposes of record keeping and reporting be allowed? What alternative methods should be allowed? Should performance-based methods be considered?
6. Should any of the other instruments that are being used by other countries also be considered?

APPENDIX B

Notes from the Teleconference on the Development of the Federal Low-Sulphur On-Road Diesel Fuel Regulations in Relation to Northern Communities, July 30, 2001

Participants

Alison Bunting, Industry Canada

Dale Clark, Natural Resources Canada

Gerry Ertel, Shell Canada

Maureen Hall, Government of the Northwest Territories (NWT)

Susan Makpah, Government of Nunavut

Kerry Matilla, Canadian Petroleum Products Institute (CPPI)

Lyne Monastesse, Environment Canada (EC)

Beatrice Olivastri, Friends of the Earth (FOE)

Lisa Stegink, Neal, Gerber & Eisenberg for Engine Manufacturers Assoc. (EMA)

Mike Ricciuto, Canadian Vehicle Manufacturers' Association (CVMA)

Mark Tushingham, Environment Canada (EC)

Greg Withlock, Northern Transportation Company Limited (NTC)

Allan Pen, Cree Regional Authority

Summary of Discussion

Point-of-sale

EMA expressed concern regarding not having a point-of-sale requirement. Users would have no way of knowing whether they would be purchasing the proper fuel for the 2007 model year vehicles. CVMA expressed the same concern. EC stated that CEPA itself has the point of sale requirement.

Fuel Quality

Shell indicated that ultra low sulphur diesel fuel (ULSD) with less than 15-ppm has been produced by Shell since 1984. In Shell's experience lubricity is successfully addressed with additives. ULSD has a slightly lower density than current 500-ppm diesel. However, the variability is within the range of existing diesel fuel. ULSD can be produced without impacting other uses such as heating and power generation.

The main fuel quality issue raised was regarding the current practice of re-branding on-road diesel to non-certified Jet A-1 fuel. ULSD fuel has not been tested on aircraft engines. It raises a safety concern.

Action Items

NWT to provide address of the Northern Air Transport Association. [Action completed.]
Environment Canada to contact the Northern Air Transport Association to inform them of the proposed regulations. [Action completed: EC mailed letter to NATA on August 1, 2001.]

Cost

The Territories indicated they would prefer not to segregate diesel fuels and continue the existing practice of using the on-road diesel fuel as multi-purpose fuel. Upgrading of the existing infrastructure to accommodate two grades of diesel fuels would be very expensive. EC noted that this issue was faced for the original 500-ppm diesel regulation, and that northern communities decided to purchase on-road diesel for all their distillate needs.

Issues were raised regarding potential cost premium to purchase low-sulphur diesel fuel prior to the coming into force of the proposed regulations. This would be required in order for northern communities to meet the point-of-sale compliance date of September 2006. The issue revolves around the limited infrastructure for fuel storage, the time needed to blend down existing stock, and the need to accommodate the fuel delivery schedule of summertime barges and wintertime ice roads.

EC noted that after the 15-ppm requirements come into effect internationally, there will not be much, if any, 500-ppm diesel in the market.

Timing

EC proposed a point-of-sale compliance date of September 2007 for northern communities, pending a review by the Department of Justice.

NTW indicated it is operating at capacity and fuel stocks are used within 18 months. NTW also indicated it will include the 15-ppm requirements in its next supply contract. If low sulphur diesel fuel can be supplied, NWT will be in compliance by September 2007.

Shell indicated that a refinery producing 300-ppm diesel today can conceivably make small quantity of ULSD to meet the northern requirements.

Shell indicated that the areas in Canada that will require a proposed point-of-sale compliance date of September 2007 would include areas north of 40th [sic, actually 60th] parallel as well as northern Quebec, Ontario and Manitoba.

In summary, the proposed point-of sale compliance date of September 2007 seems achievable for northern communities.

Alaska Import

CPPI supports EC position of not having a special program for Alaska imports. Natural Resources indicated it was a non-issue as long as some 15-ppm diesel fuel is available in Alaska starting June 2006.

It was noted that Yukon government was not present on the teleconference and that their input on this issue should be asked for.

Action Item

Environment Canada to discuss with the Government of Yukon the Alaskan situation. [Action completed: In a telephone conversation on July 31, Government of Yukon supports that no special allowances should be given to imports from Alaska.]

Dyeing

Participants agreed that dyeing requirements were not required since the proposed regulations have simple requirements for level and timing.

Incentives for Early Action

Participants agreed that the National Round Table on the Economy and the Environment is the best mean of addressing incentives for early introduction of low sulphur diesel fuel.

Re-branding of Jet A-1 Fuel

Shell raised concerns regarding the re-branding of jet A-1 fuel which is sold to communities as multi-purpose fuel including on-road diesel fuel.

