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Concerned Citizens of the Valley
Presentation on the LP Emissions Proposal
July 28, 2009

Members of the Clean Environment Commission panel and citizens.

LP and its Consultants in the Swan Valley – Then and Now

There is a saying to the effect that "Those who ignore history are doomed to repeat past mistakes.". For this reason, it is important in my view to briefly review the history of LP and its consultants relative to predictions on the sustainability of the forest. This is so because history has shown that LP and its consultants were very wrong, and because I observe some important similarities between their assessments for this proposal and the Company's documents relative to forest sustainability.

Consider the following relative to the predictions of LP and its consultants on forest sustainability.

- Annual Allowable Cut for hardwoods for the Duck Mountain.
  - Using growth and yield assumptions from LP's 10-Year Forest Management Plan, LP's consultant, in its 1995 Environmental Impact Statement, concluded that almost 600,000 cubic meters of hardwoods could be cut on a 'sustainable' basis each year for a 100 year period (i.e., HSG Sustainable Crown Land; Table 8-1; TetrES 1995).
  - Only nine years later the Manitoba government calculated the 'sustainable' cut to be about 349,000 cubic meters of hardwoods per year (Net Harvest Volume; Table 14; Manitoba Forestry Branch 2004).
  - LP and its consultant massively overestimated the 'sustainable' cut by about 71%.
- Growth and yield assumptions for the Duck Mountain. The rate at which the forest grows and the amount of wood fibre that it yields are central to determining 'sustainable' allowable cuts.
  - LP and its consultants, in LP's 10-Year Forest Management Plan, assumed that the aspen forest, and mixes of aspen, black poplar and birch, would yield 340 cubic meters per ha at age 60 (Page 7-17; Louisiana-Pacific Canada Ltd. 1995 and TetrES 1995).
  - On the basis of data from the 2004 Manitoba Forestry Branch Report, LP and its consultants assumed that the aspen forests of the Duck Mountain would yield 2.1 times the true yield at age 60 (Manitoba Forestry Branch assumptions (modified to account for the softwood component of the PTA stratum) for Pure Trembling Aspen (PTA) Closed Density stratum; Manitoba Forestry Branch 2004).
  - Similarly, LP and its consultants assumed that other hardwood forests of the Duck Mountain would yield 2.5 times the true yield at age 60 (Manitoba Forestry Branch assumptions (modified to account for the softwood component of the MDE stratum) for Mixed Deciduous (MDE) Closed Density stratum; Manitoba Forestry Branch 2004).

