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Brief to the Bureau d'audiences publiques sur l'environnement

regarding the

Projet d'usine d'acide téréphtalique purifié à Montréal-est par Interquisa Canada Inc.

submitted by

Bruce Walker

Research Director

STOP

October 2000

Introduction

STOP is a non-profit citizens' environmental group based in Montreal. Incorporated in 1970, STOP deals with a variety of air quality, water quality, and waste management issues in the greater Montreal area. STOP is the principal environmental watchdog with regard to the air pollution control activities of the Montreal Urban Community. Volunteers participate on numerous multistakeholder committees at the regional, provincial, and national levels.

1970 25 1995

Ground-level Ozone: A Major Problem in Greater Montreal

STOP is shocked that virtually no attention has been paid to the urgent public health problem of ground-level ozone. Neither the Directive of the Ministère de 1'Environnement nor the Impact Statement made any significant reference. The MUC, to its credit, indicated that ozone is a serious air quality issue in many parts of the island of Montreal, including the east end, where Interquisa intends to build a petrochemical factory.

Frequent exceedances of the current ambient air criteria for ozone (80 parts per billion, 1 hour average) occur between the months of May to September in southern Québec. STOP urges the Ministère de 1'Environnement and the Montreal Urban Community to replace the current ozone criteria with the new, tougher Canada-Wide Standard for ozone of 65 parts per billion, 8 hour average. STOP participated actively in the development of this new ambient air criteria that was approved by the Canadian Council of Ministers of the Environment (CCME) during their meeting in Québec City in June 2000.

The impacts of these ozone exceedances in southern Québec on human respiratory systems are well documented. Please refer to the attachment with the air pollution health effects pyramid.

STOP recognizes that the solution to our ground-level ozone problem will require further regulatory action at the federal, provincial, and regional levels of government. These actions should require significant reductions in emissions of nitrogen oxides (NOx) and volatile organic compounds (VOC) from a wide variety of stationary, mobile, and area sources, in Québec, Ontario, and the United States.

Proposed VOC Controls Are Adequate

STOP was pleased to participate in the public hearings of the MUC Environment Comission in May 2000 regarding proposed revisions to MUC Air By-law 90 pertaining to Interquisa. STOP is satisfied that the new VOC limits applicable to Interquisa adopted by MUC Council in August 2000 represent best available control technology. Clearly strict monitoring and surveillance by regulatory agencies will be required throughout the life of the factory to ensure there is no reduction in VOC control efficiency.

Stricter NOx Emission Standards Are Required

The proponent proposes to install low-NOx burners in its central steam plant that will be fired principally with natural gas. The proponent has estimated total NOx emissions will be 113 tonnes per year (BAPE, Document DA9, Table 4.14).

This does not even come close to state-of-the-art NOx control technology. In its brief to the MUC Environment Commission in May 2000, STOP highlighted the absence of any significant NOx reduction requirements in MUC Air By-law 90. The proposed NOx emission limits of the Ministère de l'Environnement (40 g NOx / GJ) are taken directly from "Ligne Directrice Nationale sur les émissions des chaudières et des fours commerciaux et industriels", published by the Canadian Council of Ministers of the Environment in Mars 1998. STOP participated in the multistakeholder working group that developed this Guideline, under the auspices of the CCME NOx/VOC Management Plan. STOP registered a dissenting opinion with regard to one of the NOx emission limits (see Attachment).

The NOx emission limits in the United States are more stringent. Under the U.S. Clean Air Act, signed by President Bush on 15 November 1990, a major new source of NOx that wishes to locate in an area of the country that the U.S. Environmental Protection Agency has determined to be in a status of "non-attainment" for ground-level ozone ambient air standard, must install best available NOx control technology, AND the source must "offset" its remaining NOx emissions through the purchase of "NOx emission credits" from nearby sources. This local emission trading scheme has recently been expanded to include major existing NOx stationary sources in 22 states.

