NextEra Energy Transmission New York, Inc.

(NEETNY)

Empire State Line

Case 18-T-0499

Appendix Y

AGRICULTURAL RESTORATION AND REMEDIATION PLAN

September 2020

EMPIRE STATE LINE
AGRICULTURAL RESTORATION AND REMEDIATION PLAN
TABLE OF CONTENTS

ACRONYMS & ABBREVIATIONS

Agricultural Inspector	agricultural and soil conservation specialist/inspector
Agricultural Plan	Agricultural Restoration and Remediation Plan
Dysinger Switchyard	New 345 kV switchyard in Niagara County
East Stolle Switchyard	New switchyard in Erie County connected to the existing Stolle Road Switchyard
EM&CP	Environmental Management and Construction Plan
kV	kilovolt
lbs.	pounds
NEETNY	NextEra Energy Transmission New York, Inc.
NYSAGM	New York State Department of Agriculture and Markets
NYSEG	New York State Electric & Gas Corporation
Project	Empire State Line Project
ROW	right of way
SWCD	Soil Water and Conservation District

1.0 INTRODUCTION

1.1 Purpose of the Agricultural Restoration and Remediation Plan

The following Agricultural Restoration and Remediation Plan (Agricultural Plan) describes activities that will be executed following construction of the NextEra Energy Transmission New York, Inc. (NEETNY), Empire State Line Project (Project) to ensure agricultural lands are properly restored. This Agricultural Plan incorporates conditions included in the Article VII Certificate related to agricultural land restoration and remediation. This Agricultural Plan is also consistent with the New York State Department of Agriculture and Markets (NYSAGM) *Guidelines for Electric Transmission Right-of-Way Projects* (NYSAGM 2011).

1.2 Project Background

NEETNY will construct and operate an approximately 20-mile 345 kilovolt (kV) transmission line and associated switchyards in the town of Royalton in Niagara County, New York, and the towns of Alden, Newstead, Lancaster, and Elma in Erie County, New York. Specifically, the Project will consist of: (a) a new 345 kV switchyard in the town of Royalton, Niagara County (Dysinger Switchyard); (b) a new switchyard connected to the existing New York State Electric & Gas Corporation (NYSEG) Stolle Road Substation in the town of Elma, Erie County (East Stolle Switchyard); and (c) an approximately 20-mile-long 345 kV transmission line that will connect to the Dysinger and East Stolle Switchyards.

The Project right-of-way (ROW) crosses Agricultural Districts ERIE014 and ERIE001 in the town of Newstead, and Agricultural District ERIE016 in the towns of Alden and Lancaster. Agricultural lands crossed by the Project ROW are marked on the Plan and Profile drawings in Appendix A of this Environmental Management and Construction Plan (EM&CP). The majority of agricultural land crossed consists of hayfields, with lesser amounts of row crops and pastureland. Crops present in the Project ROW include corn and soybeans. The Dysinger and East Stolle Switchyards are both located on sites currently used as hayfields. The Dysinger Switchyard is located in Agricultural District NIAGc07, while the East Stolle Switchyard is located in Agricultural District ERIE013.

Construction details are presented in Sections 2 and 3 of this EM&CP, and construction protection measures for agricultural areas are described in Section 7 of this EM&CP.

1.3 Scope and Implementation of the Agricultural Restoration and Remediation Plan

This Agricultural Plan sets forth the measures that NEETNY will employ to restore agricultural land affected during construction; monitor the success of restoration after construction is

completed; and, remediate for any affected agricultural land where restoration measures are found to be unsuccessful.

NEETNY will retain a qualified agricultural and soil conservation specialist/inspector (Agricultural Inspector) for each phase of the Project, including construction, initial restoration, post-construction monitoring, and follow-up restoration. The Agricultural Inspector will be responsible for executing this Agricultural Plan. In addition, contractors will be trained on the requirements of this Agricultural Plan during mandatory pre-construction environmental training.