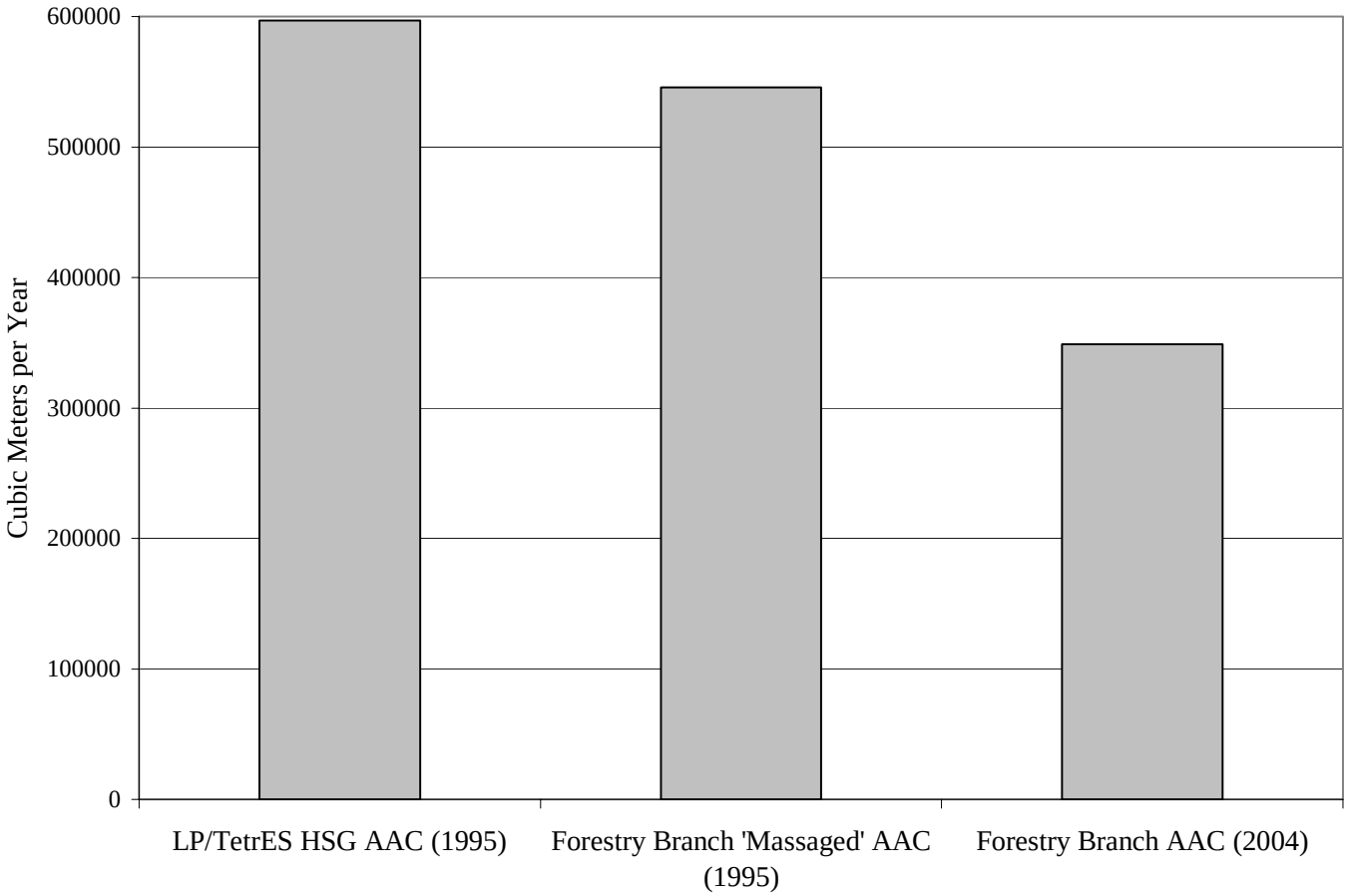


Figure 1. 100-year ‘sustainable’ hardwood Annual Allowable Cuts for the Duck Mountain (FMU 13). Sources were TetrES (1995) for the LP/TetrES HSG and Forestry Branch ‘Massaged’ AACs, and Manitoba Forestry Branch (2004) for the Forestry Branch AAC.

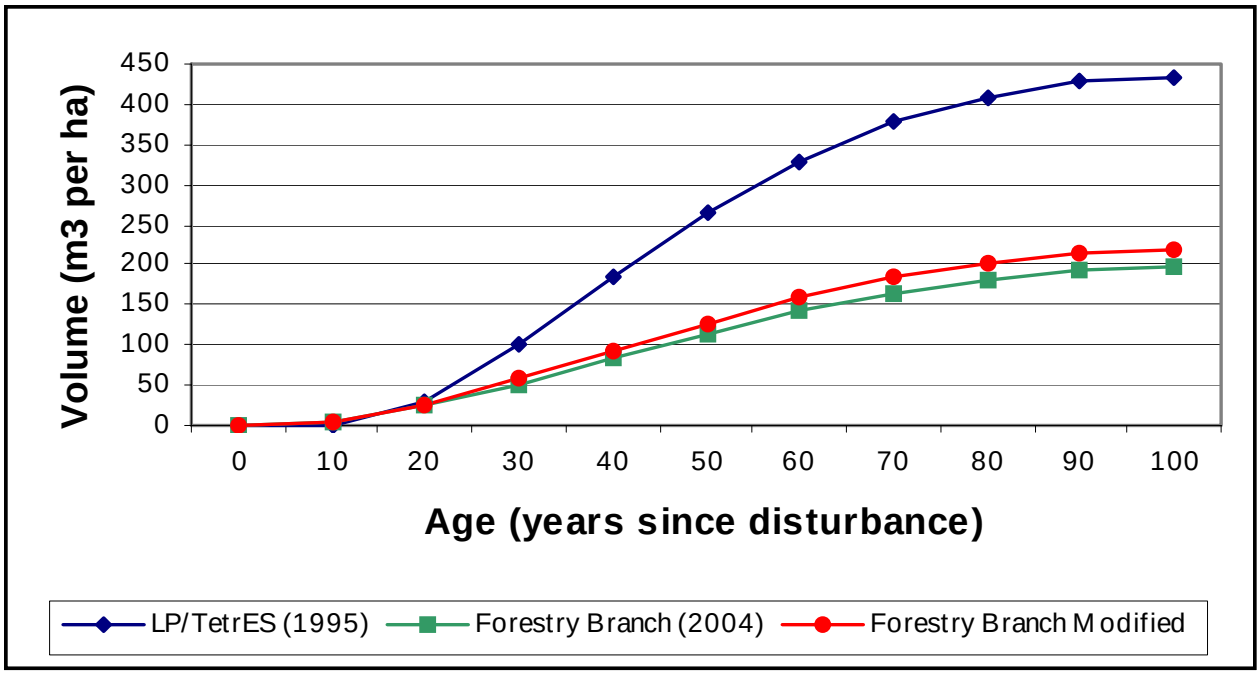


Figure 1. Trembling aspen yield assumptions for the Duck Mountain, Manitoba.

