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ACRONYMS AND ABBREVIATIONS

Term	Definition
ATV	all-terrain vehicle
CEAA	Canadian Environmental Assessment Agency
CEPP	Construction Environmental Protection Plan
CLVA	critical landform/vegetation association
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
ECA	Environmental Compliance Approval
ECCC	Environment and Climate Change Canada
EHA	Environmental Hazard Assessment
kV	kilovolt
MNRF	Ministry of Natural Resources and Forestry
MOECC	Ministry of The Environment and Climate Change
NERC	North American Electric Reliability Corporation
NextBridge	NextBridge Infrastructure LP
OEB	Ontario Energy Board
OEMP	Operation Environmental Management Plan
ROW	Right-of-Way
SARA	<i>Species at Risk Act</i>
SARO	Species At Risk in Ontario
SWH	Significant Wildlife Habitat
TAC	Transportation Association of Canada
the Project	East-West Tie Transmission Line Project
TS	Transformer Station
TVMP	Transmission Vegetation Management Program

1. INTRODUCTION

1.1 Scope of Operation Environmental Management Plan

This Operation Environmental Management Plan (OEMP) is intended to identify key environmental information, instructions and mitigation measures specific to the operation and maintenance phase of NextBridge Infrastructure LP (NextBridge)'s East-West Tie Transmission Project (the Project).

The Project consists of a new, approximately 450 kilometer (km) long, double-circuit 230 kilovolt (kV) transmission line that connects the Lakehead Transformer Station (TS) in the Municipality of Shuniah near the City of Thunder Bay, to the Wawa Transformer Station in the Municipality of Wawa (with a connection at the Marathon Transformer Station, in the Town of Marathon). The majority of the Project is located on provincial Crown land. From west to east, the Project traverses the Lakehead, Black Spruce, Lake Nipigon, Kenogami, Pic River, Big Pic, White River and Algoma Forest Management Units.

The construction phase is expected to occur over approximately two years, with mobilization at the end of October 2018, and construction activities from November 2018 through November 2020, pending receipt of the necessary approvals and permits to construct. The Project has a target in-service date of December 2020. Upon commissioning, the Project will operate on a continuous basis and will be maintained by NextBridge. Electricity will be transmitted through the conductors between Lakehead TS and Wawa TS with a tie in to the Marathon TS. Electricity being transmitted will be monitored and managed by NextBridge's Control Centre using a Supervisory Control and Data Acquisition (SCADA) or Operational Data System.

The majority of the proposed environmental protection measures and mitigation currently in this OEMP are typical to transmission line operation and maintenance in the environmental setting of the Project. As the Environmental Assessment (EA) review and environmental permitting processes are ongoing, it is anticipated that additional mitigation, commitments or conditions may be identified in consultation with regulators, Indigenous communities, and stakeholders. As such, it is anticipated that this OEMP will be updated with the following as required:

- Commitments and approval conditions arising from the EA review process;
- provincial and federal environmental permitting commitments and conditions; or,
- applicable updates to provincial and federal environmental regulatory requirements between November 2018 and the start of Project operation (anticipated December 2020).

This OEMP is a compilation of environmental protection and contingency measures from various sources that are intended to address known and anticipated environmental conditions that can occur during operation and maintenance.

Operation and maintenance includes the following activities:

- inspection of Project components (e.g., transmission structures, guys and anchors, conductors);
- maintenance and repairs;
- vegetation management; and
- emergency response.

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The transmission line will be inspected on a semi-annual to annual basis for signs of physical damage (e.g., broken or missing insulators), loose or eroded parts (e.g., bolts), and condition of the conductors (e.g., frayed or areas of reduced clearance). Minor adjustments such as bolt tightening may be done during the inspections. The transmission line right-of-way (ROW) will be patrolled once each year to identify vegetation that could pose a risk to the transmission line. Annual patrols will ensure that vegetation that could grow into or fall into the transmission line are identified and removed before they could cause a potential power outage. These inspections will be done from the air or by ground access using the ROW and permanent access roads.

Unforeseen conditions or circumstances can be encountered during the operation phase that may warrant the revision of a specific mitigation measure noted in this OEMP or additional mitigation measure(s) may be required to satisfactorily mitigate the potential effects of activities related to the operation phase. Also, new and innovative mitigation measures may be developed that are more beneficial to, or protective of, the environment.

In the event that an unforeseen environmental issue arises for which no mitigation measures are approved, or for which new or innovative mitigation measures are deemed appropriate, NextBridge will consult with the appropriate government agencies.

If regulatory requirements discussed in this OEMP differ from requirements outlined in Project approval conditions, or if the direction given by regulators is found to be conflicting, an attempt will be made by NextBridge to resolve the discrepancy with the available representatives of the affected government agencies.

Information collected throughout the implementation of this OEMP will be used to evaluate predictions made in the environmental assessment of the Project, and allow NextBridge to make corrective plans and take corrective actions where necessary. Therefore, the OEMP is a 'live' document and will be updated as the Project progresses.

1.2 Purpose

The purpose of this OEMP is to provide guidance to NextBridge, its authorized representatives, contractor(s), and subcontractors, for environmentally responsible working procedures and standards during the operation phase of the Project.

The key objectives of the OEMP are to:

- ensure that the Project operation and maintenance activities are in compliance with environmental regulations and Project commitments;
- provide a framework for the implementation of environmental management and protection measures for avoidance, minimization and mitigation of potential environmental impacts; and
- provide a guide to the management and notification of environmental incidents.

2. ENVIRONMENTAL REGULATIONS AND REQUIREMENTS

A preliminary list of relevant environmental regulations and requirements applicable to the Project operation phase is provided in Table 4-III-1. This list will be updated when there are additional requirements identified from the regulatory consultation and review process.

Operation of the transmission line currently does not require an Environmental Compliance Approval (ECA) for noise under the *Canadian Environmental Protection Act, 1999*. Ministry of the Environment and Climate Change (MOECC) had draft guidance (i.e., DRAFT – MOECC *Guideline for Assessing Audible Noise from High Voltage Electricity Transmission Lines*, 2011) for noise related to the operations of transmission lines; however, this guidance is not publicly available for use and the MOECC's intentions with it are unknown. Therefore, at this time, the operation of the transmission line has not been considered a stationary source with substantial potential noise emissions that require an ECA.

The transmission line operation is not expected to require an ECA for emissions to air, based on the information provided to date on the transmission line operation.

Table 4-III-1: Preliminary Identification of Applicable Federal and Provincial Environmental Regulations and Municipal By-laws for Project Operation

Agency	Federal and Provincial Regulations and Municipal By-laws	Applicability to the Project
Federal		
Environment and Climate Change Canada (ECCC)/ Canadian Wildlife Service (CWS)	<ul style="list-style-type: none"> ■ <i>Species at Risk Act</i>, section 73 (Government of Canada 2002) ■ <i>Permits Authorizing an Activity Affecting Listed Wildlife Species Regulations</i> (Government of Canada 2013) 	A permit or agreement is required if Project activities during operation affect species listed under Schedule 1 of the <i>Species at Risk Act</i> (SARA) or its habitat, and which contravene the Act's general or critical habitat prohibitions
Provincial		
Ministry of Natural Resources and Forestry (MNRF)	<i>Endangered Species Act</i> , - section 17 (Government of Ontario 2007)	<ul style="list-style-type: none"> ■ A permit may be required if Project activities during operation affect a species designated as endangered or threatened on the Species At Risk in Ontario [SARO] (Government of Ontario 2016) list or its habitat (aquatic or terrestrial, vegetation or wildlife) ■ Mitigation and avoidance measures may also be required in consultation with MNRF and other associated agencies (ECCC), to align with management objectives and conservation/protection measures for species listed as special concern and their habitat
MNRF	<ul style="list-style-type: none"> ■ <i>Ontario Fish and Wildlife Conservation Act</i> (Government of Ontario 2002) 	Prohibition applies in the event Project operation and maintenance activities are anticipated to impact scheduled species, nesting areas, beavers or black bears (e.g., destroy the nests or eggs of birds, a beaver dam, or the den of a black bear or some furbearing mammals, or interfere with a black bear in its den).
MOECC	<i>Pesticides Act</i> (Government of Ontario 1990)	A permit is required for the application, transportation, storage and disposal of pesticides under the <i>Pesticides Act</i> for vegetation maintenance during operation
Municipality		
Municipality of Shuniah	By-Law No. 2739-14 - The Noise By-Law (Municipality of Shuniah 2015)	Compliance of Project operation and maintenance with local municipal noise by-laws. Noise is unlikely to be a substantial impact since operation and maintenance activities (except in emergencies) are

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Table 4-III-1: Preliminary Identification of Applicable Federal and Provincial Environmental Regulations and Municipal By-laws for Project Operation

Agency	Federal and Provincial Regulations and Municipal By-laws	Applicability to the Project
		conducted during daytime hours and only vehicles or all-terrain vehicles (ATVs) are used.
Township of Dorion	To be confirmed	To be confirmed
Township of Red Rock	By-Law No. 2001-852 - Noise Control (Township of Red Rock 2001)	Compliance of Project operation with local municipal noise by-laws. Noise is unlikely to be a substantial impact since operations (except in emergencies) are conducted during daytime hours and only vehicles or ATVs are used.
Township of Nipigon	To be confirmed	To be confirmed
Township of Schreiber	By-law No. 41-2001 - Noise Control (Township of Schreiber 2001)	Compliance of Project operation with local municipal noise by-laws. Noise is unlikely to be a substantial impact since operations (except in emergencies) are conducted during daytime hours and only vehicles or ATVs are used.
Township of Terrace Bay	By-law No. 3-2011 - Regulate Noise (Township of Terrace Bay 2011)	Compliance of Project operation with local municipal noise by-laws. Noise is unlikely to be a substantial impact since operations (except in emergencies) are conducted during daytime hours and only vehicles or ATVs are used.
Town of Marathon	By-law No. 1190 - Noise (Town of Marathon 1998)	Compliance of Project operation with local municipal noise by-laws. Noise is unlikely to be a substantial impact since operations (except in emergencies) are conducted during daytime hours and only vehicles or ATVs are used.
Township of White River	To be confirmed	To be confirmed
Municipality of Wawa	By-law No. 22-67 - Noise (Municipality of Wawa 1996)	Compliance of Project operation with local municipal noise by-laws. Noise is unlikely to be a substantial impact since operations (except in emergencies) are conducted during daytime hours and only vehicles or ATVs are used.

ATV = all-terrain vehicle; CWS = Canadian Wildlife Service; ECCC = Environment and Climate Change Canada; MNRF = Ministry of Natural Resources and Forestry; MOECC = Ministry of the Environment and Climate Change; SARA = *Species at Risk Act*; SARO = Species at Risk Ontario.

3. ROLES AND RESPONSIBILITIES

The Area Operations Lead (refer to Appendix A for contact information) will be responsible for implementation of all aspects of the OEMP. This position is responsible for providing the resources necessary to complete the required tasks and in a manner consistent with this OEMP.

4. ENVIRONMENTAL COMPLIANCE

4.1 Approvals, Permits and Licences for Operation

Any permits required during operation activities will be appended in this OEMP. All designated NextBridge personnel shall review and clearly understand the conditions relating to operation activities that are attached to the permit documents. The required additional approvals will be confirmed as Project planning and design progress.

4.2 Environmental Inspection

NextBridge will oversee implementation of the environmental management measures described in the OEMP during operation.

4.3 Compliance Reporting

Permits typically require submission of compliance reports at specified intervals during the life of the Project. These records will be retained with other appropriate Project documentation in Project files.

A compliance self-assessment will be carried out to document compliance with the commitments made in the amended EA Report for the Project, including implementation of mitigation (impact management measures) and conditions of approval. The MOECC will be updated regarding compliance at regular intervals during operation, depending on the monitoring reporting requirements specified in approval conditions.

5. ENVIRONMENTAL MANAGEMENT DURING OPERATION

Upon commissioning, the Project will operate on a continuous basis and will be maintained by NextBridge. Maintenance activities will include regular inspection of the transmission line and associated infrastructure, and vegetation management along the ROW. Operation and maintenance activities will be conducted in accordance with permits and regulations.