Action Item

EC to notify EC's Enforcement Branch. [Action completed.]

Path Forward

EC informed the group that EC would be moving forward to published the proposed regulations in the Canada Gazette in the fall.

Oil, Gas and Energy Branch

Environment Canada

August 1, 2001

Comments from Gerald Ertel, Shell Canada on the Teleconference notes, August 3, 2001

Mark:

A few corrections to offer on your minutes.

Page 2: Under Timing: 3rd paragraph

Shell indicated that a refinery that produces LSD today may be able to produce a small quantity of less than 15 ppm ULSD. I don't know if all refiners could do this and I don't know if the volume would be adequate to meet northern requirements. It simply recognizes that diesel fuel is a blend of different components and selective blending could allow production of limited quantities of ULSD. It is very refinery dependent.

Page 2 Under Timing: 4th paragraph

Shell indicated that other areas would have issues with compliance timing. I don't know if they require a Sept 2007 compliance date. They may need more time or they may need less time. Shell did indicate that areas north of 60 deg latitude (not the 40th parallel) as well as Quebec Ontario and Manitoba could be impacted.

Page 2 Timing: 2nd paragraph

It was noted that capacity and fuel stocks are used in 18 months. It should also be noted that many areas particularly in the East receive one shipment a year. If their supplies are sized to last 18 months this would mean that their annual fill is going into a tank one third full.

It has been Shells experience that the tanks are typically 15-25% full when we deliver fuel. In some cases it could be half full if the heating demand is low in a given year. Facilities could try to manage down the inventory, but in cases where there is a single shipment per year this risk and cost of running out of fuel is a significant consideration.

It should be recognized it will take at least 3 years for a tank with a minimum of 25% to reach <15 ppm if it starts with 300 ppm S in LSD and is supplied with 10 ppm ULSD.

Page 2 Timing: 1st paragraph

It says EC is proposing Sept 2007 as a compliance date pending a review by the Justice Department. It was unclear whether the one year extension was a policy decision by EC or whether there was some basis in CEPA that limited the time allowance for the diesel fuel. In addition there was a question concerning the time allowance for the application of the diesel vehicle requirement in the North. The EMA said this would address their vehicle issue but I don't know what EC said in response to this.

Page 2 Timing: 5 th paragraph

The summary says that compliance in Sept 2007 is achievable for northern communities. This statement is true but somewhat misleading. It is likely true if northern communities can access and are supplied with ULSD no later than January 2005.(assuming their tanks on fill are no greater than 25% full and they are starting with 300 ppm LSD and supplied with 10 ppm ULSD)

Page 3 Rebranding Jet A-1:

Shell raised this issue with respect to the future concerns. The Jet A-1 that is being rebranded today may well meet the requirements of LSD (i.e. if it meets 500 ppm). We don't know if it is or isn't. In the future it highly unlikely that Jet A-1 will meet the needs of ULSD so this practice is likely not viable in the future.

General:

Shell/CPPI wanted to clarify that the onus of timing issue in the North will rest largely with those who directly market the fuel. For the most part the refiners or fuel suppliers are not the direct marketers in the areas of concern. These are usually the coops or the governments. Refiners do some direct marketing in areas like Hay River, Yellowknife, Churchill, Whitehorse etc. These are hub areas and the timing concerns rest more with the areas serviced out of the hubs. Generally the fuel suppliers are not the marketers in these areas. I hope this helps.

If there are any questions please contact me.

Comments from Allan Pen, Cree Regional Authority, following the Teleconference, July 30, 2001

Thank you for the opportunity to follow the discussion during the conference call earlier today. My one specific comment (or recommendation) is that EC may want to look more closely into the definition of 'north'. It seems to me that it should include the coastal villages of northern Ontario and those settlements which are serviced by barge from Moosonee.

I work for the James Bay Cree (on the eastern side - in Québec). In this case, the four coastal communities in James Bay are now all connected by road to the rest of Québec (or in the final stages of being so

connected, in the case of Waskaganish). I suspect that the existence of the roads will effectively displace barge traffic, but there is still quite a bit of interest in using James Bay staging points for servicing the Inuit communities of eastern Hudson Bay. The issues raised in the teleconference may not affect the coastal communities in James Bay, but are relevant to Whapmagoostui/Kuujuaraapik and communities further north. In any case, I will be bringing the matter of the sulphur regulation to my colleagues in these communities.

One other technical point. The USA EPA dioxins and furans reassessment notes the relatively low production of D/F from coal and oil fired generation. The discussion of the chemistry involved in D/F production identifies the possibility that sulfur acts as a 'poison' in the catalytic route leading to the formation of both D and F. There is a possibility, therefore, that the more one is effective in removing sulfur from fossil fuels, the more one is likely to augment the production rate of D and F. Perhaps something which should be taken into account in the analysis of the impact of the regulation.