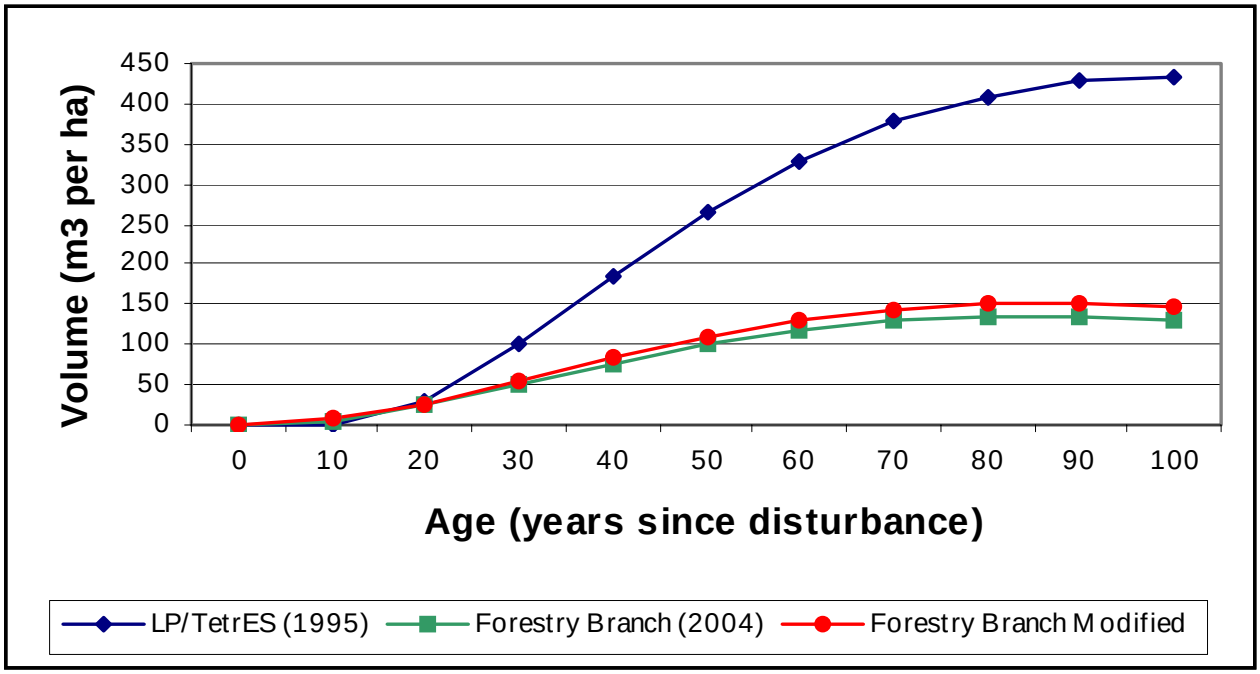


Figure 2. Hardwood yield assumptions for the Duck Mountain, Manitoba.

- Important points respecting these results are as follows.
  - The growth and yield data were collected by a Winnipeg consultant with the help of three recent graduates from the Swan Valley Regional Secondary School Environmental Studies Program. These data were subsequently turned over to a consultant from BC to develop the yield tables. These yield assumptions were then used by third consultant who conducted the 'sustainability' analysis. **Of particular relevance to the present LP proposal, there was no stand-alone report by either of the first two consultants … reports that might have addressed sampling problems and issues of data interpretation.** All information was contained within LP's long-term plan under the authorship of the Company. While there was disclosure that the yield tables had been developed by the BC consultant, there was no discussion respecting matters like the obvious bias in sampling locations, for example.
  - History, by virtue of the 2004 Forestry Branch Report, has now demonstrated that LP and its consultants were terribly wrong as they massively overestimated the 'sustainable' harvest and growth and yield.
  - Many local residents, local loggers, environmentalists, and independent technical people challenged the 'sustainable' harvest and growth and yield. History has demonstrated that they were right.
  - The CEC panel and government-of-the-day accepted the figures of LP and its consultants. History has demonstrated that they were wrong to do so.

  Let us now consider the present LP proposal.

  First and foremost, it is critical to understand that independence is a fundamental element of environmental assessment. However, independence is often not an absolute but rather a matter of degree. While processes can be implemented to help foster independence, independence in environmental assessment often comes down to the personal integrity, competence, and professionalism of the consultant.

  Like the growth and yield assumptions for the forest, the air dispersion modelling is a central building block to understand the implications of the development on human health and the environment. I will focus my attention in this presentation on the first group of dispersion modelling data provided on November 18 of 2008. Given that the November 18 proposal submitted by LP was deficient, and that the outstanding dispersion modelling data were only provided to some of our desktops 12 days ago (July 16 email from Mr. Ryan Coulter), I have not had the opportunity to examine that material in any kind of detail.
  - The first thing that struck me was that the dispersion modelling report was submitted under the authorship of Louisiana-Pacific Canada Ltd. (Louisiana-Pacific Canada Ltd. 2008). There was no mention of any consultant having done the work for the Company, and one could only assume that the Company had done its own dispersion modelling. Hardly independent to say the least.
  - Subsequent communication with Manitoba Conservation's Mr. Ryan Coulter revealed that "LP … indicated … that Cordilleran had completed the air dispersion modelling for them. There is no document in the proposal that

references the company.". So, what we now had was some air dispersion modelling by a company being reported on under LP's name as opposed to a stand-alone report by the consultant who actually conducted the modelling. This is most reminiscent of how LP handled its consultants on the now-repudiated growth and yield assumptions.

- Further communication with Mr. Coulter indicated that Cordilleran was no longer in existence as it had been "absorbed" by another Company. A limited Google search on Cordilleran suggests little work by this Company in the public domain. Specifically, the first two search pages revealed only one record that was a study, and this related to drilling mud and not air dispersion modelling. This lack of studies is surprising as most searches of this nature would reveal a number of studies. Indeed, when I searched on Sentar Consultants Limited, the Company that conduced LP's 1994 assessment, a number of studies came up immediately. Further examination of the scope of work and experience of Cordilleran would be prudent in my view.
- A stand-alone report by the consultant might have addressed critical factors that impact on the accuracy and precision of the model predictions. For example, factors like bias, input parameters of poor precision, limitations of input data, critical and sensitive model assumptions, limitations of the model, and other matters central to evaluation of the output. As a specific example, the fact that only one year of local wind data was used to model dispersion, and therefore the analysis ignores annual variation in the spatial distribution of contaminant levels. Things that an independent consultant would often discuss in a report. Where a consultant reports under its own name, it must answer directly to challenges. Under the circumstances of the LP proposal, we can only wonder if and how LP has managed and massaged any such information including aspects related to the consultant's discussion and interpretation. This is not good environmental assessment practice, as the consultant, the one most able to address questions, is shielded from reporting.
- Under the present circumstances, transparency, accountability, and disclosure are compromised. Good environmental assessment practice, designed to address the issue of independence, dictates the need for stand-alone reports such that consultants are answerable. For an example of good practice, see http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_document_268_22642.html for a windfarm project in BC.
- If the air dispersion modelling had been conducted by a Manitoba engineer, or an out of province engineer registered to work in Manitoba, we might expect to have seen the work stamped by the professional engineer (Personal communication, Mr. Michael Gregoire, Association of Professional Engineers and Geologists of Manitoba). This was not the case with the LP submission.

