

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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Ferme de Rocquigny Farm

St. Claude, Manitoba

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Introduction

In this report, I will discuss a number of ways in which Manitoba Hydro's Bipole III transmission line may impact the operations of Ferme de Rocquigny Farm Ltd. In doing so, I believe that farmers operating livestock / hog farms and applying liquid manure will encounter the same issues as we are facing with the construction of the Bipole III line. My two brothers, Lionel and Laurent operate Dufayel Holsteins and milk 120 dairy cows. I operate Dufayel Cattle Ltd. running a 280-head cow/calf beef cattle operation. Our farm also consists of 1300 hectares (3300 acres) of crop land. I will focus mainly on the following issues: manure management, biological effects, safety and liability.

Manure Management

Manure is a valuable, organic, natural source of fertilizer to many of Manitoba's farms. It is not waste. Applying manure as a fertilizer, growing a grain crop and feeding the grain back to livestock is common practice in the livestock production areas of Manitoba. *The Environment Act* in Manitoba regulates the application of livestock manure to crop land on the basis of both nitrogen and phosphorus through the Livestock Manure and Mortalities Management Regulation.

Ferme de Rocquigny Farm Ltd and all other livestock farms are required by Manitoba Conservation and Water Stewardship (the Government) to meet all of the regulatory requirements for manure management. We comply willingly because we understand that we need to do our part to ensure that the nutrients produced by our operation do not cause problems in the environment.

The method required by the Government for disposing of the liquid manure produced by our dairy operation is injection into cropped land at safe rates where it serves as a fertilizer for the crops. Because applying manure on frozen ground in the winter is quite reasonably not permitted, we are required by the Government to have a steel storage tank which we use to store the manure between applications that occur in the non-winter months. The capacity of the tank is 1.6 million gallons.

To give you an idea of the physical dimensions of this tank, it is about six metres (20 feet) in height by 43 metres (141 feet) in diameter. It meets all of the Government standards and we purchased and installed it under Government supervision. The new Bipole III line will be about 150 to 200 metres (500 to 700 feet) from our tank. An earlier plan would have put the line 350 to 400 metres (1100 to 1300 feet) from our tank in a fence line where it would not have been a serious problem. But that plan was changed to accommodate some concerned neighbors. The planned route is now about 200 metres (660 feet) right into the middle of our fields.

Injection of dairy cattle manure involves running a pump plumbed to the storage tank. The pump discharges from the storage tank into a long flexible hose which is connected at the remote end to injection equipment; basically a deep tillage implement with shanks that are appropriately spaced that are fitted with narrow injectors, which deposit the liquid manure at a depth of about 100 mm (four inches) below the soil surface. In the business, the hose is called an “umbilical hose” or simply a “drag hose”. The implement is either drawbar-connected or mounted on a three-point hitch to a high-horsepower tractor.

Because it is important that the hose not plug up, we run four or more pto-driven pumps in the tank to agitate the liquid manure; which makes the manure more consistent and prevents plugging of the hose. It also ensures a better consistency of the manure so that the nutrient application is more uniform, thus complying with regulatory requirements. The reason for elaborating on how our system works is so that it can be appreciated that we have made a major investment in order to meet environmental standards for handling the manure from our dairy operation.

Towers in a Manitoba Hydro Bipole III transmission line will present an obstruction in the field near the tank that we use to receive the manure. It is radically different from the situation with other crop production equipment which has no trailed hose. It will be extremely difficult to farm around or even alongside towers with manure application equipment utilizing drag hose technology.

Manure injection is typically done on the diagonal of the field for a number of agronomic reasons. As the application progresses across the field, when the part of the field that has been covered reaches the tower, we do not have the option of running the return pass on the other side of the tower because this would “snare” the tower. Considering the high horsepower of the tractor that we use, snaring the tower would almost certainly bring it down.

Even with careful operation, there is another serious risk of damaging, even bringing down, a tower with the drag hose. A simple calculation reveals that the weight of the liquid manure in a half mile of 8-inch-diameter hose is greater than 28 tons. When you consider that this 28-ton-plus hose is being dragged by a 500 hp tractor, it is easy to see that even with a 30-degree minimum deflection of the hose at base of the tower, the lateral force on the tower would be enormous. All that has to happen is for the hose to ride up a short distance on the leg of the tower where its capacity to withstand any lateral force is minimal-- and inevitably--the tower goes down and you have a catastrophic accident!

Because the tank is so large and because it is permanent, it is not possible to move the tank to serve another field. This system represents a major investment on our farm. The location of the tank needs to be in close proximity to our dairy operation and the land it sits on needed to be available for receiving the manure. It was a decision that was made in order for us to comply with the strict handling of livestock manure by the Government. It was a decision that was made for long-term planning purposes to meet all regulations into the future. It is not a plan that can now be abandoned due to problems caused by Bipole III towers that will be located in the field.

A large portion of the proposed route for Bipole III in the southern section of the province will traverse the most heavily populated hog, poultry and dairy belt in Manitoba. All of these livestock farms utilize the manure that is produced by the livestock either on their own farms or on other farms in the area.

