

Manitoba Hydro Bipole III Transmission Project

Review of Project Information Filed by Manitoba Hydro on Agriculture

Prepared for the Bipole III Coalition by

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LINE ROUTING

For any transmission line that traverses prime agricultural land, routing the line on the half-mile line (splitting each section into equal halves) results in arguably the best tower placement. Half-mile property line routing is generally better than road allowance property line routing because it does not carry the risks associated with road traffic and, if two different landowners are involved, there is a better chance that the fields on either side of the line are farmed as two separate management units and the need to cross under the line is reduced. And it is certainly better than routing within the field. This is true whether it be parallel to a property line either offset a limited distance from the property line, as Hydro proposes to do (42 metres) in many stretches of the line, or in the middle of the quarter section. And it is definitely better than diagonal routing.

However, even placement of the towers on the half-mile line has its problems. Among them are:

- The landowner and/or the renter (the farmer) loses the productivity of the land in that part of the tower footprint that is on the property;
 - The farmer loses the productivity of the land on either side of the tower in the direction of field travel; the compromise is even greater if different farmers are involved on each side of the line because it is not possible to farm around the tower;
 - Overlapping occurs in the area beside the tower and for about three tower widths in both directions from the tower; this is the situation for every operation in that field which, in our area, can be as many as 10 times each season. There is the double cost of seed, fertilizer, fungicides, herbicides, insecticides and any other chemicals required. There is also the increased cost of farming the entire field because fields simply take longer to cover when towers are involved. Farming around towers is even more complicated when the crop is a row crop.
 - The elimination of the possibility of using aerial spraying triggers additional trampling of valuable crop with ground-based equipment because aerial spraying has been taken away. The financial problem will be addressed later.
- * The ideal situation is to have no towers at all. Towers, wherever they are placed, compromise the situation.

TOWER ADVERSE EFFECTS

In the areas that are outside the cropped area (under the tower and in the unworked area in each direction from the tower), noxious weeds become a problem. We have a

double-pole HVac distribution line going through land that we farm with a tower footprint much smaller than the Bipole III HVdc line will have. To avoid crop damage from an ATV, my 70-year-old mother-in-law who owns the property has to walk through the crop carrying a gas-driven weed eater several times each season to cut the weeds around each of these double-pole structures (Fig. 1). We are already working with HVac structures on our farm. If the route for Bipole III proceeds as proposed, our family farm could have nine quarter sections of land traversed by the Bipole III transmission line.

So, in addition to the problem with providing a source for these noxious weeds to multiply and to spread throughout the field, there will be the increased labour cost if the weed control is done by paid employees. Even if it is done by a family member, labour should not be regarded as free. If this extra time-consuming labor-intensive operation is not carried out every year and the weeds are allowed to spread into other parts of the field, there will be the compounding (cumulative) effects of extra herbicide and application costs, extra labour costs and the resulting yield loss in future years and other parts of the field.



(Fig. 1)

There is also the loss of income in the area that cannot be seeded. With farm machinery continuing to get larger, the overlapping problem continues to grow, and so does the economic loss to the farmer. It is not just the extra cost of the inputs to the farmer; it is also crop loss due to excess fertilization, and herbicide, pesticide, and fungicide overload. The problems caused by these unneeded inputs hurt this area year after year, making the footprint a lot larger than Manitoba Hydro understands.

If the actual rate of fertilizer in these overlap areas takes the nutrient levels sufficiently beyond the optimum rates for the crop, there can actually be a yield depression. The extra inputs lead to crop lodging and, because of the extra herbicide it also delays crop maturity which also lowers yields substantially. Compaction from the extra passes around the towers contributes to the loss of crop yield and quality. The extra passes compact the soil making it very difficult for the water to penetrate; thus ponding occurs around the towers, impairing germination and delaying the maturity of crop. The same phenomena, occurring in the overlap areas with herbicides, insecticides, and field-applied fungicides, compound over time and from year to year.

I understand that Manitoba Hydro believes that compensating for this impact is all that is needed. What Manitoba Hydro fails to understand is the nature of today's farming operations and the magnitude of the loss of income that will result from working around towers. This loss may vary from year to year, depending on factors beyond our control such as weather. It can go much beyond the simple inconvenience and cost of working around the footprint of a tower. Significant as the losses in the immediate vicinity of the tower are, the real losses are orders of magnitude larger than the relatively minor losses which Manitoba Hydro has identified and for which it intends to compensate. The real losses will be discussed later.