I want to briefly touch on LP's assessment of the impact of the various pollutants on human health, as conducted by an organization known as NCASI. This organization purports to be an "independent non-profit research institute"; however, NCASI is funded almost entirely by the forestry industry including the Louisiana-Pacific Corporation in Canada (http://www.ncasi.org/About/membership/canadianmembers.aspx). Further to this, we

Project Information Centre (e-PIC)

Bear Mountain Wind Park Project

Type:	Typical EA Process (Active and Complete)	**Status:**	Completed / Certified
Category:	Energy	**Pre-application Start Date:**	2005/11/01

Under Review >> Application and Supporting Studies

Folder:	Volume 2. Appendices - Application for an Environmental Assessment Certificate for the Bear Mountain Wind Park Project submitted by Bear Mountain Wind LP to Martha Anslow (EAO) November 2006.	**Date Posted:**	2006/11/29

Document File	File Size	Format
Appendices - List of Appendices, Appendices 2.1-2.7 - Access Roads + Crane Platforms E-82 77m Steel Tower, Technical Description E-82, Foundation Data Sheet, Bear Mountain Wind Park Layout, Construction timeline, Section 10 Order, Section 11 Order	1,168 KB	PDF
Appendices - Appendix 3.1 - Bear Mountain Wind Park Presentation + Update (March 2006) - pg1-6 - Presentation Order, Bear Mountain Wind LP, How We Work, Project Summary, BC Hydro Bid	4,414 KB	PDF
Appendices - Appendix 3.1 - Bear Mountain Wind Park Presentation + Update (March 2006) - pg7-14 - Environmental Assessment, Public Consultation, Timelines, Regional Opportunities, Closing	4,377 KB	PDF
Appendices - Appendices 3.2-3.6 - Summary of Public Meetings + Public Survey Forms, Public Meeting Advertisement (March 11, 2006), Notification for TOR Comments, Newspaper Articles, Letters of Support	4,517 KB	PDF
Appendices - Appendix 6.1 - Terrain Stability Report, J.M. Ryder - Terrain Stability Mapping, Explanation of Terrain Unit Symbols Used in Terrain Stability Assessments	3,073 KB	PDF
Appendices - Appendix 6.1 - Terrain Stability Report, J.M. Ryder - Maps No. 120, No. 138, No. 179, B&W 1	2,260 KB	PDF
Appendices - Appendix 6.1 - Terrain Stability Report, J.M. Ryder - Maps B&W	3,929 KB	PDF
Appendices - Appendices 6.2-6.3 - FFHI Non-Fish Bearing Status Reports, Transport Canada Letter	688 KB	PDF
Appendices - Appendix 6.4 - Shadow Sound Report	1,949 KB	PDF
Appendices - Appendix 6.5 - Valcoustics Sound Report - (a)Environmental Noise Analysis + (b)Acoustic Analysis Results	4,240 KB	PDF
Appendices - Appendices 7.1-9.0 - Technical Information on Ice Deteection, Accident Investigation Report	125 KB	PDF

Last Updated: Last Updated: 2009-07-28

observe that LP CEO Mr. Rick Frost is vice-chairman of NCASI (www.lpcorp.com/AboutLP/ExecutiveManagement.aspx). Clearly this is less than a completely arms-length relationship. In effect, the organization that conducted LP's 'health assessment' works on behalf of LP and reports to LP's CEO. We would be far more comfortable with the 'health assessment' if it had been conducted by an organization that did not owe its existence to Louisiana-Pacific. For example, respecting cancer-causing toxins, an organization like the Canadian Cancer Society Research Institute. The Manitoba Public Interest Law Centre has been supporting the efforts of Concerned Citizens of the Valley, including support towards the funding of three experts who are presently examining the LP proposal. While these experts will not complete the reports on their findings until around the September 1 CEC submission deadline, I expect that the NCASI findings will be challenged on a number of fronts.

In summary, we know that past environmental assessment by the Company and its consultants has been grossly flawed. We further observe poor environmental assessment reporting practice and similarities between the assessment information in the present proposal and the past 'forest sustainability' assessment. Under these conditions, I urge you to be skeptical of the reports and analyses presented by LP and its consultants. I also urge you to very seriously consider information that comes forward from other sources, including the local knowledge that will be presented to you. I ask you to critically seek out alternative information. After all, the ability to decommission the RTOs will enhance LP's balance sheet by many millions of dollars.