Since 1997 STOP has participated in an emission trading pilot project in Ontario, known as the Pilot Emission Reduction Trading (PERT) multistakeholder Working Group. See attachment for a summary description of PERT. Other Québec stakeholders have been asked to participate in PERT, including the Ministère de l'Environnement, and l'Association industrielle de l'est de Montréal. These organizations have evidently chosen not to participate.

STOP is not offering unconditional support for NOx emission trading. As with any air quality management scheme, the devil is in the details. Toxic substances that may have serious local impacts, such as VOCs and and particulate matter, MUST NEVER BE TRADED. Emission trading must only be permitted if it results in air quality improvements, including downwind jurisdictions.

Interquisa's NOx Emissions Must Be Cut In Half

STOP believes that Interquisa can do a much better job in reducing NOx emissions. STOP recommends that the allowable NOx emissions be reduced from 113 tonnes per year to 60 tonnes per year. STOP further believes that both an in-stack emission limit AND an annual NOx cap are required to protect an already-polluted airshed.

STOP believes the company should be free to choose whatever NOx control technology may be required to comply with the above emission limits. In recognition of the possibility of significantly higher costs of compliance, STOP suggests that the company should be allowed to purchase "NOx emission credits" from nearby stationary and mobile sources that have overcomplied with their own NOx reduction requirements. Under no circumstances should the company be allowed to purchase or use NOx credits in excess of 10% of their own annual NOx cap i.e. maximum of 6 tonnes per year.

Cumulative Impacts Have Been Ignored

STOP is concerned that the additional atmospheric emissions from the presently idle Coastal petrochemical factory have not been factored in to the air quality analysis. In 1998, Coastal's NOx emissions were estimated to be 354 tonnes per year, and fugitive and storage tank VOC emissions were estimated to be 259 tonnes per year (Montreal Urban Community, Inventaire des sources fixes d'émissions atmosphériques; BAPE Document#DB14).

The Montreal Urban Community prepares an annual "inventaire des sources fixes d'émissions atmosphériques" for some 80 or 90 major stationary sources located on the island of Montreal. The MUC has traditionally refused to make these documents available to the public on request. STOP wishes to thank BAPE for allowing the population to have a peek at one of these sources, the Coastal petrochemical factory (see attachment).

STOP recommends that the Montreal Urban Community lift its veil of secrecy and make available to the public its facility-specific "inventaire des sources fixes d'émissions atmosphériques". The Montreal Urban Community has recently established an excellent website for its ambient air monitoring data. Facility-specific emission data should also be posted to the MUC website.