ENVIRONMENTAL ISSUES

It is worth mentioning that the areas of overlap contribute to environmental issues. Fertilizer applied in the overlapped areas results in nutrient levels above what the crop can consume. This over-application can contribute to runoff to places where the excess nutrients contribute to algae formation and to the production of the toxic compounds that are the product of algae decomposition. Excess inputs in the areas of overlap will have a huge impact on the environment, because of transport of these inputs through leaching or overland flooding, as they make it to the waterways and eventually to Lake Winnipeg. The least environmental impact would occur if the line is situated on the property line or on the road allowance. If the structure is located 42 metres in the field, it will leave a considerably larger negative environmental footprint.

FINANCIAL LOSSES

Yield Depression

I want to turn for the balance of my report to thoughts of how one can put a value on the impact of a transmission line on grain farming. The financial losses are hard to measure. The simplistic approach is to calculate the extra cost of working around the towers. But that is only a small part of the added cost. These minor considerations include the value of the lost production in the wedge-shaped buffer zone around the tower that cannot be cropped. Also small but worth mentioning is the cost of any yield depression and reduced crop quality that occur in areas of overlap around the tower. We have seen this effect on our own farm with the existing hydro line we are working around. While Manitoba Hydro suggests yield depression caused during construction is a one-time event, in reality this simply is not the case. Soil damage from compaction can extend to five years, resulting in an annual crop yield loss over that five-year period.

Construction Damage

I understand Manitoba Hydro wants to do construction during the summer. If you know this area, this is the worst possible time. The Red River Valley is a very wet area, In some conditions, damage from driving and operating heavy equipment over these soils during tower placement would be almost irreversible because vehicles would have to travel quite a few times over the same area to build the structures. We have experience in this problem because, a few years ago Manitoba Hydro put in a fiber optic line adjacent to the HVac line on our property, and the tracks from the Cat are still there.

Impact of No Aerial Spraying

Probably the greatest financial impact will result if the line prevents the use of the aerial application of a fungicide or a pesticide. If an aerial application is not possible, the production loss can easily be 25% for many fungal infections and pest attacks. Note the difference between the healthy fully-flowered crop on the right in Appendix A compared to the weaker crop on the left. In the extreme, there could be 100% crop loss. Fungicide is used not only for maintaining crop yield but also for improving crop quality. For example, control of fusarium head blight in cereal grains makes it easier to market the grain and results in less dockage.

To illustrate by using a different crop, assume a typical 25% loss from a sclerotinia infestation because it is impossible to spray aerially a canola crop with a potential of 40 bushels per acre. At a bushel price of \$14, this loss represents \$140 per acre, or \$22400 per quarter section (160 acres) in a single year. In some cases, it may be

possible to spray with a ground rig. But even if it is, the loss due to trampling of the canola by the wheels of the ground rig offsets to a degree the significant advantage that aerial application offers.

The difference in cost from air to ground is nominal, so many farmers choose to use aerial application because there are no losses due to the wheel tracks, as there are with ground rigs, and the crop matures more evenly because there are no wheel tracks to delay maturity. Fungal problems occur in hot humid weather which often accompanies wet field conditions and that makes the use of ground sprayers impossible. Wet fields favor fungal attacks and work against control using ground rigs. Our farm is located in the Red River Valley which is Manitoba's most productive land. However, it is also in a flood zone. Airplane use for the application of crop protectants is a regular and often necessary practice. When it is very wet there have been instances when some farmers use airplanes to broadcast canola as a means of seeding their crop. Desperate times trigger desperate measures.

Crop Insurance

As I have pointed out, the out-of-pocket losses that will be caused by the towers are very large and very real but there are still other very important impacts. Crop losses attributable to the towers will have huge implication on crop insurance coverage by the Manitoba Agricultural Services Corporation (MASC). A farmer's long-term average (LTA) yield is a 10-year running average. It is the LTA which determines the amount of insurance coverage available. So, with a few wet years and uncontrolled disease problems because fungicides or pesticides could not be applied, there could be a profound depression of the LTA and, therefore, the amount of crop insurance that can be purchased. The farmer takes on the additional risk.

