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## FOREWARD

This Vegetation Management Specification (VMSpec) documents the objectives, practices and procedure for vegetation management on National Grid companies' electric rights-of-way. The VMSpec is primarily aimed at the transmission system, 115kV and higher in New York and 69kV and higher in New England, it also will be utilized for sub-transmission and distribution off-road rights-of-way and it specifically addresses sideline and hazard tree pruning and removal. This specification also defines the responsibilities of the National Grid Forestry personnel and contractors, identifies procedures to be followed by contractors performing all work and defines the clearance requirements between conductors and vegetation acceptable to National Grid for maintaining reliable electric transmission service.

Questions or inquiries regarding information provided in this document should be referred to the Manager of Vegetation Strategy.

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Record of Change		
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5	July 14, 2014	Updated to meet Requirements of FAC-003-3. Updates for 2015 Procurement Event
6	June 15, 2016	Updated to meet Requirements of FAC-003-4 Updates for 2017 Procurement Event

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## 1.0 Introduction

### 1.1 Purpose

The purpose of this Sideline Specification is to document the requirements for sideline pruning and hazard tree removal on transmission, sub-transmission and distribution rights-of-way for National Grid. This specification defines:

- Objectives and approved practices and procedures for sideline pruning and hazard tree removal on electric rights-of-way;
- Clearance requirements between conductors and vegetation acceptable to National Grid for maintaining reliable electric transmission service;
- Responsibilities of National Grid Forestry personnel and contractors;
- Procedures to be followed by contractors performing all work within the scope of this specification.

### 1.2 Scope

The requirements of this specification apply to all National Grid electric rights-of-way unless otherwise specified.

## 2.0 Definitions

**Annual Work Plan** – Identifies the vegetation management field work that will be carried out in a specified year.

**Article VII ROW** – a ROW approved for construction and maintenance under the Article VII regulations of the N.Y.S. Public Service Commission. These lines generally have additional environmental protections and restrictions associated with access, vegetative screening, integrated management, etc.

**Capable Species** – – Tree and shrub species that have the ability to grow into the National Grid Clearance Distance (NGMVCD) from conductors.

**Clearance Distances** – 1) the At Time of Vegetation Management (ATVM) Clearance Distance from vegetation, in a radius around the conductor, to be achieved at the time of vegetation management and 2) National Grid Minimum Vegetation Clearance Distance (NGMVCD) from vegetation, in a radius around the conductor, between conductors and vegetation to be maintained under all rated electrical operating conditions. 3) Minimum Vegetation Clearance Distance (MVCD) from vegetation, in a radius around the conductor derived from the Gallet Equations as defined by FAC 003-4 applying to those lines associated with that standard.

**Danger Tree** – A tree on or off the ROW that if were cut or failed could contact electric lines.

**Hand Cutting** – Vegetation management method in which woody vegetation is felled through the use of hand tools, including chainsaws and brush saws.

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**Hazard Tree** – Danger trees which due to species and/or structural defect are likely to fail and fall into the electric facility.

**Herbicide** – Chemical used to control, suppress or kill plants or severely interrupt their normal growth processes.

**Imminent threat** – An imminent threat is vegetation condition that poses an increased risk to the reliable operation of a particular transmission circuit and therefore requires 1) mitigation and vegetation condition typically within 24 hours, and 2) notifying the system operator.

**Integrated Vegetation Management (IVM)** – IVM is an adaptation of Integrated Pest Management (IPM) where the pest is tall growing, undesirable vegetation. IPM/IVM is a system of controlling pests in which pests are identified, action thresholds considered, all possible control options evaluated and selective, physical, biological and chemical controls are considered. When chemical controls become necessary to control and prevent the growth of undesirable, tall growing woody species, the Company is committed to employing selective, targeted applications. These treatments shall use approved herbicide products and mixtures that target specific plants or plant communities in a manner calculated to control and eliminate the tall-growing, undesirable woody species, while preserving as much of the small, compatible woody shrub and herbaceous vegetation as is practical.

**IROL** - Interconnection Reliability Operating Limit

**ISO** – Independent System Operator

**Mowing** – the use of mechanical equipment such as a tractor with mounted rotary or reel type mower to cut vegetation at a uniform height above the surface of the soil. Common equipment types are Brush Hogs or Hydro-ax.

**MVCD** – Minimum Vegetation Management Distance

**NERC** – North American Electric Reliability Council

**NERC Regulated Circuits** – Circuits regulated by FAC 003-4 are all circuits operated at above 200 kV and voltages below 200kV that are designated as IROL by the ISO.

**NGMVCD** – National Grid Minimum Vegetation Clearance Distance

**NPCC** – Northeast Power Coordinating Council

**NY DPS** – New York Department of Public Service

**Pasture** – Fenced area used for grazing livestock.

**Pruning** – the cutting and removal of tree branches to provide specified clearance distance between vegetation and the conductors. See ANSI A300 for additional detail.

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**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 guidance 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 applicable Transmission Owner's or applicable Generator Owner's legal rights but may be less based on the aforementioned criteria (FAC 003-4).

**Sensitive Area** – Areas on ROWs where legal, visual, or environmental impacts/concerns require compromises to the general IVM program.

**Slash** – All branches, tops, small diameter main stems and debris resulting from any cutting operation.

**System Operator** – Transmission Control Center's personnel assigned for decision making during the need to operate transmission lines.

**"T" Sheet** – Strip map of a ROW showing line features (Sometimes referred to as "Q" Sheets or "plan and profile")

**Transmission** – includes all electric lines 115kV and higher in New York and 69kV and higher in New England, used to transport electricity between various generation, switching, and distribution substations.

**Tree Removal** – the cutting and felling of trees, including wood and brush disposal. Removal may include, where specified, the use of approved herbicides to enable the chemical removal of the target plant(s) from the ROW.

- **Removal - Maintained Area** – Normally within city, town or village settings in areas where lawn and ornamental tree and shrub care is evident. The contractor will safely fell the tree, limb and chip all brush and flush the stump as low as is practical. The wood will be cut to manageable lengths and yard cleanup performed.
- **Removal – Roadside Area** – Normally outside of any maintained areas as described above. The contractor will safely fell the tree, limb and chip all brush, flush the stump as low as is practical, and leave the wood in a position that does not interfere with public safety and/or conflicts with highway requirements. Minimal cutting should be required other than to allow the wood to lie flat against the ground.
- **Removal – Unmaintained Area** – Outside of any maintained area along a wooded roadside or off-road section of line. The contractor will safely fell the tree and make the necessary cuts on the tree to have the wood and brush lie relatively flat against the ground (drop and lop).

**Utility Forest** – the forested areas within or adjacent to ROW that contain trees that are tall enough or may grow tall enough to impact the reliability of the transmission facility.

**Vegetation Inspection** – The systematic examination of vegetation conditions on a ROW and those vegetation conditions under the Transmission Owner's or applicable Generator

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Owner's control that are likely to pose a hazard to the line(s) prior to the next planned maintenance or inspection. This may be combined with a general line inspection (FAC 003-4).

**VMSpec** –Vegetation Management Specification

**VMP** –Vegetation Management Procedure

**VMS** –Vegetation Management Strategy

**VIPER** - (Vegetation Inspection Planning Evaluation and Reporting) - National Grid's vegetation management system; a combination of databases. GIS and mobile applications.

**Visual Buffer** – areas of vegetation preserved on the ROW, on both sides of selected improved road crossings, yards, for the purpose of minimizing the visual impacts and linear view of the ROW for motorists.

**Water** – standing or running water, existing at the time of maintenance operations, which has impact outside the ROW.

**Wire Zone/Border Zone** – the wire zone is defined as that portion of the ROW floor that is situated either directly beneath the conductor area or for a distance extending approximately ten (10) feet to either side of the conductor. The border zone is that portion of the ROW floor situated to the outside of the wire zone extending to the ROW edge. It is sometimes referred to as a transition zone between the wire zone and the adjacent forest edge. The wire zone mid-span is the portion of the span where the conductor is at or near its lowest ground clearance distance, generally 60-70% of the span length.

**YOP** – Yearly Operational Plan, Massachusetts



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### **3.0 General Policy/Requirements**

- 3.1** All work will be completed in accordance with the Request for Proposal document, this specification and the maps provided for each transmission line.
- 3.2** The contractor shall furnish all materials, vehicles, equipment, supervision and labor necessary for the completion of the work described within the timeframe and within the conditions herein set forth.
- 3.3** Both sides of a right-of-way shall be worked unless otherwise noted on the maps for the project. If there is a lower voltage circuit on one side of the right-of-way it must meet the minimum side clearance for that voltage unless otherwise noted on the maps for that project.
- 3.4** The maintenance cycle for all rights-of-way shall be: Right-of-Way Floor Program, three to eight years, and off right-of-way Sideline Program, three to sixteen years.
- 3.5** All vegetation management operations shall be conducted in a safe, effective manner in conformity with Federal and State laws, regulations and permit conditions.
- 3.6** All vegetation management operations shall be conducted in conformance with national and regional standards including but not limited to NERC FAC 003-4 and ISO 14001.
- 3.7** All state permits necessary for any vegetation management operations shall be obtained.
- 3.8** All applicable state notification procedures shall be followed.
- 3.9** National Grid Forestry staff, in consultation with vegetation management contractors, shall establish procedures for notifying nearby residents of all vegetation management activities.
- 3.10** National Grid Forestry staff and/or contractors shall respond quickly to any questions or complaints relating to right-of-way vegetation management from the public and/or government agencies.
- 3.11** Appropriately licensed, certified and qualified contractors shall be retained to implement National Grid's vegetation management programs. Contractors shall conduct all vegetation management operations consistent with National Grid safety requirements and the ANSI Z-133 safety standard.
- 3.12** National Grid Forestry shall provide local supervision, coordination and enforcement of National Grid's Vegetation Management Procedure (VMP) and this VMSpec for contractors.

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- 3.13** The document control process for the VMP and this VMSpec are as follows: Both documents are generally updated annually and distributed as hard copy. The applicable hard copy cover date shall be for the current year.

#### **4.0 Sideline Pruning and Hazard Tree Removal Practices and Procedures**

##### **4.1 Objectives**

The primary objective of this portion of National Grid's Vegetation Management Program, Sideline Pruning and Danger Tree/Hazard Tree Removal, is to minimize interruptions due to vegetation along and within the right-of-way edge.

##### **4.2 Strategy**

National Grid's strategic approach to manage vegetation adjacent to the right-of-way (utility forest) is to prune and/or remove danger trees and/or hazard trees where property rights allow vegetation management work.

Rights-of-way that are largely clear of capable vegetation present a very low risk of vegetation-caused interruptions. Vegetation adjacent to rights-of-way (danger and hazard trees) presents a greater risk of interruptions. The risk from danger trees is primarily related to two (2) non-biotic variables: 1) distance from conductor to the adjacent tree line, and 2) conductor distance above the ground; and three (3) biotic factors: 1) height of trees, 2) tree species, and 3) tree health and condition. National Grid seeks to mitigate risk of interruptions from trees adjacent to the right-of-way through site specific management of these variables.

