

Supplemental Report to the Bipole III Transmission Project

COMMUNITY HEALTH ASSESSMENT

Pursuant to Clause 19 of *Environment Act* Licence No. 3055

INTRODUCTION

This supplemental report was prepared in response to a request for additional information subsequent to submission of a Community Health Assessment on September 11, 2013 pursuant to clause 19 of *Environment Act* Licence No. 3055 for the Bipole III Transmission Project (the Project) which called for Manitoba Hydro to conduct a community health assessment of the Gillam area.

As requested by Manitoba Conservation and Water Stewardship on November 14, 2013, this supplemental report will provide:

1. Information on the following health indicators:
 - a. sexually transmitted diseases;
 - b. substance abuse;
 - c. availability of health care services; and
 - d. availability of emergency response services.
2. An assessment of the potential impacts of the Project on the health indicators to determine the potential future impacts of the Project on the Gillam area.

Most of the health indicators that follow are drawn from the Burntwood Regional Health Authority's (BRHA) most recent Community Health Assessment Report in 2009. The Burntwood region covered the Gillam area and most of the province of Manitoba lying north of the 56th parallel. The BRHA was the largest geographical health region in the province at 324,000 square kilometers covering 52 percent of the province. As of 2008, the BRHA served an area with a population of 46,818 people. Indicators include people living both on and off-reserve where the encounter is captured through Manitoba Health billing data. Community-level data for the indicators below is not available publically. In 2012, the BRHA was amalgamated with the NOR-MAN Regional Health Authority and collectively named the Northern Health Region.

HEALTH INDICATORS

Sexually Transmitted Diseases

Baseline sexually transmitted disease health indicators for Chlamydia, Gonorrhea and HIV in the BRHA are presented in Table 1. Per the BRHA's 2009 Community Health Assessment, both Chlamydia and Gonorrhea rates in Burntwood for men and women were significantly higher than the Manitoba average for 2008.

Chlamydia

Between 1990 and 2008, there were 12,552 cases of Chlamydia diagnosed among BRHA residents. During this time frame, Chlamydia rates more than tripled for residents living off-reserve, from 454.5 cases per 100,000 in 2000 to 1,693.6 per 100,000 in 2008. Chlamydia rates for residents living on-reserve increased from 2,739.6 cases per 100,000 in 2001 to 3,551 cases per 100,000 in 2008. However, the increase in rates may indicate more people are being screened and treated for Chlamydia as a result of a new, less invasive testing method as opposed to being a true reflection of increased instances.

In 2008, the highest rate of Chlamydia among BRHA residents was seen in females age 15-19 at 13,437.9 cases per 100,000 residents, followed by 20-24 year old females at 12,762.6 cases per 100,000 residents.

Gonorrhea

Trends for Gonorrhea cases are similar to Chlamydia. According to Manitoba Health data, between 1990 and 2008, there were 3,891 cases of Gonorrhea diagnosed among Burntwood region residents.

As with Chlamydia, rates of Gonorrhea for people living off-reserve have increased much more than rates for people living on-reserve. According to Manitoba Health data, rates increased more than seven times for residents living off-reserve, from 63.7 cases per 100,000 in 2000 to 489.5 per 100,000 in 2008. Rates for residents living on-reserve have increased from 625.7 cases per 100,000 in 2001 to 1,326.9 cases per 100,000 in 2008.

Similar to Chlamydia, the highest rate of Gonorrhea among BRHA residents was among females age 15-19 at 3,991.6 cases per 100,000 residents, followed by 20-24 year old females at 3,730.4 cases per 100,000 residents.

HIV

The 2002-2006 average HIV rate for BRHA males was the third highest in Manitoba at 7.8 cases per 100,000, but still lower than the overall provincial rate of 12.3 per 100,000. The HIV rate for Burntwood females is the second highest in the province at 6.3 cases per 100,000, but again still lower than the provincial rate of 7.1 per 100,000.

Between 1985 and 2007, there were 24 individuals diagnosed with HIV in the Burntwood region (15 among males and 9 among females). This means that on average, in this 23 year period, there was approximately one case diagnosed per year. The number of new cases of HIV for females in Burntwood was an average of 1.4 new cases per year from 2002-2006. The average number of new cases of HIV for males was 1.6 new cases per year from 2002-2006.