In 1997, after the Flood of the Century, seeding was very late. The crop had great germination and looked great. But in early July we got over four inches of rain. Yields were terrible. Those low yields had a negative effect on my LTA for many years after. Towers that prevent aerial application can have the same effect on crop insurance coverage as the Flood of the Century.

Government Programs

On another front, the provincial and federal governments offer two voluntary programs called AgriStability and AgrilInvest. The purpose of these programs is to stabilize farm income, more or less to smooth out the boom and bust years. The better the crop yields, the better the coverage you receive, and the more money you are able to put into your AgrilInvest account. When your income drops, you can obtain replacement

revenue to keep your farm going by drawing down your AgriInvest account. Likewise, the AgriStability program pays a dividend in the low-income years. These programs employ a five-year average from which a three-year Olympic average is calculated by dropping the highest-income year and the lowest-income year from the five-year average. Anything which depresses income impacts eligibility for benefits under these programs. So it is very important that good farming practices are maintained. Bipole III with its various negative impacts on crop yields and quality will reduce benefits under these two programs.

VALUE OF LAND

Manitoba Hydro asserts that there will be no loss in land value as a result of the placement of Bipole III on agricultural property. However, in conversing with farmers on a regular basis, the consensus is just the opposite. How much less? There is no way of knowing in advance. Only time will tell. Nevertheless, I would say that, given today's prices for crops; the present escalation in land prices will continue. It is now becoming more profitable to grow crops such as corn and soybeans. The prices of corn and soybeans have tripled over the past few years.(Appendix C). Although, there is volatility in prices, the outlook is for even higher prices, given climate change (more droughts) and significant changes like the demand for corn for fuel purposes. The point is that the price discovery point under these new conditions has not yet been found. Land prices in our area have doubled in the last five years. You just have to look across the border (USA) and see the increase in land value due to increasing demand for corn and soybeans. Corn breeders have produced new varieties needing less heat units to reach maturity. Corn is becoming an excellent cropping option with huge potential in the Red River Valley.

Every single acre in the Valley has the capability of being row-cropped whether it is corn, soybeans, canola or sunflowers. Appendices B and C clearly show the huge increase in acres to these special crops in recent years. This trend is expected to continue. The potential is huge here. If the gentleman were still alive who owned the land we farm today and who signed a 1968 agreement for \$60 dollars per structure, he would likely say he made a huge mistake. Farmers will not make the same mistake in 2013. We learned from the few bad financial decisions our forefathers made. Years ago, you could make the argument that soil type played a big part in pricing of agricultural land but, with today's technologies, the advancement in crop varieties and changing farming practices, marginal land can produce very well. Supply and demand for productive farm land will always play a huge role as it is a limited resource.

The same argument can be made when Manitoba Hydro speaks about compensation for ongoing crop damage. Pegging losses at today's price seriously undermines the real losses farmers will experience over the life of the line.

IRRIGATION

Although the Red River Valley is clay-based and, therefore, less conducive to the need for irrigation; the fact is that irrigation is already practiced in some areas. Irrigation in the future in the Red River Valley will depend on the climate (drier conditions) and the price that the various crops will fetch. However, I expect the trend to greater use of irrigation systems to be the future. Manitoba Hydro cannot say with any assurance that the Red River Valley could not be tile-drained and irrigated. We have a supply of water with the Red, the Pembina, the Morris, the Boyne, the LaSalle and the Assiniboine Rivers. There is capacity to conserve spring runoff in reservoirs. There is high quality groundwater east of the Red River. Farmers will construct retention ponds if they think it is profitable. Consequently, the lack of planning for this opportunity is a serious deficiency in Manitoba Hydro's assessment.

Appendix B tabulates seeded acreages by crop over the past seven years since 2005. What is significant in this table is that farmers are switching from low-valued crops like wheat, oats, barley, flax and sunflowers to high-valued crops like corn and soybeans. Canola, an intermediate-valued crop, seems to be holding its own. Appendix C reveals that the acreage of grain corn (for animal feed and fuel) has almost quadrupled since 2001 and soybean acreages have soared to more than 12 times what they were 12 years ago. These new crops are driving up the price of land and they are providing an incentive for more expensive practices like irrigation and drainage that could not be considered until only recently.

