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Fuels and Chemicals Section Oil, Gas and Alternative Energy Division Environment Canada

**Fuel Standards Workshop
International Best Practices and
Regulation in Mexico
Mexico City, Mexico
Jeffrey Guthrie
August 11 and 12, 2015**

Fuels and Chemicals Section develops and implements policy: from concept to instrument development to implementation

- Advise on Canadian policy on clean fuels
 - Identify issues / advise on priorities
 - Gather information
 - Consult
 - Analyze / make recommendations
- Develop instruments, primarily regulations
 - Authorities under the *Canadian Environmental Protection Act*, 1999
 - Eight fuel regulations developed and administered under
 - Part 7 – controlling pollution and managing wastes (Division 4 – Fuels)
 - Part 5 – controlling toxic substances
 - Authorities exist for other, non-regulatory instruments
- Implement / administer programs and regulations
 - Develop guidance material, stakeholder outreach
 - Respond to stakeholder inquiries
 - Compile and analyze data and verify compliance
 - Advise Environment Canada's Enforcement Branch and develop training on regulations
 - Develop public reports on fuel quality



Scope of Work:

- Past focus has been on conventional petroleum fuels for transportation with new and widening focus on renewable fuels
- But also cover
 - Light and heavy fuel oils
 - Fuels for use in non-road applications such as stationary, off-road and marine fuels
 - Non-air-emission effects of fuels (i.e. MTBE re. water and additives re. toxics)
 - Impacts of fuels on human health and environment (under Canada's Chemicals Management Plan)



Fuels and Chemicals Section consists of:

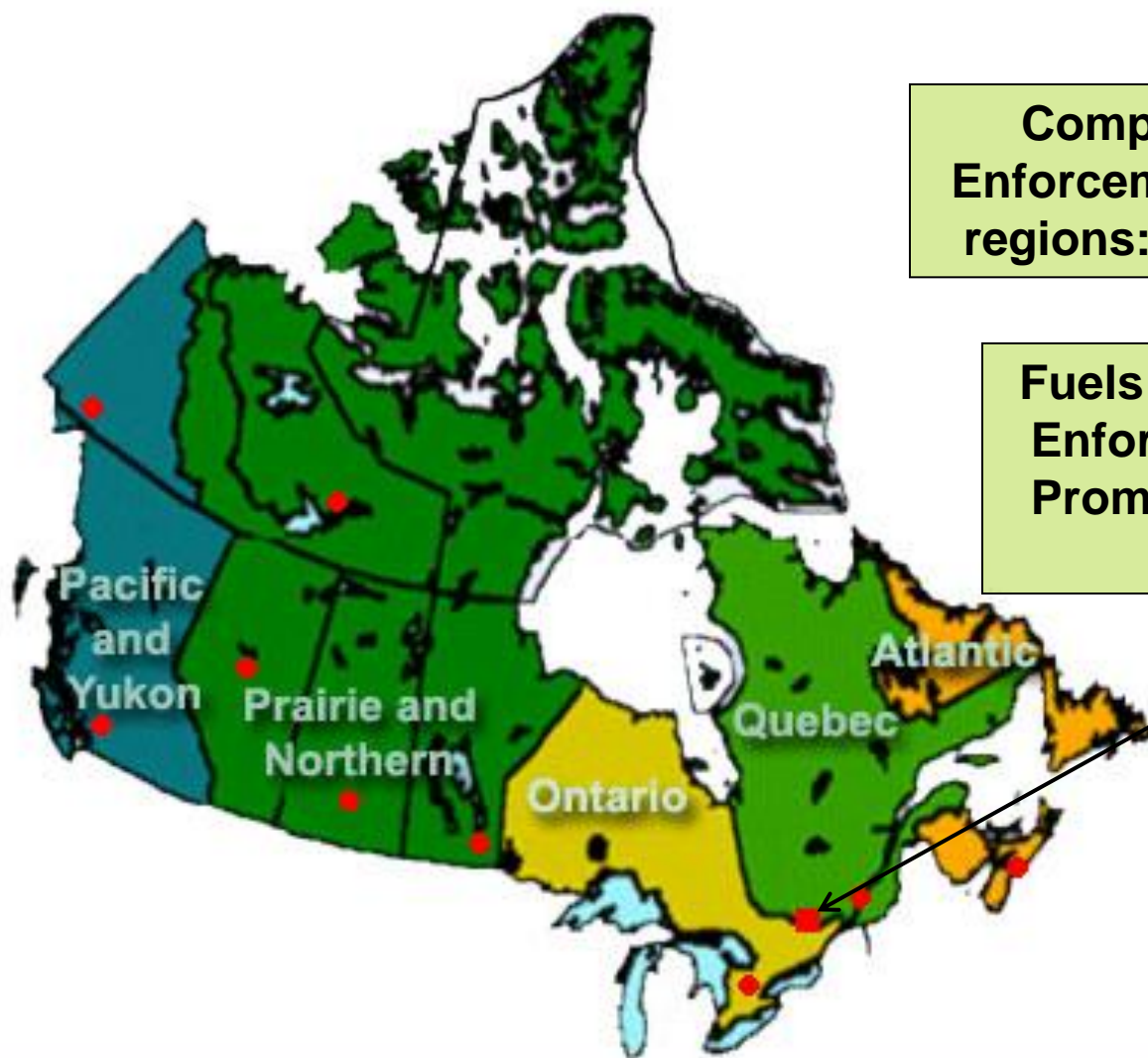
- Policy and Instrument Development Team:
 - Develops regulations and transition the implementation to the Regulatory Administration team
 - In the regulatory development process, we work with many partners:
 - Regulatory Administration team
 - Economic Analysis Group, for a cost-benefit analysis
 - Modelling Groups, to model the health and environmental impacts
 - Department of Justice, for regulatory drafting

