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13. Commitments

To ensure the Facility is designed, constructed and operated in accordance with the requirements set out in this EA and in accordance with applicable legislation, the Regions have developed a plan that sets out how and when all commitments, including impact management measures, made in the document will be fulfilled. This plan also documents how the proponent will report to the Ministry about compliance. As per the Codes of Practice, this information has been summarized in a single table, with columns including a brief description of all commitments, where in the document the commitment is mentioned and when each commitment will be fulfilled. Since, the EA has not yet been approved at the time of submission of this EA Study document, information regarding conditions of approval cannot be included as a decision has not yet been made. If approval is granted and conditions imposed, a similar approach to documenting those conditions would be taken as with documenting commitments.

The following Table 13-1 documents all environmental mitigation and commitments to future work during construction, operation, and post-closure with respect to the Proposed Undertaking.

- Construction is considered to be prior to and/or during construction activities (as required) based on the estimated 3 year construction period commencing in 2011-2014.
- Operation is considered to be prior to and/or during operations (as required).
- Post-closure is considered to be the time after the Project would be closed, which typically includes decommissioning, post-closure monitoring and property maintenance.

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Environmental Element/Concern and Potential Effect	Relevant Section of EA	Implementation Period	Summary of Environmental Mitigation and Commitments to Future Work
			<p>control;</p> <ul style="list-style-type: none"> ○ acid gas scrubber for the removal of gases such as sulphur dioxide and hydrogen chloride; and, ○ a fabric filter baghouse to remove solid particulate matter. <ul style="list-style-type: none"> ● The application of design and operations pre-processing odour control measures such as enclosed loading, negative air pressure inside the facility and fully-enclosed feedstock delivery trucks. ● Provision of a continuous emission monitoring (CEM) system to monitor and record: <ul style="list-style-type: none"> ○ The baghouse outlet for opacity, moisture, CO, O₂, NO_x, SO₂, HCL and HF. Opacity measurements would be used to as the filter bag leak detection system. ○ The economizer outlet for O₂, SO₂ and CO. ○ Flue gas temperatures at the inlet of the boiler convection section and at the baghouse inlet. ○ The temperature and pressure of the feedwater and steam for each boiler. ○ The mass flow rate of steam at each boiler. ● A long-term continuous dioxins sampling device would be installed to monitor the adsorption of dioxins onto the exchangeable adsorption-resin-filled cartridge. ● Emissions (stack) testing and monitoring protocol as required for the Certificate of Approval under the EPA. ● NPRI emissions reporting that would entail a combination of monitoring or direct measurement, mass balance, process-specific emissions factors and engineering estimates. ● Proposed ambient air quality monitoring in the immediate vicinity of the Facility for a 3-year period.
Surface Water and Groundwater	11.2	Construction	<p>Surface water, storm water, and groundwater related mitigation / management during construction</p> <p>Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> ● Construction phase drainage would route stormwater from throughout the site to a stormwater sedimentation pond and to the extent feasible, maintain existing drainage routes. Permanent stormwater management ponds may be

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		Operation	<p>constructed early to reduce need for sedimentation ponds.</p> <ul style="list-style-type: none"> • Use of perimeter ditching and site grading as well as silt fencing around forested areas to isolate runoff. • Use of setback transition use areas and erosion control fencing along watercourses. • Erosion and sediment controls (ESC) would be implemented during the construction phase to reduce potential soil loss and runoff velocities. • During the construction phase, stormwater would be routed via conveyance swales and/or stormsewers draining catchbasins to a SWM pond in the southwest corner of the Site. • The pond would discharge to the CN Rail swale and stormwater would subsequently be conveyed to Tooley Creek. • In addition to the pond, lot level, and conveyance controls such as surface stabilization measures, sediment traps, and swales enhanced with rock check dams would also be employed. • Grading plans would be designed to maintain existing drainage patterns which would ensure all captured stormwater would be routed through stormwater management features. • Dewatering and excavation pumping is expected in order to establish a sufficiently dry environment to construct the Facility foundations. • A series of groundwater monitoring wells may be installed within the Site to assess the Facility's effects on both groundwater quantity and quality during construction. <p>Surface water, storm water, and groundwater related mitigation / management during operation</p> <p>Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> • Storm water pond design criteria would meet enhanced design guidance criteria found in the MOE Stormwater Management Planning and Design Manual; • Increase in runoff potential would be mitigated with peak flow attenuation, baseflow augmentation and stormwater management design that provides an enhanced level of receiving water protection; • Accidents and malfunctions planning and spill management redundancy and

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			<p>stormwater control from source to discharge would ensure the protection of surface water and groundwater resources.</p> <ul style="list-style-type: none"> Monitoring of stormwater end-of-pipe Facility discharge quality (required as part of C of A);
Soils	11.2 and 11.3	Construction	<p>Soils related (geotechnical and erosion and sedimentation) mitigation / management during construction</p> <p>Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> Topsoil and subsoil salvage and storage. Apply erosion and sedimentation control measures (also described in surface water).
Acoustic	11.4	<p>Construction</p> <p>Operation</p>	<p>Noise related mitigation / management during construction</p> <p>Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> Pile driving effects could be reduced through alternative technologies (e.g., vibratory pile driving), controls, and scheduling. Construction vehicle traffic is predicted to be acceptable against applicable criteria, but short-term (i.e., 1-hour) effects during peak demand are possible. These peaking issues can be reduced through scheduling and planning of vehicle trips. A monitoring program and contingency plan could be implemented to address any issues that may arise during the construction and post-closure periods of the Facility. <p>Noise related mitigation / management during operation</p> <p>Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> The Facility would be designed to current standards incorporating efficiencies and design enhancements that reduce sound emissions. Where necessary, mitigation measures can be included to ensure applicable noise criteria are met at PORs as predicted. Mitigation measures may include the use of equipment control options such as enclosures, local or property-line barriers, mufflers and silencers, and acoustic baffles or insulation.
Visual	11.5	Construction	<p>Visual related mitigation / management during construction</p>

