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Mr. Terry Sargent, Chairperson
Manitoba Clean Environment Commission
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Dear Mr. Sargent,

Please find my written submission to the Clean Environment Commission regarding the Louisiana Pacific Strandboard Plant Air Emissions Review below.

Should you have any questions, concerns, or if you require a copy of the articles cited please do not hesitate to contact me.

Respectfully Submitted,

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INTRODUCTION

Louisiana-Pacific Corporations's (LPC) request to amend the emission limits from the Pressing and Drying operations at LPC's Oriented Strand Board Plant in Minitonas, Manitoba should not be allowed for one very simple and compelling reason: it will result in drastically increased amounts of known toxic pollutants being emitted!

The proposed amendments, if accepted, will allow LPC to increase its emission limits of formaldehyde more than forty-seven fold at the dryer, and nearly fourteen fold at the press. Benzene emission limits will increase by a factor of twenty-one and a half at the dryer, and sixty-five and two-thirds at the press, and Volatile Organic Compounds (VOC) emissions will increase more than nineteen fold at the dryer, and nearly ten fold at the press. Diphenyl-methane diisocyanate (MDI) emission limits will increase more than six-fold at the press. In exchange LPC is offering to reduce its nitrogen oxide emissions limit just under twenty percent at its dryer only.

In response to concerns raised by Swan Valley Residents and other concerned citizens, culminating with the 1994 Clean Environment Commission (CEC) hearings, LPC agreed to install three Regenerative Thermal Oxidizers (RTO) units at the plant it was then constructing in Minitonas.

Right from the beginning the bar was set high. The Minitonas LPC OSB plant operated with some of the most strict emissions standards anywhere in Canada. The plant has successfully operated within these emission constraints for thirteen years. The standards were set high, but LPC has shown us that they can easily clear the bar with room to spare. Why then are we considering lowering the bar? These tough emission standards seemed to have instilled in the plant employees and management a desire to constantly improve. The plant has won environmental awards! If anything we should encourage LPC to continue to improve by continuously inching the bar higher.

LPC argues that its request to increase its emission limits is reasonable based on several claims.

- 1) That LPC facility is the only plant in Canada that is required to operate a Regenerative Thermal Oxidizer (RTO) and that this places them at a competitive disadvantage *vis-a-vis* other Oriented Strand Board (OSB) plants in Canada.
- 2) That these increased limits are still within the range set out by ambient air quality standards and therefore "...will not result in significant impact to the surrounding environment and community health."
- 3) That this proposal will result in a reduction in greenhouse gas emissions and therefore it is "good for the environment".

Each of these separate but over-lapping claims will be dealt with sequentially before tying it all together in my conclusion.

EVERYBODY ELSE IS OPERATING WITHOUT A RTO:

if everybody jumped off a bridge, would you jump too?

The largest motivation for this change in emission limits is costs. Put simply LPC does want to continue to spend the three million dollars per annum required to keep RTO units running, and it does not want to pay for the costs associated with the replacement of the RTO units as the original units will need to be replaced in the coming years.

The CEC SENES report “North American Oriented Strand Board Industry Review” estimates the cost of operating a RTO system is estimated to be seven to twelve percent of overall sales.¹ LPC argues that it is unfair that they are required to operate RTO units when other OSB plants in Canada are not required to operate similar equipment, and that this places them at a distinct disadvantage. LPC argues that these additional costs threatens the viability of the Minitonas plant, thereby threatening the jobs of the workers at the plant.

However, if the costs of operating the three RTO units is so prohibitive, how has the plant managed to compete for the past thirteen years? If the costs were so prohibitive would LPC have not backed out of investing in a plant in Minitonas when it became apparent that RTO units were going to have to be installed?

In spite of the additional costs of operating RTO units the plant in Mintonas is still operating, albeit at a reduced capacity. This seems to indicate that it was more profitable than its neighboring plant in Hudson Bay which was shut-down indefinitely more than a year ago, in spite of the fact that it does not operate an RTO.² Nine of Canada's thirty OSB plants are presently shut-down with more shut-downs anticipated in the future according to the above mentioned SENES report.³ The fact that the Minitonas plant is still one of the twenty-one Canadian plants which is presently operating, when other OSB plants without RTO units have shut down, shows how competitive this plant truly is.

This shows that contrary to the hyperbole presented leaving the RTO units in operation will not necessarily doom the Minitonas plant to indefinite closure, nor will turning the RTO units off guarantee the plant's survival. This is not to deny that the Mintonas plant is struggling, but given the fact that the plant has operated successfully for thirteen years with the RTO units in place, it seems that the challenges presently facing the Minitonas plant have more to do with the turbulence in the international markets than with the costs associated with operating their RTO units.