##### **4.3 Clearance Standards**

National Grid specifies clearance distances to be achieved at the time of vegetation management work and minimum clearances to be maintained at all times. Clearance standards established by National Grid below conform to the following regulatory standards and industry guidelines:

- North American Electrical Reliability Counsel (NERC) Vegetation Management Standard FAC-003-4;
- National Electric Safety Code (NESC) Rule 218; and
- Applicable State vegetation management standards or regulations.
- FAC 003-4

The clearances in [Appendix 8](#) presented represent distances vegetation must be from all operating conductors (including static wire).

##### **4.4 Exceptions to ATVM Clearances**

Legal restrictions and environmental and social concerns may prevent National Grid from achieving ATVM Clearance Distances at various sites across the transmission system. National Grid tracks these sites within the Forestry GIS system. All such sites will be inspected and mitigation procedures taken to assure compliance with NGMVCD.

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#### **4.5 Imminent Threats of Interruption**

Contractor personnel shall report any observed vegetation-related imminent threats that may cause interruptions to the appropriate National Grid Division Forester, who will determine the need to notify

If the line is 230 kV or higher, or a lower voltage that is IROL and the National Grid Division Forester or his/her assigned representative is not available the contractor shall report any observed vegetation-related imminent threats that may cause interruptions to the appropriate Company Regional Control Center as outlined in Appendix 9. The Regional Control Center shall take appropriate action per National Grid Control Center operating procedures. The following describes the reporting process.

##### **4.5.1 Description:**

An imminent threat is vegetation condition that poses an increased risk to the reliable operation of a particular transmission circuit and therefore requires:

- mitigating the vegetation condition typically within 24 hours, and
- notifying the system operator.

The characteristics of an imminent threat condition usually are:

- vegetation that is approaching or threatens to approach the MVCD, or
- one or more danger trees that appear very likely to contact a transmission line.

##### **4.5.2 Steps for Reporting (See also Appendix 9)**

###### Declaration of Imminent Threat

All vegetation management personnel are required to report an imminent threat to the operation of transmission and sub transmission circuits. Imminent threats to NERC regulated circuits must be reported without delay to the regional control center and the Vegetation Operations Staff.

###### Communication

All initial communications between vegetation management personnel and the regional control centers are to be spoken (email, voice or text messaging are not acceptable for initial reporting). Enough information about the imminent vegetation risk must be provided for the system operator to decide what action needs to be taken to remove the vegetation without jeopardizing the reliability of the transmission system. Up to date contact lists must be on hand by all vegetation management staff and contractors.

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#### Mitigation Measures

While the system operator monitors the system and reviews options, the vegetation management personnel continues to investigate the threat, notifies National Grid Vegetation Operations staff and reviews options for removal of vegetation. No action to remove vegetation will be performed until directed by the system operator.

#### Documentation

All communication must be documented and retained by the Vegetation Operations staff. Appendix 9 provides an outline for documentation. Vegetation Operations staff will provide the details to the Vegetation Strategist for determination of required updates to the workplan.

## **5.0 Contractor Duties and Responsibilities**

Vegetation management operations must be conducted according to this specification and according to the written directives of the National Grid's Forestry staff. Failure to do so is grounds for removal of the crew from the work site by National Grid companies' Forestry staff and possible termination of the contractor's contract.

### **5.1 Environmental and Safety Compliance**

The Contractor shall comply with all applicable Federal, State and local laws and regulations and with the requirements of all permits and approvals obtained by National Grid.

National Grid is committed to minimizing its impacts to the environment and requires contractors to demonstrate the same level of commitment as National Grid in the management of the environment. National Grid's commitment to the environment is communicated in the National Grid – Environmental Policy (see Appendix 2).

The contractor shall immediately notify the Company of any release of any quantity of oil or hazardous material. The contractor is responsible to make all required notifications of releases to appropriate regulatory agencies and to ensure that the response to the release is prompt and done in a proper manner.

National Grid Contractor Safety Requirements establish safety requirements for contractors. Documentation is provided during the contractor qualification and bidding process.

All safety incidents must be reported to a National Grid Forester immediately after the incident occurs, as soon as it is safe to make the notification, on the day of the incident. The initial call should be to a National Grid Forester. All incidents are required to be entered in the National Grid Incident Management System.

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## 5.2 Qualifications

Contractor shall utilize only experienced and/or trained workers who are appropriately licensed or certified. Workers must conduct themselves professionally at all times.

Contractor shall utilize appropriately trained supervisors who are knowledgeable with regard to all aspects of the contracted operation and who are responsive to the guidance of National Grid Foresters. Each supervisor must be able to effectively communicate with the public. They must also effectively supervise contractor crews in order to insure the satisfactory completion of the operation.

## 5.3 Training

Contractor shall provide their employees with training that includes, but is not limited to, recognition of electrical hazards, working in proximity to energized facilities, identification of operating voltages, minimum approach distances, and other applicable rules and regulations associated with worker safety.

## 5.4 Commencement of Operations

Contractor may not initiate activities without a Purchase Order, with Terms and Conditions attached, from the National Grid Procurement Department. Contractor shall contact National Grid Forestry staff if a Purchase Order has not been received by the time the rights-of-way are scheduled for treatment. The contractor must return the signed acknowledgement copy of the Purchase Order to the Procurement Department before any work is done.

## 5.5 Permits/Plans/Approvals

Contractor shall follow all conditions of state permits/plans/approvals obtained by the Companies.

### 5.5.1 Invasive Species Best Management Practices (New York Only)

In an effort to limit the introduction and spread of invasive plant species, National Grid adopted a group of Best Management Practices (BMP) from the Environmental Energy Alliance of New York (EEANY). These BMPs were accepted by the NYS Department of Environmental Conservation as a means to meet permit requirements for maintenance work, including vegetation maintenance.

A copy of this BMP is located in Appendix 3 of this document and is a requirement for all contractors that work on a National Grid right-of-way.

### 5.5.2 Threatened and Endangered Species (New York Only)

In 2012, the U.S. Fish and Wildlife Service issued National Grid an incidental take permit for impacts to the federally endangered Karner blue butterfly and state protected frosted elfin butterfly during its gas and electric operations in New York. The terms of this permit and the associated Habitat Management Plan is attached as Appendix 4 of this document. The plan covers operations, maintenance and

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construction activities on rights-of-way in the Eastern and Central Divisions. Contact the National Grid Forester for locations of protected sites on assigned projects.

## 5.6 Notifications

### 5.6.1. To National Grid

At least one (1) week prior to the initiation of vegetation management operations on a specific ROW, the contractor must specify to Vegetation Operations staff the date work on that ROW will begin.

At least one (1) week prior to the completion of vegetation management operations on specific ROW, the contractor must specify to Vegetation Operations staff the date work on that ROW will end.

The contractor will notify Vegetation Operations staff of the approximate work schedule the contractor's crew will follow for the treatment year. The contractor shall complete treatment on each ROW segment with as few work interruptions as possible.

The contractor must supply crew work locations on a daily basis by calling the Transmission Call-in system, and/or other parties specified by the Vegetation Operations staff, before the beginning of the workday. The location information will include the ROW segment number, the contractor company and foreman name, the number of crew members, and the nearest transmission/distribution line structure number. Each crew shall call off the system at the completion of the workday and when relocating to another ROW.

The contractor must keep Vegetation Operations staff informed about crew location, conditions encountered, and problems that arise as work progresses. Should a contractor cause an event on a transmission or distribution line, the contractor must immediately notify the appropriate New England or New York Control Center. Refer to Appendix 1 for a listing of Vegetation Operations staff and Control Center contact information.

The contractor must supply completed daily or weekly time sheet(s) with information regarding all time and materials work as per direction of Vegetation Operations staff.

The contractor shall notify and provide copies of any records/reports of any regulatory inspection by federal, state or municipal officials.

### 5.6.2 Notifications to Customers/Landowners

The Contractor shall make every reasonable effort to notify nearby residents of all vegetation management activities. They shall also notify any property owner where a yard tree requires pruning or removal. The property owner shall also be notified prior to extensive widening or danger tree removal, unless the Company

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has provided prior notification or otherwise specified by the National Grid Vegetation Operations Supervisor.

Certain statutes and regulations in New York, Massachusetts (Mass. Notification Law), Vermont, New Hampshire and Rhode Island require notification to residents/occupants of nearby homes/dwellings prior to use of herbicides or other vegetation management. The contractor shall comply with the appropriate state notification statutes and regulations. Documentation of notification shall be maintained by the contractor and provided to Vegetation Operations staff upon request and at the completion of the project.

Notification materials are presented in Appendix 5.

#### **5.7 Documentation**

The Contractor shall provide supplemental or new information regarding site conditions that affect current or future treatment operations, such as new construction, encroachments, ATVM clearance deficiencies, hazardous conditions, significantly eroded access or right-of-way, sensitive areas and landowner concerns/requirements to the National Grid Forester on a timely basis.

#### **5.8 Interaction with Public**

The Company strives in every way possible to maintain good relations with the property owner and general public. The actions of the Contractor reflect on the Company; therefore, the Contractor shall give diligent consideration to the interests of property owners, tenants, and the general public, whenever involved, and shall carry out the work in such a manner as to cause a minimum inconvenience.

The contractor, or his representative, will only respond to inquiries regarding what work they are performing, where they are working, and when they will be working. Copies of appropriate plans or permits may be shown as well. Refer all other inquiries to National Grid Forestry Staff.

Landowner complaints must be forwarded immediately by telephone to National Grid Forestry staff. The contractor must provide the name, address and telephone number of the major people involved, as well as a detailed description of the complaint or question.

#### **5.9 Demands to Cease Operations**

Handle demands to cease operations as follows:

- Immediately make the work area safe to the public, then move all personnel, equipment and materials to another property and continue work.
- Notify National Grid Forestry staff as soon as practical, if not immediately, of a demand that operations cease. Upon contacting National Grid Forestry staff, relate the chain of events and current status of the situation.
- Do not return to that site until National Grid Forestry staff has notified the contractor when and under what circumstances the crew may return.

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#### **5.10 Access**

Access to the right-of-way shall be limited to public road crossings. Where this is not possible, the Contractor shall obtain permission for the use of private roads, driveways, and other access to the right-of-way from the property owners involved and shall be responsible for any damage thereto. When permission for off right-of-way access cannot be obtained from the property owners involved, and other ingress/egress is unavailable, the Contractor shall notify the National Grid Forester or their designee.