- Regulatory Administration Team:
 - Administers fuels regulations
 - This work includes:
 - Compliance Verification and liaison with Enforcement
 - Regulatory Guidance (answering questions from regulated community, developing and maintaining guidance materials and templates)
 - Tracking regulatory performance and publish annual performance reports
 - Developing and managing on-line reporting tools

- Chemicals Management Team
 - Contributes to risk assessment work conducted by evaluators on fuels and other petroleum substances
 - Determines if there is a need to take risk management actions based on assessment results



We are part of a larger EC Fuels Team, including Enforcement and Compliance Promotion staff across Canada



Compliance Promotion and Enforcement Officers located in 5 regions: PYR, PNR, ON, QC, ATL

Fuels and Chemicals Program, Enforcement and Compliance Promotion HQ staff located in Gatineau, Quebec

Fuel Information Regulations, No. 1 (1977)

- Requires reporting for liquid petroleum fuels produced or imported into Canada and additives contained in those fuels
- Information reported
 - Form 1, quarterly data on petroleum fuels produced and imported:
 - Volumes produced and imported
 - Sulphur contents (max, min and average)
 - Fuel densities
 - Form 2, one time reporting on additives contained in those fuels:
 - Additive information (brand name, purpose)
 - Annual quantity used
 - Concentrations (high, low and average)
 - Additive composition
 - Chemical or elemental constituent and weight percentage



Gasoline Regulations (1990)

- Limits the concentration of lead and phosphorus in gasoline that is produced, imported, sold or offered for sale in Canada
 - Lead maximum 5 mg/L
 - Phosphorus maximum 1.3 mg/L
- Gasoline for aviation and competition vehicles exempt
 - Volumes of competition gasoline and lead levels are reported



Contaminated Fuel Regulations (1991)

- No person shall import or export contaminated fuel
 - Contaminants include substances that are not normal components of fuels and are considered dangerous goods under the Transportation of Dangerous Goods Act, 1992
- 2 exemptions:
 - Person importing into Canada a contaminated fuel for destruction, disposal or recycling in accordance with applicable federal or provincial laws
 - Person exporting contaminated fuel to a country with proper authorization or permission by appropriate authority in that country
- Record-keeping requirements for those exemptions



Benzene in Gasoline Regulations (1997)

