8. Monitoring Program

Monitoring helps to confirm that predictions of effects are accurate and mitigation measures are effective. Monitoring also confirms that the commitments, conditions of approval, where applicable, and compliance with other environmental legislation, e.g., the *EPA*, are met. An Environmental Specialist will be assigned to the Project for the duration of construction to monitor construction activities and provide guidance on needed field changes.

As previously noted in **Section 6**, a project-specific Environmental Specification will be prepared to guide construction activities for both lines and station work. The specification will be based upon the commitments, requirements of all relevant environmental legislation, terms and conditions of approval (if any) and good environmental construction practices, e.g., as set out in Hydro One (2009) "Environmental Guidelines for Construction and Maintenance of Transmission Facilities".

At the end of construction, an as-constructed plan will be prepared to guide ongoing operation and maintenance activities. The plan will document as constructed conditions as well as any ongoing monitoring requirements. The plan will be put in place to ensure that the Project is constructed in compliance with the:

- commitments made in the Class EA;
- terms and conditions of other permits, licenses and approvals; and
- other legislated requirements.

Some issues monitored during construction will include:

- dust levels;
- erosion and sedimentation;
- construction spills;
- waste materials management;
- slurry and pump-out water management;
- traffic management;
- protection of vegetation and other natural features (i.e., creeks);
- stormwater management measures at the construction site; and
- Surface and shallow groundwater quantity and quality.

A monitoring program will be maintained for a minimum two (2) year period following the construction phase. The post-construction monitoring program will include inspection of areas that have been restored, including any newly planted trees and any other vegetation, ditch crossings and potential erosion areas identified during construction, as required. The effects of the Project, the effectiveness of the mitigation approaches and the need for remedial action will be assessed in the program.

Groundwater monitoring program was a commitment made during the EA process. This program will take place pre, during and post construction and will consist of water level and water quality assessments of both station monitoring wells and the residential drinking water wells of adjacent participating property owners. This monitoring program has been developed and will be carried out in conjunction with the EEA.

The planting associated with the Habitat Creation and Enhancement Plan will be monitored and maintained including the replacement of plant material for a period of two (2) years after installation.

9. Conclusion

At the beginning of the planning process, the OPA advised Hydro One that OPG's Pickering NGS is approaching its final years of operation and will be retired between 2015 and 2020. Since then, the Pickering NGS has had an operational extension to 2018. When the generating station is removed from service, its 3,000 MW of capacity must be replaced by a corresponding amount of power through Hydro One's transmission system.

Existing transmission facilities serving the Pickering, Ajax, Whitby, Oshawa and Clarington areas are not capable of meeting the load restoration requirements specified within the ORTAC document issued by the IESO. The subject 500/230 kV transformer station would enable meeting the requirements specified in ORTAC.

Based on their planning studies and an earliest possible retirement date of 2015 for the Pickering NGS; the OPA recommended Hydro One build a new transformer station by the spring of 2015 on a property acquired via expropriation in 1978 for this purpose. Since the operational extension of Pickering NGS to 2018, the in-service date for the new transformer station is mid-2017. It is Hydro One's understanding that this property is the only reasonable alternative from a technical and economic perspective.

Project

Hydro One's undertaking involves a new 500/230 kV transformer station and the associated line work. The Clarington TS is to be located on Hydro One property, in the Municipality of Clarington, just east of the City of Oshawa, in Durham Region, northeast of Concession Road 7 and Townline Road North.

Construction will start in January 2014 and achieve a planned in-service date of mid-2017.

Class EA Process

The Clarington TS project was subject to the Class EA process, in accordance with the Ontario *EA Act*.

The Class EA process for the Project included an assessment of the existing natural and social environment and their sensitivity to the Project, prediction of potential effects, identification of mitigation measures and a summary of the consultation undertaken.

Since May 3, 2012, Hydro One has conducted extensive public and government agency consultation to inform stakeholders about the Project, as well as to identify and resolve potential concerns. Government agencies and officials, First Nations and Métis communities, affected property owners and other interest groups were consulted by way of meetings and/or written or telephone communications, public information centres and notification of the draft ESR 30-day Review Period.

Potential short term and long term environmental effects were identified and corresponding mitigation measures were developed to address these effects. No adverse residual effects due to operation and maintenance were identified.

Draft Environmental Study Report 30-day Review Period

Hydro One has provided a 30-day Review Period to allow First Nations and Métis communities, government agencies and officials, affected property owners and interested public to review the draft ESR. The draft ESR was made available for review and comment from Thursday November 15, 2012 to Monday December 17, 2012.

Hydro One has responded to all comments and Part II Order requests received during the 30-day Review Period and has made best efforts to resolve all issues.

The Minister's decision, which denied the Part II Order requests, was received on January 2, 2014 and can be found in **Appendix B11**. Hydro One filed the final ESR with the MOE on January 16, 2014 and posted the document on the Hydro One Clarington TS project website.

This Project will be implemented in full compliance with the requirements of the Class EA process as outlined in the ESR.

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11. Glossary

Archaeological sites	Archaeological site means any property that contains an artifact or any other physical evidence of past human use or activity that is of cultural heritage value or interest (MTCS, 2010).
Built heritage resources	Built heritage resources means one or more significant buildings, structures, monuments, installations or remains associated with architectural, cultural, social, political, economic or military history and identified as being important to a community (MTCS, 2010).
Cultural heritage landscapes	Cultural heritage landscape means a defined geographical area of heritage significance that human activity has modified and that a community values. Such an area involves a grouping(s) of individual heritage features, such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form distinctive from that of its constituent elements or parts. Heritage conservation districts designated under the Ontario Heritage Act, villages, parks, gardens, battlefields, mainstreets and neighbourhoods, cemeteries, trails, and industrial complexes of cultural heritage value are some examples (MTCS, 2010).
Development	Means the creation of a new lot, a change in land use, or the construction of buildings and structures, any of which require approval under the *Planning Act*, the *Environmental Assessment Act*, or the *Drainage Act*, but does not include: a) The construction of facilities for transportation, infrastructure and utilities uses, by a public body, or b) For greater certainty: i) The reconstruction, repair or maintenance of a drain approved under the *Drainage Act* and in existence on November 15, 2001: or The carrying out of agricultural practices on land that was being used for agricultural uses on November 15, 2001 (MAH, 2002).

Greenbelt Plan	The Greenbelt Plan is an overarching plan where and how future growth should and should not occur in order to protection to the agricultural land base and ecological features and functions on the landscape. The plan includes and builds upon the protections of the ORMCP (MAH, 2005).
Infrastructure	Physical structures (facilities and corridors) that form the foundation for development. Includes: sewage and water systems, septage treatment systems, waste management systems, electric power generation and transmission, communication/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities (PPS, 2005).
Oak Ridges Moraine Conservation Plan (ORMCP)	The ORMCP is an ecologically based plan that takes precedence over municipal official plans and was established for land use and resources management direction for the protection of 190,000 hectares of land and water within the Moraine (MAH, 2002).
Prime Agricultural area:	Areas where *prime agricultural lands* predominate. This includes: area of *prime agricultural lands* and associated Canada Land Inventory Class 4-7 soils; and additional areas where there is a local concentration of farms which exhibit characteristics of ongoing agriculture. *Prime agricultural areas* may be identified by the Ontario Ministry of Agriculture and Food using evaluation procedures established by the Province as amended from time to time, or may also be identified through an alternative agricultural land evaluation system approved by the Province (PPS, 2005).