Typical transmission line maintenance activities include visual inspections. The maintenance inspections may indicate that repairs may be required that could involve the replacement of insulators, anchors, or guy wires, requiring the use of heavier equipment such as backhoes or cranes. NextBridge will attempt to fix identified issues during maintenance inspections, but return trips may be required.

Emergency repairs may be required in the event of bad weather or power outages. Emergency repairs will be carried out in the most time sensitive manner. Spare parts and poles will be stored in a storage yard or warehouse

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in proximity to the transmission line in case emergency repairs are required. The quantity of this material and storage location will be determined by NextBridge.

Typical maintenance activities include:

- Detailed structure climbing and helicopter inspections;
- line hardware and insulator thermography;
- comprehensive vegetation management (NERC -FAC-003);
- ROW inspections; and
- visual patrol.

A summary of anticipated maintenance activities is provided in Table 4-III-2.

Table 4-III-2: Anticipated Maintenance Activities

Activity	Estimated Frequency
Detailed structure climbing and helicopter inspections	6+ year cycle
Line hardware and insulator thermography	As needed
ROW inspections	Annually by air and ground patrol
Visual patrol	Annually

+ = plus; ROW = right-of-way.

NextBridge anticipates the permanent access roads and ROW will be sufficient access to maintain and operate the Project. If there is a maintenance or emergency response activity that requires additional access or additional permitting requirements, NextBridge will identify these requirements and consult with the appropriate regulatory authorities and relevant stakeholders (e.g., landowners of private land), as required.

Potential environmental concerns during the Project operation and maintenance include:

- compliance with applicable environmental regulations, including conditions and requirements of approvals and permits;
- spill prevention;
- emergency management and incident response;
- erosion and sedimentation at access road crossings of water bodies;
- introduction of noxious weeds;
- disruption or disturbance of wildlife;
- damage to sensitive environmental features; and
- responding to landowner complaints and concerns.

5.1 General Mitigation Measures

The following general mitigation measures will be implemented by NextBridge, its authorized representatives, contractor(s), and subcontractors, to minimize potential environmental effects of activities associated with operation and maintenance:

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Regulatory Approvals and Notifications

- Acquire applicable local, municipal, provincial and federal licences, permits and approvals for operation and maintenance, and adhere to applicable conditions throughout the lifecycle of the Project.
- Notify applicable federal and provincial regulatory agencies, interested municipal officials and relevant stakeholders (e.g., landowners of private land) of maintenance activities as warranted.

Wildlife and Wildlife Habitat

- Contractors will report issues and incidents with wildlife or nuisance wildlife as soon as it is safe to do so to NextBridge, who shall determine corrective and/or emergency action to be taken in the field. NextBridge will determine what regulatory reporting is required.
- Project personnel will be prohibited from carrying firearms on the Project footprint (i.e., transmission line ROW and permanent access roads).
- Project personnel will be prohibited from bringing pets (e.g., dogs and cats) on site.
- Hunting and fishing on the Project footprint by Project personnel is prohibited.
- Do not harass or feed wildlife.
- Recreational use of all-terrain vehicles by Project personnel is prohibited in the Project footprint. Vehicles, including all-terrain vehicles, are to be driven in a responsible and environmentally respectful manner.
- Vehicles will not exceed speed limits established for the Project footprint.
- Vehicles will yield to wildlife on the roads when safe to do so.

Water Bodies

- Follow applicable measures from DFO's *Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk* (DFO 2016).
- Follow applicable measures from MNR's *Environmental Guidelines for Access Roads and Water Crossings* (MNR 1990), *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR 2010a) and its associated Background Rationale document (MNR 2010b).
- Fording of water bodies is not permitted, unless approved by the regulatory agencies.
- Periodically (e.g., before and/or after spring freshet) inspect and maintain culverts to prevent blockages from forming and causing ponding or backwater effects. Where culverts are installed at fish bearing water bodies, debris removal activities will follow DFO's guidance (i.e., gradual removal such that flooding downstream, extreme flows downstream, release of suspended sediment, and fish stranding can be avoided).
- Re-fuelling or equipment maintenance activities are not to occur within 100 m of a water body.

Noxious Weeds

- The Weed Management Plan outlined in the Construction Environmental Protection Plan (CEPP; refer to Appendix 4-II, Section 8.4) will be implemented, when required.
- During the Project orientation, Project personnel will be made aware of the weeds management strategies.
- Project personnel will also be reminded that all vehicles and equipment must be clean (i.e., free of soil and vegetative debris) in accordance with the *Clean Equipment Protocol for Industry* (Halloran et al. 2013) prior

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to Project footprint entry, and of the importance of maintaining clean equipment, and minimizing transportation of weed seeds.

- NextBridge may inspect equipment and vehicles prior to Project footprint entry.

Erosion and Sedimentation Control

- Specific measures such as installing temporary sediment barriers (e.g., berms, silt fences) will be undertaken as required to prevent sediment laden water from entering a water body.
- Regrade areas with vehicle ruts and erosion gullies to conform to the local topography to maintain drainage patterns.
- In areas where reseeding is required for erosion control, seeds will be applied in low reseeding rates to encourage the growth of native vegetation.

Spill Prevention

- NextBridge will adhere to the Spill Prevention and Response Contingency Plan (refer to Appendix C) to prevent spills and/or release.
- Equipment for ROW maintenance activities will be routinely inspected for leaks.
- Equipment is to arrive on site in a clean condition in accordance with the *Clean Equipment Protocol for Industry* (Halloran et al. 2013) and is to be maintained free of fluid leaks.
- Re-fuelling or equipment maintenance activities will follow mitigation measures outlined in the Spill Prevention and Response Contingency Plan (refer to Appendix C).
- In the event that any spills occur, implement the reporting measures provided in the Spill Prevention and Response Contingency Plan (refer to Appendix C).

Noise Concerns

- Maintenance activities will typically occur during the daytime period from 07:00 to 19:00. In the event maintenance will occur beyond the daytime period, NextBridge will re-evaluate the potential Project-related effects and if required, review mitigation requirements.
- Comply with local municipal noise by-laws and the MOECC draft guidance (i.e., DRAFT – *MOECC Guideline for Assessing Audible Noise from High Voltage Electricity Transmission Lines*, 2011). Address noise concerns as they arise through a noise complaint process.
- **Reporting**
- In addition to annual reports summarizing activities and general findings, technical reports will be prepared at appropriate intervals during the operation and maintenance phase of the Project. These reports will include compilation and analysis of monitoring results during the relevant period, and make recommendations concerning the need for any changes to the mitigation or monitoring approach.

5.2 Access and Travel on Right-of-Way

Access roads required during the operation of the Project will be maintained by NextBridge and used to access the Project area for maintenance purposes, to complete inspections, and for emergency purposes. Maintenance associated with these roads will include regular inspections (annually) and vegetation maintenance.

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Routine operations activities and access for repairs to transmission lines may require travel on the ROW, which may have the potential to cause:

- Introduction of noxious weeds;
- disruption or disturbance of wildlife; and
- damage to sensitive environmental features, including water bodies.

The Access and Construction Environmental Maps, and Environmental Alignment Sheets that have been prepared as part of the amended EA Report for the Project provide operations staff with the necessary information to plan the activity focussing on identification of areas of concern (e.g., access road crossings of water bodies), and implementation of mitigation measures to prevent or minimize the potential environmental effects of the activity.

The following environmental protection measures will be implemented by NextBridge, its authorized representatives, contractor(s), and subcontractors, to minimize potential impacts related to utilizing access roads and travelling on the ROW during the Project operation and maintenance.

Access Roads Management

- Existing roads and trails identified in Access and Construction Environmental Maps will be used.
- If there is a maintenance or emergency response activity that requires additional access or additional permitting requirements, NextBridge will identify these requirements and consult with the appropriate regulatory authorities, as required.
- Access roads required during the operation of the Project will be maintained by NextBridge and used to access the Project area for maintenance purposes, to complete inspections, and for emergency purposes.
- Maintenance associated with these roads will include regular inspections (annually) and vegetation maintenance as per road use agreement.
- If the Contractor plans to use salt on access roads constructed, or within the Project footprint, the Contractor must prepare, and submit for approval to NextBridge, a Salt Management Plan. The Salt Management Plan should consider Industry Best Management Practices for road salt management.

Vehicles and Equipment

- NextBridge may inspect equipment and vehicles arriving on the Project footprint prior to arriving at the job.
- Turn off vehicles and equipment when not in use and minimize idling, unless weather and/or safety conditions dictate the need for them to remain turned on and in a safe operating condition.
- Ensure that noise abatement, emission and pollution control equipment on machinery are in place, properly maintained and in good working order.
- Keep equipment well maintained.
- The Weed Management Plan outlined in the CEPP (refer to Appendix 4-II, Section 8.4) will be implemented, when required.
- Vehicles will not exceed speed limits established by NextBridge and will lower speeds in specific conditions such as areas of high erosion hazard.
- Vehicles and equipment will cross water bodies using existing and/or approved equipment crossings.

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- Recreational use of all-terrain vehicles by Project personnel is prohibited in the Project footprint. Vehicles, including all-terrain vehicles, are to be driven in a responsible and environmentally respectful manner.
- Project personnel will avoid unnecessary wheel spin.

Wildlife and Wildlife Habitat

- NextBridge will post signs warning Project personnel of high use wildlife areas to the extent practicable.
- NextBridge will provide the appropriate resource specialist, if required, to assess sensitive features and to inspect or monitor Project activities at or near sensitive areas.
- Vehicles will yield to wildlife on the roads when safe to do so.
- Project personnel will receive wildlife awareness training.
- Avoid physical disturbance to existing anthropogenic structures located outside of the ROW and access roads that could be roosts for bats (e.g., sheds, barns, houses, buildings, and bridges).

Water Bodies

- Vehicles and equipment will cross water bodies using existing and/or approved equipment crossings.
- Fording of a water body is not permitted, unless approved by the appropriate regulatory agencies.
- Travel in the 30 m water body buffer at a water body crossing will be perpendicular to the water body.
- No turning of vehicles and equipment will be allowed in the 30 m water body buffer to minimize soil disturbance.
- DFO's *Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk* (DFO 2016a) will be applied.
- Applicable measures from MNR's *Environmental Guidelines for Access Roads and Water Crossings* (MNR 1990), and *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR 2010a) and its associated Background Rationale document (MNR 2010b) will be followed.

5.3 Vegetation Management Program

A Transmission Vegetation Management Program (TVMP) is required by North American Electric Reliability Corporation (NERC) Standard FAC-003 for transmission lines operating at 200 kV and higher (NERC 2006). The purpose of the plan is to improve the reliability of electric transmission systems by preventing outages from vegetation located in the transmission line ROW, minimizing outages from vegetation located adjacent to the ROW, and maintaining clearances between conductors and vegetation in, and along, the preferred route ROW (NERC 2009). The TVMP will also include vegetation management standards to be implemented with a goal to ensure vegetation does not interfere with the safe and reliable operation and maintenance of the transmission line, or prohibit access to the transmission line structures, with a compatible vegetation height of approximately 2 m or less. Vegetation maintenance will also be required to ensure worker and public safety. Vegetation management vehicles can include pickup trucks and other vehicles necessary to perform vegetation management duties adjacent to and in the ROW.

A summary of anticipated vegetation maintenance activities is provided in Table 4-III-3.

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Table 4-III-3: Anticipated Vegetation Management Activities

Activity	Estimated Frequency
Comprehensive vegetation management (NERC -FAC-003)	Annually by air and ground patrol
ROW inspections	Annually by air and ground patrol

It is anticipated that vegetation will not be removed in areas where clearance-to-ground levels allow for increased vegetation height (i.e., where the line spans water bodies and in canyons and ravines). However, vegetation removal will be required in areas with lower clearance levels as tall-growing vegetation has potential to fall onto the conductors and interfere with electricity transmission. Prior to vegetation clearing, conductor-to-ground clearances will be matched with acceptable vegetation retention levels to minimize the amount of clearing required while maintaining appropriate safety margins.

Maintenance activities associated with vegetation will generally include mechanical, manual, and chemical (herbicide) methods for keeping vegetation at an appropriate height to protect the facility and improve public and worker safety. Determination of the method to be used (i.e., mechanical, manual, or chemical) will be based on season (time of year), the type of vegetation, site-specific features (i.e., topography, terrain, sensitivity), cost, aesthetics, and environmental and socio-economic features.