In general, vehicular traffic shall be restricted to a fifteen (15) foot wide roadway into and along the right-of-way. When present, existing roads into and along the right-of-way shall be used as the primary access, and maintained in as good or better condition for the duration of the Contractor's use. Additionally, primary ingress and egress on Article VII (NY only) rights-of-way are restricted to designated access routes. Access to the overall right-of-way is allowed only for vehicles performing selective vegetation maintenance with all-terrain spray units, skidder buckets for danger tree removal, and similar right-of-way maintenance activities. Other vehicles must remain on the designated access roads. Appropriate efforts to minimize unnecessary or excessive environmental or vegetation damage are required. Repair or replacement of excessive or unnecessary damage shall be the responsibility of the Contractor.

#### **5.11 Site Conditions**

Unreasonable site damage or destruction during any phase of the operation by the contractor, his agents or employees, must be repaired immediately to the satisfaction of National Grid Forestry staff at no cost to National Grid companies. National Grid Forestry staff will determine what constitutes unreasonable site damage. Contractor shall make reasonable efforts to complete work during favorable site conditions so as to prevent unnecessary damage.

The Contractor shall leave all culverts, stream fords, fences, gates, walls and roads in the same or better condition as when they commenced their work. Any trees to be removed that have fence wire attached, or that are part of a permanent functional fence, shall be cut off above the top strand of wire. Care shall be taken that all fences and gates are closed or left in such condition that livestock cannot escape. If fences or gates of an active pasture along the right-of-way are in a state of disrepair prior to the start of clearing and could allow livestock to escape, the contract shall attempt to notify both the property owner and the National Grid Forester of this condition. Where movement of the Contractor's equipment is required through existing fences, the Contractor shall make appropriate openings and adequate facilities for closing these openings during and after their use.

#### **5.12 Railroads**

Where the Company's right-of-way parallels or crosses railroad property, and the Contractor elects to gain access to the right-of-way from railroad property, they shall be responsible for all applicable rules, regulations and fees pertaining thereto.



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The contractor must:

- Obtain a permit, and/or coordinate work with National Grid to obtain a permit, if required, from the railroad near whose tracks he or she will be treating.
- Check with each railroad near whose tracks he will be treating to ensure that the contractor carries all insurance which the railroad may require. Contact National Grid Forestry staff if any problems arise.
- Refrain from beginning a treatment whenever a railroad has failed to provide a flagman or remove the railroad from service. Contact National Grid Forestry staff immediately so that he or she can contact the railroad.

#### **5.13 Native American Lands**

Where required to complete work upon reservations, the contractor shall employ the designated Native American personnel for the successful completion of the project.

#### **5.14 Chainsaw Bar Lubricants**

When working within a sensitive area, chainsaw bar lubricants must be biodegradable products.

#### **5.15 Equipment**

The contractor crew supervisor or foreman must be equipped with a cellular telephone. The cellular telephone number must be provided to the division control center.

Crews should carry with them at all times a shovel, a broom, heavy-duty plastic bags or other leak-proof container, absorptive clay and activated charcoal. (Chemical or Universal Spill Kit)

Contractor's equipment, including backup equipment, must be sufficient to maintain the highest practical level of efficiency and effectiveness. Equipment must be maintained in good visual and working condition.

#### **5.16 Site Restoration**

Work shall also include grading, mulching, and reseeding of rutted or scarified soils caused by the Contractor's operations when directed by the National Grid Forester. This shall include repair of all environmental damage, maintenance of stream crossings, wetlands, crop fields, fence lines, etc. which are adversely impacted by the Contractor so as to leave the right-of-way in as good or better condition than found.

Inclusion of the repair of any previously existing environmental damage, including grading, seeding, mulching, stream, culvert and ditch repair, etc. shall be specified at the time of bidding or completed on a Time and Material basis if required.

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## 6.0 Sideline Pruning and Danger Tree/Hazard Tree Removal

### 6.1 Practices and Procedures

#### 6.1.1 Risk to Transmission Lines

Danger trees falling into the lines present the greatest risk of tree-caused interruptions on transmission circuits. The risk is primarily related to two (2) non-biotic variables: 1) distance from conductor to the adjacent tree line (clear width), and 2) conductor distance above the ground; and three (3) biotic factors: 1) height of trees, 2) tree species, and 3) tree health and condition. National Grid seeks to mitigate risk of interruptions from danger trees through site specific management of these variables.

Risk can be quantified using the Optimal Width Calculator (OWC) software licensed to National Grid by Ecological Solutions, Inc. The OWC calculates a Risk Factor based on the variables discussed above. Data has been collected across National Grid's 69kV (New England only), 115kV, 230kV and 345kV transmission system to calculate average Risk Factor by voltage class.

#### 6.1.2 Sideline Pruning and Danger Tree Removal Levels

Danger Tree work will be specified by level for each right-of-way segment and for each edge dependent on voltage class, line importance and vegetation management rights. Work is defined as Level 1, Level 2, etc. These are presented as a hierarchy. Work specified as Level 1 requires work per definition of Level 1. Work specified as Level 2 requires work per Level 2 and Level 1. Level 3 includes Level 2 and Level 1, etc.

- Level 1: Prune (see Section 6.1.3) or remove danger trees to achieve At Time of Vegetation Management Clearance distances (see Section 4.3.1). Remove danger trees within the cleared right-of-way (encroachment). Dead or damaged branches and leaders on off right-of-way danger trees that are capable of falling onto the conductors shall be pruned.
- Level 2: Prune or remove high risk hazard trees plus Level 1 work.
- Level 3: Prune or remove all hazard trees plus Level 1 & 2 work.
- Level 4: Prune or remove danger trees emergent above the general canopy height. Pruning is the preferred method. Includes Level 1, 2 & 3 work.
- Level 5: Prune or remove danger trees to specified Risk Factor. Data for Risk Factor calculation shall be measured and document at least once per five (5) spans. Includes Level 1, 2, 3 and 4 work.
- Level 6: Remove all trees to a new cleared width (widening) including Level 1, 2, 3, 4, or 5 work along the newly created edge.

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### 6.1.3 Pruning

All pruning shall be performed in accordance with the ANSI A-300 standard. The detailed specifics for the pruning dimensions on each right-of-way or right-of-way segment are included as a separate cover document for each project. The project cover document will include specific project details including the breakdown of the right-of-way into individual segments whenever required.

#### **Description of Sideline/Danger Tree Work – Type A**

Prune to the existing treed edge unless otherwise called out on the project details or maps. Prune or remove danger trees to achieve at least the ATVM Clearance Distances (Section 4.3.1). Pruning shall be ground-to-sky, including pruning back the upper canopy of edge trees leaving no overhang over the right-of-way.

Type A sideline work scope includes the removal of small trees up to nine (9) inches diameter breast height that have sprouted from stumps or encroached within the cleared right-of-way edge.

Dead or damaged branches and leaders on off right-of-way danger trees that are capable of falling onto the conductor shall be pruned. Prune or remove high risk hazard trees. Hazard trees found beyond the right-of-way and/or ATVM clearance distances that are judged to be an imminent threat to the conductors shall be brought to the attention of a National Grid Forester for approval prior to removing (see Section 6.1.4). Desirable species shall be retained along the edge of the right-of-way.

In addition, if the contracted tree crew sees a tree within the wire zone that is approaching or within the NGMCD (formerly Clearance 2), they either must cut the tree or contact a National Grid Forester immediately.

#### **Description of Sideline/Danger Tree Work – Type B**

Prune or remove danger trees to achieve the ATVM Clearance Distances (Section 4.3.1) unless otherwise called out on the project details or maps. The contractor shall practice ANSI A300 pruning in choosing the pruning points within the tree which will often mean clearances greater than ATVM will actually be obtained. Trees shall be directionally pruned to encourage growth away from the transmission line. Where there is already sufficient clearance the contractor shall not prune trees to achieve a "boxed" look or wall of tree canopies along the right-of-way. Exceptions to this are those narrower rights-of-way where pruning to this specification will result in a "boxed" look.

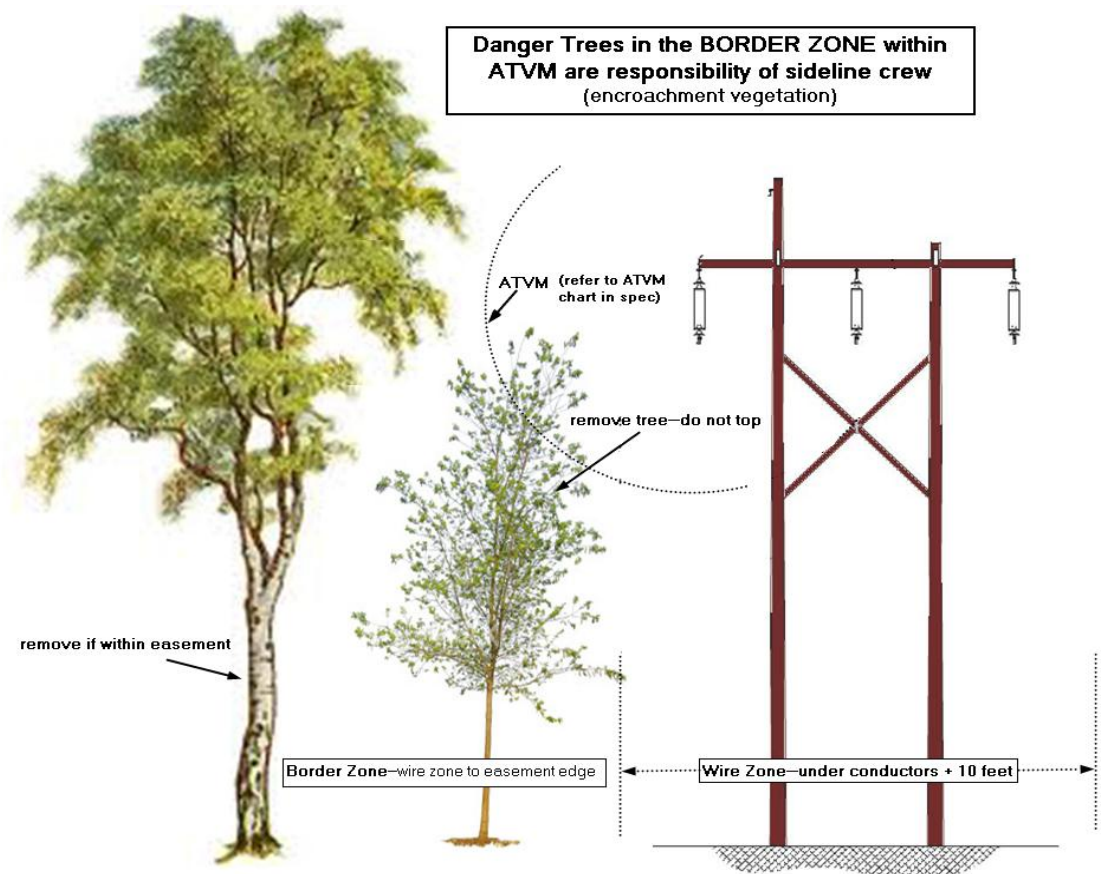
Dead or damaged branches and leaders on off right-of-way danger trees that are capable of falling onto the conductors shall be pruned. Prune or remove high risk hazard trees. Hazard trees found beyond the right-of-way and/or ATVM clearance distances that are judged to be an imminent threat to the conductors shall be brought to the attention of the National Grid Forester for

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approval prior to removing (see Section 6.1.4). Desirable species shall be retained along the edge of the right-of-way.

