

8.0 Effects of environment on the Project

8.1 Overview

Effects of the environment on the Project refer to the forces of nature that could affect the Project physically or hamper the ability to carry out the Project activities in their normal, planned manner. Typically, potential effects of the environment on any project are a function of project or infrastructure design and the risks of natural hazards and influences of nature. These effects may result from physical conditions, landforms and general site characteristics that may act on the Project such that Project components, schedule and/or costs could be substantively and adversely changed.

While environmental forces (e.g., severe weather, climate change) have the potential to adversely affect the Project, good engineering design considers and accounts for these effects and the associated loadings or stresses on the Project that may be caused by these environmental forces. The methodologies used for mitigating potential effects of the environment on the Project are inherent in the planning, engineering design, construction, and planned operation of a well-designed Project expected to be in service for several decades or longer.

For the purpose of this EA, the effects assessment of potential effects of the environment on the Project is focused on the following effects:

- Delays in construction and/or operation and maintenance;
- Damage to infrastructure; and
- Reduced visibility impacting public health and safety.

8.1.1 Effects analysis

The assessment of the effects of the environment on the Project considers potential changes to the Project that may be caused by the environment. The Project will be designed, constructed, and operated in compliance with various codes, standards, beneficial practices, acts, and regulations that govern the required structural integrity, safety, reliability, and environmental and operating performance of the Project to minimize the potential for adverse effects of the environment on the Project.

There are no environmental factors that are expected to interact substantially with the construction of the Project. While some weather-related delays are possible, they are not likely to adversely affect the Project construction, schedule, or cost.

During operation and maintenance the transmission line could be subject to severe weather events. Manitoba Hydro designs its infrastructure to withstand extreme weather; however, it is not possible to design for all eventualities. Severe weather which has negatively affected the Manitoba Hydro system in the past includes tornados, ice storms and floods. There is potential for any of these to occur in the Project RAA. Mitigation measures include, applying engineering practices and scheduling of activities to account for possible weather disruptions.

As indicated in section 5.2.3, over the next 100 years, Manitoba will likely experience warmer temperatures, a greater frequency of storm events, increasing storm intensity and an increase in annual precipitation. Potential effects of climate change on operation and maintenance of the Project would be related to increases in the frequency of severe weather events, changes in temperature and changes in precipitation. It is expected that increases in extreme weather events would potentially affect operation and maintenance of the Project by increasing unexpected maintenance due to storm damage. Changes in temperature could affect the freeze/thaw cycle which could result in decreased foundation stability and potentially increased maintenance. The Project will be designed, constructed, and operated in compliance with various codes, standards, beneficial practices, acts, and regulations that govern the required structural integrity, safety, reliability, and environmental and operating performance of the Project.

Mitigation measures include applying engineering practices and scheduling of activities to account for possible weather disruptions. Based on the above, the residual effects of the environment on the Project during all phases of the Project assessed as minor, with a moderate level of confidence because of the uncertainty in the potential changes to local, regional, and global climate that could occur over the life of the Project.