Visual ground and aerial patrols will be completed to identify areas that require vegetation clearing, and the schedule will be based on growth cycles, system security, public health/safety, protecting the environment, and maintenance associated with the existing East-West Tie transmission line. Based on the results, spot treatment via ground crews may occur. No aerial application of herbicides is planned in the preferred route ROW. If herbicide use is necessary it will be applied on the ground as spot application. Use of herbicides within the 30 m water body buffer will be prohibited unless the herbicide application is conducted by ground application equipment or otherwise approved by the relevant regulatory agency. If other methods cannot be used within the 30 m water body buffer, only approved herbicides would be used.

NextBridge will develop and implement a TVMP that is similar to the TVMP developed by NextEra (refer to Appendix D), as required by NERC Standard FAC-003 for transmission lines operating at 200 kV and higher.

The following key environmental protection measures will be implemented by NextBridge or its contractors to minimize the potential environmental impacts of vegetation management.

Activity Schedule

- NextBridge, its authorized representatives, contractor(s), and subcontractors, will adhere to the recommended timing windows and restrictions described in Table 4-III-4.
- Planning of mechanical vegetation management will consider the sensitive wildlife periods described in Table 4-III-4.

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Table 4-III-4: Recommended Timing Windows and Restrictions

Natural Feature, Habitat, or Species	Recommended Timing Window	Recommended Restrictions
Migratory birds	Migratory bird nesting period: April 15 to August 31^(a)	Avoid clearing activities during the migratory bird nesting period Recommended setbacks from nesting sites varies from 20 m to 300 m depending on the species
Water bodies ^(b)	Proposed restricted activity timing windows: September 1 to June 20 (fall and spring spawning; and September 1 to July 15 (fall and spring extended spawning).	Avoid activities below the high water mark (e.g., clearing vegetation) during the restricted activity timing window
SWH – Bat maternity roost habitat	Rankings ^(c) : Known/High Potential: April 1 to October 1 Moderate Potential: May 1 to July 31 Low-No Potential: no timing restriction on clearing activities	Avoid clearing activities during the maternity roosting period
SWH – Bat hibernacula habitat	Hibernation period: October 1 to April 1^(e)	Avoid clearing activities within a minimum of 400 m up to 1,000 m from a known bat hibernaculum entrance. Setbacks for each hibernaculum known to be occupied must be determined in consultation with MNRF on a case by case basis Conduct pre-clearing surveys in suitable habitat affected by the Project to determine whether candidate hibernacula are occupied
SWH – Sharp-tailed grouse's lek	General mating season: March to June	Recommended setbacks from lek is 200 m all year round
SWH – Raptor's nesting sites	Nesting period: March 5 to August 31 Bald eagle: March 5 to August 31 Osprey: April 1 to August 15 Northern goshawk: March to June Cooper's Hawk: March to July Sharp-shinned Hawk: April to July Red-shouldered Hawk: March to July	<ul style="list-style-type: none"> ■ Recommended setbacks from a raptor nesting site varies from 50 m to 800 m depending on the species minimum of 400 m radius buffer on bald eagle nesting site; minimum of 300m radius buffer on osprey nesting site; minimum of 400 m radius buffer or 28 hectares of suitable habitat in the SWH on northern goshawk nesting site; minimum of 200 m radius buffer on barred owl nesting site; minimum of 100 m radius buffer on broad-winged Hawk, cooper's hawk, great horned owl, red-tailed hawk, and long-eared owl nesting site; and, minimum of 50 m radius buffer on merlin and sharp-shinned hawk nesting site.
SWH – Amphibian breeding habitat (wetlands/woodlands)	Breeding period: March 15 to June 7 Hibernation Period: October 1 to March 15	Recommended setbacks from breeding sites varies from 30 m to 120 m depending on the type of habitat and species
SWH – Turtle breeding habitat	Nesting period: May 15 to July 15	Recommended setbacks from breeding sites varies from 30 m to 300 m depending on the type of habitat and species
SWH – Caribou nursery areas	Nursery areas period: May 1 to July 14 (very low tolerance) July 15 to September 15 (low tolerance)	Avoid activities within 10 km of known or potential caribou high use areas
SWH – Caribou winter use areas	Wintering period: December 1 to March 31	Avoid activities within 10 km of known or potential caribou high use areas
SWH – Caribou travel corridor	April and November	Avoid activities within 10 km of known or potential caribou high use areas
SWH – Moose wintering areas	Wintering period: November 1 to March 31	Avoid clearing activities within 300 m from a 3E ecodistrict (refer to Appendix 12-VIII of the amended EA Report)
SWH – Moose aquatic feeding areas	Aquatic feeding period: May 1 to June 30	Avoid clearing activities within 120 m from a known aquatic feeding area

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Table 4-III-4: Recommended Timing Windows and Restrictions

Natural Feature, Habitat, or Species	Recommended Timing Window	Recommended Restrictions
SWH – Denning site	Denning period varies per species.	Recommended setbacks from denning sites varies from 20 m to 300 m depending on the species
Provincially Significant Wetlands	-	Avoid development within 30 m setback to a PSW

a) If vegetation removal must be completed during the migratory bird nesting period, implement the procedures in the Nest Sweep Protocol outlined in the CEPP (refer to Appendix 4-II, Appendix G).

b) The proposed restricted activity timing window for each waterbody is shown in Appendix J in the CEPP. One of the four categories of proposed restricted activity timing windows is applicable for each waterbody crossing. For each waterbody crossing, a proposed restricted activity timing window was determined using the restricted activity timing windows for each fish species and the documented presence of each fish species in the water body and/or tertiary watershed. For waterbodies that have both spring spawning fish species and fall spawning fish species a timing window was applied. Work below the high water mark (e.g., installing/improving culverts, removing riparian vegetation) within the restricted activity timing window may not be completed, unless approval from MNRF and DFO is obtained. The restricted activity timing windows for each water body crossing will be finalized by MNRF during permitting, but proposed restricted activity timing windows have been included in the EA as they are a key mitigation measure.

c) The rankings are based on the ground-truthing and acoustic data collected in 2017.

-=not applicable, km=kilometre, m=meter; MNRF = Ministry of Natural Resources and Forestry; PSW = provincially significant wetlands; SWH = specific wildlife habitat; .

Wildlife and Wildlife Habitat

- If vegetation removal must be completed during the migratory bird nesting period, implement the procedures in the Nest Sweep Protocol in the CEPP (refer to Appendix 4-II, Appendix G). Similar measures to the procedures in the Nest Sweep Protocol will be taken for vegetation removal during routine ROW maintenance.
- In the event that a nest is found, implement the Wildlife Features of Concern Discovery Contingency Plan outlined in the CEPP (refer to the Appendix 4-II, Section 7.5).
- Similar measures to the procedures in the Nest Sweep Protocol outlined in the CEPP will be taken for vegetation removal during routine ROW maintenance (refer to Appendix 4-II, Appendix G).
- Allow compatible vegetation in the ROW to grow back to a maximum height of 2 m to provide cover and reduce line-of-sight for predators.
- Retain snags (i.e., standing or partially fallen dead trees) to provide wildlife habitat, where practicable.
- Identify hazard trees that are located off-ROW. Permission will be obtained from the landowner or MNRF to fell hazardous trees.
- Where clearing or construction activities are planned during the breeding season, in or adjacent to potential active amphibian breeding areas, capture and relocate amphibians and reptiles off the Project footprint during the breeding season, prior to and during clearing.

Clearing Equipment

- Use clearing equipment that minimizes surface disturbance, soil compaction and topsoil loss (e.g., equipment with low ground pressure tires, or wide track), when working in wet areas, under wet conditions, or during spring break-up).
- Clearing may be accomplished by harvesting equipment, mulchers, and hand cutting.

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Erosion and Sedimentation Control

- Selectively cut vegetation and restrict grubbing within areas with steep slopes or soils with risk of erosion.
- Mechanical clearing and other equipment activity will be minimized within the 30 m water body buffer.
- No turning of equipment, or vehicles within the 30 m water body buffer (i.e. straight in, straight out) to the extent practicable.
- Specific measures such as installing temporary sediment barriers (e.g., berms, silt fences) will be undertaken as required to prevent sediment laden water from entering a water body.

Canoe Routes and Portages

- vegetation clearing within a minimum of 90 m around Category A canoe routes (i.e., Pukaskwa River canoe route, White River canoe route and Dog River canoe route) and their associated portage will be limited to where necessary for safety and compatible vegetation (e.g., below 2 m in height) will be retained where practicable (MNRF 2015);
- vegetation clearing within a minimum of 30 m around Category B canoe route (i.e., White River canoe route, Michipicoten River canoe route and Magpie River canoe route) and their associated portage will be limited to where necessary for safety and compatible vegetation (e.g., below 2 m in height) will be retained where practicable (MNRF 2015);
- vegetation clearing around a canoe route will be limited to where necessary for safety and compatible vegetation (e.g., below 2 m in height) will be retained where practicable to meet regulatory requirements and minimize visual evidence of disturbance from activities;
- retain compatible vegetation (e.g., below 2 m in height) around a portage, where practicable to meet regulatory requirements;
- maintain visibility of portage on either side of the ROW (e.g., no stockpiled vegetation or soils at the portage access points) and access roads for recreational user accessibility;
- during construction, keep portages cleared of vegetation debris and maintain the existing grade of the portage in a manner that it is safe for the recreational users; and
- no disturbance of portages outside of the Project Site and access roads will be permitted.

Areas with Critical Landform/ Vegetation Association (CLVA)

- Reduce the removal of compatible vegetation (e.g., below 2 m in height) in CLVAs to the extent practicable.
- Use clearing equipment that minimizes surface disturbance, soil compaction and topsoil loss (e.g., equipment with low ground pressure tires, or wide track), when working in wet areas, under wet conditions, or during spring break-up.
- Clearing may be accomplished by harvesting equipment, mulchers, and hand cutting.
- Clear merchantable timber by hand, where required.
- Mechanical clearing and other equipment activity will be minimized and no turning of equipment, or vehicles (i.e., straight in general application, straight out) to the extent practicable.
- Restrict the general application of herbicide in CLVAs to the extent practicable.

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Water Bodies

- Vegetation clearing within the 30 m water body buffer will be limited to where vegetation may present a health, safety and environmental (HSE) hazard to Project operation and maintenance.
- Travel in the 30 m water body buffer at a water body crossing will be perpendicular to the water body.
- No turning of vehicles and equipment will be allowed in the 30 m water body buffer to minimize soil disturbance.
- Immediately remove debris (i.e., except trees) or soil inadvertently deposited below the high watermark of water bodies to minimize disturbance to the bed and banks.
- Trees naturally or accidentally felled below the high watermark of water bodies will be left where they fall.
- Do not skid logs across or push logs into water bodies.
- Complete brushing and clearing activities to prevent siltation of water bodies.
- Multi-stage drainage and sediment controls will be employed at work sites as appropriate.
- Maintain low vegetation or vegetated ground mat within the 30 m water body buffer to the extent practicable.

Noxious Weeds

- NextBridge will conduct a weed monitoring program to identify and prioritize weeds for removal.
- The Weed Management Plan outlined in the CEPP (refer to Appendix 4-II, Section 8.4) will be implemented, when required.

Use of Herbicides

- Use of herbicides/pesticides will follow requirements under the Ontario *Pesticides Act*.
- Necessary permits will be obtained for the application, transportation, storage, and disposal of pesticides. Only herbicide products registered for use in Canada by the Pest Management Regulatory Agency of Health Canada will be used.
- No aerial application of herbicides is planned in the ROW. If herbicide use is necessary it will be applied on the ground as spot application.
- No herbicides will be used in sensitive areas including reserve lands, provincial parks, within 30 m of water bodies and certain other edible and medicinal plant harvesting areas the communities have identified as a priority.
- Apply approved herbicides under the direction of a provincially-licensed applicator.
- Restrict the general application of herbicide near rare plants or rare ecological communities. Spot spraying, wicking, mowing, or hand-picking are acceptable measures for weed control in these areas.
- Prohibit the use of herbicides within the 30 m water body buffer unless the herbicide application is conducted by ground application equipment or otherwise approved by the relevant regulatory agency.
- Storage, handling and application of herbicide will comply with the Ontario *Clean Water Act*. Do not use herbicides within 100 m of identified wells.