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- 1970
- grand Montréal

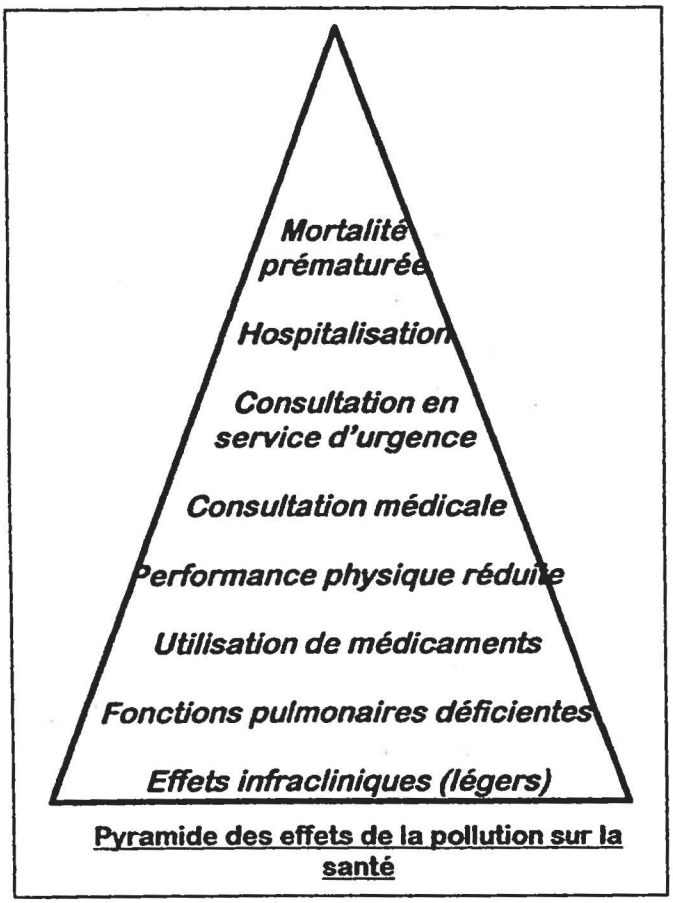
* L'AIR
* LES EAUX USÉES
* LA GESTION DES DÉCHETS
* L'ÉNERGIE

AIR

COV ✓

NO_x X

O_3 XX



Pyramide des effets de la pollution sur la santé

Impacts sur l'Atmosphère

	Dossiers de qualité de l'air					
Polluant	Les odeurs	Les substances toxiques	L'ozone au sol	Les pluies acides	Les aérosols acides	Les changements climatiques
Anhydride sulphureux (SO_2)				√	√	
Autres composés sulphureux	√					
Oxydes d'azote (NOx)			√	√	√	
Composés organiques volatils (VOC)	√	√	√			
Particules respirables (RP)		√		√	√	
Dioxyde de carbone (CO_2)						√

Source: STOP, Guide STOP I/E, hiver 1998.

O_3 - AIR AMBIANT

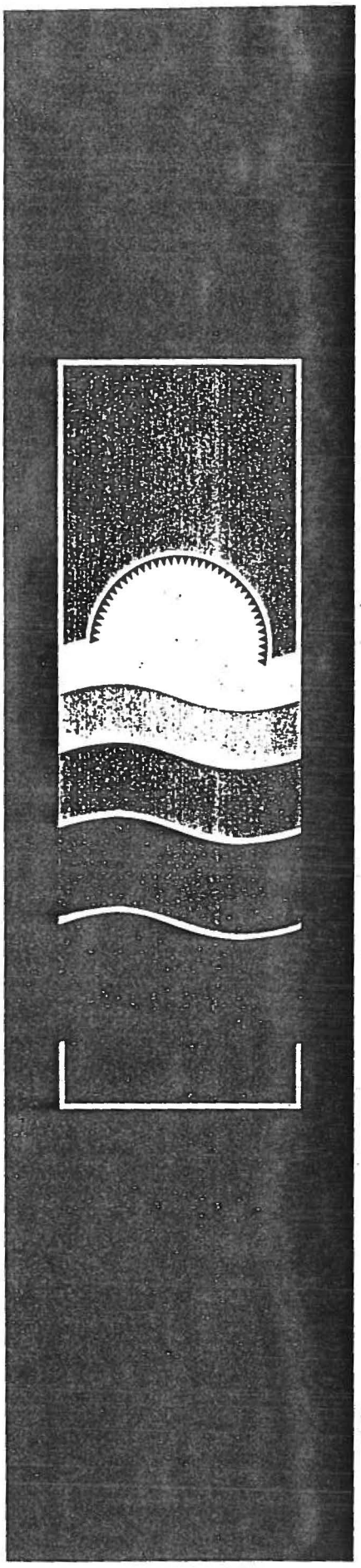
MENV
CUM — 80 ppb - 1 h

CCME
Standards
pan-canadiens — 65 ppb - 8 h

US EPA
National Ambient
Air Quality
Standards — ~~120 ppb - 1 h~~ 80 ppb - 8 h

- légalement applicable aux sources fixes

U.S. CLEAN AIR ACT, 15 NOV. 1990



CCME

Le Conseil canadien des ministres de l'environnement

Canadian Council of Ministers of the Environment

LIGNE DIRECTRICE NATIONALE

SUR LES ÉMISSIONS DES CHAUDIÈRES ET DES FOURS COMMERCIAUX ET INDUSTRIELS

STOP

Initiative N306
mars 1998
PN 1287

Interquisa NO_x

Québec RQA modifications

40 g NOx / GJ

→ 113 tonnes NOx / année

Recommandations de STOP:

