TERA, A CH2M HILL Company
Suite 1100, 815 - 8th Avenue S.W., Calgary, Alberta T2P 3P2 Canada
Business: (403) 265-2885 • Fax: (403) 266-6471 • Website: www.teraenv.com

PIPELINES IN CANADA: SOCIO-ECONOMIC MONITORING

Katherine Card, Meaghan Hoyle, Tasha Robitaille, Susan Dowse

Abstract

Socio-economic monitoring plans are designed to facilitate issues tracking and management regarding the intended and unintended impacts and benefits of major projects. They also provide a feedback mechanism to the socio-economic assessor and proponent, which can introduce greater certainty to future socio-economic assessments and inform proponent initiatives on future projects. The aim of this paper was to identify the extent to which socio-economic monitoring is utilized in Canadian pipeline projects, identify lessons that can be learned from socio-economic monitoring in other resource extraction industries and geographies, as well as make recommendations on the application of socio-economic monitoring for the Canadian pipeline industry. The current Canadian legislative framework was reviewed for socio-economic monitoring requirements. Other Canadian industries, North American and international examples were also examined to provide context on best and emerging practices related to socio-economic monitoring. This paper also examines whether recent major pipeline projects have proposed and/or implemented socio-economic monitoring plans. This paper finds that, while socio-economic monitoring is utilized to some extent within the mining industry, there is limited known application within the Canadian pipeline industry. Lessons and strategies that can be applied to the Canadian pipeline industry and regulators are discussed. Ultimately, this paper argues that the diverse nature of the Canadian socio-economic landscape and the linear nature of pipelining support the need for socio-economic monitoring plans that will track and respond to the varied interests of stakeholders and the dynamic nature of socio-economic outcomes. Socio-economic monitoring can be an important tool for managing non-technical risk.

Introduction

An internationally-recognized definition of social impact assessment (SIA) includes analyzing, monitoring and managing social change as a result of interactions with projects, policies, programs and plans (Vanclay 2003). In the Canadian pipeline context, analyzing, and to some extent, management of potential social and economic impacts occurs, but monitoring, which facilitates the management of both intended and unintended impacts, remains elusive.

To ensure that social and economic goals are achieved during all project phases, an effective monitoring strategy should be clearly outlined (Van Hinte 2012). Effective socio-economic monitoring strategies, plans or programs are a logical extension of the impact assessment process (Carley 1986). They have been called “continuous assessments” (Carley 1986) and are developed to manage and track issues arising from intentional or unintentional impacts and benefits from large projects. Socio-economic monitoring plans should be developed to respond to and report on impacts and mitigation measures of an individual project, thereby being context-specific (Roussouw and Malan 2007). In addition, they provide valuable feedback to the project proponent or socio-economic practitioner, which can increase the level of confidence for subsequent socio-economic assessments and provide important information on future projects.

This paper explores the application of socio-economic monitoring in the Canadian pipeline industry through an examination of the Canadian legislative framework, recent major pipeline projects, other Canadian resource-based industries, and North American and international examples.

Context/Background

Requirements for socio-economic monitoring plans are determined by the government agency responsible for regulation. In Canada, pipelines are regulated based on jurisdiction. Pipelines that cross interprovincial or international boundaries and pipeline systems under federal jurisdiction that require additions are regulated by the National Energy Board (NEB), an independent federal agency (NEB 2013a). Currently the NEB regulates approximately 71,000 km of pipeline infrastructure in Canada (Natural Resources Canada [NRCan] 2013).

Intraprovincial pipelines are regulated by the respective province in which they are located. The province of Alberta currently regulates approximately 400,000 km of pipeline infrastructure (NRCan 2013). This paper focuses on the provinces of British Columbia (BC) and Alberta, where the majority of oil and gas pipelines in Canada are located (Canadian Association of Petroleum Producers 2013). In these provinces, pipelines are regulated by the NEB, the BC Environmental Assessment Office (BC EAO) and the Alberta Energy Regulator (AER).

In recent years, monitoring and follow-up have been used interchangeably to describe continuous assessment with little detail of framework or program (Pacific Trail Pipelines 2007, Enbridge Northern Gateway Pipelines [ENGP] 2010, NOVA Gas Transmission Ltd. [NGTL] 2013). For the purpose of this paper, "follow-up" is defined as a program that is developed where there is uncertainty in the predicted effects or efficacy of mitigation measures (NGTL 2013). Monitoring, as defined by the Canadian Environmental Assessment Agency (CEAA), is used to verify whether or not required mitigation measures were implemented (CEAA 2011). In the context of this paper, the authors consider socio-economic monitoring as a tool to evaluate the effectiveness of mitigation measures, to manage unintended socio-economic impacts of a project and as a means of communicating with affected communities, distinct from follow-up.