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- NextBridge will post on their website (www.nextbridge.ca) relevant information about the application of herbicide (e.g., anticipated dates, areas to be sprayed, sprayed dates) to advise the public of herbicide use along the ROW.

Rare Plants/ Rare Vegetation Communities

- Restrict the general application of herbicide near rare plants or rare ecological communities. Spot spraying, wicking, mowing, or hand-picking are acceptable measures for weed control in these areas.
- In the event that a rare plant species or a rare vegetation community are suspected or encountered unexpectedly, implement the Rare Plant Discovery Contingency Plan outlined in the CEPP (refer to Appendix 4-II, Section 7.6).
- **Traditional Use Plant Species**
- Specific plant and/or material harvesting sites such as blueberry patches identified by First Nation communities will be allowed to naturally revegetate (i.e., will not be removed as incompatible vegetation) in the ROW.
- In the event that a previously unidentified Indigenous land and resource use site is suspected or encountered during operation, follow the Indigenous Land and Resource Use Site Contingency Plan outlined in the CEPP (refer to Appendix 4-II, Section 7.8).
- Restrict the general application of herbicide near rare plants or rare ecological communities. Spot spraying, wicking, mowing, or hand-picking are acceptable measures for weed control in these areas.

5.4 Emergency Response Plan

Occasionally, emergencies occur requiring an immediate response. These emergencies may include events such as structure collapse resulting from tornadoes, ice storms, fires, and other natural events. An immediate response is required and may involve the use of helicopters or heavy equipment. These emergencies generally are localized in nature. The impact of not responding quickly can result in serious effects on people who depend on electricity for heating in winter and air conditioning in summer and for economic development and commerce. An Emergency Response Plan will be developed for the Project operation and maintenance phase and will also include procedures for responding to environmental emergency incidents.

Mitigation measures for spill prevention and response to environmental incidences are outlined in Appendix C.

5.5 Fire Prevention

The transmission line will be maintained in accordance with the Ontario *Occupational Health and Safety Act* (Government of Ontario 1990b) and other relevant regulations that establish clearances from other man-made and natural structures as well as tree-trimming requirements to reduce/avoid fire hazards. NextBridge will maintain the transmission line ROW and immediate area in accordance with existing regulations and accepted industry practices that will include identification and abatement of fire hazards.

The following mitigation measures will be implemented by NextBridge, its authorized representatives, contractor(s), and subcontractors, for fire prevention:

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- All work will adhere to the *Forest Fire Prevention Act* (Government of Ontario 1990c) and Regulation O. Reg. 207/96. The Act provides direction for the prevention and suppression of wildland fires in forest areas within the fire region during the fire season, normally April 1 to October 31.
- Adhere to the *Industrial Operations Protocol* (MNR 2015) and provide to MNR upon request fire prevention and preparedness plans, planned fire preparedness activities and planned modifications and/or mitigation actions.
- Each vehicle will carry the fire-fighting equipment (e.g., fully charged fire extinguisher, shovel) required by the Ontario *Forest Fire Prevention Act* (Government of Ontario 1990c).
- Keep equipment well-maintained.
- Turn-off engines prior to refuelling of equipment.
- Maintain an adequate supply of fire-fighting equipment on hand that is capable of controlling fire that may occur as a result of their activities, as regulated by provincial regulations and government agencies.

6. ENVIRONMENTAL TRAINING

NextBridge will make sure that Project personnel receive environmental orientation in relation to the OEMP. Project-personnel will be made aware and have an understanding of commitments, their obligations and duties described in this OEMP. NextBridge will also develop and deliver advanced environmental training to relevant Project personnel (e.g., inspectors, consultants resources specialists, contractors). NextBridge will provide orientation on the Environmental Hazard Assessment program (refer to Appendix B). Project personnel who show neglect for the environment or disregard for the OEMP may be removed from the Project by NextBridge.

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7. GLOSSARY

Term	Definition
Commitment	Represents a guarantee from a proponent about a certain course of action. Proponents acknowledge these guarantees by documenting obligations and responsibilities, which they agree to follow, in EA documentation (Terms of Reference or the amended EA Report). Once the Minister approves the documents, the commitments within the document are often made legally binding as a condition of approval.
Conductor	A wire or combination of wires not insulated from one another, designed to carry electric current. The conductor may be bare or insulated.
Critical Landform/Vegetation Associations	Areas identified as unique habitat because of the combination of unique landforms with unique vegetation communities, and have been identified in provincial parks and other conservation areas
Easement	An agreement that provides a proponent with a limited right to use property owned by another party to construct, own and operate a Project within the agreed upon area. The agreement sets out the rights and obligations of both the proponent and the party in regards to the use of the lands and will often specify restrictions on the use of the land.
Environment	As defined in the Ontario <i>Environmental Assessment Act</i> (Government of Ontario 2003) as: a) air, land or water, b) plant and animal life, including human life, c) the social, economic and cultural conditions that influence the life of humans or a community, d) any building, structure, machine or other device or thing made by humans, e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or f) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.
Environmental concerns	The negative effect that a proposed undertaking or its alternative has or could potentially have on the environment, direct or indirect, short or long-term.
First Nation	A term that came into common usage in the 1970s to replace the word Indian, which some people found offensive. Although the term First Nation is widely used, no legal definition of it exists. The term has generally come to refer to Aboriginal groups that have status under the <i>Indian Act</i> (Government of Canada 1985b). Some Aboriginal groups have also adopted the term First Nation to replace the word "band" in the name of their community.
Fish habitat	As defined in the <i>Fisheries Act</i> (Government of Canada 1985a), "spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes.
Ford	A shallow place in a water body allowing one to drive through the water body from one side to the other, or the action of a vehicle drive through the water body from one side to the other at a shallow place.
Guy wire	A tensioned cable designed to add stability to a free-standing structure. One end of the cable is attached to the structure and the other is anchored to the ground at a distance from the structure's base. The tension in the diagonal guy-wire combined with the compressional strength of the structure allows the structure to withstand lateral loads such as wind or the weight of the conductors.
Habitat	The place or environment where a plant or animal naturally or normally lives or occurs. Habitat provides the physical and biological elements of an ecosystem, including food, cover, and space, that create a suitable environment for plant and animal livelihood.
Indigenous	'Indigenous peoples' is a collective name for the original peoples of North America and their descendants. In Canada, Indigenous peoples includes First Nation, Métis and Inuit peoples. These are three distinct peoples with unique histories, languages, cultural practices and spiritual beliefs.
Land use	Use of the land by individual for a specific type of activities. Land use assessments typically include considerations of land tenures and other registered interests, as well as consumptive and non-consumptive resource uses. Examples are recreational and tourism activities, forestry, agriculture, oil and gas, activity and mining.
Mitigation measures	An action taken to lessen or reduce the severity of potential adverse environmental effects or enhance positive environmental effects. These measures could include construction techniques, compensation or community enhancement.
Portage	Portage or portaging is the practice of carrying water craft or cargo over land, either around an obstacle in a river, or between two water bodies. A place where this carrying occurs is also called a portage.

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Project footprint	The preferred route ROW and permanent access roads.
Rare plant	A native plant species found in restricted areas, at the edge of its range, or in low numbers within a province, state, territory, or country
Rare vegetation community	An association of plants of various species found growing together that is described as unusual, uncommon, of limited extent or encountered infrequently
Right-of-way	A type of easement granted or reserved over the land for the purposes of construction, operation, maintenance, inspection, alteration, removal, replacement, reconstruction, repair and/or expansion of existing services
Riparian	Describes terrain, vegetation, or a position next to or associated with a stream, floodplain, or standing water body
Riparian Area	A geographic area containing interdependent aquatic, terrestrial, and wetlands ecosystems. Riparian area is defined as approximately 15 m from the high-water mark of water bodies. Riparian areas support important biodiversity functions by providing unique habitat for vegetation and wildlife. Riparian areas also provide a buffer for water bodies by absorbing excess water runoff, breaking down pollutants and holding sediments
Species at risk	Plant or animal species identified as being of special concern, threatened, or endangered as defined by the Ontario <i>Endangered Species Act</i> (Government of Ontario 2007) or as defined by the federal <i>Species at Risk Act</i> (Government of Canada 2002)
Spring freshet	Increase in flow of water in a water body when compared to background caused by rain events or melted snow
Topsoil	The uppermost layer of soil, usually the top 5 to 20 cm. Topsoil includes the organic layer, litter, fibric and, humic (LFH) horizon, and mineral A horizon. Topsoil has the highest concentration of organic matter and microorganisms and is where most of the biological activity occurs. Plants generally concentrate their roots in and obtain most of their nutrients from this layer
Vegetation	A term to describe all plants or plant life in an area
Water body	Areas with defined bed and banks, whether or not water is continuously present. A water body may be permanent, intermittent, or ephemeral. Types of water bodies include watercourses (e.g., streams, rivers), lakes, ponds, and wetlands. A water body may be natural or artificial
Water body buffer	A 30 metre area extending from the ordinary high water mark of a water body that is to be protected for many functions (hydrologic, biological, ecological, aesthetic, recreational, and educational).
Water table	The level at which ground water pressure equals atmospheric pressure; the upper surface of groundwater, above which the soil can be aerated and below which the soil is saturated
Watercourse	A defined channel with perennial or intermittent flow in a definite direction. Watercourses include rivers, creeks, streams, brooks, and springs
Weed	A plant that is defined as a controlled noxious weed by the Ontario <i>Weed Control Act</i>
Wetland	Land with the water table at, near or above the ground surface and/or saturated long enough to promote wetland or aquatic processes as indicated by hydric soils, hydrophytic vegetation and other biological activity adapted to wet environments
Wildlife	A species, subspecies, variety, or geographically or genetically distinct population of plant or animal that is wild by nature

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APPENDIX A

Contacts

**APPENDIX 4-III
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CONTACTS

Table A-1: Contacts

CONTACT	LOCATION	PHONE NUMBER
Ontario Provincial Police (OPP)	Ontario-wide	911
Ambulance	Ontario-wide	911
Hospitals	Thunder Bay, Ontario	Thunder Bay Regional Health Sciences Center 1-807-684-6000
	Nipigon, Ontario	Nipigon District Memorial Hospital 1-866-797-0007 (TTY)
	Terrace Bay, Ontario	McCausland Hospital 1-807-825-3273
	Wawa, Ontario	Lady Dunn Health Center 1-866-832-3321 (TTY)
	Marathon, Ontario	Wilson Memorial General Hospital 1-807-229-1740
Fire	Ontario-wide	911
Forest Fire	Ontario-wide	911 or 310-FIRE
MOECC	Ontario-wide	Spills Action Center 1-800-268-6060 (toll-free, province-wide, 24/7) 1-855-515-3759 (TTY)
Agricultural Information Contact Centre	Ontario-wide	1-877-424-1300
NextBridge Area Operation Lead <i>TBD</i>	Project	Office: <i>TBD</i> Cell: <i>TBD</i>
NextBridge High Voltage Lead <i>TBD</i>	Project	Office: <i>TBD</i> Cell: <i>TBD</i>

MOECC=Ministry of the Environment and Climate Change; RCMP=Royal Canadian Mounted Police.