1) un taux d'Émission plus strict

~ 30 g NOx / GJ

PLUS

2) un Cap Annuel de NOx

→ 60 tonnes / année

PLUS

3) la compagnie peut acheter / utiliser des crédits de NOx

est inférieure à 10,5 GJ/h (10 x 10^6Btu/h) (voir l'article 3 présenté dans la dernière section du présent sommaire sous le titre « Recommandations »). En adoptant 10,5 GJ/h (10 x 10^6Btu/h) comme limite inférieure de capacité, dans la ligne directrice de l'initiative N306, on évite toute « zone d'échappement ».

2. *Limites d'émissions pour les chaudières et fours neufs*

Les facteurs d'émission suivants sont censés produire un modèle du rendement moyen des chaudières et fours dont les émissions ne sont pas contrôlées :

Tableau D6 — Rendement moyen des chaudières et fours à émissions de NO_x non contrôlées

Capacité		Limites d'émissions de NO_x (g/GJ)		
(GJ/h)	(10^6Btu/h)	Combustible gazeux	Distillat	Huile résiduelle
10,5 - 105	10 - 100	54	65	145
> 105	> 100	97	92	166

En appliquant les niveaux de réduction d'émissions du tableau D4, on obtient les limites d'émissions réalisables du tableau D7 :

Tableau D7 — Limites d'émissions réalisables

Capacité		Limites d'émissions de NO_x (g/GJ)		
(GJ/h)	(10^6Btu/h)	Combustible gazeux	Distillat	Huile résiduelle
10,5 - 105	10 - 100	16 - 27	26 - 39	80 - 109
> 105	> 100	29 - 49	37 - 55	91 - 125

On a comparé ces gammes de limites d'émissions réalisables, dites « dérivées », à d'autres données pertinentes (ébauche des lignes directrices sur les chaudières fédérales, données de CANMET et données de l'EPA) et aux limites d'émissions appliquées à l'étranger. Dans la plupart des cas, on a jugé les plages inférieures des limites dérivées trop strictes, car elles ne sont corroborées ni par le rendement d'émissions des chaudières au Canada ni par les limites d'émissions en vigueur à l'étranger. On recommande d'assouplir les limites dans le cas des chaudières et fours de forte capacité afin de prendre en compte les facteurs d'émission plus élevés rapportés pour les chaudières ayant ces capacités. Les limites réalisables lorsqu'on utilise de l'huile résiduelle comme combustible sont fortement influencées par la teneur en azote de l'huile.

En se basant sur les constatations et les considérations ci-dessus, et sauf l'exception ci-dessous[1], les membres du groupe de travail ont décidé d'un accord général de recommander pour la ligne directrice les limites d'émissions présentées dans le tableau D8 :

1 Bruce Walker, STOP, n'a pas participé au consensus, maintenant que la limite d'émissions de NO_x pour combustibles gazeux devraient être 22 g/GJ plutôt que 26 g/GJ pour les installations ayant une capacité entre [illegible] et 105 GJ/h.

6.5 Emission Reduction Trading

The Energy Competition Act (Bill 35) has provided the powers to write regulations under the Environmental Protection Act allowing the use of economic instruments such as emissions trading to lower the cost of meeting limits on emissions.

A Letter of Understanding (LOU) with the Ministry of the Environment encourages participation in the Pilot Emission Reduction Trading (PERT) Project by providing participating industries with some assurance, but no guarantee, that emission reduction credits created when reductions are made according to PERT criteria, will be recognized when applied toward voluntary commitments.

Emission Reduction Trading encourages companies to reduce air emissions faster than required by regulation or agreement by allowing a company to earn credits from the reductions resulting from the early adoption of emission reducing processes and technologies toward future requirements or going beyond existing requirements. Under PERT trading rules, these credits can be banked for future use or sale in supporting voluntary reduction commitments. It is important to note that when referring to PERT trading rules or criteria, that PERT does not endorse, sanctify, or affirm the credibility or value of the pilot trades that it posts.