To demonstrate this point, I would like to draw your attention to the first table in Appendix A which shows the extent to which hog manure is used on-farm as valuable fertilizer. The second table demonstrates that injecting liquid hog manure into crop land is a prevalent practice in the province. Our farm does the same with manure from our dairy operation.

I would also like to have you look at Appendix B which shows the very heavy density of registered manure storage facilities in the southern portion of the province. Manure storage facilities are a good proxy for large-scale livestock enterprises because manure must be stored over winter when spreading is not permitted. Note the especially heavy concentration of manure storage facilities and, therefore, large-scale livestock operations in the southeast corner of the province where the proposed route for Bipole III would pass on its way to the Riel Converter Station. (The green line drawn on Appendix B is a rough approximation of the Final Preferred Route for Bipole III) This particular area of the province has 50% of its total acres dedicated to manure management plans and available for regular manure application.

Biological Effects

We are concerned about the biological effects of having a high-voltage line near our cattle. We have experienced past serious negative consequences on our dairy herd which we milk twice a day (5:00 am and 4:30 pm) in a parlour located near a HVac distribution line. Stress on our cows and heifers caused by the line has affected their immune system, leaving them vulnerable to a number of viruses. A good indicator of this condition is the elevated levels of somatic cell count that we have observed in the milk. Feed intake is reduced, lactation performance drops and productivity is lowered. Our dairy cows have exhibited serious physical signs of stress in this environment. I

have seen some cows go down on their knees, all the while shaking violently, when forced to enter the parlour. We have lost some animals and others have become so anemic that we have had to put them down. We calculate that we have suffered losses totaling \$250,000 from this phenomenon.

There never has been any certainty as to whether the cause of the stress in our dairy herd is stray voltages, even though our system meets and exceeds grounding standards, or an EMF effect. Manitoba Hydro is aware of these very real problems that have occurred on our farm in the past. Hydro personnel have assured us that our experience with the HVac line will not be repeated with an HVdc line. But we do not trust that advice because it is the same Manitoba Hydro which had assured us for years, and until very recently, that the problems with our herd were not being caused by the HVac line. The personnel giving the assurances simply did not understand animal agriculture.

We are also concerned about EMF effects on our beef herd, especially when, on a hot day, the line sags to its lowest level and the cattle will be travelling back and forth under it many times each day.



Silage harvester unloading into a waiting farm truck

I understand that Manitoba Hydro has presented evidence that there is no scientific proof that HVdc lines can cause harm to humans or animals. However, the studies presented do not give us comfort. Once the line is built, it is there virtually forever and our anxiety will be constant, in wondering, if at some point, it is discovered that such a line causes health risks to humans and/or animals.

Safety and Liability

We feed silage to our cattle. The silage is stored in an open pit which must be sealed when the harvesting operation is complete. We harvest the silage in the field with a silage harvester featuring an open tank which accumulates the silage before it is emptied periodically into waiting farm trucks that haul it to the pit storage near the farm yard. In the elevated position (see the photo on the preceding page), the highest point of the tank is quite high, perhaps in the order of six metres (20 feet). We are concerned that, on a hot day (which is a typical silaging day) when the sag of the line is the greatest, we may be within a risk zone if a flashover occurs when we dump the harvester under the line. We recognize that the HVdc line is much higher than the line shown in the photo.

However, as our farm grows in the years ahead, so may the size of the equipment we will be using. If we are concerned about working around the line with today's equipment on our farm, what about tomorrow's much larger equipment? We also wonder if insurance companies will avoid taking on the liability just as they are doing with hog barns. We should not be subjected to that risk because of a line that we do not want on our farm in the first place.

Concluding Statement

Routing Bipole III through our province's most productive agricultural zone needs to be reconsidered. With the high concentration of livestock operations along the southern portion of the route, there are far too many application, safety and liability issues that have not been properly analyzed. Routing through an area of Manitoba's best soils is also completely unacceptable. These soils have a high percentage of special crops; often they are row-cropped and some of them are irrigated. There are far too many unknowns about the long-term effects that a major transmission line will have on our livestock operations and on our farming practices in general.

It is impossible to understand how a decision could have been made to route this transmission line through Manitoba's most populated farm belt. It is completely unacceptable and cannot be properly mitigated by any means. I urge the Clean Environment Commission Panel to recommend that Manitoba Hydro and the Minister of

Conservation and Water Stewardship not proceed with the route for Bipole III as proposed. A route that will not have such a huge negative impact on Manitoba's most productive agricultural belt needs to be considered.