APPENDIX B

Environmental Hazard Assessment

Section 1 - GENERAL	Project:	Date of Assessment:
	Contractor:	Location Range (KP/KM, Legals, Tract #s):
	Crew Activity:	SWP No.:

Section 2 - SCOPE OF WORK	<input type="checkbox"/> Access Development <input type="checkbox"/> Backfilling <input type="checkbox"/> Bending <input type="checkbox"/> Bore (Auger / Slip / HD Mini) <input type="checkbox"/> Bridge Install and Removal <input type="checkbox"/> Clay Ramp Install and Removal <input type="checkbox"/> Clearing & Grubbing <input type="checkbox"/> Coating <input type="checkbox"/> Environmental Surveys <input type="checkbox"/> Erosion Control Devices (Interim / Final)	<input type="checkbox"/> Fencing <input type="checkbox"/> Final Clean Up <input type="checkbox"/> Geotechnical Drilling <input type="checkbox"/> Grading <input type="checkbox"/> Groundtruthing <input type="checkbox"/> Horizontal Direction Drilling (HDD) <input type="checkbox"/> Hydrostatic Testing <input type="checkbox"/> Hydrovacing <input type="checkbox"/> Land Surveying	<input type="checkbox"/> Lowering-In <input type="checkbox"/> Machine Clean-Up <input type="checkbox"/> Monitoring Well Commissioning <input type="checkbox"/> Monitoring Well Decommissioning <input type="checkbox"/> Post Construction Monitoring <input type="checkbox"/> Refueling <input type="checkbox"/> Sediment Control Devices (Interim / Final) <input type="checkbox"/> Stringing <input type="checkbox"/> Surface Water Pump-Off <input type="checkbox"/> Temporary Water Diversion	<input type="checkbox"/> Tie In(s) <input type="checkbox"/> Timber Salvaging <input type="checkbox"/> Topsoil Stripping <input type="checkbox"/> Trenching <input type="checkbox"/> Watercourse Crossing(s) <input type="checkbox"/> Weed Treatment <input type="checkbox"/> Welding <input type="checkbox"/> Wetland Crossing(s)
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Indicate the plans reviewed and discussed prior to starting work.

Section 3 - PRE-PLANNING	<input type="checkbox"/> Environmental Protection Plan <input type="checkbox"/> Environmental Alignment Sheets <input type="checkbox"/> Hydrostatic Testing <input type="checkbox"/> Hydrotesting Notification Form <input type="checkbox"/> Dewatering <input type="checkbox"/> Weed Management	<input type="checkbox"/> Biosecurity <input type="checkbox"/> Caribou Protection <input type="checkbox"/> Wildlife <input type="checkbox"/> HDD <input type="checkbox"/> HD Mini Bore <input type="checkbox"/> Slip/Auger Bore	<input type="checkbox"/> Watercourse Crossing <input type="checkbox"/> Wetland Crossing <input type="checkbox"/> Restoration <input type="checkbox"/> Refueling
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Section 4 - PERMITS	Have all relevant environmental regulatory permits / approvals / notifications been: <input type="checkbox"/> PROVIDED <input type="checkbox"/> REVIEWED <input type="checkbox"/> ON SITE	Comments:
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Section 5 - ENVIRONMENTAL HAZARD(S)	LAND HAZARD(S):	WATER HAZARD(S):
	<input type="checkbox"/> Archaeological Feature(s) <input type="checkbox"/> Bird Nest(s) <input type="checkbox"/> Clubroot <input type="checkbox"/> Garbage, Debris, Waste <input type="checkbox"/> Groundwater <input type="checkbox"/> Hydrotest Water Release <input type="checkbox"/> Inadvertent Return (Frac-Out) <input type="checkbox"/> Organic Lands <input type="checkbox"/> Prohibited / Noxious Weed(s) <input type="checkbox"/> Rare Plant(s) <input type="checkbox"/> Steep Slope <input type="checkbox"/> Soil Admixing <input type="checkbox"/> Soil Compaction <input type="checkbox"/> Soil Contamination	<input type="checkbox"/> Amphibian Habitat <input type="checkbox"/> Bird Nest(s) <input type="checkbox"/> Contaminated Water <input type="checkbox"/> Coarse/Sport Fish <input type="checkbox"/> Dewatering <input type="checkbox"/> Inadvertent Return (Frac-Out) <input type="checkbox"/> Hydrotest Water Release <input type="checkbox"/> Hydrotest Water Withdrawal <input type="checkbox"/> Rare Plant(s) <input type="checkbox"/> Siltation <input type="checkbox"/> Watercourse Flow Velocity

Section 6 - ENVIRONMENTAL MITIGATION MEASURE(S)	LAND MITIGATION MEASURE(S):	WATER MITIGATION MEASURE(S):
	<input type="checkbox"/> Access Matting <input type="checkbox"/> Approved Mud Disposal <input type="checkbox"/> Approved Seed Mixture <input type="checkbox"/> Berm and Lined Cell <input type="checkbox"/> Bleach Solution Misting <input type="checkbox"/> Buffer Staking and Flagging <input type="checkbox"/> Catch Basin <input type="checkbox"/> Clay Ramping <input type="checkbox"/> Clean Equipment before Entry <input type="checkbox"/> Cleaning Station(s) <input type="checkbox"/> Rough Clean (Shovels, Brushes) <input type="checkbox"/> Mechanical (Compressed Air) <input type="checkbox"/> Fine Clean (Wash and Bleach) <input type="checkbox"/> Clean Up Bucket <input type="checkbox"/> Compaction Relief <input type="checkbox"/> Corduroy <input type="checkbox"/> Cultivation <input type="checkbox"/> Dewatering Diffuser <input type="checkbox"/> Drip Tray <input type="checkbox"/> Erosion Control Blanket <input type="checkbox"/> Equipment Attachment (e.g., prairie protector) <input type="checkbox"/> Equipment Move-Around <input type="checkbox"/> Filter Bag(s) <input type="checkbox"/> Frac Watch <input type="checkbox"/> Geotextile or Comparable <input type="checkbox"/> Geotextile Winged Walls & T-Posts <input type="checkbox"/> Housekeeping	<input type="checkbox"/> Hydroseeding <input type="checkbox"/> Lined Diversion Ditch & Berm <input type="checkbox"/> Livestock Fencing <input type="checkbox"/> Multi-Flow Subdrain <input type="checkbox"/> Nest Sweeps <input type="checkbox"/> Polyethylene Layer <input type="checkbox"/> Posted Signage <input type="checkbox"/> Proper Containment <input type="checkbox"/> Proper Constructed Sump <input type="checkbox"/> Resource Specialist Monitor <input type="checkbox"/> RoW Narrow Down <input type="checkbox"/> Secondary Containment <input type="checkbox"/> Sediment Fencing <input type="checkbox"/> Setback Distance <input type="checkbox"/> Snow Packing <input type="checkbox"/> Soil Pile Breaks <input type="checkbox"/> Soil Pile Identification <input type="checkbox"/> Soil Separation <input type="checkbox"/> Soil / Water Samples <input type="checkbox"/> Tackification <input type="checkbox"/> Timber Matting <input type="checkbox"/> Tertiary Containment <input type="checkbox"/> Traffic Restriction(s) <input type="checkbox"/> 3-lift (B-horizon) <input type="checkbox"/> Transplanting <input type="checkbox"/> Trench Breaker <input type="checkbox"/> Trench Plug (hard, soft) <input type="checkbox"/> Topsoil Stripping

Additional Description(s) of Environmental Mitigation Measures:

Work cannot begin until completing and reviewing the assessment and the required signatures obtained in this section. All personnel performing this work shall comply with the Environmental Protection Plan and any other environmental plans, as well as provincial/federal regulations. If changes are required to the form during the day, re-evaluate and update the appropriate sections during the course of work. This assessment is only valid for the location(s) noted in Section 1. If moving to a new area, fill out a new assessment form and notify the signatories.

Section 7 - ASSESSMENT	Assessor Representative: Name: _____ Signature: _____
	Reviewer Representative: Name: _____ Signature: _____

Section 8 - ENVIRONMENT	Environmental Inspector Review:
	Signature: _____ Date: _____ Time: _____

APPENDIX C

Spill Prevention and Response Contingency Plan

Spill Prevention and Response Contingency Plan

NextBridge Measures

<i>Reporting</i>	<p>1) NextBridge will report spills in accordance with the provincial requirements (refer to Table 4-III-C-1).</p> <p style="text-align: center;">Table 4-III-C-1: Reportable Spill Quantities</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Substance</th> <th style="text-align: left;">Quantity</th> <th style="text-align: left;">External Reporting Requirements</th> </tr> </thead> <tbody> <tr> <td>Any Spill</td> <td>Any amount</td> <td>N/A</td> </tr> <tr> <td rowspan="2">Oil and Waste Oil</td> <td>≥100 litres</td> <td rowspan="7"> Call within 24 hours: Ontario Spills Action Center Spills Action Center 1-800-268-6060 (toll-free, province-wide, 24/7) 1-855-515-3759 (TTY) *record file number </td> </tr> <tr> <td>Any amount of material in areas that are outside of the ROW</td> </tr> <tr> <td>Oil with >50 ppm PCB</td> <td>≥1 kilogram</td> </tr> <tr> <td>Flammable or Non-Flammable Gas</td> <td>≥10 kilograms</td> </tr> <tr> <td>Toxic or Corrosive Waste</td> <td>≥5 kilograms</td> </tr> <tr> <td>Hazardous Waste</td> <td>≥5 litres or kilograms</td> </tr> <tr> <td>Explosives</td> <td>Any quantity that could pose a danger to the public or 50 kilograms</td> </tr> </tbody> </table> <p>2) Releases that require external report include spills that:</p> <ul style="list-style-type: none"> ▪ cause harm or material discomfort to any person; ▪ injure or damages property or animal life; ▪ impair the quality of the natural environment air, water or land; ▪ cause adverse health effects; ▪ present a safety risk; ▪ render property, plant or animal life unfit for use; ▪ lead to the loss of enjoyment of the normal use of property; or ▪ interfere with the normal conduct of business. <p>3) The immediate report must include:</p> <ul style="list-style-type: none"> ▪ your name and phone number; ▪ name of the company or individual responsible for the spill; ▪ time and location of the spill; ▪ type and quantity of material spilled (if you know); and ▪ status of the spill, including actions being taken to control the spill. <p>Information provided to the center will be forwarded to Environment Canada, who will in turn contact DFO if warranted. The following information will be required during the notification process:</p> <ul style="list-style-type: none"> ▪ your name and phone number; ▪ name of the company or individual responsible for the spill; ▪ time and location of the spill; ▪ type and quantity of material spilled (if you know); and ▪ status of the spill, including actions being taken to control the spill. 	Substance	Quantity	External Reporting Requirements	Any Spill	Any amount	N/A	Oil and Waste Oil	≥100 litres	Call within 24 hours: Ontario Spills Action Center Spills Action Center 1-800-268-6060 (toll-free, province-wide, 24/7) 1-855-515-3759 (TTY) *record file number	Any amount of material in areas that are outside of the ROW	Oil with >50 ppm PCB	≥1 kilogram	Flammable or Non-Flammable Gas	≥10 kilograms	Toxic or Corrosive Waste	≥5 kilograms	Hazardous Waste	≥5 litres or kilograms	Explosives	Any quantity that could pose a danger to the public or 50 kilograms
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Explosives	Any quantity that could pose a danger to the public or 50 kilograms																				