Any tree in the border zone that is within ATVM shall be removed, not pruned (see diagram below).

In addition, if the contracted tree crew sees a tree within the wire zone that is approaching or within the NGMCD (formerly Clearance 2), they either must cut the tree or contact a National Grid Forester immediately.



#### 6.1.4 Hazard Trees

Hazard trees identified by the contractor or National Grid for removal shall be paid for by unit price. The removal of any tree nine (9) inches dbh and above, within a maintained, roadside or unmaintained area, shall be considered a hazard tree removal (see definitions). The contractor's notification person shall mark identified hazard trees with ribbon during the notification process.

Tree removals are recorded on a Transmission Sideline Tree Removals Weekly Tracking Form (Appendix 6) and submitted to a National Grid Forester on a weekly basis.

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## 6.2 Contractor Inspection of Completed Work

### New England Contractors Only

Upon completion of performing sideline pruning and danger tree/hazard tree removals along a right-of-way, the contractor must inspect the entire right-of-way to ensure the work was performed in accordance with this specification. The contractor must complete a "New England Transmission Forestry Contractor Final Inspection Form" (Appendix 7) and submit the completed and signed form to a National Grid Forester. Submittal of this form is required for final payment; therefore, prior to final payment, the Company will require receipt of a completed "New England Transmission Forestry Contractor Final Inspection Form".

## 6.3 Management of Wood and Brush (Slash)

Wood and brush slash may be generated during vegetation management activities. In general, where tree removal or pruning is required, the brush that has been cut may be left where it falls after being cut (diced) so as to lie close to the ground. Length of diced stems or branches should not exceed ten (10) feet; height of diced slash should not exceed two (2) feet.

Near public or private roads, residential or commercial areas, parks, streams, on access roads, in any sensitive area or otherwise managed properties, the brush shall be disposed of by either chipping or removal to a suitable location within the right-of-way and neatly piled, windrowed or dispersed.

When chipping is required, the chips may be disposed of by dispersing on site in non-sensitive areas. Chips shall be removed from areas of more intense landscape management such as lawns.

Where trees and limbs larger than four (4) inches in diameter at the small end are removed and the designated slash disposal is a windrow, the wood shall be neatly piled on the site, taking care not to block any access roads used by either the property owner or the Company. When the authorized slash disposal method is chipping, it may be necessary to remove the larger wood from the site to another approved area of the right-of-way and piled neatly, or moved to an approved off right-of-way disposal site.

No burning of wood or brush will be permitted unless specifically authorized by the National Grid Forester.

All species of wild cherry (*Prunus serotina*, *P. virginiana*, *P. pennsylvanica*) that are cut or treated during the growing season can become toxic to livestock during the wilting stage of the leaves. In addition, several species of Maple (*Acer*) have been identified as toxic to horses in the wilting stage. Therefore, Maple and Cherry stems, which are cut or treated in active pastures, shall be immediately removed from the pasture following clearing, or arrangements made with the farmer to utilize alternate pastures until the wilting stage and hazard has passed.

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Contractors shall comply with all applicable laws and guidelines pertinent to invasive species and their management, as set forth by Government entities and National Grid.

#### **6.4 Mitigation of Impacts**

If, during their operations, the Contractor causes any damage to occur to the land such as deep ruts or scarified areas, which in the opinion of the National Grid Forester could cause future erosion or interfere with access for line maintenance, the Contractor shall re-grade the site to original contours, and seed and mulch as required. Areas where erosion occurs during sideline program operations will be restored per National Grid companies' policies.

The Contractor shall take reasonable precautions not to remove or damage existing low-growing vegetation, either natural or planted, which are to be preserved on the right-of-way. Where road crossing buffer vegetation, either natural or planted, has been damaged beyond reasonable repair because of the Contractor's negligence, this vegetation will be replaced at the Contractor's expense.

The Contractor shall take care not to rut or scarify the right-of-way for the duration of their operation. All environmental damage resulting from the Contractor's operation shall be permanently repaired at the Contractor's sole expense.

Mobile equipment shall not intrude into road crossing buffers, stream buffer zones or pruning and topping areas, except on designated access routes. When a tree that has been cut must be removed from such an area, it must first be limbed and the brush hand carried to the chipping location or pile site. The trunk wood may be removed by means of a winch line taking adequate care to avoid damaging residual vegetation.

In certain areas, where feasible and advantageous, the Forester may authorize the use of aerial lifts and other specialized equipment, in road crossing buffers for the purpose of pruning trees, and disposal. In no case, however, will any vegetation be cleared or any new road be authorized, other than the approved access road through the screen to facilitate the use of this equipment.

The Contractor shall take adequate precautions to protect the watercourses and wetlands from pollution and shall avoid disturbing streambeds and banks and the low-growing vegetation protecting them. Felling vegetation in or across a watercourse (such as a river, stream, or brook), should be avoided. Vegetation that is felled into a watercourse shall be removed as soon as possible and placed on high ground. Brush chipping shall be performed in such a manner that the chipped material shall not enter any watercourse or wetland area, nor accumulate in excess of four (4) inches in depth at any location.

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## **7.0 Work Precautions**

### **7.1 Safety**

As a contractual term, National Grid requires all contractors to comply with all appropriate state and federal safety laws and regulations. This includes applicable sections of the Occupational Safety and Health Act (OSHA) and all worker safety-related statements and instructions on the herbicide label.

It shall be understood and agreed to by the Contractor that herbicide application, hand cutting, pruning and clearing near existing transmission and distribution lines shall be undertaken while lines are presumed to be energized and operating at voltages up to and including 345kV AC and 450kV DC. The Contractor shall provide competent, trained personnel to complete the work.

In order to insure the safety of their employees, the general public and continuity of service in the energized lines, the Contractor shall exercise extraordinary precautions in removing trees and tree limbs that are in such close proximity to the conductors as to constitute a hazard. Such trees shall be pruned, removed with the aid of ropes, or taken down one (1) section at a time.

In addition, all vegetation management work shall be carried out in compliance with ANSI Z133.1, American National Standards Institute, Standard for Arboricultural Operations – Safety Requirements.

### **7.2 Sensitive Areas**

Sensitive areas are defined as areas on a right-of-way where legal, visual or environmental impacts/concerns require compromises to the project. Sensitive areas include: public surface, public well and private well drinking water supplies; lakes, ponds, rivers, streams, and any other surface waters; wetlands; endangered species sites; agricultural areas including croplands, orchards, tree plantations and animal pastures; buffers at road crossings; buffers at residential and/or commercial yards; and easement restrictions and/or landowner agreements.

These sensitive areas have varying legal definitions in each of the states in which National Grid companies have transmission and distribution facilities. Permits for vegetation management activities in these states vary as well. For purposes of this document, sensitive areas and vegetation management within them are discussed in a general way.

When utilizing chainsaws in a sensitive area, chainsaw bar lubricants must be biodegradable products.

### **7.3 Visual and Protective Buffers**

Visual buffers, consisting of trees and/or shrubs, screen the general public from potentially objectionable views of structures and substations. They may be maintained at road crossings, recreational areas, residential or commercial yards.

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Specific dimensions for visual buffers may be set by State regulations and/or permit conditions and/or National Grid company policy.

Use shrub buffers on most road crossings or on vantage points where a visual screen is determined to be desirable. Utilize tree/shrub buffers only when legally required or where sites are extremely sensitive visually and shrub growth is inadequate for screening.

#### **7.4 Wetlands**

In wetlands, tall growing trees generally only occur in wooded swamps or areas that are dry for long enough periods each year to support tree growth. Equipment may not enter a wetland area without notification through the company's General Permit. Check with the Division Forester prior to working in a wetland.

In remote areas, including remote wetlands, and with the National Grid Forester's approval, trees to be removed may be topped below conductor level to provide wildlife habitat and to reduce ground disturbance and clutter.



Appendix 1  
Contact Information



**Vegetation Operations Staff, Control Center and Security  
Contact Information**

<b>SYSTEMWIDE</b>		
<b>Contact</b>	<b>Location</b>	<b>Telephone Number</b>
<b>Transmission Call-in</b>	System	(508) 421-7452
<b>Injury Hotline</b>	System	(866) 322-5594
<b>NEW ENGLAND</b>		
<b>Contact</b>	<b>Location</b>	<b>Telephone Number</b>
<b>NE Transmission Control Center</b>	Northboro, MA	(800) 423-6029 <i>Or</i> (800-382-7260
<b>Security</b>	Northboro, MA	(508) 421-7970
Anne Marie Moran (Manager)	Worcester, MA	(508) 860-6925
Jason Magoon	Worcester, MA	(508) 860-6212-
Jonathan Duval	Somerset, RI	(508)730-4007
<b>NEW YORK</b>		
<b>Contact</b>	<b>Location</b>	<b>Telephone Number</b>
<b>NY Transmission Control Center</b>	N. Syracuse, NY	(315) 460-2110
<b>Security:</b>	West	(716) 831-7740
Tim Bodkin (Manager)	Clifton Park, NY	(518) 406-7014
Jeremiah (JT) Carroll (Capitol)	Albany, NY	(518) 433-3320
Kenneth Kirkman (Central)	Syracuse, NY	(315) 428-5273
Ryan Blothenburg (Western)	Fredonia, NY	(716) 673-7216



Appendix 2  
National Grid Environmental Policy



# Environment Policy

Our strategy is to be a recognised leader in the development and operation of safe, reliable and sustainable energy systems to meet the needs of our customers and communities and to generate value for our investors.

One of the ways we will achieve this is to protect and enhance the environment, always seeking new and innovative ways to lighten the environmental impact of our past, present and future activities.



**Steve Holliday**  
Chief Executive

## We commit to:

- Ensuring environmental sustainability is considered in our decision making and creating a sustainable thinking culture.
- Using resources more efficiently through good design, using sustainable materials, responsibly refurbishing existing assets, recovery and recycling.
- Ensuring our operations that have an impact on natural habitats are conducted in a manner to protect biodiversity and seeking ways to enhance the natural value of the area for the benefit of local communities and/or environment.
- Reducing greenhouse gas emissions: 45% by 2020 and 80% by 2050.
- Looking at ways to reduce the impact of climate change by implementing mitigation and adaptation measures.
- Openly reporting on our environmental and sustainability performance with employees, members of the public and other stakeholders.
- Actively working to prevent pollution which may result from our activities.
- Continually improving our environmental management system to protect the environment, reduce the risk of environmental incidents.
- Satisfying our compliance obligations.
- Actively managing the risks associated with sites where we have responsibility for dealing with contamination associated with past operations.
- Ensuring our employees have the training, skills, knowledge and resources necessary to meet our environmental commitments.
- Working with governments and regulators to help them develop and deliver more effective environmental policies and targets.
- Helping consumers reduce their dependency on fossil fuels by providing them with access to more sustainable energy and through innovative energy efficiency programmes.
- Ensuring those working on our behalf demonstrate the same commitment to the environment as we do.