Ambient Air Quality Monitoring

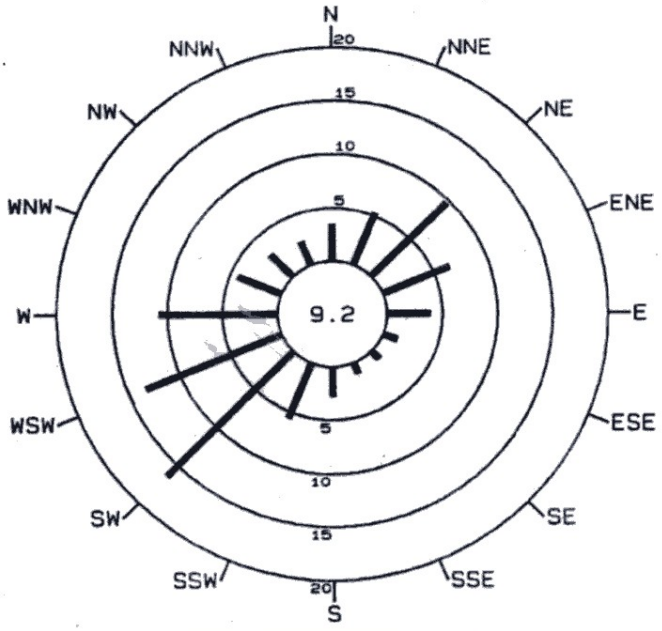
Ken Sigurdson earlier noted the poor suitability of the two locations for LP's ambient air quality monitoring program, and Concerned Citizens indication of this fact when the program began. Further to this, if one looks at the original assessment conducted for LP (Sentar Consultants Ltd. 1994), you will observe that the locations were not appropriate on the basis of 4 years of wind data from Swan River. These wind data are also generally consistent with modelled data for the mill site on the basis of the Canadian Wind Energy Atlas (www.windatlas.ca).

Consider the following respecting this program.

- The data in LP's own proposal demonstrate that the monitoring stations were improperly located. For example, consider the 1-Hour Maximum Formaldehyde Isoconcentration graph (Appendix A. Dispersion Modeling Results: Isoconcentration Graphs. Frequency Analysis. Percentile Tables.). One observes that the stations were located in areas of relatively low predicted toxin concentrations and well outside the areas of greatest concentration, as opposed to in those places where the predicted concentrations were much greater and within which people reside. Plotting the residences of nearby people on these maps would have been demonstrative of this.
- In a March 13, 2009 email, Conservation Department employee Mr. Dave Bezak, referring to LP's monitoring program for MDI, phenol, hydrogen cyanide and formaldehyde, stated "It is our view that the current sample collection frequency for the above substances is just too infrequent to possibly ever capture an air sample that

Figure 5.4 SWAN RIVER ANNUAL WIND ROSE

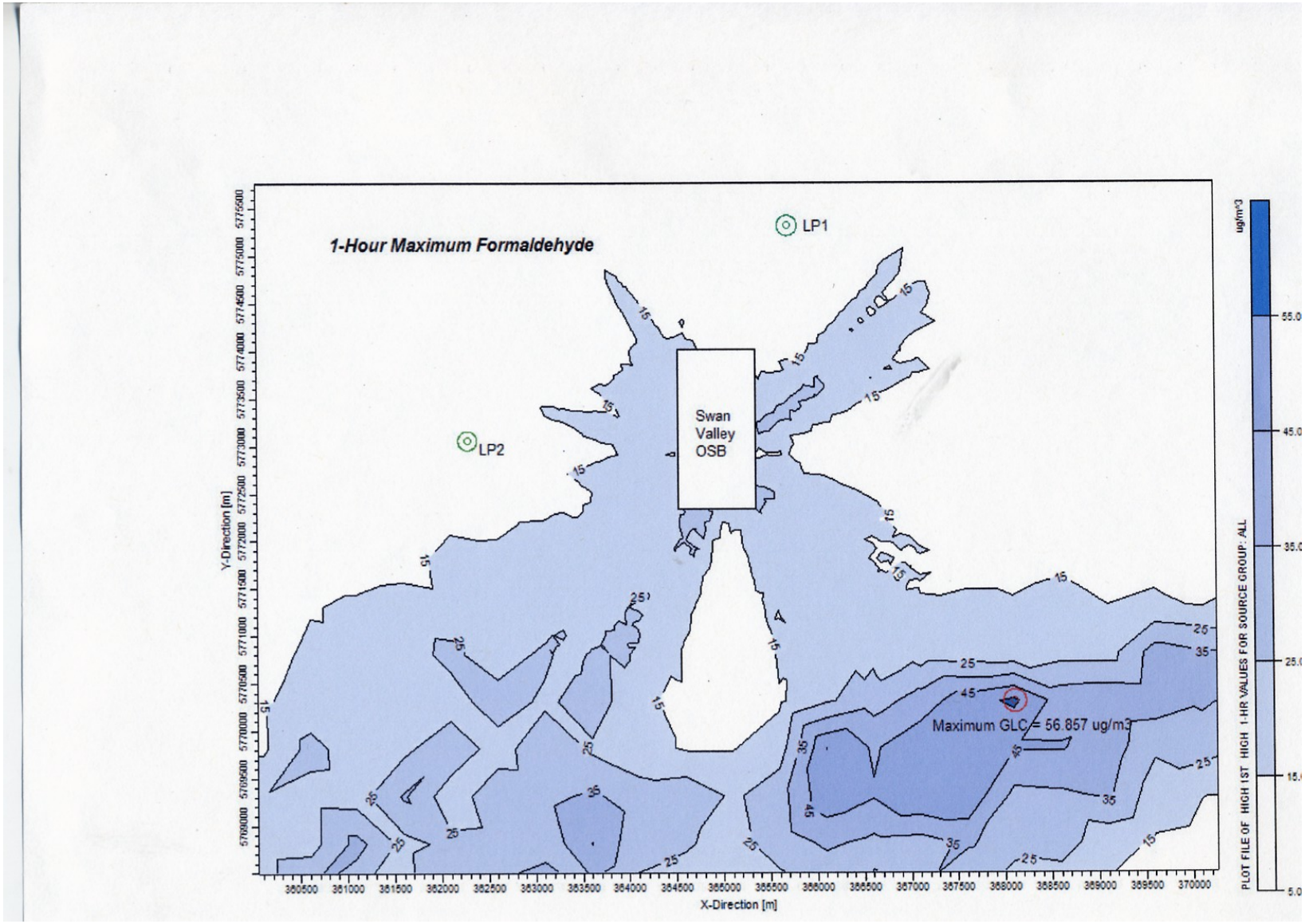
FREQUENCY BY DIRECTION (%)