Regulatory documentation for select major Canadian pipeline projects was reviewed to identify the extent to which socio-economic monitoring was proposed as a component of the assessment or required as a condition of approval. Canadian pipeline projects reviewed included approved projects and those with applications currently under review by regulators, including the NEB, BC EAO and AER. Two distinct categories emerged from this review: those projects that propose a socio-economic monitoring plan; and those that do not. Of the projects that did not propose a socio-economic monitoring plan, some mention monitoring of certain socio-economic elements or commitments to a certain degree of monitoring or follow-up.

For example, the Maxhamish Pipeline Project application makes reference to monitoring the condition of highways and local roads, including dust control, during pipeline construction (Salmo Consulting Inc. 1999). The Northwest Mainline Expansion and North Montney Project applications commit to monitoring activities including measuring the success in implementing mitigation measures, but the projects did not outline a socio-economic monitoring plan (NGTL 2011, 2013). The Enbridge Northern Gateway Project application is another example where socio-economic follow-up and monitoring is mentioned without a defined monitoring plan. The necessity to conduct a socio-economic monitoring plan, however, is a condition, outlined by the NEB, for the approval of the application for the Enbridge Northern Gateway Pipeline Project (ENGP 2010). The socio-economic monitoring plan required by the NEB, to be filed for approval at least 6 months prior to construction, must include methods, schedule, reporting, roles and responsibilities, consultation summary and a description of how measures will be implemented to address any identified adverse effects (NEB 2013b).

Only one of the Canadian pipeline projects reviewed included a socio-economic monitoring plan in its proposal. The Mackenzie Gas Pipeline Project proposed a socio-economic monitoring plan in its application to develop offshore natural gas fields and transport natural gas by a 1,400 km pipeline (CEAA 2013, Mackenzie Gas Project 2004). Elements of the proposed socio-economic monitoring plan included participatory methods and three regional committees whose meeting frequency would be reduced during operations (Mackenzie Gas Project 2004). It was noted that the proponent would prepare plans to monitor and diminish the adverse effects related to interactions between local communities and the project workforce (Mackenzie Gas Project 2004). The Mackenzie Gas Project was approved in December 2010 under the condition of a socio-economic agreement that would include measures to address monitoring (NEB 2010); the project, however, has not been developed.

Through the review of major pipeline projects in Canada, it was determined that, although some projects have proposed elements of socio-economic monitoring, the majority have not described in detail how socio-economic monitoring would occur.

Other Sectors and Jurisdictions

Socio-economic monitoring is more prevalent in other resource-based industries in Canada, such as mining and hydroelectric power generation. The natural resource sector plays a key role in the Canadian economy; in 2011, natural resources accounted for 15% of nominal gross domestic product (NRCan 2013). Major projects in Canada's natural resource sector are regulated based on jurisdiction.

With the exception of Nunavut and parts of the Northwest Territories, mining activity on publicly-owned mineral leases and hydro electric development are regulated by the provincial/territorial governments (NRCan 2013). In Nunavut, the requirement for major project monitoring is a component of the Nunavut Land Claims Agreement. Examples of projects that have proposed and/or implemented socio-economic monitoring plans include the Diavik Diamond Mine in the Northwest Territories, the Doris North Gold Mine Project in Nunavut and the Keeyask Generation Project in Manitoba (Diavik Diamond Mines Inc. 2014, Hope Bay Mining Ltd. 2012, Keeyask Hydropower Limited Partnership 2014). Regulation under varying levels of government, depending on jurisdiction, accounts for the differences in requirements for socio-economic monitoring throughout Canada's natural resource sector.

Numerous socio-economic monitoring strategies are employed in the natural resource sector in Canada. The use of socio-economic monitoring committees (SEMC) is a common strategy. A SEMC is typically a multi-stakeholder group formed to assist in impact monitoring and issues resolution. The specific design and use of a SEMC differs based on the jurisdiction, proponent and industry. The Columbia Power Corporation, a Crown corporation owned and operated by the Province of BC, uses monitoring committees comprised of a variety of stakeholders including members of local and regional government, First Nations, special interest groups, business and community members. These committees report on community concerns and benefits (Columbia Power 2013).