TABLE 1: Sexually Transmitted Diseases Indicators

Indicator	Definition	BRHA	Manitoba
<i>Sexually Transmitted Diseases</i>			
- Chlamydia (2008)	Female Chlamydia rate per 100,000	3,515.3	757.2
	Male Chlamydia rate per 100,000	1,789.5	398.6
	Total Chlamydia rate per 100,000	2,635.7	580.4
- Gonorrhoea (2008)	Female Gonorrhoea rate per 100,000	1,110.8	124.5
	Male Gonorrhoea rate per 100,000	725.0	104.7
	Total Gonorrhoea rate per 100,000	914.2	114.8
- HIV (2006)	Female average HIV rate per 100,000	6.3	7.1
	Male average HIV rate per 100,000	7.8	12.3
	Total average HIV rate per 100,000 (calculated)	7.1	9.6

Substance Abuse

This section addresses substance abuse, including alcohol, smoking and illegal drugs with a focus on the former Burntwood Regional Health Authority.

Data below is based on the BRHA's 2009 Community Health Assessment Report and CancerCare Manitoba's June 2009 Youth Health Survey Report and the results are shown in Table 2. CancerCare Manitoba's June 2009 Youth Health Survey Report, herein referenced as the school survey, surveyed 1,100 students from grade six to twelve in the BRHA region from schools including Gillam School.

Alcohol

With respect to alcohol consumption, in 2008, approximately one in four BRHA adult residents (26.1%) who drink, met the criteria for "heavy drinking" compared to 19.6 percent for Manitobans overall. "Heavy drinking" is defined in the BRHA 2009 Community Health Assessment as residents who have five or more drinks on one occasion. This is an increase from 21.6% in 2007.

Per CancerCare Manitoba's June 2009 Youth Healthy Survey Report, use of alcohol at least once in the past thirty days ranged from 47 percent for grade nine students to over 68 percent for grade 12 students. Over one in five (22%) grade twelve students reported drinking alcohol on more than five different occasions in the prior thirty day period.

Smoking

Burntwood region had the highest smoking rates among Manitoba regional health authorities (RHAs) in 2007 and 2008. The proportion of residents who smoke either daily or occasionally was 35.1 percent in 2007, higher than the Manitoba average of 22.5 percent and the Canadian average of 22.0 percent. Smoking rates rose in 2008 in Burntwood/Churchill to 41.3 percent, which was well above the Manitoba average of 24.2 percent. There was a noteworthy rise in female rates of smoking during this time period of 31.6% in 2007 to 40.1% in 2008.

Twenty-six percent of Burntwood region children aged 12-19 years had smoked 100 or more cigarettes as per the 2008 Manitoba Child Health Atlas. This indicator is significantly higher than the Manitoba average of 14.8 percent. Burntwood's youth smoking rate is the highest recorded among Manitoba RHAs.

According to the school survey, 30 percent of boys and 47 percent of girls in the Burntwood region between grades six to twelve smoke.

Illegal Drugs

BRHA community consultation participants, a group of 252 individuals including 19 participants from Gillam, frequently noted a high rate of addiction among residents, with drug abuse for substances like marijuana, ecstasy, crack cocaine, and pharmaceutical drugs being perceived to be as big a problem as alcohol. The treatment prevalence rate for substance abuse for Burntwood residents was 18.1 percent for the period 1996-2001 and 13.4 percent for the period 2001-2006. Both treatment prevalence rates are substantially higher than the 4.9 percent rate for Manitoba as a whole for the period 2001-2006.

School survey data also indicates almost one in three students (30%) in grade nine have used illegal drugs at least once, 36 percent of students in grade 10, 32 percent of students in grade 11 and 38 percent of students in grade 12. Almost one in five grade 10 students reported using illegal drugs ten or more times.

TABLE 2: Substance Abuse Indicators

Indicator	Definition	BRHA	Manitoba
Substance Abuse			
Alcohol Use (2008)	% of residents who have 5 or more drinks on one occasion	26.1%	19.6%
Smoking (2008)	% of residents who smoke daily or occasionally	41.3%	24.2%
Treatment prevalence for substance abuse (2006)	% of residents treated for substance abuse	13.4%	4.9%

Availability of Health Care Services

As noted in Bipole III EIS Socio-Economic Baseline Report, as of December 2010, Gillam hospital was a ten bed facility that employs one full-time physician; a full-time nurse practitioner; four full-time RNs; one part-time RN; four full-time LPNs; one part-time LPN; two administration staff; one medical records staff; two clinic staff; two pharmacy staff, one community health nurse; and two x-ray technicians. Appointment waiting lists were long and the physician was on-call 24/7. As further noted in Chapter 6 of the Bipole III EIS, when critical care is required, patients are flown to either Thompson or Winnipeg.