For more details  
on this policy, visit  
the SSR Infonet  
homepage or  
[nationalgrid.com](http://nationalgrid.com)







Appendix 3  
Invasive Species Best Management Practices (New York Only)



# New York Utility Company Best Management Practices for Preventing the Transportation of Invasive Species

Environmental Energy Alliance of New York  
Revisions January 2015

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## Appendices

- Appendix 1 - Best Management Practices (BMP's) for Invasive Species Transportation Prevention
- Appendix 2 - 6 NYCRR Part 575 Prohibited and Regulated Invasive Species, September 10, 2014

## 1.0 Introduction

Invasive species are non-native plant, animal, or microbial species that cause, or are likely to cause, economic or ecological harm or harm to human health (Presidential Executive Order 13112). Invasive species means, “A species that is nonnative to the ecosystem under consideration; and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. Harm must significantly outweigh benefit” [New York Environmental Conservation Law §9-1703(10)(a)] Invasive species have been introduced by human action into a region outside their natural geographic range. Introductions occur along a variety of pathways or vectors, either intentionally such as intentional transport of a species for trade, or by accidental means, as in the case of stowaway species found in the ballast-water of ocean-going vessels.

Most scientists regard invasive species as second only to habitat loss as a threat to biodiversity. The presence of invasive species in a given region is one of the leading causes of endangerment to species native to that region. On a nationwide basis, about half of plant and animal species listed as federally Endangered or Threatened are at risk because of invasive species.

Annual economic losses due to invasive species in the U.S. have been estimated at over \$138 billion (Pimentel et al. 2000). These losses include damage to crops and pasture, forest losses, damage from insect and other invertebrate pests, human diseases, and associated control costs.

In an effort, where feasible, to limit the introduction and spread of *invasive species*, this Best Management Practice (“BMP”) will be employed when performing activities that occur in *jurisdictional areas* as authorized by the DEC. The BMP identifies procedures that will be incorporated into routine work practices to prevent the introduction and spread of *invasive species*.

## 2.0 Definitions

The following definitions are applicable to this BMP.

***Environmental Energy Alliance of New York (EEANY)*** – is an association of electric and gas Transmission and Distribution (T&D) companies and electric generating companies that provide energy services in the State of New York. This BMP was prepared by the Land Use Subcommittee of the T&D Committee, which currently represents the following members: Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Long Island Power Authority, National Grid USA Service Company, Inc., New York Power Authority, New York State Electric & Gas Corporation, Orange and Rockland Utilities, and Rochester Gas & Electric Corporation.

***Invasive species*** – species that are non-native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Management Plan National Invasive Species Council, 2001). For purposes of this document, *invasive species* are those contained on the list contained within 6 NYCRR Part 575 Prohibited and Regulated Invasive Species (Appendix – 2).

***Invasive species plant material*** – seeds, roots, or pieces of plant material that could germinate into live plants.

***Jurisdictional Area*** – lands under the statutory jurisdiction of the NYSDEC such as certain freshwater wetlands and adjacent areas, tidal wetlands, certain water bodies, and any protected and species habitat areas specified by natural resource supervisors.

***NYSDEC General Permit*** – a NYSDEC permit authorizing certain utility line activities under Articles 15, 24, and 25 of NYS Environmental Conservation Law. These activities include: inspection, maintenance, repair, restoration, reconstruction of pre-existing structures, vegetation cutting and trimming, and emergency actions affecting tidal wetlands, protected waters, regulated freshwater wetlands, adjacent areas, and protected habitat areas.

***Regulated Activity*** – an activity taking place within a *jurisdictional area* that requires authorization from the NYSDEC.

***Utility Rights-of-Way*** - is an easement-acquired or fee-owned corridor in which gas or electric transmission facilities are located.

## 3.0 Purpose

This BMP provides guidance for inspecting and cleaning vehicles and equipment to help prevent the spread of invasive species. The procedures identified within this manual outline cost-effective and realistic practices that *Environmental Energy Alliance of New York (EEANY)* utility members will implement when conducting a *regulated activity* within a *jurisdictional area*.

## 4.0 Applicability

This management practice applies to all *EEANY* utility members performing *NYSDEC regulated activities* within *jurisdictional areas* with populations of *invasive species*.

## 5.0 Procedures

There are two procedural options for *EEANY* companies to follow; one is to conduct the BMPs as detailed in the following sections of this plan or to conduct vegetation surveys for invasive species as outlined in Section 5.6. Field crews will be provided a flowchart to assist with determining when to implement these best management practices (Appendix 1).

The following detailed practices will apply where feasible when invasive species are present and when the work is covered by a GP or individual wetland permit.

### 5.1 Equipment

- a. Equipment must arrive clean without visible soil clumps, plant or animal material.
- b. Equipment includes, but is not limited to, vehicles, trailers, machinery, matting, boats, barges, and other watercraft, tools, and other materials.
- c. Transporting equipment will be cleaned before accepting a new load.
- d. Consider tracking pads as a means to remove soil from equipment. If tracking pads are used they must be cleaned after each use in a specific area.
- e. Equipment will be cleaned using one of the methods listed below (use the most effective method that is practical):
  - Brush, broom, shovel or other similar hand tools (used without water)
  - High pressure air (when feasible)
- f. Equipment must be cleaned within one of the below areas:
  - the infested work area
  - an area immediately adjacent to the work area that is itself currently infested with *invasive species*
- g. Do not clean equipment in or near waterways as it may promote the spread of *invasive species* downstream.
- h. Where possible, staging areas will be established in locations that are free of *invasive species*. Otherwise, all equipment will be cleaned using the techniques described in 5.3 before leaving the area.
- i. When wetland matting is required, it will arrive on site visibly clean, be installed prior to any activities, and will be appropriately cleaned before leaving the area.

## 5.2 Inspection and Cleaning

- a. Inspections and cleaning should be conducted especially when moving from an infested area to an uninfested area.
- b. Prior to exiting work area clothing, footwear, and gear should be cleaned of visible signs of plant material.
- c. Carry appropriate cleaning equipment (e.g. wire brush, small screwdriver, boot brush) to help remove soils, seeds, and plant material.
- d. Preferred locations for cleaning are those where:
  - Work activities are taking place;
  - *Invasive species* are already established; or
  - An area immediately adjacent to the work site that is itself currently infested with *invasive species*.
- e. No cleaning of clothing, footwear, gear in or adjacent to waterways – it may promote the spread of *invasive species* downstream.
- f. Cleaning will include brushing or self “pat down” of clothing, footwear, and other personal gear within the infested work area.

## 5.3 Disposal of Impacted Material

- a. Preferred locations for equipment cleaning are those areas where work activities are taking place or immediately adjacent areas currently impacted with *invasive species*.
- b. Do not clean equipment, vehicles or trailers in or near waterways.
- c. Do not dispose of soil, seeds, or plant material in storm drains.
- d. Any plant materials that are incidentally removed after completion of steps a-c from site will be properly disposed of in a manner that prevents viable plant parts and propagules from being spread

## 5.4 Other Prevention Measures

- a. Reasonable steps to avoid transportation of *invasive species*, including small, isolated, populations, will be taken.
- b. As an alternative to cleaning, ancillary equipment such as spare tires and winches when feasible will be covered when entering *jurisdictional areas* containing populations of *invasive species*.
- c. Vehicular access into areas containing populations of *invasive species* will be reduced or minimized to the maximum extent practical. When practical vehicles will be parked outside of the impacted area and crews will enter on foot.

## 5.5 Site Restoration

- a. Minimize soil disturbances by reducing work areas and reducing activities that may result in soil disturbances.
- b. Re-vegetate bare soils as soon as feasible to minimize the possible establishment of *invasive species*. When seeding, non-invasive or local native species must be used (seed mixes will vary from region to region). Seed will be broadcasted over all bare soil areas and covered with a mulch layer such as straw. Choose appropriate seed mixes based on site conditions.



- c. On steep sloping areas (i.e. slopes exceeding 20 percent), soil erosion control matting (i.e. jute mesh or straw blankets) must be installed over the seeded area. The matting should be secured with biodegradable tacks.
- d. Stabilize disturbed soils using appropriate erosion and sediment control procedures as soon as possible. Use invasive free materials such as straw or wood chips; avoid using hay.

## 5.6 Vegetation Survey (Optional)

If the above BMPS are not followed, then vegetation surveys of site(s) to detect populations of invasive species should be made in advance prior to any activities. If the optional vegetation survey is performed and no invasive species are found, then the procedures outlined above in section 5.1 through 5.5 will not be followed. Survey inspections can be integrated with other activities such as ROW inspections and should be kept as simple as possible to meet invasive species management objectives. If significant populations of invasive species are detected on surveys, then Sections 5.1 to 5.5 apply.

- a. Prior to implementing activities scout for, locate and document significant invasive species infestations.
- b. Consider the need for actions based on: 1) the degree of invasiveness; 2) severity of the current infestation; 3) amount of additional habitat or host at risk for invasion; and 4) feasibility of managing the spread.
- c. Plan activities to limit the potential for introduction and spread of invasive species, prior to construction.
- d. Provide appropriate resources in identification of known invasive species for corridor workers.

## 6.0 Training

A flowchart (Appendix 1) to assist field crews on when to implement the above procedures will be distributed to all field crews.

All transmission vegetation management planners, foresters, and ROW maintenance personnel will be trained in the procedures outlined in Section 5.0 above. Additionally, training sessions focused on the identification of *invasive species* identified in Appendix 2 will be conducted by the individual utility companies. This may take the form of hard copy materials, tail gate briefings and/or presentations during regular staff meetings.