In Nunavut, three regional SEMCs have been formed to oversee multiple projects by multiple proponents (Nunavut SEMCs 2013). Advantages of the use of regional SEMCs includes ensuring consistency in data collection across major projects, improved issue identification, creation of regional standards for monitoring and increased efficiency in data management and reporting. SEMCs act as a support system, facilitating the sharing of information between and amongst communities (Nunavut SEMCs 2013).

Internationally, Social Impact Management Plans, which generally include a monitoring component, have become more common in SIAs (Franks and Vanclay 2013). The Equator Principles and International Finance Corporation's (IFC) *Performance Standards on Environmental and Social Sustainability* provide international guidance and framework for impact assessment. Both have guidance related to social impact monitoring and emphasize linkages between the effects assessment and Environmental and Social Management System (ESMS), to ensure the ESMS is at an appropriate scale for the predicted risks and impacts (Equator Principles 2013, IFC 2012). The Equator Principles, an international risk management framework primarily in use by financial institutions, includes a grievance mechanism for affected communities. This framework also includes an ESMS to manage risks and impacts on environment, social, health and safety issues in an adaptive manner (Equator Principles 2013).

The IFC's Performance Standard 1 (Assessment and Management of Environmental and Social Risks and Impacts) focuses on managing issues over the life cycle of a project and points to ESMS to adaptively manage issues with employees, local communities and other stakeholders. Monitoring to ensure the effectiveness of management plans and management of risks and impacts is included in Performance Standard 1 (IFC 2012). Grievance mechanisms and reporting to affected communities is also included in Performance Standard 1.

Some international jurisdictions, such as Queensland, Australia, have requirements for proponents of projects reviewed under the *State Development and Public Works Organisation Act 1971* and the *Environmental Protection Act 1994* to include social impact monitoring frameworks in their applications, with the intention of monitoring the effectiveness of mitigation measures and communicating with local communities (State of Queensland, Department of State Development, Infrastructure and Planning 2013). In applications, the monitoring frameworks generally link impact identification to monitoring through the identification of categories or strategies that summarize the key social impacts and benefits (Adani Mining Pty Ltd. 2013, SunWater Ltd 2012). For each strategy, key performance indicators, responsible entities, key stakeholders and timeframes are included, mirroring Queensland's guideline for developing social management plans (State of Queensland, Department of Infrastructure and Planning [DIP] 2010).

Anglo American, a mining company with operations in Europe, Africa, Asia, South America and North America, developed a Socio-Economic Assessment Toolbox (SEAT) that includes guidance to develop social management plans to manage and monitor mitigation measures (Anglo American 2012, 2014). SEAT provides a well-developed framework and practical tools that can be adapted to other industries and projects. Some of the tools include a complaints and grievance procedure, conflict assessment and management, contractor management, socio-economic benefit delivery and Social Management Plan development, among others (Anglo American 2012).

Discussion and Recommendations

The proposal of some form of socio-economic monitoring or follow-up programs in project applications is common for major projects within the Canadian pipeline industry. However, there were no examples found of major pipeline projects where a socio-economic monitoring program was implemented and reported on.

International best practices and other resource industries suggest that monitoring programs are a key part of the successful management of socio-economic issues. However, there are distinctions between pipeline projects and other types of large-scale industrial projects (*e.g.*, mining hydroelectric, etc.) which should be considered in terms of socio-economic monitoring strategies. Pipeline projects have relatively short construction periods in any given place (*e.g.*, construction of a pipeline spread may be completed within 4 months). Pipelines also have generally limited socio-economic impacts during operations, given their subsurface nature and typically remote operations. However, the linear nature of pipelines means they may cross numerous municipal and regional boundaries, which increases the number and complexity of stakeholders affected. The use of SEMCs as a socio-economic monitoring strategy is common in other resource-based industries in Canada. The use of regional SEMCs may pose challenges if the proposed pipeline is located in more than one municipality or region due to the complexities of bringing various political agencies together. Typically, projects in other resource-based industries have longer construction periods and a more visible workforce in the community during operations. Challenges may result from the timeframe required to establish a committee. This timeframe may be better suited to projects with a multi-year construction phase and more notable impacts during operations, in one given location. Regional SEMCs may be more easily established in areas where pipeline infrastructure is concentrated, such as in Alberta or if there are existing multi-jurisdictional and multi-agency processes in place on which project-specific monitoring could 'piggy-back'. Therefore, the use of SEMCs could be a feasible option within the Canadian pipeline industry, depending on the project area.