	PERCENT FREQUENCY	SPEED (kph)
N	3.5	10.3
NNE	5.3	13.1
NE	9.7	15.1
ENE	6.5	12.8
E	3.9	9.2
ESE	1.4	9.5
SE	1.0	9.0
SSE	1.1	8.7
S	2.8	9.8
SSW	5.6	10.7
SW	16.4	13.8
WSW	13.4	13.3
W	10.8	12.9
WNW	4.3	14.2
NW	2.9	13.1
NNW	2.4	12.4
CALM	9.2	
MEAN		11.6

PERIOD OF RECORD : 1989 -1993
MODEL 8 WIND ANALYSIS

Swan River Airport
4 years


1-Hour Maximum Formaldehyde
LP1
LP2
Swan
Valley
OSB
Maximum GLC = 56.857 ug/m3
Y-Direction [m]
X-Direction [m]
ug/m^3
PLOT FILE OF HIGH 1ST HIGH 1-HR VALUES FOR SOURCE GROUP: ALL

might be impacted by facility emissions and, therefore, reflective of that impact.".

We note that Mr. Bezak failed to address the problem of locations of the sites.

- So we observe that for two primary reasons LP's ambient air quality monitoring program has been little more than a public relations exercise. Further to this, given that government regulators were clearly made aware of the location problem when the program was initiated, it is apparent that the regulators have functioned as enablers in this charade.
- Adaptive management and the air quality monitoring program.
    - Adaptive management is a concept that promotes the application of new and current knowledge to adapt management practices as a means to achieve expected outcomes. Monitoring is absolutely fundamental to adaptive management in the context of resource management.
    - LP's 1994 air dispersion modelling used various assumptions and parameters to make predictions about toxin concentrations in the vicinity of the mill. But model predictions are only as good as the accuracy and precision of the available information, and the ability of the person conducting the modelling. Consequently it is fundamental to test predictions to see if they prove to be true, and to adapt as necessary on the basis of those findings.
    - Given the observations relative to the locations and frequency of monitoring, it seems reasonable to conclude that LP's ambient air quality monitoring program was designed to **NOT** be able to test its modelling predictions respecting those who might be affected the greatest by its emissions. In other words, it appears that the program was designed so that the resulting data would not allow for the testing of model predications and for adaptive management to occur.
        - One wonders why the Company would design such a flawed program. However, economic implications and enhanced profitability certainly come to mind.
        - One further wonders why our government was missing in action on this program, and whose interests they have been representing over this period.

Greenhouse Gases

We are concerned about greenhouse gases and believe that it is appropriate to examine greenhouse gas implications. We note however that greenhouse gas emissions must be looked at independent of the emission of toxins because the environmental and health impacts of greenhouse gas emissions vs toxins like formaldehyde and benzene are completely different. We further note that greenhouse gas emissions from the RTOs likely represent a small portion of total GHG emissions from the plant, and that many options exist to reduce or mitigate such GHG emissions.

- Biofilter option. Technology has been developed which uses bacteria to break down the contaminants. This technology can reduce greenhouse gas emissions by 85% or more (April 28, 2009 letter from Mr. Bill Purcell, Bio Reaction Industries to Dr. Peter Miller, member of LP Stakeholder Advisory Committee). We understand that LP uses this technology in at least one of its US mills.
- It would be valuable to investigate the implications of pollution abatement equipment that increases the control of nitrous oxides. Improved control of

nitrous oxides might result in an overall net reduction of GHGs with the RTOs in operation.

- Those of us who follow the issue of GHGs in this province understand that Premier Doer has been promoting northern hydroelectric development and the export of that electricity to other provinces and US states as a means to offset greenhouse gas emissions. For example, to replace electricity generated from coal or natural gas. It is anticipated that polluting companies will offset their GHG emissions by purchasing what are known as offset credits. Premier Doer is expecting that Manitoba's hydroelectric-produced electricity will attract a premium price in this marketing environment. Although reduction as possible is likely the best possible solution to the GHG issue, it logically follows that if Premier Doer and his government accepts the legitimacy of using Manitoba-generated electricity to offset emissions, that this approach is also appropriate for Manitoba. Indeed, Conservation Minister Struthers recently announced a program to promote tree planting as a means of offsetting Manitoba GHG emissions. Offsets are a fact of life and many companies and municipal governments in Canada have committed to becoming carbon neutral with offset credits being one component of their plans. And offsets are becoming part of a new way of life. For example, in May of last year I flew to Calgary and back with Air Canada, and was able to offset my greenhouse gas emissions.
- If the Company was really concerned about GHG emissions, there are many ways by which it could offset RTO and other mill GHG emissions, and it could have begun this process years ago. Some examples are as follows.
    - IISD's David Runnalls, in an article in the Winnipeg Free Press on May 3 of this year, noted that "The cost of a CO2 offset on the Chicago Climate Exchange, of which Manitoba Hydro is a founding member, at the end of April was less than US$2 per ton.". LP's Mr. Allan Hambley, in his November 18, 2008 letter to Ms Tracey Braun, Manitoba Conservation Director of Environmental Assessment and Licensing, indicated that decommissioning of the RTOs would result in "a GHG emission reduction of approximately 11,830 tonnes of CO2 equivalents per year …". If LP chose to purchase offsets on the Chicago Climate Exchange, using the end of April prices, it would cost the Company approximately $26,000 US. This is an inconsequential cost to LP in the big picture.
    - If LP invested in three 1.5 MW wind turbines at the proposed St. Joseph windfarm south of Winnipeg, it could offset it GHG emissions and generate a profit.
    - LP could invest in carbon-reduction programs in the Swan Valley and Parkland Region. For example, it could support retrofitting for energy efficiency and geothermal installations to schools, curling rinks, skating arenas, municipal buildings, and churches that are presently using carbon-based heating. There is a multitude of local investments that LP could make to offset its GHG emissions, including planting trees on marginal farmland as done by ALPAC in Alberta. The ways and means are only hampered by the commitment of the Company, or the lack thereof.