**APPENDIX 4-III
OPERATION ENVIRONMENTAL MANAGEMENT PLAN**

Contractor Measures

<p><i>Equipment</i></p>	<ol style="list-style-type: none"> 1) Maintain an adequate supply of spill prevention and emergency response equipment onsite at all times and train Project personnel on the use of this equipment. The risk for site-specific spills will be used to determine the appropriate type of response equipment and suitable location for storage. The Contractor will also provide a list of required stand-by equipment and required spill response container supplies to respond to large volume spills. 2) Vehicles/equipment used on site are equipped with individual spill kits and Project personnel will have appropriate training on the location and use of spill kits. 3) The contents of spill kit must be replenished as soon as possible following its use. 4) Maintain equipment in good operating condition and inspect regularly for cleanliness, leaks, excess oil or grease. Identified problems or deficiencies shall be corrected in a timely manner. 5) 18) Maintain documentation (e.g., inspection record) in accordance with applicable regulations and local requirements. 6) Fuel and servicing vehicles will carry at a minimum: <ul style="list-style-type: none"> ▪ fire extinguishers; ▪ shovels; ▪ an impermeable barrier for placing under vehicles to be serviced; and ▪ hydrocarbon spill kits complete with a minimum of 10 kilograms (kg) of sorbent material for cleanup of small spills. 7) Wash, re-fuelling or equipment maintenance activities are not to occur within 100 m of a water body. If re-fuelling within 100 m of a water body cannot be avoided, the Contractor is to provide and implement a site-specific spill prevention plan. 8) Perform equipment servicing, such as oil changes and hydraulic repairs with potential for spills over an impervious tarp to contain spills when done on site or within the ROW. 9) Employ the following measures to reduce the risk of fuel spills <ul style="list-style-type: none"> ▪ containers, hoses, nozzles are free of leaks; ▪ equip fuel nozzles with automatic shutoffs; and ▪ if both ends of the hose are not visible have operators stationed at both ends of the hose during fuelling.
<p><i>Transportation, Storage, and Handling</i></p>	<ol style="list-style-type: none"> 10) The transportation, storage, and handling of hazardous materials (e.g., fuel, hydrocarbon, brake fluids) will be in compliance with the <i>Technical Standards and Safety Act</i> (Government of Ontario 2000), the <i>Transportation of Dangerous Goods Act, 1992</i>, the <i>National Fire Code</i> (National Fire Code of Canada 2010), and the <i>Occupational Health and Safety Act</i> (Government of Ontario 1990b). 11) Project personnel will be trained for handling, receiving, shipping hazardous materials. 12) Hazardous materials will be transported in approved containers in licensed vehicles. 13) Hazardous materials will be stored in appropriate containers and placed in suitable designated areas: <ul style="list-style-type: none"> ▪ Store fuel storage tanks in a secondary containment tub to prevent fuels from escaping; ▪ store fuel storage tanks larger than 25 L in a secondary containment system (e.g., tidy-tank, double-walled containment tub) with a holding capacity equal to 110% of the volume stored; and ▪ store hydrocarbon storage containers greater than 23 L in a secondary containment (e.g., polyethylene containment tub) with a holding capacity of 110% of the volume stored. 14) Fuel storage tanks will be visually inspected on a regular basis to ensure that they do not leak, are sealed with a properly lip, and labelled accordingly. Identified problems or deficiencies shall be corrected in a timely manner. 15) Implement controls and utilize containment and/or spill trays when transferring hazardous materials between containers or working near surface drainages and environmentally sensitive features. 16) Maintain documentation (e.g., inspection record) in accordance with applicable regulations and local requirements.
<p><i>Reporting</i></p>	<ol style="list-style-type: none"> 17) Report all spills and releases immediately to NextBridge. 18) Prepare a spill report using the Spill Reporting Form (refer to Appendix E) and submit all spill reports to NextBridge.

**APPENDIX 4-III
OPERATION ENVIRONMENTAL MANAGEMENT PLAN**

<i>Release</i>	<p>19) Contain and cleanup all spills on land immediately and/or as quickly as possible when safe to do so.</p> <p>20) Spill containment will depend on the physical and chemical properties of the substance:</p> <ul style="list-style-type: none"> ▪ If solid, cover material with plastic. Contain plastic bags in the spill kit for temporary storage of soiled material and place the bags in a pickup or a designated area for transport to an appropriate waste disposal facility. If liquid, contain the spill using spill booms or other materials designed for this purpose. Hazardous waste drums may be utilized to contain free agent or contaminated liquids cleaned from a site. Isolate/block any pathways to watercourses or surface drainage. <p>22) Recover contained liquid spill material through suction methods (e.g., vacuum trucks) wherever practicable. If such equipment is not readily available or cannot access the spill site, other appropriate recovery techniques (e.g., burning, absorbents) should be applied.</p> <p>23) Identified leaks shall be contained and repaired as soon as possible. Relocate leaking equipment to a level ground away from environmentally sensitive features provided that temporary containment is in place and moving the equipment does not increase the risk of environmental contamination.</p> <p>24) Restore the areas to the satisfaction of the Area Operations Lead and/or regulatory agencies.</p>
<i>Instream and Onshore Release</i>	<p>25) Instream and onshore containment and cleanup objectives include the following:</p> <p>Instream</p> <ul style="list-style-type: none"> ▪ divert water around the fluid release to the extent practicable; install silt fencing around the release point, if conditions permit; remove fluid from the water body by pumping or other suitable means; and dispose of recovered fluid in accordance with MOECC requirements. <p>Onshore</p> <ul style="list-style-type: none"> ▪ contain the fluid release immediately to limit the area affected and prevent the fluid from entering the water body; and dispose of recovered fluid in accordance with MOECC requirements. Consider the following options for removal of fluid from instream: ▪ Use trash pumps or vacuum truck. If trash pumps are used, the water pumped to the discharge must not drain back into a water body, or construct a sediment/water holding area if there is potential for sedimentation from discharge water. ▪ In consultation with MOECC and DFO biologists, leave fluid if current water body levels and flow inhibit removal or if removal will result in unacceptable shore or instream damage. <p>27) If not accessible, construct bale and filter cloth weirs and a containment area where appropriate.</p> <p>28) Conduct water quality sampling as appropriate.</p> <p>29) The Contractor will prepare a report summarizing the events leading to the release and the measures taken to minimize the impact on the environment. As directed by the regulatory agencies, written reports may be required.</p>
<i>Waste Management</i>	<p>30) Dumping of oil or other deleterious materials on the ground or in any water body is strictly prohibited.</p>

APPENDIX D

Vegetation Management Program



NEXTera ENERGY
Transmission Vegetation Management Program
(TVMP)

REQUIREMENT: NERC FAC-003-1

Version: 2.3
Date: 11-22-2013

Section 1 – Introduction

1.1 Scope

This standard shall apply to all transmission lines operated at 200 kV and above and to any lower voltage lines designated by a Regional Entity as critical to the reliability of the electric system in the region.

The [Leader Vegetation Mgmt - T/S](#) will maintain the processes, standards and documentation to ensure that the vegetation in the transmission system is properly maintained. This TVMP shall be reviewed and updated as necessary based on adopted revisions to FAC-003-1 requirements or as changing field conditions and circumstances warrant.

1.2 Objectives

The objective of this vegetation management program is to establish an integrated vegetation management program on transmission right-of-way in the NextEra Energy System to improve the reliability of the electric transmission systems by preventing outages from vegetation located on transmission rights-of-way (ROW) and minimizing outages from vegetation located adjacent to ROW, maintaining clearances between transmission lines and vegetation on and along transmission ROW.

The basic philosophy of the program is to target only those plants that are incompatible with FPL's use of the land with the following objectives:

- **Transmission Reliability** – the reliability of electrical service through vegetation control regardless of accessibility or workability.
- **Minimizing Fire Hazards** - through first identifying potential problems and then by reducing fuel levels to acceptable limits.
- **Compliance** - ensuring that FPL is compliant with all governmental vegetation related regulations and restrictions. Adherence to NERC Standard FAC 003-1 Vegetation Management and state statutes is paramount.
- **Resource Management** - the ability to control resources by identifying work load. Treatments will be applied only on an as needed basis, thus allowing allocated resources to be utilized efficiently. As a result, work load and resources will be balanced.
- **Improving/Maintaining Accessibility** - promoting accessibility to structures and right-of-way by controlling vegetation on and around structure pads and patrol roads where practical.

1.3 Terms, Definitions and Acronyms:

- **Right-of-Way (ROW):** The corridor of land under a transmission line(s) needed to operate the line(s). The width of the corridor is established by engineering or construction standards as documented in either construction documents, pre-2007 vegetation maintenance records, or by the blowout standard in effect when the line was built. The ROW width in no case exceeds the Transmission Owner's legal rights but may be less based on the aforementioned criteria. Inspector: Individual assigned with the responsibility of evaluating clearances in the Transmission Right of Way.
- **Transmission Vegetation Management Program (TVMP):** The document that outlines the objectives procedures, processes, standards, and methodology used to ensure that vegetation is maintained to allow high voltage transmission lines to operate reliably.

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- **Transmission Vegetation Management System (TVMS II):** The software application utilized by NextEra Energy to record Vegetation Management inspections, scheduling and maintenance activities.
- **Trigger Distance:** The distance between the conductor and vegetation in real time that initiates implementation of a control method (ANSI Z133.1, table 1). Vegetation inside the trigger distance will initiate the imminent threat process.
- **Imminent Threat:** Is a tree encroaching on the conductor at a distance of less than the Trigger Distance, or is a tree that could reasonably be expected to fall into or make contact with the transmission electrical facilities within the next 24 hours.

2 Section 2 –Transmission Vegetation Management System (TVMS II)

2.1 Practices

NextEra Energy’s vegetation management practices represent a system of managing plant communities through identifying compatible and incompatible vegetation. The evaluation, selection and implementation of the most appropriate control method or methods to achieve set objectives are taken into consideration. The choice of control method or methods are based on environmental impact and anticipated effectiveness, along with site characteristics, security, economics, current land use and other factors. These methods include, but are not limited to pruning, removal, herbicide application and mowing. They are represented in the TVMS II database as prescriptions.

2.1.1 Organizing the Workload

The transmission system is first organized by the Transmission Management Areas. Within those areas the corridors are identified. A corridor is a single line circuit or several lines circuits running parallel and organized in such a manner that can be efficiently managed together. Whenever possible the corridors should begin and end at substations. The corridor should be easily identifiable and follow normal patrol patterns. Corridors are the largest management unit in a transmission area.

The corridors are subdivided into stands. A stand is the basic management unit, generally longer than a span length, represented by an area of vegetation sufficiently uniform in species, composition, age, condition and/or land use to manage as a unit. For the purpose of these procedures the Florida Land Use Identification System (FLUX) is used. The stand is the basic management unit.

Individual stands are identified and quantified for the ROW. The stand is then field inventoried to develop a description (identifying stand types and use, species composition, acreage, density, height, growth, fire hazard, and accessibility) and prescription (prescribing an individual, site specific vegetation control method based on the stand description and a date).

2.1.2 Description

The description identifies the location, classifies the type of land use (Florida Land Use Identification System or FLUX), quantifies the size and identifies other attributes that would affect management of the land.

2.1.3 Prescription (procedures)

Each stand shall have a prescription. The prescription defines what work activity is scheduled to meet the objectives of the plan, quantifies the work and sets an estimated schedule of when the work should be done.

Our methods / prescriptions are defined as follows:

- Remove Trees - To cut a tree or shrub (4" or greater at DBH, 5" or greater stump) at ground level and treat with the appropriate herbicide where necessary to prevent re-sprouting. Unit is number of trees.
- Mow - normal - Mow, cut or chop grass and brush in right-of-way to a height of less than six (6) inches. Brush diameter in right-of-way is less than two (2) inches. Unit is number of acres.
- Mow - heavy - Mow, cut or chop grass and brush in right-of-way to a height of less than six (6) inches. Brush diameter in right-of-way is greater than two (2) inches. Unit is number of acres.
- Mow - wet - Mow, cut or chop grass and brush in right-of-way to a height of less than six (6) inches. The average soil in right-of-way is sufficiently wet to require low ground pressure equipment (ground pressure ratio of less than 4 pounds per square foot). Unit is number of acres.
- Mow - Specialized – Vegetation clearing using unique methods with specialized equipment. Unit is number of acres.
- Mow Pads & Roads - Mow, cut or chop grass and brush Thirteen (13) feet on each side of the center line of the road or structure to a height of less than six (6) inches. Unit is number of acres.
- Roll ROW – Roll the grass down using the tracks and a chopper (under wet conditions).
- Trim Trees to Standard - To remove branches from a tree in accordance with ANSI A300 standards as they apply to utility pruning.. Unit is number of trees.
- Spot Treat Light - Application of an approved herbicide to the target species on a plant by plant basis. The application shall achieve a 90% kill after three months of all target species. Care should be taken to minimize over spray and drift so as to retain the native plant community. Excessive kill of non-target species will not be permitted. Target species density is less than two hundred (200) stems per acre or less than thirty percent (30%) of the area of the span. Unit is number of acres.
- Spot Treat - heavy - Application of an approved herbicide to the target species on a plant by plant basis. The application shall achieve a 90% kill after three months of all target species. Care should be taken to minimize over spray and drift so as to retain the native plant community. Excessive kill of non-target species will not be permitted. Target species density is greater than two hundred (200) stems per acre or greater than thirty percent (30%) of the area of the span. Unit is number of acres.
- Broadcast Treat - Application of a herbicide to the entire right-of-way to achieve a species shift in the right-of-way diversity (necessary when one or two incompatible species dominate the right-of-way) . Contractor shall achieve a 90% kill after three months of those target species. The process of broadcast spray recognizes that the entire right-of-way will brown-out. Unit is number of acres.
- Clear and Treat Brush - Remove woody species and apply herbicide to stumps or basal treat stems from around poles, guys, fence right-of-ways, ditch banks as directed. Unit is number of acres.
- Critical Trim - A tree or group of trees that poses an increased risk to the system and must be trimmed or removed within a short period of time. These trees are directly related to reliability. Unit is number of trees.
- TGR - Apply an approved tree growth regulator to a tree in order to slow its growth. Results should be evident within six (6) months and last for three years. Unit is number of trees.