Overall, given the diverse nature of the socio-economic landscape in Western Canada, the linear nature of pipelines and the relatively short construction period of pipeline projects, the use of SEMCs may not be the most suitable option for all pipeline projects. Strategies must be project-specific and adaptive in nature in order to accurately identify and report on social and economic impacts and benefits that may be experienced by stakeholders as a result of a project. Other monitoring strategies that could be considered in the pipeline industry include: identifying key performance indicators to track individual potential effects; monitoring frequency; assigning responsible parties for implementing specific monitoring; reporting mechanisms; procedures for receiving and resolving community grievances; and involvement of key stakeholders (Anglo American 2012, DIP 2010, State of Queensland).

Conclusion

Within Canada, socio-economic monitoring is utilized, to some extent, within resource-based industries, such as mining and hydroelectric, although, there is limited known implementation of socio-economic monitoring plans within the Canadian pipeline industry. Given the increase in the number of proposed pipelines, particularly large-scale, multi-jurisdictional pipeline projects and public and political interest, managing socio-economic issues, optimizing benefits and ensuring mitigation is effective and adaptive are important elements of managing a project's non-technical risk. Socio-economic monitoring is also essential because many socio-economic issues are the result of factors that are beyond the sole control of the pipeline proponent. Multi-stakeholder processes and partnerships are necessary for effective issues management. Socio-economic conditions are dynamic in nature and are constantly evolving, therefore, predictions made at the time of assessment or application may be affected by changing conditions during the timeframe of the regulatory review. Considering that socio-economic conditions are constantly evolving, monitoring of predictions and effectiveness of mitigation is essential.

References

Adani Mining Pty Ltd. 2013. North Galilee Basin Rail Project Environmental Impact Statement: Chapter 16: Social and Economic Impacts. Website: http://adanimining.com/Common/Uploads/NGBR_EISDocuments/23_NEISDoc_Volume%201%20Chapter%2016%20Social%20and%20economic%20impacts.pdf. Accessed: January 2014.

Anglo American. 2012. SEAT: Socio-Economic Assessment Toolbox, Version 3. Website: http://www.angloamerican.com/~/media/Files/A/Anglo-American-Plc/docs/seat-toolbox-v3.pdf. Accessed: January 2014.

Anglo American. 2014. SEAT: Socio-Economic Assessment Toolbox. Website: http://www.angloamerican.com/development/social/seat. Accessed: January 2014.

Canadian Association of Petroleum Producers. 2013. Pipeline Map. Website: http://www.capp.ca/canadaIndustry/oil/Pages/PipelineMap.aspx. Accessed: January 2014.

Canadian Environmental Assessment Agency. 2011. Operational Policy Statement: Follow-Up Programs Under the Canadian Environmental Assessment Act. Website: https://www.ceaa-acee.gc.ca/default.asp?lang=En&n=499F0D58-1. Accessed: February 2014.

Canadian Environmental Assessment Agency. 2013. Mackenzie Gas Project. Website: http://www.ceaa-acee.gc.ca/default.asp?lang=en&n=71B5E4CF-1. Accessed: January 2014.

Carley, M. J. 1986. Monitoring as an extension of the impact assessment process for large projects. Project Appraisal 1(2):88-95.

Columbia Power. 2013. Community. Website: http://columbiapower.org/partners/community/. Accessed: February 2014.

Diavik Diamond Mines Inc. 2014. Reports and Publications. Website: http://www.diavik.ca/1131_reports_and_publications.asp. Accessed: February 2014.

Enbridge Northern Gateway Project. 2010. Environmental and Socio-Economic Assessment – Human Environment. Website: https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/384192/620327/624798/620129/B3-18_-_Vol_6C_-_Human_Environment_ESA_%28Part_3_of_3%29_-_A1T0G8_.pdf?nodeid=620238&vernum=-2. Accessed: November 2013.

Equator Principles. 2013. Equator Principles III. Website: http://www.equator-principles.com/resources/equator_principles_III.pdf. Accessed: January 2014.

Franks, D. and F. Vanclay. 2013. Social Impact Management Plans: Innovation in corporate and public policy. Environmental Impact Assessment Review 43:40-48.