Formaldehyde and VOCs

Some months ago I had the opportunity to meet and talk to Mr. Ryan Coulter who is the Conservation Department employee working on LP's application. I noted that the materials provided to that date did not provide any indication of the increase in the amount of contaminants that LP was proposing to release to the environment. Mr. Coulter agreed, and in a May 5 email to myself indicated "What you have to do is compare the proposed emissions (from LP's proposal … to the limits … contained in License No. 1900 S4 … This will tell you the maximum % emission increase according to the proposal. Keep in mind, of course, that … the gov't is awaiting additional information from LP.".

The comparison of emission limits was subsequently posted on the CEC website as a two-page document entitled 'Background to the Swan Valley OSB plant investigation'. This document indicates the following.

- The previous license allowed for a maximum emission of 0.165 grams per second of formaldehyde from dryers and presses.
- The new limits in LP's proposal would increase the maximum emission from these two sources to 5.1 grams per second.
- If we assume maximum emissions for the mill operating 24 hours per day, 7 days per week and 365 days per year, the previous license allowed for the maximum emission of 5.7 tons of formaldehyde per year while the current proposal allows for 176.9 tons. That is a huge increase in the amount of formaldehyde released to the environment.

Per the 'North American Oriented Strand Board Industry Review' (SENES Consultants Limited 2009) commissioned for the CEC, the US Environmental Protection Act standards for Hazardous Air Pollutants (HAPs) apply to any facility estimated to "emit 25 tons of total HAPs per year or 10 tons per year of any single HAP.". Formaldehyde is one the six HAPS as defined by the EPA. The emission limit of 176.9 tons of formaldehyde as proposed by LP for its mill **far exceeds** the 10 ton limit per the US *Clean Air Act* and therefore would require RTOs or equivalent technology to reduce the emission of formaldehyde. Per the SENES Consultants Limited (2009) document, HAPs typically must be reduced by 90%. It is noteworthy that for LP's proposal, even if emissions of formaldehyde were reduced by 90%, they would be 17.7 tons per year and still exceed the EPA 10 ton standard.

ALS and Other Health Issues

I would like to briefly address the possibility that the mill has already adversely impacted on the health of residents of the area. My focus will be on ALS, also known as Lou Gehrig's disease.

- ALS.
  - A recent long-term study that followed almost a million US residents over 15 years observed elevated rates of mortality from ALS in relation to exposure to formaldehyde (www.neurologyreviews.com/08june/FormaldehydeALS.html).

- Concerned Citizens is aware of at least three (3) people who lived within 10 miles of the LP mill and who have died from ALS since the mill began to operate. It is reasonable to assume that LP could operate at full capacity for 13 years from 1996 to 2008. This represents an ALS mortality rate of at least 0.23 people per year for the area (3 divided by 13). Per Statistics Canada (www.statcan.gc.ca), the town of Minitonas had a population of 538 in 2001 and 497 in 2006, while the RM of Minitonas had a population of 1152 and 1105 respectively in the two years. Given these data, it is reasonable to assume an average population of 1,000 people living within 10 miles of the LP mill over this period. Using these numbers, the ALS mortality rate is calculated as at least 23.1 per 100,000 people per year.
- The Canadian mortality rate for ALS is approximately 2 per 100,000 per year (www.als.ca/_media/docs/ALS%20FACTS.pdf). Therefore the observed rate for the area around the mill is **at least** more than **11 times** the Canadian average.
- We note that all three of those who died from ALS lived in close proximity to the Duck Mountain. We further note that local people indicate that, particularly in the winter, the smoke from the mill tends to concentrate up along the edge of the mountain.