On July 8, 1998, the minister signed a Letter of Understanding with the PERT industrial participants. On March 30, 1999, the Letter of Understanding was extended to March 31, 2001.

Participants in PERT are working to identify and resolve stakeholder concerns with trading program design elements and most importantly to evaluate the environmental and economic benefits of using emission reduction credit trading as a tool to improve air quality.

Source: Ontario Ministry of Environment, Ontario's Anti-Smog Action Plan-- Progress Report, August 2000, 54 pp.

PERT is an industry-led initiative, and participants include: the Ontario steel makers (Dofasco, Stelco); the natural gas companies (Union Gas, Enbridge Consumers Gas); Ontario Power Generation; John Deere; Shell Chemicals; Pollution Probe; the Asthma Society; STOP (a Montreal-based environmental organization); Environment Canada and Industry Canada. The MOE also participates in PERT.

PERT has drafted a set of emission trading rules which will assist stakeholders in better understanding risks and opportunities associated with emissions trading.

There is an evolving global trend toward using a more flexible mix of environmental and economic management instruments, such as emission reduction trading, to complement regulatory protection.

Several demonstration creations and trades of emission reduction credits have already been carried out by industries participating in PERT:

- NOx and VOC credits created from the scrapping of 140 high emission vehicles by ProtectAir Inc. (approximately 0.2 tonnes);
- Credits created by Environmental Interface through NOx reductions from energy-saving retrofits of school and hospital buildings in Toronto;
- 400 U.S. tons of NOx credits purchased by Ontario Hydro (now Ontario Power Generation Inc.) from the Detroit Edison Munroe (power) Plant near Detroit;
- NOx credits created by Ontario Hydro through early installation of low-NOx burners in its fossil-fuelled generating station at Nanticoke;
- NOx credits sold by Ontario Hydro to two Connecticut utilities to allow those utilities to meet their obligations under a State of Connecticut directive (approximately 500 U.S. tons).

LES IMPACTS CUMULATIFS

Usine pétrochimique Coastal

ÉMISSIONS 1998

NO_x 354 tonnes

COV 260 tonnes

43.

INVENTAIRE DES SOURCES FIXES D'EMISSIONS ATMOSPHERIQUES 1998

COMPAGNIE : Pétrochimie Coastal du Canada (100012)

1. PRODUCTION

Benzène :	52746 kL/an
Toluène :	6068 kL/an
Paraxylène :	219651 kL/an
Aromatique C_9+ :	13214 kL/an
Mélange de benzène et de toluène :	579 kL/an

Nombre d'heures de production de l'usine par année : 6096 heures

2. EMISSIONS ANNUELLES DES COMPOSES ORGANIQUES VOLATILS (COV)

Sources	NO_x	COV	Part.	SO_2
	(en tonnes métriques/année)			
Torchère Est (1)	0.77	0.15	0	
Torchère Ouest (1)	0.16	0	0	
Emissions diffuses (2) (réservoirs + fugitives)	-	259	-	
Emissions des procédés (Combustion)	354.3	0.91	15.7	
Bassins (4) d'épuration des eaux (3)	-	< 0.1	-	
Autres sources :				
Chargement de citerne de produits volatils	-	-	-	

TOTAL : 141

* **Références des émissions annuelles:**

1) Facteurs d'émissions AP 42 de USEPA
2) Programme de mesure + facteurs de corrélation (voir annexe D-3)
3) Facteurs d'émissions AP 42 + logiciel SIMS version 2.0

Comité de suivi l'expérience de STOP:

* CUM - lieu d'enfouissement
  Démix, Montréal-Est

* SOLUTIA - usine chimique
  LaSalle

Recommandations :

Membres - local & régional
- les citoyens/groupes qui ont participés aux audiences publiques

Personne-ressource - MENV
- CUM