Table 3 below presents a health care service indicator in terms of number of beds in operation at Gillam Hospital as of February 2014 per the BRHA website. However, it was noted it is rare that all ten beds are full at any given time.

TABLE 3: Health Care Services Indicator

Indicator	Definition	2014
Hospital Service Availability (2014)	Number of beds in operation at Gillam Hospital	10

Availability of Emergency Response

Emergency response planning for a large project usually involves drawing on emergency response capabilities in the region. A key emergency response indicator is shown in Table 4.

Ambulance, Hospital and Fire

As noted in the Bipole III Environmental Impact Statement (EIS), when workers are housed at the ‘start-up’ camp, there will be an ambulance and a fire truck at the camp. Only minor injuries could be dealt with on site. Workers with moderate and serious injuries would have to be brought to the Gillam hospital for emergency care. The Gillam Hospital will likely experience an increase in its emergency caseload, although it is not possible to specify the size and characteristics (e.g., injury severity or frequency) associated with this increase.

To monitor and further mitigate impacts, a coordination system will be established between the camp, Gillam, and other emergency services in the area, such as the Henday Converter Station.

And, as noted in Chapter 6 of the Bipole III EIS, Gillam has a dedicated fire service.

Police Services

As noted in Chapter 6 of the Bipole III EIS, “The Gillam RCMP detachment is responsible for the Town of Gillam, Fox Lake and Ilford. The detachment employs five constables, one sergeant and one town employee to fill the role of the office manager/administrator...The facility has two holding cells and a holding tank.”

Per Statistics Canada 2012 data of Manitoba Police personnel in municipal police services, Gillam police services served a population of 1,337 with four police officers for a police officers per 100,000 population ratio of 299. This was the highest ratio of all police services in Manitoba reported for centres with populations less than 5,000.

TABLE 4: Emergency Services Indicator

Indicator	Definition	Measure
Police Services Availability (2012)	Police officers per 100,000 population ratio	299

ASSESSMENT OF POTENTIAL IMPACTS ON HEALTH INDICATORS

As suggested by the Clean Environment Commission, Manitoba Hydro is continuing to work with the Town of Gillam and Fox Lake Cree Nation through a Worker Interaction Sub-committee (WIS). Manitoba Hydro established the WIS as part of a corporate-wide initiative intended to address anticipated increases in the Gillam area workforce resulting from this project and other Manitoba Hydro projects being constructed in an overlapping timeframe. The mandate of this committee is to provide a forum for information sharing and communication related to the anticipated increased workforce in the Gillam area with the intent of: early identification of potential issues, preventing incidents to the extent possible, and identifying ways and means to work cooperatively to address issues as they arise.

Membership includes Fox Lake Cree Nation, Manitoba Hydro, the Town of Gillam, as well as other stakeholders and service providers such as the RCMP and Gillam Hospital. Membership may change from time to time, and may include representatives of groups such as, (but not limited to): the RCMP, Gillam Hospital, Gillam School, Native Alcohol Drug Abuse Program (NADAP), Awasis Agency, and staff from relevant Provincial agencies such as Manitoba Health and Manitoba Infrastructure and Transportation. This subcommittee will remain in effect until the construction of Manitoba Hydro planned projects in the area is concluded.

The Worker Interaction Sub-committee combined with other mitigation efforts detailed below and in the Project EIS serve to address the impacts of the Bipole III Transmission Project on Gillam area health indicators.

Sexually Transmitted Diseases

Evidence suggests resource projects in Canada can pose public health issues through increased rates of sexually transmitted diseases associated with temporary or transient workforces (Goldenberg et al. 2008). Measures have been implemented to limit the interactions between workers and locals. Workers will be transported to site from the airport eliminating the need for personal vehicles. The provision of transportation will limit opportunities for workers to leave camp for recreational purposes, thus limiting worker interaction with local residents and impacts to local health indicators.

For the Keewatinohk Converter Station a number of features have been incorporated into the project to minimize the impact on the local communities, including:

- Having recreational facilities at the main camp;
- Operating a shuttle to transfer incoming and outgoing workers to and from Gillam;
- Implementation of Cultural Awareness Training for workers; and
- No personal vehicles being allowed at site.