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- Pad Treatment - Spray structure pad to remove woody species for a minimum distance of ten (10) feet around the structure and one and one-half feet (1.5) around down guys. The area may vary. Unit is number of acres.
- Chop right-of-way - Chop right-of-way to a height of less than eighteen (18) inches. Unit is Number of acres.
- Linear Trim - To trim specifically identified spans of trees of high enough density that it is not practical to obtain a tree count in advance of trimming. In many cases, there will be some trees that require removal during the linear trimming process. It is not necessary to document the count of these removals during linear trimming because linear trimming is based on length of work (not tree counts). Unit is based on linear footage for each side of right-of-way.
- Aerial Spray – To broadcast treat using helicopters or fixed wing aircraft.
- Critical Removal – To remove a tree that is designated as critical (tree must be removed out of cycle and on short notice).
- Imminent Threat – Removal or Tree Trim to Standard of a tree that has been designated as an Imminent Threat.
- Widen ROW Edge – To extend the existing ROW wall beyond the point that it is currently cleared.
- Restricted Work – Vegetation work being done under restrictions placed on the site or job by a governmental agency.
- Remove Vines – The severing of vines at the base of the pole or above ground line and treating them with the appropriate approved herbicide. (Under no circumstances are vines to be removed from the pole if they are closer in elevation than ten (10) feet below energized facilities).
- Tree Group Removed – Trees removed and treated with appropriate herbicide in a specified area. (trees counted)
- Tree Group Trim – Trees trimmed to standard in a specified area. (trees counted)
- Clear Area – Vegetation removed in a specified area. (measured by area)
- Trim Area – Vegetation in a specific area that is trimmed to standard. (measured by area)
- Special – Unique vegetation work that is not currently in the prescription List.

2.1.4 Right of Way (ROW) Vegetation Inspection Schedule

Generally, scheduled work will be determined by the inspection process. Routine inspections will normally occur on the ground. NextEra Energy may elect to utilize aerial inspections or LiDAR. The following describes scheduled inspections.

2.1.4.1 Inspection Purpose:

- To inventory vegetation conditions that may impact the safe reliable operation of the transmission line.
- To identify and prioritize work appropriate to species and site specific conditions.
- To identify vegetation that has grown faster than predicted and prevent encroachment of Clearance 2 area.

2.1.4.2 Annual Inspection Schedule:

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All transmission circuits subject to FAC-003-1 shall be completely inspected at least twice annually. The inspection interval should not exceed eight months from the last inspection. The inspection frequency is set to catch changes in the site due to intervention by man and tree mortality. Growth would not be expected to encroach on clearance zones within this inspection cycle.

Transmission lines in arid areas that have few trees and slow growth rates with a very low risk of fall-in trees may be considered for only one inspection each year. The inspecting Vegetation Specialist will request that the Vegetation Leader review the findings. With concurrence that the risk is low the Vegetation Leader will document that the line is approved for only one inspection each year. The inspection may be done at any time during the year but the inspection interval shall not be greater than 18 months.

The timing and number of inspections is flexible in order to respond to changing conditions such as fuel loading from drier than normal conditions. Other conditions resulting in adjusted schedules could include heavy rain falls, high winds, landowner intervention and tree mortality caused by disease outbreaks or insect infestations.

An inspection may be delayed greater than eight months provided that the area arborist gets approval from the Leader Vegetation Mgmt - T/S. Approval can be granted provided there is sufficient knowledge of the line that no vegetation outage would be expected.

2.1.4.3 Inspection Elements:

These inspections will identify the following:

- Work that is covered by this TVMP and any potential violation of FAC-003-1 requirements.
- Any trees approaching the **Trigger Distance**, taking into consideration species, site specific conditions, local climate conditions and the maximum sag and sway of the line.
- Trees posing a fall-in threat should be examined to determine if they are danger trees.
- Tree hazards caused by man that pose a risk of fall-in.
- Potential fire hazards or fuel loading in the transmission ROW.

Additionally a review of completed routine annual maintenance will be documented.

2.1.4.4 Inspection Records:

- Any observed conditions requiring work, which are identified through the inspection process, will be recorded in **TVMS II**. **TVMS II** is the software application utilized by NextEra Energy to record Vegetation Management inspections, scheduling and maintenance activities.
- The inspection records will identify and prioritize work based on the risk to the line reliability and secondly, to economics.
- Each inspection shall be documented in **TVMS II** with the date completed and the name of the Inspector.
- When TVMS II is not available the inspection will be documented on paper for later entry to TVMS II.

2.2 Vegetation Clearances

2.2.1 Clearance 1 (NERC Standard FAC-003-1, Requirement R1.2.1)

The minimum clearance distances to be achieved at the time of transmission vegetation management work. NextEra Energy incorporates local conditions, impact on the vegetation, and expected time period in which NextEra Energy plans to return for future vegetation management work. For Clearance 1, the minimum clearance distances are specified in Table 2 of ANSI Z133.1-2006.

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Clearance 1 is comprised of the following combined attributes:

- Clearance 1 minimum distance is determined by the distances identified in (Appendix 1, Clearance 1) Table 2 of ANSI Z133.1-2006.
- Hazard trees outside the ROW should also be pruned or removed as needed to minimize the risk of outages (.within the legal rights to perform the work).
- As a general rule, trees capable of growing greater than 14 feet should be removed from under the conductors. In situations where the trees cannot be removed, the maintenance and inspection schedules shall be adjusted sufficiently to prevent a violation of Clearance 2. In situations such as valley crossings where conductor to ground distances are so large as to allow tall trees to grow to maturity without violating the Trigger Distance, these trees can be left, but these locations must be documented in TVMS II.

2.2.2 Clearance 2 (NERC Standard FAC-003-1, Requirement R1.2.2.)

The radial clearances to be maintained between vegetation and conductors under all rated electrical operating conditions. NextEra Energy shall maintain the distances specified in the Institute of Electrical and Electronics Engineering (IEEE) Standard 516-2003 (Guide for Maintenance Methods on Energized Power Lines) and as specified in its Section 4.2.2.3, Minimum Air Insulation Distances (MAID) without Tools in the Air Gap as is required for Unknown Transmission System Transient Overvoltage Factors. NextEra Energy has elected to not calculate the Transient Over-voltages to provide extra distance for reliability and safety. These Distances are found in Appendix 2 Table 5 MAID 516-2003.

Clearance 2 is a radial distance around the conductor. In the special situations described, for clearance below the conductor, Clearance 2 will not be violated. Where Clearance 1 cannot be achieved, the Arborist must establish a mitigation plan to ensure that Clearance 2 is never violated by vegetation.

2.2.3 Trigger Distances

To avoid violating Clearance 2 or needing a clearance or line right of way to trim the trees, the Arborist should schedule trimming before vegetation is expected to encroach the radial distance listed in ANSI Z133.12006, Table 1 (the Trigger Distances).

2.2.4 Application of Clearances

When inspecting lines and establishing prescriptions (work type, date needed, quantity) the arborist should plan work to meet one of the following conditions.

Below the line (sag)

1. Maintain the trees below the reference height (generally fourteen (14) feet) either by eliminating all vegetation capable of growing greater than the reference height or by trimming trees below the reference height minus the expected growth before the next cycle.
2. Where the minimum conductor height at rated thermal sag is known, prescription schedules will be set to meet the following maximum tree height with the following formula.

Minimum conductor to ground distance at rated thermal sag – Clearance 1 – expected growth before the next cycle = maximum tree height at time of maintenance.

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3. Where the minimum conductor height at rated thermal sag is not known, prescription schedules will be set to meet the following maximum tree height.

Conductor to ground distance at time of inspection – maximum estimated thermal sag – Clearance 1 – expected growth before the next cycle = maximum tree height at time of maintenance.

Beside the line (blowout)

1. Clear vegetation from the side to the designed corridor width.
2. Where the maximum rated blowout is known, prescription schedules will be set to meet the following maximum side clearances from the outside conductor at rest with the following formula.

Maximum blowout + Clearance 1 + expected side growth before the next cycle = minimum side clearance at time of maintenance.

3. Where the maximum rated blowout is not known, prescription schedules will be set to meet the following maximum side clearances from the outside conductor at rest with the following formula.

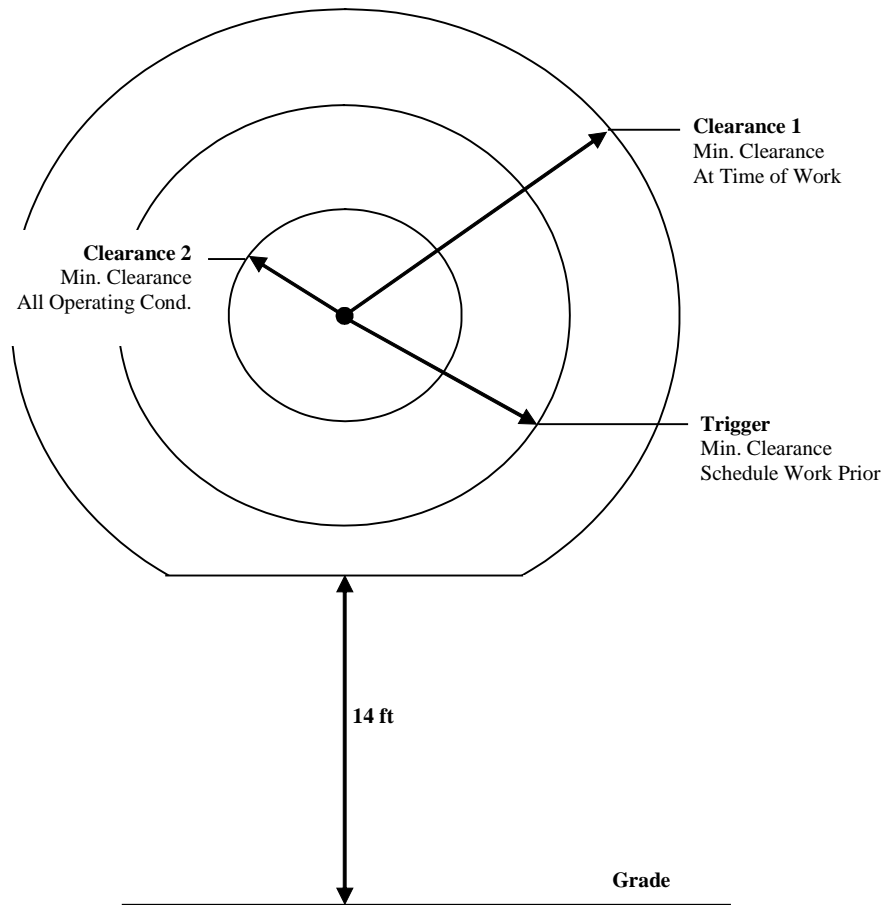
Maximum blowout + Clearance 1 + expected growth before the next cycle = minimum side clearance at time of maintenance.

When determining the estimated sag and blowout the inspector will utilize the tables provided by Engineering Services in Appendix 5

Corridor widths vary from site to site. They may or may not coincide with the easement or other legal right. When exercising Option 1 for blowout the Arborist will verify that the Corridor width is our maximum legal right.

Special Situations In some special situations, conductors may be constructed at the minimum conductor height allowed by the National Electrical Safety Code (ANSI C2-2007). In these situations the NESC allows the maximum height for human activity to be 14'. This may mean that ANSI Table 2 may not be met below the conductor. In this situation vegetation must not exceed 14' in height from the original design grade of the line.

Not To Scale



In some design situations trees may need to be allowed to grow to their mature height that is greater than 14'. This could result due to environmental conditions; historical trees, orange groves, or trees with a politically designated protected status. In these locations the line will be designed to be greater than Clearance 1 at maximum load.

When the Inspector finds one of these Special Situations it should be recorded in TVMS II so that the appropriate prescriptions are applied to meet these design considerations.