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		Operation	<p>Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> • Staging of construction activities. • Timely removal of construction debris. • A monitoring program and contingency plan could be implemented to address any issues that may arise during the construction of the Facility. <p>Visual related mitigation / management during operation</p> <p>Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> • The use of neutral external colours and effective landscaping. • If concerns regarding Facility visibility are raised by members of the community in the vicinity of the Facility, mitigation measures would be considered such as planting trees or other suitable vegetation at the particular location to provide a screen within the line of the sight of the Facility
Natural Environment	11.6	Construction	<p>Natural environment related mitigation / management during construction</p> <p>Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> • Protective protocols to avoid killing or harming wildlife during Project activities. • Wildlife corridor along the entire east-west length of the Facility's southern property line may be established to enhance wildlife movement. • Native tree and shrub species could be planted and existing species allowed to grow without disturbance providing additional habitat. • Undertake a pre-construction survey to assess bird nesting activity prior to clearing and grubbing. • Habitat enhancement for Chimney Swifts if present onsite and once construction has been completed, compensation for the loss of hedgerow by incorporating native shrubs and trees into landscaping for the Facility.
Social / Cultural (also includes consideration archaeological and traffic related commitments)	11.7, 11.8, and 11.9	Construction	<p>Social / Cultural related mitigation / management during construction</p> <p>Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> • See Noise above for related mitigation / management measures. • See Visual above for related mitigation / management measures • Dust control during construction can be accomplished through a number of physical and operational methods such as construction exits, timely

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		Operation	<p>revegetation, watering, and staging of work.</p> <ul style="list-style-type: none"> • Deeply buried archaeological resources could still exist and standard conditions regarding discovery of human remains and/or other cultural heritage values would apply. • Road/pavement improvements to the South Service Road and Osbourne Road to accommodate construction vehicles. • Formation of a Thermal Treatment Facility Site Liaison Committee (SLC) for the construction period. • Development and implementation of a Community Relations Plan (CRP) through which Durham, York, and Covanta staff would relate to the local community, including advance notification to local authorities and residents near the Facility of any unusual noises or activities (e.g. pile driving, steam blows) or other events that may be of concern to the local community during the construction phase. The plan would also establish contacts and procedures for providing accurate and timely information to the community in the event of an unforeseen incident that may cause concern or impact upon the community. • Development and implementation of a community complaints system for construction. <p>Social / Cultural related mitigation / management during operation</p> <p>Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> • Mitigation of odours during operation includes: <ul style="list-style-type: none"> ○ Management of residual waste on enclosed vehicles and on enclosed tipping floor; and, ○ Air from tipping floor is used as combustion air, destroying odours and maintaining negative pressure within receiving area. • See Noise above for related mitigation / management measures. • See Visual above for related mitigation / management measures • Mitigation of dust during operation includes: <ul style="list-style-type: none"> ○ Management of residual waste on enclosed vehicles and on enclosed tipping floor; and, ○ Management of ash and residues using various measures to reduce ash emissions.

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			<ul style="list-style-type: none"> • Mitigation of vectors/vermin through Pest/vector control subcontracted to a qualified local company. • Mitigation of litter through implementation of litter control program throughout the Site, routinely conducted on a daily basis. • Some traffic control measures (traffic signals, loop ramps etc.) may be required to the adjacent road network to address future traffic conditions in the CEBP. • The proposed Host Community Agreement between the Region of Durham and the Municipality of Clarington includes the Region assuming the cost of construction of Energy Drive from Courtice Road to Osbourne Road to serve the CEBP. • Formation of a Thermal Treatment Facility Site Liaison Committee (SLC) for the operations period. • See construction above regarding development and implementation of a Community Relations Plan (CRP) • See construction above regarding development and implementation of a community complaints system for operations. • Finalization and execution of the Host Community Agreement between the Region of Durham and the Municipality of Clarington in accordance with the provisions identified in Clarington Report CAO-002-09.
Economic	11.10	Construction / Operation	<p><i>Economic related mitigation / management during construction and operation</i> Mitigation and environmental management / monitoring measures could include:</p> <ul style="list-style-type: none"> • See Social / Cultural above regarding the development and Implementation of a Community Relations Plan. • In order to mitigate the effects of the Facility on the Local Tax base in Clarington, the proposed Host Community Agreement between the Region of Durham and the Municipality of Clarington includes the Region assuming the cost of: <ul style="list-style-type: none"> ○ Establishment of a hazardous waste depot to serve Clarington residents; ○ Construction of Energy Drive from Courtice Road to Osbourne Road to serve the Energy Park; ○ Construction of a Stormwater Management Facility to serve the Energy Park; ○ Construction of a waterfront trail from Courtice Road to the eastern limit of the Durham Region property;

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			<ul style="list-style-type: none"> ○ Transfer of 22 acres of surplus land adjacent to the Courtice Water Pollution Control Plant to Clarington; and, ○ Commencement of the EA for servicing the Clarington Science Park ● See Noise above for related mitigation / management measures. ● See Visual above for related mitigation / management measures ● See See Social / Cultural above regarding the finalization and execution of the Host Community Agreement between the Region of Durham and the Municipality of Clarington.
Human Health and Ecological Risk	11.1 and 11.11	Construction / Operation	<ul style="list-style-type: none"> ● Refer to “Air Quality” above.

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