APPENDIX A

Manitoba Manure Management

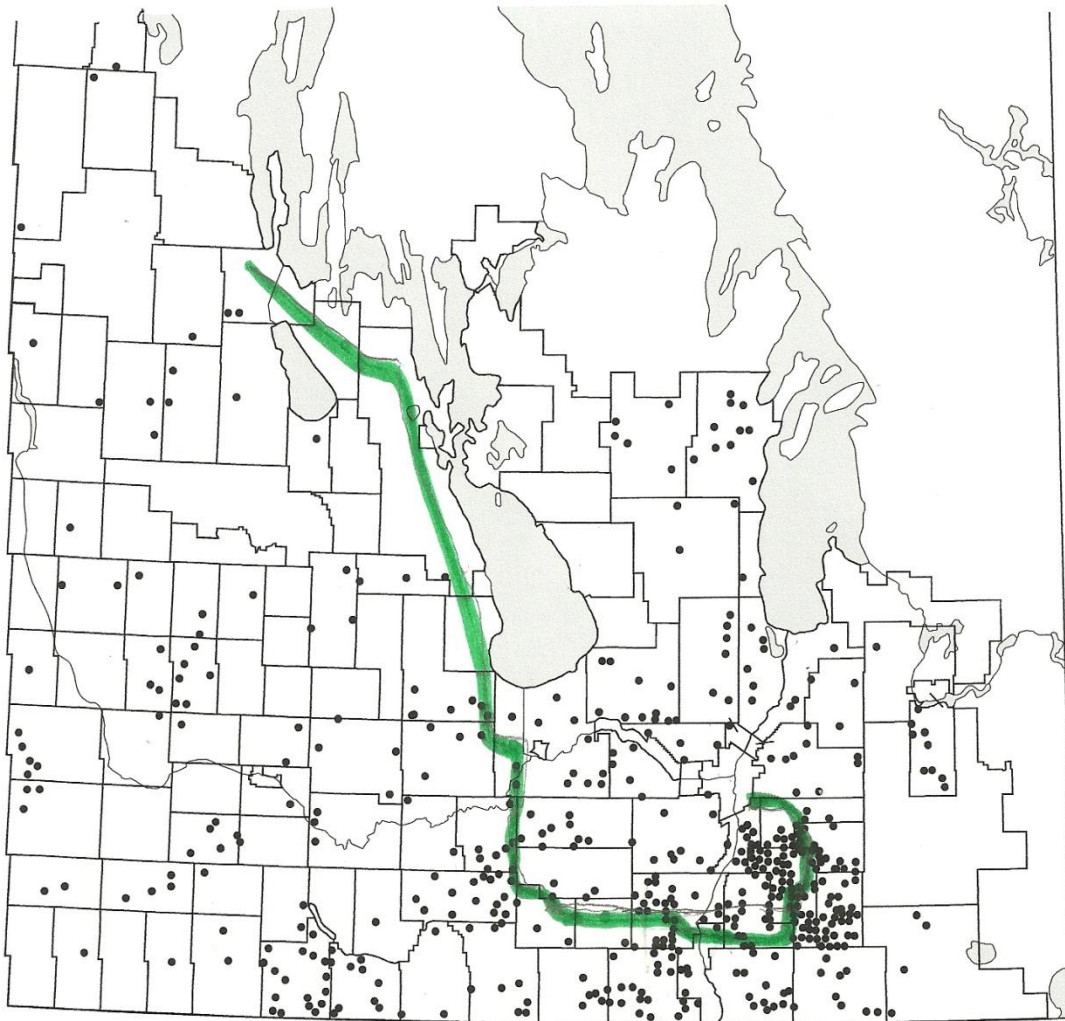
Manure	Manitoba – Predominant Hog Operations
Farms reporting manure produced or used	719
Manure application on the operation	550
Manure sold or given to others	218
Manure bought or received from others	18
Other manure (composted, dried, processed, stored, etc.)	62

Manure Type	Manitoba - Predominant Hog Operations		
	Application Method		
	Incorporated or Injected (in the case of liquid manure)	Not Incorporated	Applied by Irrigation
Farms reporting composted manure	82	19	n/a
Acres	10,425	894	
Farms reporting solid manure	84	33	n/a
Acres	7,809	2,150	
Farms reporting liquid manure	336	135	17
Acres	103,648	17,761	2,852

Source (Statistics Canada, 2007)

APPENDIX B

Location of Permitted Manure Storage Facilities April 2006



Source: Manitoba Conservation

Bio for Bertrand de Rocquigny

Name: Bertrand de Rocquigny

Farm Affiliation: de Rocquigny Farms

Description of Farm Operation: 120 milking cows, 280 cow/calf pairs (beef operation), 2500-acre grain operation, 800-acre haying operation. 2200 acres of pastures

Family Involvement: Fourth generation farm. I have been farming since 1980 with my father. Then, later on, my brothers joined as they graduated from high school. I have a 17-year-old son showing lots of interest in the farm and wanting to join our operations after taking a two-year agriculture diploma course at the University of Manitoba.

Formal Education: I graduated from Grade 12 at the St. Claude School Complex in 1979. I am a Level II Co-op Director, enrolled in teaching seminars to better qualify myself as a Director.

Previous Experience or Employment: None. Farming is what I have always done.

Community and Industry Involvement: Ten years as a Director for Pembina Co-op (90 million dollars in sales in 2011). Twenty years on the Board of the local snowmobile club (ten years as President and ten years as Secretary). President for the Parents Graduating Committee for both my daughters.

15 September 2012