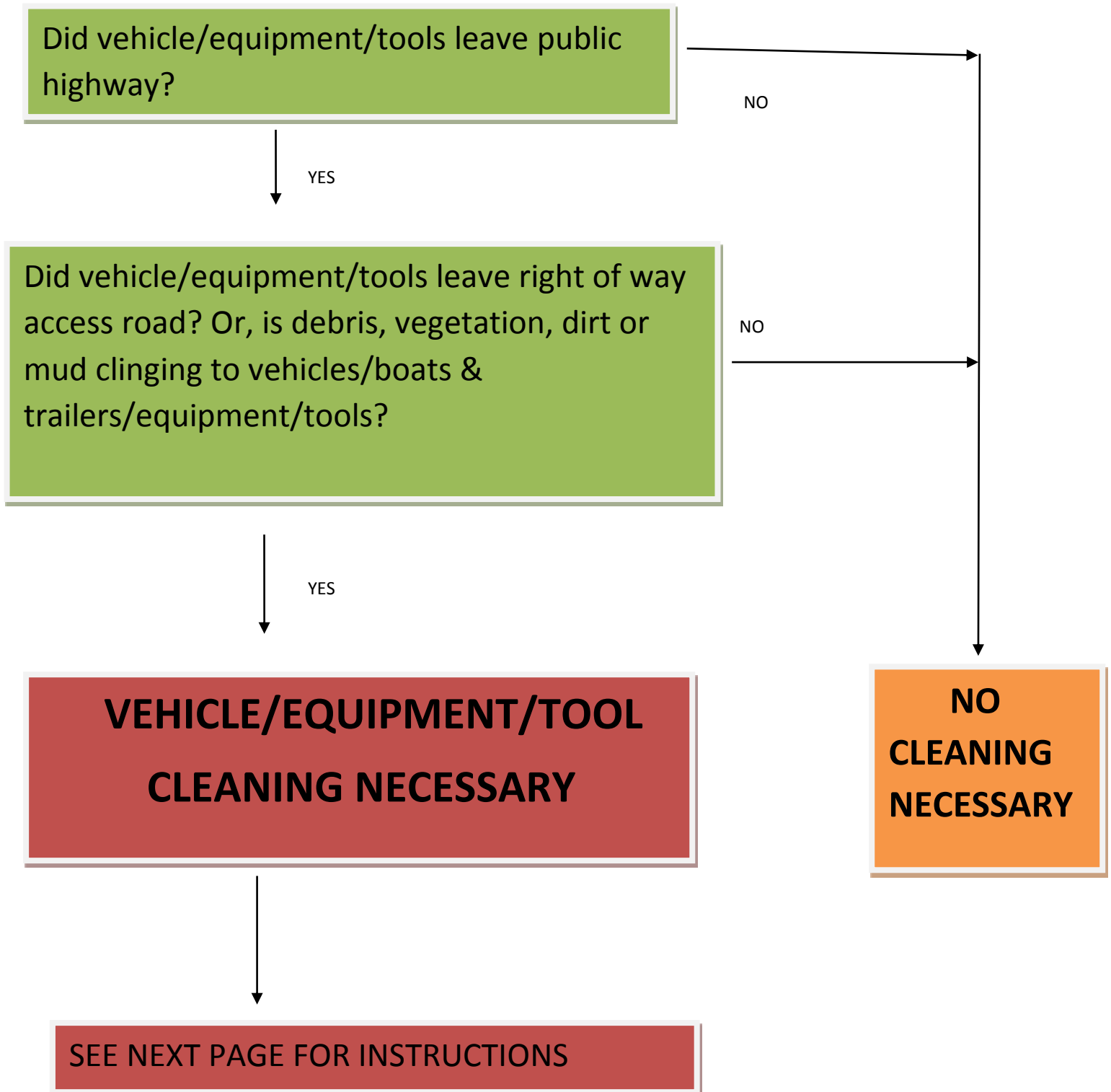
## 7.0 Emergency Work

During emergencies, *EEANY* utility members will strictly comply with the Emergency Action condition protocol outlined in the *NYSDEC General Permit*. Appropriate site-specific *invasive species* controls and restoration efforts will be determined on an individual basis in conjunction with the regional NYSDEC office.

## 8.0 References

- Electric Power Research Institute, 2008. "Invasive Species and Utility Rights of Way: A Review of the Science". EPRI Publication number 1014032, Palo Alto, CA
- Pimentel, D., Lach, L., Zuniga, R. & Morrison, D. 2000. Environmental and economic costs of nonindigenous species in the United States. *Bioscience*, 50(1): 53-65.
- Presidential Executive Order 13112. Volume 64, Federal Register 1999. Invasive Species.
- Wisconsin Council on Forestry. 2010. *Invasive Species Best Management Practice for Transportation and Utility Rights-of-Way*.

## BEST MANAGEMENT PRACTICES (BMP'S) for INVASIVE SPECIES TRANSPORT PREVENTION



## PRIOR TO LEAVING THE RIGHT-OF-WAY

- Prior to loading vehicle/equipment/tools remove as much debris, vegetation, dirt and mud clinging to the equipment as feasible using a brush, broom, shovel or other similar hand tool.
- High pressure air can be used on site for cleaning debris, vegetation, dirt and mud off vehicles/equipment/tools.
- Pick-ups and other small road vehicles shall remove on the right-of-way, as much debris, vegetation, dirt and mud clinging to vehicle as feasible prior to entering the highway.
- Small equipment/tools/boots shall be cleaned on site before removal or storage.
- Arrangements can be made for onsite cleaning or washing of vehicles/equipment/tools if deemed necessary.

## PRIOR TO LEAVING A BOAT LAUNCH:

CLEAN, DRAIN, DRY -- Prior to leaving a boat launch, **Clean** any visible mud, plants, fish or animals before transporting equipment; **Drain** all water holding compartments including live wells, bait wells and bilge areas; **Dry** the boat, trailer and all equipment before use in another water body

## APPENDIX - 2

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### 6 NYCRR Part 575

#### Prohibited and Regulated Invasive Species September 10, 2014

##### ALGAE AND CYANOBACTERIA

###### Prohibited:

*Caulerpa taxifolia*, Killer Green Algae  
*Didymosphenia geminata*,  
*Didymo Prynmesium parvum*, Golden Algae

###### Regulated:

*Cylindrospermopsis raciborskii*, Cylindro  
*Grateloupia turuturu*, Red Algae

##### PLANTS

###### Prohibited:

*Acer pseudoplatanus*, Sycamore Maple  
*Achyranthes japonica*, Japanese Chaff Flower  
*Alliaria petiolata*, Garlic Mustard  
*Ampelopsis brevipedunculata*, Porcelain Berry  
*Anthriscus sylvestris*, Wild Chervil  
*Aralia elata*, Japanese Angelica Tree  
*Artemisia vulgaris*, Mugwort  
*Arthraxon hispidus*, Small Carpet Grass  
*Berberis thunbergii*, Japanese Barberry  
*Brachypodium sylvaticum*, Slender False Brome  
*Cabomba caroliniana*, Fanwort  
*Cardamine impatiens*, Narrowleaf Bittercress  
*Celastrus orbiculatus*, Oriental Bittersweet  
*Centaurea stoebe* (*C. biebersteinii*, *C. diffusa*, *C. maculosa* misapplied, *C. xpsammogena*), Spotted Knapweed  
*Cirsium arvense* (*C. setosum*, *C. incanum*, *Serratula arvensis*), Canada Thistle  
*Cynanchum louiseae* (*C. nigrum*, *Vincetoxicum nigrum*), Black Swallow-wort  
*Cynanchum rossicum* (*C. medium*, *Vincetoxicum medium*, *V. rossicum*), Pale Swallow-wort  
*Dioscorea polystachya* (*D. batatas*), Chinese Yam  
*Dipsacus laciniatus*, Cut-leaf Teasel  
*Egeria densa*, Brazilian Waterweed  
*Elaeagnus umbellata*, Autumn Olive  
*Euphorbia cyparissias*, Cypress Spurge  
*Euphorbia esula*, Leafy Spurge  
*Ficaria verna* (*Ranunculus ficaria*), Lesser Celandine  
*Frangula alnus* (*Rhamnus frangula*), Smooth Buckthorn  
*Glyceria maxima*, Reed Manna Grass

*Heracleum mantegazzianum*, Giant Hogweed  
*Humulus japonicus*, Japanese Hops  
*Hydrilla verticillata*, Hydrilla/ Water Thyme  
*Hydrocharis morsus-ranae*, European Frogbit  
*Imperata cylindrica* (*I. arundinacea*, *Lagurus cylindricus*), Cogon Grass  
*Iris pseudacorus*, Yellow Iris  
*Lepidium latifolium*, Broad-leaved Pepper-grass  
*Lespedeza cuneata*, Chinese Lespedeza  
*Ligustrum obtusifolium*, Border Privet  
*Lonicera japonica*, Japanese Honeysuckle  
*Lonicera maackii*, Amur Honeysuckle  
*Lonicera morrowii*, Morrow's Honeysuckle  
*Lonicera tatarica*, Tartarian Honeysuckle  
*Lonicera x bella*, Fly Honeysuckle  
*Ludwigia hexapetala* (*L. grandiflora*), Uruguayan Primrose Willow  
*Ludwigia peploides*, Floating Primrose Willow  
*Lysimachia vulgaris*, Garden Loosestrife  
*Lythrum salicaria*, Purple Loosestrife  
*Microstegium vimineum*, Japanese Stilt Grass  
*Murdannia keisak*, Marsh Dewflower  
*Myriophyllum aquaticum*, Parrot-feather  
*Myriophyllum heterophyllum*, Broadleaf Water-milfoil  
*Myriophyllum heterophyllum x M. laxum*, Broadleaf Water-milfoil Hybrid  
*Myriophyllum spicatum*, Eurasian Water-milfoil  
*Nymphoides peltata*, Yellow Floating Heart  
*Oplismenus hirtellus*, Wavyleaf Basketgrass  
*Persicaria perfoliata* (*Polygonum perfoliatum*), Mile-a-minute Weed  
*Phellodendron amurense*, Amur Cork Tree  
*Phragmites australis*, Common Reed Grass  
*Phyllostachys aurea*, Golden Bamboo  
*Phyllostachys aureosulcata*, Yellow Groove Bamboo  
*Potamogeton crispus*, Curly Pondweed  
*Pueraria montana*, Kudzu  
*Reynoutria japonica* (*Fallopia japonica*, *Polygonum cuspidatum*), Japanese Knotweed  
*Reynoutria sachalinensis* (*Fallopia sachalinensis*, *Polygonum sachalinensis*), Giant Knotweed  
*Reynoutria x bohemica* (*Fallopia x bohemica*, *Polygonum x bohemica*), Bohemian Knotweed  
*Rhamnus cathartica*, Common Buckthorn  
*Rosa multiflora*, Multiflora Rose  
*Rubus phoenicolasius*, Wineberry  
*Salix atrocinerea*, Gray Florist's Willow  
*Silphium perfoliatum*, Cup-plant  
*Trapa natans*, Water Chestnut  
*Vitex rotundifolia*, Beach Vitex

**Regulated:**

Acer platanoides, Norway Maple  
 Clematis terniflora, Japanese Virgin's Bower  
 Euonymus alatus, Burning Bush  
 Euonymus fortunei, Winter Creeper  
 Miscanthus sinensis, Chinese Silver Grass  
 Robinia pseudoacacia, Black Locust