LIABILITY

Finally, there is the whole matter of liability if farm equipment should damage a transmission line structure. Farmers seed around the clock using wide equipment pulled by tractors equipped with GPS and auto steer. But the GPS does not tell them where the towers are and, at night, it becomes a matter of judgment where the end of the seeder or other wide implement is in relation to the tower. As careful as we try to be, I have noticed that one of my operators must have clipped a wooden pole in one of the double-pole structures supporting the HVac line that runs across one of my fields because there is huge gouge taken out of the pole. If this were to happen with a steel lattice tower in the Bipole III transmission line, the issue of liability is still a matter of uncertainty and no guarantee is given that the farmer will not be held liable. We all recognize that the machines are getting larger to improve the efficiency of the farm. Every farmer relies on help, whether it is hired or young family members. These structures cause great concern especially with novice equipment operators. It is very hard to hire experienced help in today's labour environment and so operators with less experience than one would like are often operating these huge machines. Farmers will

have to carry more insurance so they can mitigate the losses if their machines damage one of these structures.

FUTURE GENERATIONS

We run a family farm as most of the farmers along the proposed Bipole III route do. One of the main concerns we have is for the future of our home and our children who very well may become farmers. Decisions made today will have long-lasting effects on future generations on our farm. These decisions are not ones we are making. They are being forced upon us by others who have little stake in the impact they will have upon us. They will pose safety risks, loss of income risks and farm management risks to our families forever. Compensation cannot and will not even come close to making the affected landowner whole. Because no one can tell what farming will look like even 10 years into the future, it is an impossibility to predict what the impacts will be of a transmission line that is expected to be in service at least 50 years and possibly 100. That is why Manitoba Hydro's one-time-only landowner compensation plan based on current land values is flawed and inadequate by at least two orders of magnitude.

RECOMMENDATIONS

Bipole III should not be routed through prime agricultural land. There are other options. The extra length of the line will be a huge burden to the ratepayers and taxpayers of Manitoba for many generations. We (farmers and our farm land) are not for sale. I can safely say that farmers want, even need, to increase the size of their operations in order to remain efficient in today's and tomorrow's farming economies. They have no interest in compromising the productivity of the land that they already farm today. Farming has a bright future. It puts a lot of money into Manitoba's economy. If allowed to proceed, the proposed Bipole III transmission line will have a profound depressing effect on agriculture forever.

Appendix A

Sclerotinia in Canola

Sclerotinia stem rot is a serious disease problem in canola. As recently as 2010, some 91% of canola crops in Saskatchewan, 88% in Manitoba and 64% in Alberta had sclerotinia. The cost to growers that year was approximately \$600 million.

(http://www2.dupont.com/Prod_Agriculture/en-ca/content/article/vertisan-sclerotinia.html)