Hope Bay Mining Ltd. 2012. Doris North Gold Mine Project: 2012 Socio-Economic Monitoring Report. Rescan Environmental Services Ltd. Vancouver, BC. Accessed: January 2014.

International Finance Corporation. 2012. Performance Standards on Environmental and Social Sustainability. Website: http://www.ifc.org/wps/wcm/connect/115482804a0255db96fbffd1a5d13d27/PS_English_2012_Full-Document.pdf?MOD=AJPERES. Accessed: January 2014.

Keeyask Hydropower Limited Partnership. 2014. Preliminary Socio-Economic Monitoring Plan. Website: http://keeyask.com/wp/the-project/environmental-assessment-process/preliminary-environmental-protection-program/14-preliminary-socio-economic-monitoing-plan-cd-version. Accessed: February 2014.

Mackenzie Gas Project. 2004. Environmental Impact Statement for the Mackenzie Gas Project. Website: http://www.mackenziegasproject.com/theProject/regulatoryProcess/applicationSubmission/Applicationscope/EIS.html. Accessed: January 2014.

National Energy Board. 2010. Volume 2: Technical Implications – Implementing the Decision for the Mackenzie Gas Project. Website: http://www.neb-one.gc.ca/clf-nsi/rthnb/pplctnsbfrthnb/mcknzgsprjct/rfd/rfdv2-eng.pdf. Accessed: February 2014.

National Energy Board. 2013a. Our Responsibilities. Website: http://www.neb-one.gc.ca/clf-nsi/rthnb/whwrndrgvrnnc/rrspnsblt-eng.html#s1. Accessed: January 2014.

National Energy Board. 2013b. Report of the Joint Review Panel for the Enbridge Northern Gateway Project. Website: http://gatewaypanel.review-examen.gc.ca/clf-nsi/dcmnt/rcmndtnsrprt/rcmndtnsrprt-eng.html. Accessed: January 2014.

Natural Resources Canada. 2013. Home Page. Website: https://www.nrcan.gc.ca/home. Accessed: January 2014.

NOVA Gas Transmission Ltd. 2011. Northwest Mainline Expansion Application. Website: https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/684447/B3-16_-_12.0_Environment_and_Socio_Economic_Matters_-_A1Y9G9.pdf?func=doc.Fetch&nodeid=684447. Accessed: January 2014.

NOVA Gas Transmission Ltd. 2013. North Montney Project Application. Website: http://www.neb-one.gc.ca/clf-nsi/rthnb/pplctnsbfrthnb/nvgsnrthmntny/nvgsnrthmntny-eng.html. Accessed: January 2014.

Nunavut SEMCs. 2013. Home Page. Website: http://nunavutsemc.com/. Accessed: January 2014.

Pacific Trail Pipelines. 2007. Application for an Environmental Assessment Certificate for the KSL Pipeline Looping Project. Website: http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_document_270_24890.html. Accessed: November 2013.

Roussow, N. and S. Malan. 2007. The importance of theory in shaping social impact monitoring: Lessons from the Berg River dam, South Africa. Impact Assessment and Project Appraisal 25(4):291-299.

Salmo Consulting Inc. 1999. Maxhamish Pipeline Project – Application for a Project Approval Certificate. Website: http://a100.gov.bc.ca/appsdata/epic/documents/p65/1036777297007_07505034ba634131a16a95a13b071ccc.pdf. Accessed: February 2014.

State of Queensland, Department of Infrastructure and Planning, 2010. Social Impact Assessment: Guideline to Preparing a Social Impact Management Plan. Website: http://www.dip.qld.gov.au/resources/guideline/simp-guideline.pdf. Accessed: January 2014.

State of Queensland, Department of State Development of Infrastructure and Planning. 2013. Social Impact Assessment Guidelines. Website: http://www.dsdip.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf. Accessed: January 2014.

SunWater Ltd. 2012. Nathan Dam and Pipelines EIS: Social Values and Management of Impacts. Website: http://www.sunwater.com.au/__data/assets/pdf_file/0003/8769/Chapter-24-Social-Impact-Assessment.pdf. Accessed: January 2014.

Vanclay, F. 2003. International principles for social impact assessment. Impact Assessment and Project Appraisal 21(1):5-11.

Van Hinte, T., I. G Thomas and J. C. Day. 2012. Evaluation of the assessment process for major projects: a case study of oil and gas pipelines in Canada. Impact Assessment and Project Appraisal 25(2):123-137.