Presentation to the Clean Environment Commission Nov. 8, 2012

By Robert Hamlin, private citizen

- INTRODUCTION:

I am a private citizen living in the RM of Woodlands near Warren. I worked for Atomic Energy of Canada Ltd. on the first phase of Bipole (BP) 1 for seven years. I am retired from Manitoba Hydro with a further 26 years of professional experience.

I have lived and ranched in Interlake, for 37 years. My wife and I raised sheep and cattle in the Interlake alongside the high voltage direct current HVDC transmission line. We grow many of our fruits and vegetables in a various large gardens around the house. The yards are 98 % organic, but occasionally we have to resort to some form of herbicide.

I am a recreational canoeist and have travelled extensively in the shield country and know the beauty of the swamps and muskegs, and enjoy the flora and fauna. I love open spaces and wild country. I also see the amazing food production of the central plains. I have been working with a group of farmers attempting to create a Saskatoon berry production industry. We have been importing harvesters from Lithuania, modifying them specifically to harvest saskatoons and have sold three units to Alberta. I think I can speak for farmers and environmentalists.

A new HVDC line has been planned in Manitoba with an original route going 1364 kms around the west side of Manitoba. This line would provide new transmission capacity and as a contingency against the failure of the current lines. Because of economic changes there are many indications that any new transmission line can be delayed. Now is the time to review all the options. We are not at a time where action is urgent. Instead of the long western route, Manitoba needs the shorter East of Lake Winnipeg line route for many reasons.

- BACKGROUND ON THE CURRENT PLANNED ROUTE FOR THE NEW HVDC TRANSMISSION LINES

Manitoba Hydro has many excellent staff and skills to plan and operate the power utility. In the early planning stages of BP 3 a route on the east side of Lake Winnipeg was the preferred route. Then in 2007 Manitoba Hydro was instructed to consider only a western route for the new transmission. The loss of their perspective and talents to fully examine all alternatives objectively is very real.

This type of restriction leads to some doubt about Manitoba Hydro's ability to question the political direction even if economic situations change. The requirements for increased transmission capacity was made with the best possible information at the time, with the knowledge that the projects could be delayed if the economics change.

The economy has changed since that decision was made to build new transmission on any route.

Now natural gas is going to be shipped to Canada from Pennsylvania, because the shipping costs are lower than if shipped from Alberta. Gas turbines are fuelled by natural gas and can be installed nearer to load centers, with lead times as low as eighteen months. The additional oil found in the Bakken Oil field is changing the economics of fossil fuel. There are very strong prospects that the Americans could become self sufficient in energy in the next ten years.

- REASONS FOR AN EAST ROUTE

Now that we have time to look into the route for a new transmission line, we should look at the route East of Lake Winnipeg. There are many reasons to support this route and it can be shown there are many reasons to avoid the west route.

This is an area is very sparsely habituated and very few citizens are exposed to the electric and magnetic fields. The long term health effects of electric and magnetic fields from transmission lines is still not fully resolved. We certainly know there are audible noise problems from corona discharge and there is constant wind related noise from the structures and conductors.

- Requirement for safe, secure, reliable transmission:

A shorter route is almost certainly to be more reliable, less prone to tornadoes and shear winds than the central plains, such as the event in Sept 1996 near Grosse Isle. Examples of the more severe weather systems abound. Hurricane Sandy has shown how important electricity is to running a modern society.

- Environmental impact of HVDC transmission line on Taiga and Canadian Shield country.

These observations and comments are my own personal notes not as s trained biologist, but as a rancher and nature lover. I have walked and hiked, road on horse back under the HVDC transmission lines observing birds, mammals and cattle and have never seen what seemed to aversion to the lines. The forages all seem to grow at the same rates, the brushes and poplars grow better because of the clearing and the ungulates seem to prefer the additional browse. When I canoe through the shield country such as portions of the Woodland Caribou Provincial Park or down the Bloodvein River, I see wonderful wild areas, undisturbed forests, huge areas of forest fire burns, isolated fly in lodges, winter roads with some bridges and none of this would be marred by a transmission line that has a right of way a few hundred feet wide. If there were woodland a caribou migratory routes that would be disrupted by a cleared transmission line ROW, the transmission towers could be made taller in that area to be above the forest. I am confident that any real or perceived impact of an HVDC transmission line on the East side of Lake Winnipeg could be designed to have a much lower carbon footprint on Manitoba than the West route. Shorter and lower cost is always better.