Workers associated with transmission line construction in the Gillam area will be housed at a temporary camp supplied by Fox Lake and its venture partner on the previous site of the Sundance Community site, approximately 12 kilometres from the Town of Gillam. Where feasible, the amenities found at the Keewatinohk Camp will be made available to the occupants of the Sundance camp reducing the need to travel to Gillam.

Substance Abuse

As noted in Habitat Health Impact Consulting's Review of Community Health Issues in the Keeyask Generation Project Environmental Impact Statement, employment and income resulting from major projects can lead to health benefits for a local population. However, some communities have experienced increases in drug and alcohol use as a result of increased income and employment. Section 6.3.6.4 of the Bipole III Transmission Project Environmental Impact Statement supplemental material further notes past experience with influx of workers into the communities of Gillam and Thompson has shown increased alcohol and drug-related incidents.

As a result, Manitoba Hydro has designed and developed the Keewatinohk Camp Infrastructure, located approximately 33 kilometres from the town of Gillam, to minimize negative worker interactions. Examples include MLCC licensed facilities, recreational opportunities and general high quality accommodations on site.

Manitoba Hydro's mitigation measures considered existing broader community services. The RCMP's D.A.R.E. (Drug Abuse Resistance Education) program for grades 5 and 6 students in Gillam will continue as will ongoing delivery of the Addictions Foundation of Manitoba (AFM) program by the Gillam Hospital that addresses alcohol, drugs, and gambling. Finally, ongoing Alcoholics Anonymous (AA) and AL-ANON meetings will continue to be offered via telehealth at the Gillam Hospital.

Health Care Services

As stated in Habitat Health Impact Consulting's Review of Community Health Issues in the Keeyask Generation Project Environmental Impact Statement, "Several challenges face health care service providers that may be exacerbated by temporary or permanent projects in the Gillam area. These challenges include a larger population that requires service; increased need for certain services, such as emergency services; and difficulty in recruiting or retaining health personnel due to strained working conditions or a decrease in affordable or available housing."

As outlined in Chapter 8 of the Bipole III EIS, the Keewatinohk Converter Station has 24-hour a day emergency medical and ambulatory services. Two paramedics are on-site at all times, equipped with a first aid facility, mobile treatment centre, and an ambulance, which should largely eliminate the requirement to use the Gillam ambulance service. This will also limit the need to use Gillam Hospital emergency services to cases consisting of severe and/or multiple injuries. Manitoba Hydro is working with the Northern Health Region in order to assist in its resource planning and its ability to respond to anticipated and emerging needs.

In addition, Manitoba Hydro assists the regional health authority in the recruitment and retention of health professionals, where feasible, by making homes or rental housing available, and helping to secure employment for a health professional's spouse as housing and spousal employment are both important factors in recruiting and retaining health professionals.

Emergency Services

Emergency response plans are developed for each Manitoba Hydro project and/or camp. As previously noted, an ambulance and fire truck will be available at the start-up camp for the Keewatinohk Converter Station. The main construction camp for the Project's Keewatinohk Converter Station will also have a first-aid building and its own ambulance. A coordination system will be established between the camp, Gillam, and other emergency services in the area.

As noted in Chapter 8 of the Bipole III EIS, a large influx of population to the RCMP's detachment service area will strain current resources. Manitoba Hydro, in consultation with the Worker Interaction Sub-committee, is working with the RCMP to assess adequate police resourcing needs.

Additional demands on Gillam's police services will be reduced or addressed by implementing the following mitigation measures:

- Workers will be provided transportation to and from the construction site to avoid the use personal vehicles;
- Camp security personnel will be trained to deal with issues of impaired driving and intoxication;
- Camp behaviour and disciplinary policy will be established to discourage workers from engaging in inappropriate behaviours; and
- Rigorous enforcement for impaired driving will be implemented between the construction camp and Gillam, carried out in coordination with security personnel at the camp access gate.

CONCLUSION

This supplemental report to the Bipole III Transmission Project Community Health Assessment of the Gillam area addresses the additional information requested related to health indicators and contains an assessment of the potential impacts of the Project.

On-going monitoring will continue to assess the frequency at which the Project construction workforce demands Gillam's health and emergency services and whether these instances push available resources beyond a reasonable limit. As per the Bipole III Socio-Economic Monitoring Plan, demand on Gillam Hospital and police services will be monitored through the Worker Interaction Sub-committee in conjunction with health, police and emergency services providers.

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