The slow down due to the U.S. Housing crisis, and the increase in the value of the Canadian dollar vis-a-vis the American dollar has resulted in lay-offs throughout the forestry industry. Who cannot sympathize with the forestry workers who have already been laid off and those who are facing the threat of unemployment? Who cannot sympathize with the surrounding community and businesses who will be impacted by these lay-offs? Certainly the CEC needs to be cognizant of the economics of the present situation, however it is important for this commission to recognize that they are an environmental advisory commission not an economic advisory commission.

The question being asked of the commission can be found in reference point one, in which Minister Struthers asks the CEC to investigate “...and provide advice and recommendations to the Minister regarding the potential health and environmental effects of the increased emission limits and the subsequent decommissioning of the Regenerative Thermal Oxidizer technology which is contained in Louisiana Pacific's requested licence change.”⁴ The second term of reference calls for public input, and the third term of reference establishes a time frame for the investigation.

The question of the economic impacts of turning the RTO units on or off is never explicitly raised in the terms of reference. This CEC therefore has not been called to investigate the economic impact that

1 SENES Consultants Limited (June 2009). “North American Oriented Strand Board Industry Review”. pg. 17

2 Testimony of Lyle Sagert, Louisiana Pacific Strandboard Plant Air Emissions Review, July 29th, pg. 335

3 SENES Consultants Limited (June 2009). “North American Oriented Strand Board Industry Review”. pg. 17

4 “Terms of Reference” attached to letter from Stan Struthers, Minister of Conservation, to Terry Seargent, Chairperson of the Manitoba Clean Environment Commission, dated March 26, 2009.

differing environmental regulations in other provincial and state jurisdictions in North America has on the Mintonas Plant.⁵ Economic arguments, being informed by one's ideological and philosophical beliefs, are inherently subjective and political. This committee therefore should shy away from tackling these over-arching problems.

LPC is asking for an increase in emission limits that have already been established in a previous environmental license. They have operated with these emission constraints for thirteen years. This commission is being asked to determine the health and environmental impact of these increased emissions limits. The CEC should therefore keep the focus of its investigation limited, accordingly.

IMPACTS ON THE SURROUNDING COMMUNITY:

Protecting with the Precautionary Principle

No one is contesting that the Mintonas plant is releasing pollutants which have the potential to impact human and ecological health.

LPC and others use the fact that other activities such as pesticide application, stubble-burning and cigarette smoking also emit benzene and formaldehyde as a way to detract from the question being posed. Certainly more needs to be done to reduce emissions from other sources, but LPC should take pride in their accomplishments at Mintonas. They should be urging the Province of Manitoba and the Government of Canada to bring pollution standards to the exceptional level that they have met and exceeded at Mintonas; rather than attempting to devolve to the lower standard set by other polluters in the province.

To that LPC argues that the levels are low enough that they do not pose a risk. Mr. Warkentin speaking for LPC argues that "...if you can prove that you can meet those [ambient air quality criteria] 100 per cent of the time, you can demonstrate no adverse effect."⁶ This of course presupposes that the ambient air quality criteria standards are set at such a level where they pose no risk to the environment or human health.

If we look at history, however, we can see that all too often we are unaware of, or we underestimate, the risks posed by pollutants.

Benzene was used in consumer products and science labs during the twentieth century - it has even been used to decaffeinate coffee! However over time the carcinogenic properties of benzene became more apparent as studies linked incidences of Leukemia to the occupational exposure of benzene.⁷

This goes to show that what may be considered "safe" in one epoch of history may not be considered "safe" in a future epoch.

5 It could be argued that because the "environment" and the economy are inextricably linked that economic effects by necessity also need to be considered. However "environment" is defined in the *The Environment Act* (C.C.S.M. c. E125) is "(a) air, land, and water, or (b) plant and animal life, including humans;". Furthermore, " "environmental health" means those aspects of human health that are or can be affected by pollutants or changes in the environment;" These definitions seem to support the narrow reading of the question being posed to this committee.

6 Testimony of Kevin Warkentin, Louisiana Pacific Strandboard Plant Air Emissions Review, July 28th, 2009, pg. 37; see also testimony of Allan Hambley, Louisiana Pacific Strandboard Plant Air Emissions Review, July 28th, 2009, pg. 17

7 See: Aksoy, M. *et al.* (1974). "Leukemia in Shoe-Workers Exposed Chronically to Benzene" *Blood*, Vol. 44, No. 6, pp. 837-841; and Rinsky, R (1989). "Benzene and Leukemia: An Epidemiologic Risk Assessment" *American Journal of Industrial Medicine*, Vol. 82, pp. 189-191

Scientific standards for demonstrating cause and effect are very high. This is particularly so in attempts to measure the impact a long-term low-level exposure of a population to multiple pollutants, because it is difficult to isolate variables and identify control groups to establish a cause and effect relationship.