2.3 Personnel Qualifications and Training (NERC Standard FAC-003-1, Requirement R1.3)

NextEra Energy maintains a full time staff devoted to line inspection, maintenance and operations. Required vegetation management work is generally contracted out to qualified vegetation management companies and the work is overseen by NextEra Energy management.

NextEra Energy defines the following as those required to meet NERC Standard FAC 003-1 Requirement R1.3. These positions are directly involved in the design and oversight of the TVMP and are responsible for the following activities:

- Develop the TVMP and other vegetation policy for approval by Management
- Complete condition assessments of the ROW and set prescriptions and schedules.
- Have the authority to adjust prescriptions and schedules.
- Issue work tickets to contractors.

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Personnel assigned to transmission vegetation management prior to 11/22/2013 were qualified under the previous TVMP by education, certification and experience. Those qualifications were:

▪ Manager, Transmission Vegetation Management

Education: BS in forestry, horticulture, or related environmental management field.
Certifications: Certified Arborist by the International Society of Arboriculture.
Experience: Ten (10) years' experience in utility arboriculture.

▪ Leader Vegetation Mgmt - T/S

Education: BS in forestry, horticulture, or related environmental management field.
Certifications: Certified Arborist by the International Society of Arboriculture
Experience: Seven (7) years' experience in utility vegetation management.

▪ Senior Vegetation Specialist – T/S

Education: AA in forestry, horticulture, or related environmental management field.
Certifications: Certified Arborist by the International Society of Arboriculture
Experience: Five (5) years' experience in utility arboriculture.

▪ Vegetation Specialists – T/S

Education: AA in forestry, horticulture, or related environmental management field.
Certifications: Certified Arborist by the International Society of Arboriculture.
Experience: Two (2) years' experience in utility arboriculture.

Those personnel qualified before 11/15/2013 are listed in Appendix 6.

Personnel not certified as qualified in Appendix 6 must be certified by a Certified Transmission Leader T/S as completing the Transmission Vegetation Management Training Program prior to being assigned transmission work. Personnel entering the training program may do transmission vegetation work under the direct supervision of a Certified Transmission Leader T/S.

Inspections of completed work may be made by un-certified personnel provided they have been trained on the clearance requirements and prescriptions for that specific line by a Vegetation Specialist qualified to do transmission work as indicated above.

2.3.1 Contractors

Contractors are qualified at the time the contracts are awarded. It is the contractor's responsibility to ensure that their employees are qualified for the tasks assigned.

If contractors are assigned the following responsibilities, NextEra Energy will define the requirements for the positions in the contract or in a supplementary document.

- Develop the TVMP and other vegetation policy for approval by Management
- Complete condition assessments of the ROW and set prescriptions and schedules.
- Have the authority to adjust prescriptions and schedules.
- Issue work tickets to contractors.

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- Make final inspections of completed work. (Inspections will be performed by a Certified Arborist or by plant personnel trained by a Certified Arborist. This training will be site specific to the lines serving the plant.)

2.4 Mitigation Measures (NERC Standard FAC-003-1, Requirement R1.4)

Clearance 1 requirements define the expected extent of clearing. If the Clearance 1 specifications cannot be achieved at the time of scheduled maintenance, NextEra Energy shall implement mitigation measures. These measures shall be documented as prescriptions or inspections in the TVMS II program. These may include short prescription cycles or more frequent inspections to monitor the risk to the system.

Restrictions on scheduled work may include refusals by property owners to access or perform work, orders to stop work by local authorities, or restrictions by federal and state agencies. These restrictions will be brought to management for action. While negotiations or legal action with governmental entities or landowners is under way the field arborist will manage the restriction to prevent encroachment into Clearance 2 with actions documented in TVMS II.

2.5 2.1.5. Communication of Imminent Outage Threat (NERC Standard FAC-003-1, Requirement R1.5)

NextEra Energy shall communicate vegetation conditions that present an imminent threat to the appropriate control center.

Immediate Communication Requirements for NextEra Energy Employees and Contractors:

When a vegetative condition presenting an imminent threat is discovered, it will be promptly reported to the field arborist, Production Manager, Area Manager, Operations, Lead or the designated person responsible for handling emergencies. The threat will be verified by NextEra Energy Transmission Vegetation Management or area operations. After the Imminent Threat is verified, the verifying employee will establish communications with the appropriate control center and area operations. In that communication they will jointly formulate a plan and schedule to remove the risk safely and at the least risk to the system.

Action:

After the appropriate personnel are apprised of the imminent threat, action will be delegated to appropriate personnel to remediate the emergency as quickly as practical. Safety and system reliability shall be the guiding factors for any plan of action. Actions may reduce line load or switch the line out of service until the vegetative threat has been removed.

The [Leader Vegetation Mgmt - T/S](#) shall review all imminent threat actions and approve the documentation.

Documentation:

The Arborist will maintain a detailed log of the event to track the work until completion. The Imminent Threat reporting will be documented and maintained by Transmission Vegetation Management.

3 Section 3 – Annual Plan for Vegetation Management Work (NERC Standard FAC-003-1, Requirement R2)

3.1 Annual Plan

During the budget process Transmission Vegetation Management will review in TVMS II the most current inspection and data collected on the condition of vegetation in the ROW. Work shall be prioritized and scheduled according to the following specifications:

- Clearance 1 shall be achieved by reducing all site specific variables of vegetation to a non-risk level within the ROW, complying with ANSI A300, Part 1 and Part 7, and ANSI Z133.1.
- Maintains the requirements of this TVMP, including Clearance 1 and Clearance 2.
- Reduces risk of trees falling into the corridor from outside of the ROW.
- Local site specific variables include operating voltage, appropriate vegetation management techniques, fire risk, reasonably anticipated tree and conductor movement, species types and growth rates, species failure characteristics, local climate and rainfall patterns, line terrain and elevation, location of the vegetation within the span, worker approach distance requirements, and protected species.
- Any trees approaching the Trigger Distance, taking into consideration species, site specific conditions, local climate conditions and the maximum sag and sway of the line will be mitigated to avoid violating Clearance 2.
- Allows the appropriate lead times for resolving permits, permissions, and resources.
- Is adjustable to accommodate changing conditions during implementation.
- All changes will be documented in the Vegetation Management Annual Plan (VMAP).

Annually the [Leader Vegetation Mgmt - T/S](#) will designate TVMS II batches as the Annual Work Plan in. Periodically the plan will be reviewed in conjunction with the Vegetation Leader and field arborist and adjusted for changing condition of the vegetation. Deletion of entire batches will be documented in a spread sheet. Individual prescriptions can be adjusted or changed by the field arborist based on the field conditions.

3.2 Work Specifications

Work specifications will be developed for each vegetation contract or job. The specifications will be consistent with Clearance 1 set forth in this document and will comply with the objectives of FAC 003-1 in the context of the specific prescription in the Vegetation Management Annual Plan. The specifications should take into consideration those standards set forth in the following documents:

- ANSI Z133.1-2006 Safety Requirements for Arboricultural Operations.
- OSHA 1910.269 Electric Power Generation, Transmission and Distribution.
- ANSI A300 (Part 1) 2006 Pruning for Tree Care Operations—Tree, Shrub and Other Woody Plant Maintenance—Standard Practices
- ANSI A300 (Part 7) 2006 IVM Tree, Shrub, and Other Woody Plant Maintenance—Standard Practices (Integrated Vegetation Management a. Electric Utility Rights-of-way)
- Integrated Vegetation Management Best Management Practices, Companion publication to ANSI A300 Part 7.

The Vegetation Management Annual Plan for the current year is maintained in **TVMS II**.

The methods utilized for vegetation management at NextEra Energy are further described in NextEra Energy contract specifications. Specific work specifications will be developed as work is bid or assigned. The specifications will be in compliance with the standards set forth for Clearance 1 and Clearance 2 of this document.

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The Annual Plan and schedule shall be maintained by NextEra Energy personnel in the Transmission Vegetation Management System (TVMS II). Work and status updates by NextEra Energy and contract personnel shall be kept current in **TVMS II**.

3.3 Implementation

Tracking – Monthly, the Vegetation Leader review the progress of inspections, and work scheduled in the Annual Work Plan. They consult with the Area Arborist in situations where the progress to completion is not on schedule. The Vegetation Leader can allocate resources if necessary to insure the Annual Work Plan and Inspections are complete by the end of the year. Periodically the **Leader Vegetation Mgmt - T/S** should monitor the inspection documentation and if necessary complete field visits to insure that the system is within NERC Vegetation Standards. The Annual Plan completion is due at the end of the calendar year.

Quality Assurance and Auditing - Upon completion the contractor will certify the work as completed to the specification. In addition the work is inspected documented in TVMS II by the field arborist.

Documentation - The arborist maintains the work in TVMS II. The Vegetation Leader reviews the data to ensure that there is an audit trail from the identification of work (inspection) through the completion. Discrepancies shall be resolved and documented. Archiving the documentation in **TVMS II** occurs and ends the process.

4 Section 4 – Reporting of Transmission Line Outages Caused by Vegetation (NERC Standard FAC-003-1, Requirement R3)

4.1 Quarterly Reporting to the Regional Entity (RE)

NextEra Energy shall report at least quarterly to the RE, sustained transmission line outages determined by NextEra Energy to have been caused by vegetation. (Some RE's require monthly reporting) The **Leader Vegetation Mgmt - T/S** will review the Event Response Database for tree interruptions. Any outages occurring should be reviewed against the requirements for reporting in R 3 of FAC 003-1 of the NERC Standards.

If outages have occurred that meet the requirements for reporting, The **Leader Vegetation Mgmt - T/S** will review with the corporate compliance group prior to submission. Data required for the report is listed in Appendix 4 Required Information for Reporting.

4.2 Annually

Annually the **Leader Vegetation Mgmt - T/S** shall review the documents supplied by the NextEra Energy Compliance Manager. Based on a review of the inspections, the documentation of the completed vegetation Annual Work Plan, and a review of the TVMP the **Leader Vegetation Mgmt - T/S** shall certify that the NextEra Energy transmission system is in compliance with the NERC Standard FAC 003-1 as required by each RE.

5 Document Information and Revision History

Update version on cover page to reflect below version.

Version	Date	Author(s)	Revision Notes
1.0	10/15/1990	John Tamsberg, JM Sparkman	New
60.00.00-A	10/11/2000	John Tamsberg, VM Staff	Transferred to TSO Notes Database
60_00_00-B	10/31/2008	John Tamsberg	Revised for NERC Standard FAC 003-1
2.0	12/21/2011	John Tamsberg, Dan Marsh	Consolidated for NextEra Energy, Inc.
2.1	02/14/2012	John Tamsberg, VM Staff	Correct typo errors
2.2	5/11/2012	John Tamsberg, VM Staff	Allow one inspection areas per year in arid slow growth areas.
2.3	11/22/2013	John Tamsberg, Dan Marsh	Revised Qualifications

APPENDIX E

Spill Reporting Form

**APPENDIX 4-III
OPERATION ENVIRONMENTAL MANAGEMENT PLAN**

Spill Reporting Form

Project:		Project Manager:				
Type of Material Spilled:						
<input type="checkbox"/> Gasoline	<input type="checkbox"/> Hydraulic Fluid	<input type="checkbox"/> Other (specify):				
<input type="checkbox"/> Diesel	<input type="checkbox"/> Vehicle Antifreeze					
<input type="checkbox"/> Lube Oil	<input type="checkbox"/> Developing Fluids					
Date and Time of Spill or Discovery:						
Source of Spill:						
Area of Spill (m²):						
Depth of Spill (cm):						
Volume of Spill (L):						
Estimated Release Rate:						
Duration of Release:						
Location (land, water, land and water):						
Soil Type (e.g., sandy, clay, etc.):						
Location:	Township		Lot #		Concession #	
	Easting		Northing		KP	
Land Use:						
Environmentally sensitive areas potentially affected:						
Weather conditions at time of discovery:						
Procedures taken to minimize, control or stop the release:						
Remediation plan and schedule of implementation, if required:						
Current status of the remediation program:						
(dd/mm/yy) (hr:min):						
Form Completed by:						
Name	<i>(printed)</i>				<i>(signed)</i>	