- Limits benzene content of gasoline and places limits on a Benzene Emission Number (BEN) as of July 1999
 - BEN is an emissions performance index, based on the EPA complex model, that predicts benzene tailpipe emissions from gasoline composition
- Gasoline compositional data reported annually:
 - Volumes produced and imported, Oxygen, Oxygenate type, Sulphur, RVP, E200, E300, Aromatics, Olefins, Benzene and BEN

	DEFAULT		ELECTION OPTION	
	FLAT LIMIT		YEARLY POOL AVERAGE	
	Production/ Import	Sales cap	Production/ Import	Sales cap
Max. Benzene Concentration (vol%)	1.00% (s.3.1)	1.50% (s.3.2)	0.95% YPA with 1.50% cap (s.16.1)	1.50% (s.3.2)
Max. Benzene Emissions Number (BEN)- relates gasoline composition to estimated benzene emissions	Summer= 71 (s.4)	N/A	59.5 YPA (s.17.1(c)) with (102/132) cap (summer/winter) (s.17)	N/A
	Winter= 92 (s.4)	N/A		N/A



Sulphur in Gasoline Regulations (1999)

- Limits for sulphur in gasoline phased in starting in 2002
- Amendments published on July 29, 2015 reduce sulphur further to 10 ppm average to align with U.S. EPA Tier III/ 10 ppm Sulphur in Gasoline Rules
- Annual reporting of gasoline volumes and sulphur contents

	DEFAULT		ELECTION OPTION	
	PER BATCH LIMIT		POOL AVERAGE (ANNUAL)	
	Production / Import (para 2(1)(b))	Sales Cap (ss 2(3))	Production / Import (para 2(2)(b) and para 2(1)(a))	Sales Cap (ss 2(3))
Sulphur Limits	Current: 40 mg/kg 2017 to 2019: 14 mg/kg 2020 onwards: 12 mg/kg	80 mg/kg	Current: 30 mg/kg 2017 onwards: 10 mg/kg Never to be exceeded cap of: 80 mg/kg	80 mg/kg



Sulphur in Diesel Fuel Regulations (2002)

- Replaced the Diesel Fuel Regulations (1997) that limited sulphur in diesel fuel for on-road use to 500 ppm
- Limits sulphur in diesel fuel for various uses phased in from 2010 to 2014
 - Bio-based diesel included
- Annual reporting of gasoline volumes and sulphur contents

SULPHUR IN DIESEL FUEL REGULATIONS			
DIESEL FUEL FOR USE IN:	REGULATED ACTIVITY	SULPHUR LIMIT (mg/kg)	EFFECTIVE DATE
Large Vessels (Marine Diesel)	Production, import or sales (para. 3(1)(e))	1000	June 1, 2014
Large Stationary Engines	Production, import or sales (para. 3(1)(g))	1000	June 1, 2014
Non-large Vessels	Production or import (para. 3(1)(b))	15	June 1, 2012
	Sales (para. 3(1)(d))	500	October 1, 2007
		15	June 1, 2014
Small Stationary Engines	Production, import or sales (para. 3(1)(f))	15	June 1, 2014
Rail (locomotive)	Production or import (para. 3(1)(b))	15	June 1, 2012
	Sales (para. 3(1)(c))	500	October 1, 2007
Off-road Engines	Production, import or sales (para. 3(1)(a))	15	Since 2010
On-road Vehicles	Production, import or sales (para. 3(1)(a))	15	Since 2006



Renewable Fuels Regulations (2010)

- Requires renewable fuel content of at least
 - 5% of a company's gasoline production and imports – as of December 15, 2010, and
 - 2% of a company's distillate production and imports – as of July 1, 2011
 - The regulations do not have biases or mandatory GHG reduction requirements
- Regulations include a trading system of compliance units (representing renewable fuel blended)
 - Compliance units are created upon blending of renewable fuel
 - Compliance units may only be transferred in trade to an obligated party
 - Only obligated parties and registered blenders may own compliance units
- Compliance is based on ownership of compliance units
- Annual third party audit required by all regulated parties
- Annual reporting of information – 8 schedules
 - Obligated parties, blenders who create compliance units and renewable fuel producers and importers
 - Reports are submitted via the Renewable Fuels Regulations Electronic Reporting System