**FISH****Prohibited:**

Channa argus, Northern Snakehead  
 Channa marulius, Bullseye Snakehead  
 Channa micropeltes, Giant Snakehead  
 Clarias batrachus, Walking Catfish  
 Gambusia affinis, Western Mosquitofish  
 Gambusia holbrooki, Eastern Mosquitofish  
 Hypophthalmichthys harmandi, Largescale Silver Carp  
 Hypophthalmichthys molitrix, Silver Carp  
 Hypophthalmichthys nobilis, Bighead Carp  
 Misgurnus anguillicaudatus, Oriental Weatherfish  
 Mylopharyngodon piceus, Black Carp  
 Neogobius melanostomus, Round Goby  
 Petromyzon marinus, Sea Lamprey  
 Proterorhinus semilunaris (P. marmoratus), Tubenose Goby  
 Tinca tinca, Tench

**Regulated:**

Carassius auratus, Goldfish  
 Cyprinella lutrensis, Red Shiner  
 Cyprinus carpio, Common Carp/ Koi  
 Gymnocephalus cernuus, Ruffe  
 Monopterus albus, Asian Swamp Eel  
 Oreochromis aureus, Blue Tilapia  
 Oreochromis niloticus, Nile Tilapia  
 Pterois miles, Common Lionfish  
 Pterois volitans, Red Lionfish  
 Sander lucioperca (Stizostedion lucioperca), Zander  
 Scardinius erythrophthalmus, Rudd

**AQUATIC INVERTEBRATES****Prohibited:**

Bellamy chinensis (Cipangopaludina chinensis), Chinese Mystery Snail  
 Bellamy japonica, Japanese Mystery Snail  
 Bithynia tentaculata, Faucet Snail  
 Bythotrephes longimanus (B. cederstroemi), Spiny Water Flea  
 Cercopagis pengoi, Fishhook Water Flea  
 Corbicula fluminea, Asian Clam  
 Crassostrea ariakensis, Suminoe Oyster  
 Didemnum spp., Carpet Tunicate

Dreissena polymorpha, Zebra Mussel  
 Dreissena rostriformis bugensis, Quagga Mussel  
 Eriocheir sinensis, Chinese Mitten Crab  
 Hemigrapsus sanguineus, Asian Shore Crab  
 Hemimysis anomala, Bloody Red Shrimp  
 Orconectes rusticus, Rusty Crayfish  
 Potamopyrgus antipodarum, New Zealand Mud Snail  
 Rapana venosa, Veined Rapa Whelk  
 Styela plicata, Asian Sea Squirt

**Regulated:**

Carcinus maenas, European Green Crab  
 Daphnia lumholzi, Water Flea  
 Hemigrapsus takanoi (H. penicillatus), Brush-clawed Shore Crab/ Grapsid Crab

**TERRESTRIAL INVERTEBRATES****Prohibited:**

Achatina achatina, Giant Ghana Snail  
 Achatina fulica (Lissachatina fulica), Giant African Land Snail  
 Adelges tsugae, Hemlock Woolly Adelgid  
 Agrilus planipennis, Emerald Ash Borer  
 Amyntas spp., Asian Earthworms  
 Anoplophora glabripennis, Asian Longhorn Beetle  
 Apis mellifera scutellata x A. mellifera ligustica/ A. mellifera iberiensis, Africanized Honey Bee  
 Archachatina marginata, Giant West African Snail  
 Cryptococcus fagisuga, Beech Scale  
 Lymantria dispar, Asian and European Gypsy Moth  
 Monochamus alternatus, Japanese Pine Sawyer  
 Pityophthorus juglandis, Walnut Twig Beetle  
 Sirex noctilio, Sirex Woodwasp

**TERRESTRIAL AND AQUATIC VERTEBRATES****Prohibited:**

Cygnus olor, Mute Swan  
 Lepus europaeus, European Hare  
 Myocastor coypus, Nutria  
 Nyctereutes procyonoides, Asian Raccoon Dog  
 Sus scrofa (excluding Sus scrofa domestica), Eurasian Boar

**Regulated:**

Alopochen aegyptiacus, Egyptian Goose  
 Cairina moschata, Muscovy Duck  
 Myiopsitta monachus, Monk Parakeet  
 Oryctolagus cuniculus, European Rabbit  
 Trachemys scripta elegans, Red-eared Slider  
 Xenopus laevis, African Clawed Frog

**FUNGI****Prohibited:**

Amylostereum areolatum, Sirex Wasp Fungus  
Geomyces destructans, White-nose Syndrome  
Geosmithia morbida, Thousand Canker Disease  
Phytophthora ramorum, Sudden Oak Death

For the official regulations and species lists please  
see: <http://www.dec.ny.gov/regulations/265.html>





Appendix 4  
Threatened and Endangered Species (New York Only)





**WHO:** Planners, Engineers, Field Supervisors, Field Crews, Foresters, or anyone that plans or performs operation and maintenance activities including National Grid personnel and consultants

**WHAT:** Incidental take of covered species in association with electric and gas operation and maintenance activities, including vegetation and ROW management, and new construction activities

**WHERE:** Covered lands (ROW's with covered species) as identified on the back of this sheet

**WHY:** Required by federal and state endangered species regulations, as identified in National Grid's Incidental Take Permit



frosted elfin (FE)



wild blue lupine (WBL)



Karner blue butterfly (KBB)

## What you must do when working in a ROW where Covered Species are present... Avoidance and Minimization Measures (AMM)

### AMM's for Vegetation Management

1. Mowing, tree-trimming, and herbicide application activities will occur on a rotational basis (every 3 to 5 years) from Sept. 1 through Mar. 31. NO VEG MAINTENANCE between Apr. 1 and Aug. 31.
2. Blades of mowers and brush hogs shall be set at least 8 inches above ground level.
3. Mowing shall be conducted no more than once a year.
4. Tree girdling and hand-pulling of individuals which do not uproot wild blue lupine plants may be completed any time of year.
5. Herbicide applications
  - a. Shall be applied only by personnel who are pesticide-certified and trained in identifying wild blue lupine.
  - b. Shall be applied when conditions do not permit drift.
  - c. Shall not be applied using an open container.
  - d. Filling and emptying herbicide containers shall occur at a distance of greater than 250 ft. from KBB/FE habitat.
  - e. All herbicide applicators shall carry a spill kit.
  - f. All herbicide application equipment shall be inspected prior to use each treatment day.

### AMM's for All Other Covered Activities

1. Vehicle use shall be minimized (i.e. conduct patrols by foot).
2. Walking/driving through WBL and nectar plants shall be avoided, unless absolutely necessary.
3. Pipe and construction debris cannot be left on the ground.
4. Ground disturbance during O&M activities will be revegetated with indigenous species (contact NG environmental).
5. Piling, stacking, chipping or dragging of vegetation will be avoided.
6. Prior to painting or using other chemicals on poles or other structures, tarps or equivalent shall be placed over any nearby WBL.
7. Fuel and oil spill kits shall be immediately available.
8. During any pipeline hydrostatic testing events, no water shall be discharged into the Covered Lands.
9. Snow plowing shall be minimized along ROW access roads. Blades shall be lifted when off pavement. Off-ROW access road areas shall have blades elevated so at least 6 in. of snow cover remains.
10. Salt applications shall be minimized. When possible, sand free of weed seeds will be used in place of salt.

OVER for more information...



## Regulated wild blue lupine

Flowers  
as seen  
in late  
June

## Other adult KBB food sources

Strawberry  
(*Fragaria virginiana*)

Horsemint  
(*Monarda punctata*)

Hawkweed  
(*Hieracium* sp.)

Common milkweed  
(*Asclepias syriaca*)

Cinquefoil  
(*Potentilla* sp.)

Butterfly weed  
(*Asclepias tuberosa*)

Only known larval food source:  
wild blue lupine

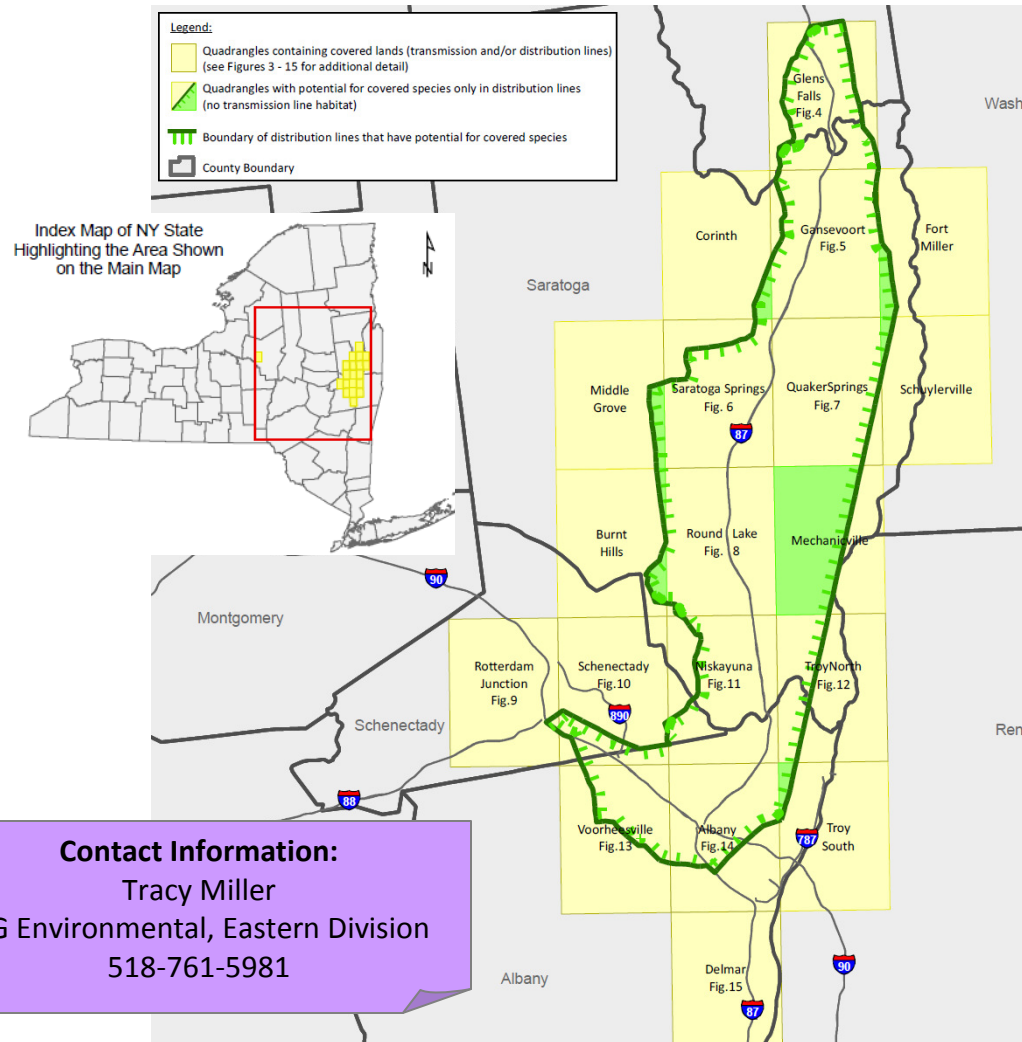
Seed  
pods as  
seen in  
late July

Wild blue lupine seed pods

## COVERED T, SubT, and Gas RIGHTS-OF-WAY

McKownville-Patroun 6  
McKownville-Krumkill 8  
Spier-Glens Falls 8  
Spier-Mohican 7  
Ballston-Mechanicville 6  
Reynolds Rd-Feura Bush 17 Mohican-Butler 18  
Spier (Brook Rd)-Ballston 11  
Spier-Queensbury 5 – Ogden Brook Tap  
Saratoga-Ballston 10 – General Foods Tap  
Spier-Ballston 11 – South St Tap  
Spier-Rotterdam 1 – Weibel Ave Tap  
Rotterdam-Bear Swamp E205  
Queensbury-Henry St 14 – Town of  
Queensbury water pipeline Easement