REASONS AGAINST THE WEST ROUTE

Paralleling of the BP 1 and BP 2 lines is designed and used in the event of a failure of either BP 1 or BP 2 lines. The BP 3 line has to be designed to be of the same losses as BP 1 and BP 2, in the event that it is used in parallel with one of the existing lines. This causes the conductors to be significantly larger and contributes to the increased

cost of conductor. The transmission towers that could be used for the East of Lake Winnipeg route, would be very similar to the existing towers, perhaps even the same, and would result in a more reliable design than the towers proposed for the west route. The west route towers must be much larger to carry the bigger conductors and much as we would like to say our design is fail proof, it is a new design and reliability is likely lower. Simply because it is 50 % longer it is going to be more prone to weather effects.

- Economics of West route:

The capital cost of the BP 3 west route is $ 1 Billion higher than the east route by current estimates. This will lead to higher hydro rates. This $ 1 billion additional cost does not reflect the additional costs that have to be paid by the farming community because of inefficiencies. Nor does it reflect the increased costs for line maintenance. If the shorter East of Lake Winnipeg line route were to be used provincial debt would be lower. Just think of the social programs, housing, community halls, infrastructure repair deficit and or swimming pools that could be built with that money. Manitoba Hydro does not need to be forced into high borrowing costs just so that Manitoba can have a UNESCO site that has no transmission lines. This is money that has to be borrowed by Manitoba Hydro to pay for the increased line capital cost. Manitoba Hydro's debt equity ratio is currently near 75 / 25 but is stated in the Integrated Financial Forecast, as falling to 85 / 15 in year 2017. We only have to look at New Brunswick Power, that was almost forced to be sold, when they took on too much debt.

The probability of structure damage from farming operations for the west route is much larger simply because of the length of line that passes through prime agriculture land. The most recent line design location shows most of the structures on the side of the quarter sections that will make a very significant reduction in possible structure contact. The line location through agriculture land should always be on the side of the road allowance and not through the middle of the section, because farm operations are trending towards complete half section blocks and even entire section units.

The impact of state of the art farming operations around transmission lines is estimated to cause increased costs of 5 % for a quarter section with transmission structures as compared to a quarter that is wide open. I have neighbours that are installing drainage tiles to reduce salt and improve efficiencies of fertilizer use and timing of spring planting. The farmers are clearing headlands to create larger fields for more efficient equipment operation. The farmers need unobstructed land for safety and efficient operation of large equipment.

The structures provide locations for weeds such as thistle that are controlled in the crop, but difficult to control under the structure. The structures force increased overlap of tillage, over seeding and over spraying. Any transmission structures will reduce the available area for farming operations.

There is such a significant demand for world food production that we are seeing foreign nationals buying or investing in farms throughout western Canada. They know there is a market for the products in their home countries. As the world shortage of food increases, there is increased pressure on existing facilities and land to produce more food. We must not reduce the production capacity of current land.

An additional cost to the farmers is insurance in the case of damage to transmission structures, perhaps Manitoba Hydro should indemnify and hold harmless the landowners from any damage to transmission structures by farming operations because the farmers are the incumbent /senior land owner.

This may be out of the scope of this hearing, but it needs to be noted, the need for a highway on east side has always been refuted by Manitoba Hydro, as they do not need it for construction. A significant portion of the existing line does not have any road access. A highway up the east side of Lake Winnipeg would have a huge impact on flora and fauna. The addition of cars, truck, ATVs etc would effect wildlife. So although I highly recommend an eastern route for the transmission line, I do not recommend an unnecessary highway to go along with it.

- SUMMARY:

I would like to note that this committee of respected citizens of Manitoba are well positioned to improve the communication between the various interest groups. Anything and everything to avoid social confrontational behavior will be most welcome. There is a danger in allowing a seemingly small special interest lobbying group to force consideration of only a west route for Bipole 3 transmission line. It is not too late to do what is right and abandon the west route. It is more expensive and less reliable, because of the increased length. The societal requirements for electricity reliability and security is increasing. The decision makers of 2007 have moved on. The current government has nothing to lose by changing. There will be sunk

design costs that have to be written off, but for the sake of a more reliable transmission system, lower economic costs to Manitobans, Mr. Chairman and Commission Panel, I urge you to recommend to the honourable Gordon McIntosh to not provide a license to MH to build the west route and to recommend that the East of Lake Winnipeg route be pursued.