Scientific knowledge is limited. Studies rarely perform long term-studies that examine impacts over several decades. Rarely do studies examine the synergistic impacts of multiple pollutants. Put simply there is more that we don't know, than what we do know, and if we wait for certainty it is often too late. People may suffer and die, and the natural world may suffer irreversible damage.

The Green Party of Manitoba believes that a different form of risk assessment is required. We believe that we should implement the precautionary principle⁸. This means that when evidence gives us good reason to believe that an activity, technology, or substance may be harmful, we should act to prevent harm rather than waiting for scientific certainty, especially when alternatives exist.

In the present situation there is good evidence to indicate that the pollutants being released, including benzene, formaldehyde, and MDI may be harmful. Furthermore the technology already exists, and is already installed, to minimize the release of these harmful pollutants.

LPC freely admits that benzene and formaldehyde are known carcinogens. They estimate the probability of the risk of cancer at seven in one billion for formaldehyde exposure, and two and three-tenths in ten million for exposure to benzene. How accurate these estimates are, the independence of the health assessment that was conducted, and the acceptability of the risks are all questions that this CEC commission will need to answer.

Although LPC does accept the carcinogenic risks posed by formaldehyde and benzene, they remain conspicuously silent about some of the other health risks posed by MDI. Presumably LPC is also aware of body of scientific literature on isocyanate-induced occupational asthma (IIOA) - MDI being an isocyanate.

Two probable cases of isocyanate asthma from a plant producing oriented strand board in west central Alberta prompted a study, the results of which were published in the *Journal of Occupational and Environmental Medicine* in 1995. The study compared 127 OSB workers to 160 oil workers and found that the OSB workers had significantly lower forced expiratory volume, particularly among those who smoke or who had previously smoked.⁹

In 1996 study published in the *Journal of Occupational and Environmental Medicine* concluded that "...long-term exposure to isocyanates, even in very low concentrations, may contribute to impaired pulmonary function."¹⁰

A 2006 study, published in the *Journal of Occupational and Environmental Medicine*¹¹, examined

8 See: Science & Environmental Health Network at www.sehn.org for more information on the Precautionary Principle.

9 Hebert, F.A. *et al* (April 1995). "Pulmonary Effects of Simultaneous Exposures to MDI Formaldehyde and Wood Dust on Workers in an Oriented Strand Board Plant" *Journal of Occupational & Environmental Medicine*: Volume 37, Issue 4, pp. 461-465

10 Akbar-Khanzadeh & Rivas (December 1996). "Exposure to Isocyanates and Organic Solvents, and Pulmonary-Function Changes in Workers in a Polyurethane Molding Process", *Journal of Occupational & Environmental Medicine*: Volume 38, Issue 12, pp. 1205-1212

11 Labrecque, M. *et al*. (October 2006). "Impairment in Workers With Isocyanate-Induced Occupational Asthma and Removed From Exposure in the Province of Québec Between 1985 and 2002" *Journal of Occupational and Environmental Medicine*: Volume 48, Issue 10.

eighty-nine workers diagnosed with HIOA. The study found that the majority of these workers still exhibited asthmatic symptoms two-years after being removed from the source of exposure, suggesting the importance of early detection and withdrawal of the worker from exposure to isocyanates.

There is also limited evidence that the general population is being exposed to isocyanates. One method of testing for isocyanates exposure is to test for antibodies binding to protein conjugates. A 2006 study, published in *Annals of Allergy, Asthma & Immunology*, detected these antibodies in individuals without known exposure to isocyanates.¹² This seems to indicate exposure in non-occupational groups, although the study's authors could not conclusively argue so because they lacked a defined referent population.

Nowhere in LPC's presentation or submissions do they outline the risks of HIOA. In his testimony to the CEC on behalf of LPC Mr. Hambley argues that "...non-cancer risks [can be] characterized as [presenting] no adverse effect."¹³ Presumably, LPC received legal advice, in which they were told not to admit to health risks that have not been proved to the point of scientific certainty.