Regulations Prescribing Circumstances for Granting Waivers Pursuant to Section 147 of the Act (2010)

- Prescribes the circumstances under which any or all requirements of a fuel regulation made under sections 140 or 145 of the *Canadian Environmental Protection Act, 1999* (CEPA 1999) can be temporarily waived
 - Applies to all fuels regulations except the *Benzene in Gasoline Regulations* and the *Contaminated Fuels Regulations* – these Regulations are not under sections 140 or 145 of CEPA 1999
- Allows the Minister of the Environment to grant temporary waivers if there is a fuel supply shortage during a declared emergency and/or at the request of the Minister of National Defence if there is an actual or anticipated fuel shortage that could affect national defence operations



Compliance Promotion - increasing awareness, understanding and compliance with the law and its regulations

- Information is provided to the regulated communities on what is required to comply, the benefits of compliance and the consequences of non-compliance
- Main compliance promotion activities include:
 - Maintaining contacts and awareness of industry and their associations
 - Providing information and guidance in response to inquiries
 - Developing guidance materials (factsheets, guidance documents, tools and templates)
 - Information and awareness sessions (face to face, webinar)
 - Email mail-outs (informing of consultations, new regulations and amendments and for reminders of key requirements)
 - Attendance at trade shows and conferences (exhibition booths)
 - Advertising in magazines and trade websites
- Departmental compliance promotion efforts focus on geographically dispersed, small and medium-sized enterprises (less than 500 employees) and First Nations



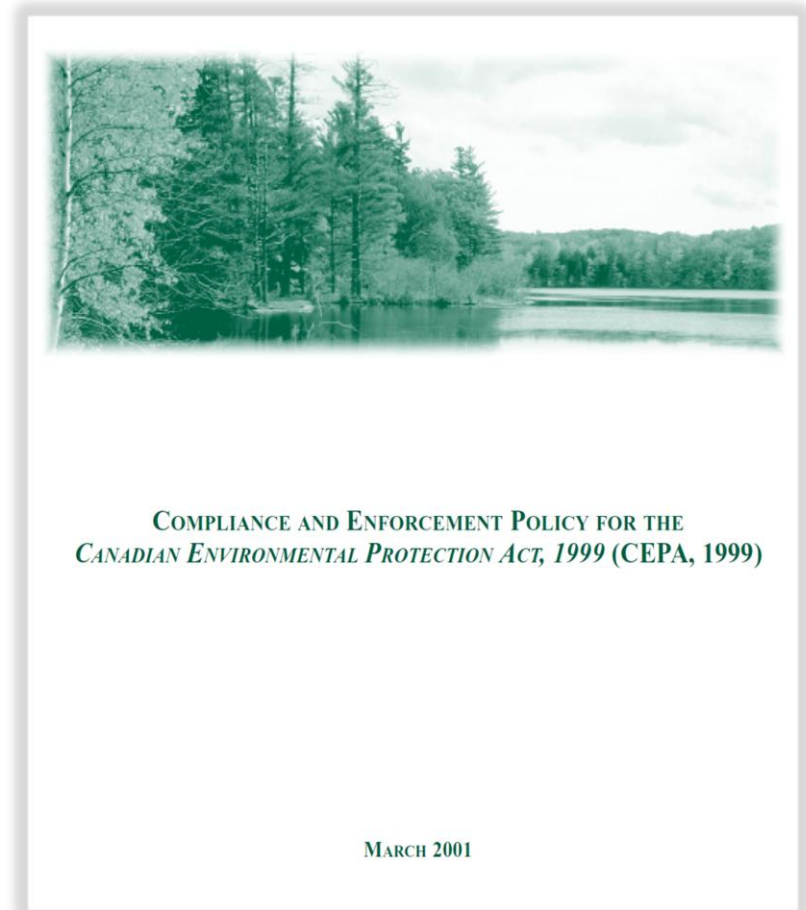
Enforcement - securing compliance with the requirements of CEPA 1999 and its regulations