Grooms Rd-Johnson Rd 13 – Firehouse Rd Tap  
Woodlawn-State Campus 12 – Pinebush Tap  
Rotterdam-Woodlawn 35 – Pinebush Tap  
Spier-Queensbury 17  
Spier-Butler 4  
Warrensburg-Queensbury 9  
Rotterdam-Curry Rd 11  
Rotterdam-Woodlawn 35  
Woodlawn-State Campus 12  
Karner-Patroun 5  
Pipeline E31-5  
Pipeline E12-9  
Pipeline E31-3  
Pipeline E18-19



Appendix 5  
Notification Materials







**Transmission Vegetation Management  
Record of Owner/Occupant Notification**

Work type	
<input type="checkbox"/>	Floor
<input type="checkbox"/>	Sideline

Line Information			
Line Name		Road Crossing	
ROWNUM		Structure/Veg. Site	
Employee		Company	
Owner/Occupant			
Name			
Street Address			Phone
Town	State	Zipcode	Tax Map #
Type of Notification			
<input type="checkbox"/> Personal, face to face		<input type="checkbox"/> Door Hanger	<input type="checkbox"/> Left IVM Information
<input type="checkbox"/> Mailed Letter, Standard Mail		<input type="checkbox"/> Mailed Registered Letter, Return Receipt	
Contact Notes and /or Follow Up Contacts			
Date		Time	
Notes:			

Road Crossing		Structure/ Veg. Site	
Owner/Occupant			
Name			
Street Address			Phone
Town	State	Zipcode	Tax Map #
Type of Notification			
<input type="checkbox"/> Personal, face to face		<input type="checkbox"/> Door Hanger	<input type="checkbox"/> Left IVM Information
<input type="checkbox"/> Mailed Letter, Standard Mail		<input type="checkbox"/> Mailed Registered Letter, Return Receipt	
Contact Notes and /or Follow Up Contacts			
Date		Time	
Notes:			

Notification Form Jan 7.doc





Appendix 6  
Transmission Sideline Tree Removals Weekly Tracking Form



Week Ending:

[illegible]

**Additional Notes:**



Appendix 7  
New England Transmission Forestry Contractor Final Inspection Form





ROW#:  
FORESTER:  
IVM OR SIDELINE:

## **New England Transmission Forestry Contractor Final Inspection Form**

Company Name:  
General Foreman Name:  
Area Manager Name:

---

(Check the item below that applies):

\_\_\_\_ I have fully inspected the ROW listed above and consent that the entire right-of-way meets National Grid's Specifications.

\_\_\_\_ I have fully inspected the ROW listed above and consent that the right-of-way meets National Grid's Specification requirements, except for the following locations:

<u>Str # to Str #</u>	<u>Reason for not meeting specification requirements:</u>
<hr/>	
<hr/>	
<hr/>	
<hr/>	

*I am verifying that I have field reviewed the above ROW and understand that there could be a financial implication to my company if the above information is incorrect and will affect future work with National Grid.*

Signatures Required:

---

General Foreman Signature

Date

---

Area Manager Signature

Date

FOR NATIONAL GRID OFFICE USE ONLY:  
Date Received by National Grid Forester:





Appendix 8  
Conductor Clearances

(Effective October 1, 2016 per FAC 003-4)



## 6.0 Clearance Distances

National Grid specifies clearance distances to be achieved at the time of vegetation management work and minimum clearances to be maintained at all times. Clearance distances established by National Grid below conform to the following regulatory standards and industry guidelines:

- North American Electrical Reliability Council (NERC) Vegetation Management Standard FAC-003-4;
- National Electric Safety Code (NESC) Rule 218; and
- Applicable State vegetation management standards or regulations.

### 6.1 National Grid At Time of Vegetation Management Clearance Distances

When performing ROW vegetation management, the following At Time of Vegetation Management (ATVM) Clearance Distances, by voltage, shall be achieved. Note: ATVM Clearances apply to incompatible species only. (See Definitions in Section 3.0).

At Time of Vegetation Management Clearance Distances (ATVM)		
Voltage <sup>1</sup>	Vertical (feet)	Horizontal (feet) <sup>2</sup>
23 to 46kV	12	12 – 38
69kV	14	14 – 42
115kV	18	18 - 50
230kV	22	22 – 50
345kV	26	26 – 50
450kV DC	28	28 - 50

1 Includes some Distribution Voltages below 23kV in New England

2 For span lengths greater than 500 feet, contractors need to achieve a horizontal ATVM clearance distance at the higher end of the range. Each range incorporates span lengths, an increase in voltage increases span length, and therefore increases clearance distance.

ATVM Clearance Distances are greater than the Minimum Clearance Distances. In establishing these clearance distances, National Grid considered site-specific conditions such as operating voltage, IVM techniques, fire risks, tree and conductor movement, species types and growth rates, species failure characteristics, local climate rainfall patterns, line terrain and elevation, location of vegetation within the span, worker approach distance requirements and the expected time frame (the maintenance cycle) before vegetation management will be repeated at the site.

## 6.2 National Grid Minimum Vegetation Clearance Distances (NGMVCD)

Notwithstanding the ATVM Clearance Distances above, the National Grid Vegetation Clearance Distances (formerly Clearance 2) specified below shall be maintained at all times. NGMVCD shall be maintained at all times in order to prevent flashover between vegetation and conductors. The transient overvoltage factor is known for most of the 12kV through 345kV voltages, however, National Grid has chosen to base the NGMVCD on Tables in Annex D of the IEEE Standard 516-2009, a more conservative approach. For the 450kV DC voltage, Table 10.3 of the EPRI HVDC Reference Book is cited for the NGMVCD.

<b>National Grid Minimum Vegetation Clearance Distances (NGMVCD)</b>	
<b>Voltage</b>	<b>Radial Clearance (feet)</b>
12 to 46kV	1
69kV	2
115kV	4
230kV	6
345kV	10
450kV DC	12

## 6.3 Minimum Vegetation Clearance Distance (MVCD)

Transmission Standard FAC-003-4 for Vegetation Management requires a minimum clearance for voltages operated at or above 200kV or any line operated below 200kV designated by the Planning coordinator as an Interconnection Reliability Operating Limit (IROL). The table below depicts a clearance distance that is representative of the most conservative minimum for elevations above sea level for the service territory (up to 3000 feet). The comprehensive table is located in the FAC-003-4 Standard and must be used for regulatory reporting purposes.

<b>Minimum Vegetation Clearance Distances (MVCD) for US Operations</b>	
<b>Voltage</b>	<b>Radial Clearance (feet)</b>
115kV IROL	<del>1.64</del> 2.0
230kV	<del>3.36</del> 4.3
345kV	<del>3.52</del> 4.5
450kV DC	<del>6.63</del> 8.81

## 6.4 Optimum Right-of-Way Width

The above ATVM clearance requirements are based on the optimal ROW width developed for various voltage classes. The ROW width is defined as the linear distance from the center line transmission to the ROW edge. The ROW edge is typically provided for by easements or fee owned ROW purchased at

the time of initial transmission line construction. A majority of transmission lines on National Grid's system have widths that are optimal; the remainder does not. This is why the ATVM horizontal distances were specified as a range. The optimum ROW widths specified below are those distances shown over 50 years of operational experience to render the combined benefits of good access, public safety, ease of construction and enhanced reliability. They may be used for guidance or planning purposes for maintenance, construction or regulatory compliance.

<b>Optimum Right-of-Way Width</b>	
<b>Voltage</b>	<b>Optimum Width from Centerline of Circuit (feet)</b>
12-46 kV	37.5
69 kV	37.5
115 kV	50
230 kV	60
345 kV	75

## **6.5 Exceptions to Clearance Distances:**

### **6.5.1 ATVM Clearances**

Legal restrictions and environmental and social concerns may prevent National Grid from achieving ATVM Clearance Distances at various sites across the transmission system. For NERC regulated circuits, National Grid shall map these sites within the VIPER (Vegetation Inspection Planning Evaluation and Reporting) system. All such sites will be inspected as needed and mitigation procedures taken to assure compliance with NGMVCD and MVCD.

### **6.5.2 Optimal Widths**

#### **6.5.2.1 New Construction**

When new transmission lines are constructed, the optimal ROW width is the target width sought during ROW acquisition. Width may vary as a result of construction type, terrain and acquisition feasibility.

#### **6.5.2.2 Excess Fee Owned Right of Way**

Where fee ownership extends beyond optimal width, other factors may determine a width, such as:

- Historic vegetation management records
- Construction Plans



Appendix 9  
Imminent Threat Procedure





# Handling Imminent Vegetation Threat to Transmission Circuit Operation

Is line voltage above 200 kV or 115 kV that is designated at an IROL? (NERC Regulated Lines)

**No? .... Unsure?** Notify National Grid Division Forester (or designee) and await further instructions.

**Yes?** Immediately notify Division Forestry Supervisor or designee of the threat. They must execute the following procedure:

## Declaration of an Imminent Threat

Is vegetation approaching or threatening to approach the MVCD to the conductor (as a fall-in or grow-in)? Would this threat need to be removed within 24 hours?  
**YOU MUST REPORT IMMEDIATELY!!**

## Communication

Without unnecessary delay, call the Transmission Control Center to report the threat.

<u>Contact</u>	<u>Location</u>	<u>Telephone Number</u>
NE Transmission Control Center	Northboro, MA	(800) 423-6029 <u>or</u> (800)-382-7260
NY Transmission Control Center	N. Syracuse, NY	(315) 460-2110

**Provide the following:**

- 1) enough information about the threat so the Transmission Control Center can decide on the appropriate operating action.
- 2) contact information for yourself and your Division Forestry Supervisor.

## Mitigation Measures

Stay clear of danger and wait for instructions from the Transmission Control Center and Division Forestry Supervisor. Assist where directed.

## Documentation

- a) Date and Timeline of all steps taken (observation, reporting, mitigation, etc.)
- b) Line name/# and structure #s
- c) Explanation of threat with surrounding circumstances
- d) How the mitigation decision was developed, including discussions with the system operator
- e) How the imminent threat was mitigated (actions by system operator and Forestry Supervisor)
- f) Photographs, if possible