Why is the onus on society to certify that a substance is likely to cause harm, rather than being on the producer to demonstrate with certainty that said product does not cause harm? What other uncertain risks could be realized if we grant LPC's request for an increase in emission limits? Our society is facing a plethora of health epidemics: cancer, asthma, autism, irritable bowel syndrome, gender mutations, the list goes on and on. The Green Party of Manitoba would submit that using the precautionary principle, less risk is always better and is therefore the preferred course of action, particularly when alternatives are readily available as they are in the case at hand.

REDUCTION IN GREENHOUSE GASES:

A Bad Trade-off.

By decommissioning its three RTO units LPC will no longer be required to burn the large amount of natural gas required to operate the RTO units, because the combustion of natural gas emits Carbon Dioxide and nitrogen Oxide. LPC estimates that it will be able to reduce its greenhouse gas emission by "...approximately 11,830 tonnes of CO₂ equivalents per year."¹⁴

The Scientific consensus is that Climate Change is an urgent and pressing issue which threatens the survival of the planet as a whole, but the issue of climate change is an issue of balance, not one of toxicity. Except when extremely concentrated, carbon dioxide is a relatively benign substance. It is not that carbon dioxide is itself the problem, but rather it is the growing gap between the rate at which they carbon dioxide and other greenhouse gases (GHG) are being released into our atmosphere versus the rate at which they are being absorbed by the planet. Human activity is decreasing both the amount of forested land and top soil, thereby decreasing the planet's capacity to store carbon; while at the same time human activity, particularly the burning of fossil fuels, has increased the rate at which GHG such as carbon dioxide are being released into our atmosphere. The end result is that every year we are putting more GHG into the atmosphere than can be absorbed by the planet. This imbalance is causing our planet to heat up, if this trend continues it will have drastic and unknown impacts for life on our planet.

12 "Evaluation of antibody binding to diisocyanate protein conjugates in a general population."

Bernstein DI - *Annals of Allergy, Asthma & Immunology* - 97(3): 357-64

13 Testimony of Allan Hambley, Louisiana Pacific Strandboard Plant Air Emissions Review, July 28th, 2009, pg. 57

14 Cover Letter Licence Amendment Request RTO Elimination from Mr. Allan Hambley to Ms. Tracy Braun dated November 18, 2008.

Clearly we need swift action on GHG emissions. It is laudable that LPC wants to reduce its GHG emissions, however, trading off a reduction in GHG emissions with an increase in toxic emissions is not a prudent trade-off.

There are other ways that LPC could work on reducing its greenhouse gas emissions, and the Clean Environment Commission should examine these alternatives. These alternatives could include running alternative pollution abatement systems such as Regenerative Catalyst Oxidizers (RCO) or bio-filtration devices which use half as much, or no natural gas respectively.

In fact if the amended license is not granted it is likely that LPC will install RCO or bio-filtration systems when its RTO units reach the end of their life-cycle in the next couple of years. The result being lowered GHG and nitrogen oxide emissions.

Additionally the LPC Minitonas plant has numerous other sources of GHG emissions, such as the emissions created by the logging and transport of said logs to the Minitonas plant. LPC could possibly achieve similar reductions by working with its suppliers, contractors, and employees to reduce these emissions. Lastly the purchase of accredited carbon offsets provide LPC with a last resort to mitigate their climatic impact.

Nitrogen oxides do impact human and animal health including contributing to smog, acid rain, and causing respirator problems. However it once again seems as if the trade-off is not fair. The magnitude of increase in known toxic and carcinogenic substances such as benzene, formaldehyde, and MDI is multi-fold; whereas nitrogen oxide emissions will only decrease by one-fifth. Furthermore the installation of low nitrogen oxide burners could provide LPC with a means to reduce its nitrogen oxide emissions without increasing its formaldehyde, benzene, and MDI emissions.¹⁵

CONCLUSION

On behalf of all Manitobans, especially the residents of Swan Valley, the Green Party of Manitoba asks the CEC to recommend denying LPC's request for increased emission limits. The precedent of allowing a company to increase its emission limits, when prudent public policy indicates that we should be doing exactly the opposite, is unconscionable. The people of Manitoba want less benzene, formaldehyde, MDI and other pollutants in their air, water and land.

LPC will contest that it is unfair that they face stricter emission standards than other Manitoban polluters and other competing OSB producers in Canada. This may be true, but Manitobans want, and are proud of the fact, that we have placed rigorous emission standards on the Minitonas facility. As already indicated, LPC should be proud of these emission standards, and should be pushing for comparably tough emission standards across the country.

¹⁵ Testimony of Ken Sigurdson, Louisiana Pacific Strandboard Plant Air Emissions Review, July 28th, 2009, pg. 107