- Canadians expect their government to create and enforce laws and regulations that will protect them and their society
 - CEPA 1999 stipulates the Government of Canada's duty of enforcement within the Act itself
- Effective enforcement is integral to achieving the highest level of environmental quality for all Canadians
 - Enforcement is delivered through the work of in-the-field enforcement officers across Canada in cooperation with other federal, provincial and territorial governments and with international organizations involved in enforcement
- Principles of enforcement of CEPA 1999
 - compliance with CEPA 1999 and its regulations is mandatory;
 - enforcement officers apply the Act in a manner that is fair, predictable, and consistent;
 - enforcement officers use rules, sanctions, and processes securely founded in law;
 - enforcement officers enforce the Act with an emphasis on preventing harm to the environment;
 - enforcement officers examine every suspected violation of which they have knowledge and take action consistent with the Compliance and Enforcement Policy; and
 - enforcement officers encourage Canadians to report violations of the Act to them.



Compliance and Enforcement Policy

- Environment Canada's enforcement officers are guided by the Compliance and Enforcement Policy for the *Canadian Environmental Protection Act, 1999*.
- The policy is a public document that establishes an overall framework for compliance and enforcement of CEPA 1999



Enforcement Powers and Authorities

- Designated under environmental legislation and Criminal Code (Peace Officer Status)
- Powers and Authorities come directly from CEPA 1999 and include:
 - Power to take or direct remedial action
 - Power to board any ship
 - Authority to seize or detain a ship
 - Authority to issue a warrant
 - Authority to access private property
 - Authority to arrest
- Inspection Powers include:
 - Enter premises where a regulated activity or substance is found
 - Open receptacles, examine substances, take samples
 - Conduct tests and measurements
 - Examine and make copies of any relevant books, records, electronic data
 - Take photographs



Enforcement tools

- Warnings of a suspected violation, so that the offender can take notice and return to compliance
- Directions that may be issued to deal with or prevent illegal releases of regulated substances
- Tickets for offences such as failure to submit written reports
- Ministerial orders for dealing with new substances as well as recalling from the marketplace substances or products that contravene CEPA 1999 or its regulations
- Environmental protection compliance orders to put an immediate stop to illegal activity, to prevent a violation from occurring or to require action to be taken
- Injunctions to stop or prevent a violation from occurring;
- Prosecution under the authority of a Crown Prosecutor
- Environmental protection alternative measures to divert an accused from the formal court prosecution process

Enforcement Planning and Reporting

- Each year, Environment Canada develops a National Enforcement Plan
 - Describes the enforcement activities to be carried out in that fiscal year, including activities addressing non-compliance with CEPA 1999
- Factors that influence the identification of priority regulations include
 - risk to the environment and human health represented by the regulated substance or activity,
 - compliance issues
 - new and amended regulations
 - the nature of regulatory provisions
 - operational complexity and capacity, and domestic and international commitments and obligations
- The number of planned inspections carried out under the enforcement plan is supplemented by a large number of unplanned inspections resulting from
 - responses to complaints, intelligence gathering, spills or other information
- In addition, a number of regulations are identified for regional enforcement focus, based on
 - geography, the prevalence of the regulated sectors, and provincial and territorial environmental sensitivities
- Enforcement activities and other activities conducted under the Canadian Environmental Protection Act, 1999 are reporting to the public annually <http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=64AAFDF1-1>



Fuels Annual Report Publications – Reporting on the Performance of the Regulations

- Benzene in Gasoline Report
 - 2010 to 2012 – published July 2015
 - <http://www.ec.gc.ca/energie-energy/default.asp?lang=En&n=43B2171E-1>
- Sulphur in Liquid Fuels Report
 - 2010 to 2012 – published July 2015
 - <http://www.ec.gc.ca/energie-energy/default.asp?lang=En&n=9863FC87-1>
- Renewable Fuels Regulations Performance Measurement and Evaluation Report
 - In development, 2015 release
- Renewable Fuels Regulations Annual Report
 - In development, 2015 release



Thank you and Questions?

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