- Other health issues. We are also concerned that human health may have been compromised in other ways by emissions since the arrival of the mill. For example, the letters to Manitoba Conservation in relation to this proposal reveal the concern of a young mother who lives near the mill and has written "How do I know that those emissions aren't the cause of what happened with my first child?".
- So there already exists empirical evidence and anecdotal information to suggest that operation of the LP mill may have already impacted on the health of nearby residents.
  - We do not know how frequently the RTOs were operating, but there may have been extensive periods of time when they were not employed. As residents of the area, we hear stories from local people … what can be referred to as local knowledge. Just yesterday, one of our members heard from a reputable source that someone who worked in the mill indicated that the RTOs were often turned off at night. And I have heard in the past from good sources of the mill cutting corners when it comes to the environment. Some might suggest that this kind of information might not be verifiable and should not be considered. But I ask you to remember that local people, including loggers in the forest and others, knew that LP's so-called 'sustainable harvest' level for hardwoods was substantially inflated. Local knowledge was correct in that case, and we strongly urge you to seriously consider this information.
  - We also know that in the 1980s and early 1990s employees at the LP plant in Olathe, Colorado were "tampering with monitoring devices" and "falsifying emission reports and lying to inspectors" per Siegal (1998). The Company was caught only because an employee came forward, and was subsequently fined some $37 million. The culture of the LP parent office may or may not have changed since then; however, this history is consistent with the local knowledge previously cited.
  - On the basis of the above information, the following recommendations are made.
    - There is a need for a comprehensive epidemiological study that examines the hypothesis that contaminant-related health impacts have occurred since the LP

mill began to operate. This study must be commissioned by government, and involve representatives of all stakeholders. We note that in Flin Flon there are plans to test resident's blood, urine, hair and toenails in relation to emissions from the smelter.

- To complement the epidemiological study, there is a need for an independent analysis of compliance since the mill began to operate. Such a study would examine the performance of the RTOs and could look at independent means to verify how often they were operational and how well they were operating (e.g., looking at natural gas consumption as a surrogate). We have an expert in mind that we can recommend for such a study.

Are we Environmental Ostriches?

- In Manitoba, the LP mill uses a formaldehyde compound and MDI to glue the wood chips together.
- Elsewhere, the world is moving away from using bonding agents containing formaldehyde because of the health effects. Consider the following.
  - California Air Resources Board (CARB) legislation that limits formaldehyde emissions came into effect on January 1, 2009. This legislation is likely to promote similar national standards in the US … in much the same way as we have seen California standards on vehicle emissions push the envelope elsewhere.
  - In 2005, Columbia Forest Products in the US converted from urea formaldehyde adhesives to a soy-based system (Orr 2007); Columbia Forest Products began moving in this direction in 2002. Other soy-based adhesives have been developed (Orr 2007).
  - At the recent International Convention of the Forest Products Society, papers included 'Formaldehyde-Free and Ultra Low Formaldehyde-Emitting Adhesives for Bonding', 'Preparation of Particleboard with a New Formaldehyde-Free Soy-based Adhesive', and 'Protein Hybrid Adhesives: Adhesive Performance, Formulation Latitude, and Chemical Structure'.
- Life is a complex of choices. In this case, one can be like an ostrich with its head stuck in the sand and continue to pollute using old methods. Or one could be progressive and limit the amount of toxic pollution using current technology.
- We suggest that the CEC panel examine the feasibility of the various alternatives to the formaldehyde/MDI mix, and make recommendations on that aspect of the LP development. We believe that, as a province and society, we should be striving to reduce the emission of toxins to our planet when we can.

Purple Haze

Some months ago Mr. Richard Cloutier from CJOB came out to the Swan Valley to do a story on the LP proposal. We took Mr. Cloutier for a tour on the roads around the mill during the morning while it was operating. And what we saw was a purple haze at ground level adjacent to the LP mill and for some miles around the mill. This is of course after Manitoba Conservation allowed LP to stop using the RTOs on a temporary basis. Should LP be allowed to permanently operate in the absence of RTOs or

equivalent technology, I expect that we would continue to observe purple haze and other low-level contamination under conditions of little or no wind.

What we observed on that morning was a situation where those people living in close proximity to the mill were having to breathe that, for lack of a better descriptor, crap. I want each of you on this panel to think about that. I want you to put yourselves in the shoes of these citizens, in the shoes of the young mother, and think about how you would feel if you were forced to breathe that contaminated air.

A fellow by the name of Pierre Trudeau once suggested that the measure of a society was how it treated its weakest members. In the context of the LP mill, the measure will be how those who live closest to the mill are treated.

Based on what I saw that day, I feel absolutely certain that if Premier Doer's family had been living adjacent to that mill and he saw what we saw, those RTOS would have been back in operation in the blink of an eye. My vision of this province is that everyone, from the least of us to the greatest, has the same fundamental human right to breathe clean air. It up to those of you on the panel to demonstrate that in our province, the 'little person' has the same rights not just on paper, but in reality, as the political elite.

Literature Cited

Bezak, D. March 13, 2009. Subject: FW: LP Swan Valley Oriented Strand Board Plant EA Application (3741.0) … more. Email to Laurie Streich, Director, Pollution Prevention Branch, Manitoba Conservation.

Figure 1. 100-year 'sustainable' hardwood Annual Allowable Cuts for the Duck Mountain (FMU 13). Sources were TetrES (1995) for the LP/TetrES HSG and Forestry Branch 'Massaged' AACs, and Manitoba Forestry Branch (2004) for the Forestry Branch AAC. *In* Soprovich, D.W. 2005. Environmental Impact Assessment Information Note No 5. Bluestem Wildlife, Swan River, MB. 7 pp.

Figure 1. Trembling aspen yield assumptions for the Duck Mountain, Manitoba. *In* Soprovich, D.W. 2006. Trembling aspen and hardwood yield assumptions for the Duck Mountain, Manitoba. Comparison of the 1995 Louisiana-Pacific Canada Ltd.-TetrES Environmental Impact Assessment assumptions to the 2004 Manitoba Forestry Branch wood supply analysis assumptions. Environmental Impact Assessment Information Note No 6. Bluestem Wildlife, Swan River, MB. 12 pp.

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