APPENDIX B

MANITOBA GRAIN AND OILSEED STATISTICS

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010^R</u>	<u>2011^P</u>
NO. OF CROP FARMS:	9,160	8,605	9,225	8,860	8,685	8,570	
(51+% of income from grains/oilseeds):	7,865	7,315	7,860	7,665	7,605	7,610	
SEEDED AREA (million acres):							
Wheat	2.92	3.28	2.93	3.22	3.08	3.04	2.17
Oats	0.72	0.95	1.05	0.86	0.60	0.56	0.50
Barley	0.90	0.84	1.02	0.82	0.70	0.48	0.34
Rye	0.05	0.09	0.06	0.08	0.08	0.055	0.045
Grain corn	0.11	0.15	0.20	0.20	0.20	0.185	0.18
Canola	2.50	2.48	3.06	3.10	3.20	3.37	2.725
Flax	0.38	0.38	0.20	0.27	0.30	0.175	0.095
Soybeans	0.11	0.35	0.23	0.28	0.42	0.52	0.575
Total major grains/oilseeds	7.69	8.52	8.75	8.83	8.58	8.385	6.63
Sunflowers	0.20	0.19	0.19	0.17	0.16	0.135	0.035
CROP PRODUCTION (million bushels):							
Wheat	89.71	139.44	118.00	157.30	152.30	119.83	80.50
Oats	28.58	62.73	78.10	72.40	50.00	42.50	27.00
Barley	31.30	47.55	54.90	51.50	44.00	22.40	12.00
Rye	1.50	3.40	2.12	3.30	3.90	2.30	1.74
Grain corn	8.33	14.95	19.43	18.65	14.30	18.90	16.30
Canola	55.60	80.50	86.00	113.60	124.70	97.70	73.00
Flaxseed	5.80	7.60	4.15	6.35	7.60	3.20	1.50
Soybeans	2.26	9.27	7.80	8.90	11.80	16.00	16.20
Total major grains/oilseeds:	223.10	365.45	370.50	432.00	408.60	314.83	228.24
Sunflower seed (million lb)	171.00	346.80	264.10	247.30	224.70	149.90	43.60
TOTAL FARM CASH RECEIPTS^R							
(grains and oilseeds) (\$ million):	914	963	1,865	2,414	2,289	1,722	N/A
<i>% of Canada</i>	13.8	12.3	16.2	15.6	15.9	15.2	
AVERAGE PRICES (crop year) (\$/bu):							
Wheat	2.74	3.05	3.47	5.42	3.9	5.5	N/A
Barley	1.74	2.41	2.91	3.73	3.15	3.8	N/A
Canola	5.94	7.56	8.41	11.27	10.2	13.3	N/A
Flaxseed	6.68	6.04	8.92	15.62	12.5	15.6	N/A
TRADE (\$ million):							
Selected bulk grain/oilseed exports:	932	801	1,564	2,371	2,109	2,012	2,363
Wheat	408.3	397.8	696.0	1,121	986.6	896.9	1,000
Oats	90.1	71.3	153.7	204.8	116.9	111.9	135
Barley	31.6	24.0	59.9	103.1	51.9	45.8	34
Canola	311.0	237.4	480.7	846.0	733.1	732.2	965
Flaxseed	67.5	31.3	50.9	90.1	58.6	66.8	46
Soybeans	6.2	10.5	55.9	76.2	100.8	126.3	150
Sunflower seed	17.6	28.7	70.8	72.6	61.2	32.3	33
Selected product exports:	246.3	283.9	445.0	697.9	527.1	459.0	597.5
Wheat flour, meal and bran	1.4	0.4	2.7	5.3	5.8	4.0	3.8
Oat groats, meal and flakes	58.4	50.4	75.7	100.3	90.6	77.4	92
Canola oil, meal, oilcake	163.5	201.7	322.4	573.0	399.6	351.7	480
Linseed oil, meal, oilcake, fibre	21.5	21.4	17.7	17.8	20.6	12.8	16.5
Barley rolled, hulled, etc., malt	1.5	10.0	26.5	1.5	10.5	13.1	5.2
Selected grain and oilseed imports:							
Corn and corn products	44.2	48.1	66.5	157.4	70.7	73.4	56
Soybeans/products	92.5	86.7	99.6	114.0	91.7	78.1	91

APPENDIX C

Historic Grain Corn and Soybean Acres in the RM of Macdonald

Years	Crop Acres/Year	
	Grain Corn	Soybeans
2001	1226	3358
2002	1867	9770
2003	2784	17767
2004	2403	5030
2005	1860	6291
2006	3403	25469
2007	3169	11728
2008	3277	18122
2009	3339	36348
2010	4030	40825
2011	4519	42951

Join Now Why Join?



Corn December 2012 (ZCZ12)

738-6s -2-4 (-0.34%) 7:57P CST (CBOE)

Technical Chart as of Saturday, Nov 10th, 2012



ZCZ12 | Commodity Futures Price Chart for Corn December 2012

Bio for Rick Nychuk

Name: Rick Nychuk

Farm Affiliation: K & N Farms

Description of Farming Operation: 2200 acres of grain & oil seeds

Family Involvement: Second generation farm. Farming for 20 years, Rick & his wife Irmgard have 3 children

Formal Education: Agriculture Diploma from University of Manitoba with a major in economics 1992. Certificate of Attainment in Heavy Duty Mechanics from Assiniboine College.

Previous Experience or Employment: Managed the Complete Feed Division at East Man Feed in Winnipeg from 1992- 2002.

Community Involvement: Treasurer for the Domain Rec Club for the last 12 years.