1.4 Plan Limitations

The techniques and methods identified in this Agricultural Plan apply only to agricultural lands and do not apply to urban land, road and railroad ROW, and other disturbed lands not actively used for agriculture. The identified measures will be executed as long as they do not conflict with federal, state, landowner written requests, and approvals and regulations.

This Agricultural Plan is subject to revision as necessary to recognize any commitments to landowners, or new information available through consultations with NYSAGM, County Soil Water and Conservation Districts (SWCDs), and others. The Agricultural Plan may also be modified to respond to site-specific conditions during construction and restoration of the Project. The procedures stated in this Agricultural Plan are guidelines. Actual field conditions will dictate the procedures that are required to effectively protect the agricultural resources as determined by the Agricultural Inspector.

1.5 Points of Contact

NEETNY will provide all farm owners/operators with a toll-free or local telephone number to facilitate direct contact with an assigned NEETNY representative and the Agricultural Inspector through all stages of Project construction and restoration. The farm owner/operators will also be provided with a toll-free or local telephone number to facilitate direct contact with the NEETNY Project Manager during operation and maintenance of the transmission line.

2.0 AGRICULTURAL LAND RESTORATION

The following general guidelines will be applied to all restoration activities within agricultural lands:

- On affected farmland, restoration practices will be postponed until favorable (workable, relatively dry) topsoil/subsoil conditions exist.
- Restoration will not be conducted while soils are in a wet or plastic state.
- Stockpiled topsoil will not be regraded until plasticity, as determined by the Atterberg field test, or a similar soil moisture test, is significantly reduced.
- There will be no Project restoration activities in agricultural fields between the months of October through May unless favorable soil moisture conditions exist.
- NEETNY will monitor and advise NYSAGM and Department of Public Safety Staff regarding tentative restoration planning for the Project. Potential schedules will be determined by conducting the Atterberg field test, or a similar soil moisture test, at appropriate depths into topsoil stockpiles and below the traffic zone for a mutual determination of adequate field conditions for the restoration phase of the Project.
- Any construction entrances will be removed completely upon completion of the Project and restoration of the affected site will be performed prior to topsoil replacement, unless retention of the construction entrance would be more conducive to the existing land use than removal.
- At or prior to construction completion, NEETNY will rebuild to as-good or better condition any of the following features damaged by construction: fences and gates compatible with the Project ROW; fences and gates off the ESL ROW; and drainage features including drain tiles. The base of all new posts will be secured to a reasonable depth below the surface to prevent frost heave.

2.1 Restoration – Structure Removal

All structures and guy anchors removed from agricultural areas as part of the construction activities will be removed to a minimum depth of 48 inches below the soil surface. All holes or cavities created by the removal of the old facilities will be filled to the same level as the adjacent area, plus 6 to 12 inches of additional soil to allow for settling. All material used for fill will be similar to native soil, and all fill material shall be compacted.

2.2 Restoration – Structure Installation

Excavations will be limited to the pole diameter. Excavated subsoil material and stockpiled topsoil will be placed on matts and it will be used to restore the original soil profile at new structure locations. All holes or cavities created by structure installation will be filled to the same level as the adjacent area, plus 6 to 12 inches of additional soil to allow for settling. Excess substratum material not used for backfill will be removed from agricultural areas.

2.3 Restoration – Equipment Matting

Equipment matting will be used for all access areas across agricultural areas, with the exception of existing farm access roads. Matting will also be used where equipment is staged in agricultural areas to remove existing and install new transmission line structures. Locations of equipment matting are shown on the Plan and Profile drawings in Appendix A of this EM&CP.

Once access is no longer required across agricultural areas, the mats will be removed and the Agricultural Inspector will use a soil penetrometer to determine if soil compaction has occurred as a result of construction activities. All compacted areas will be decompacted as described in the following paragraph.

In all agricultural sections of the Project disturbed during construction and determined to be compacted, NEETNY's contractor will break up the subsoil compaction to a depth of 18 inches (unless bedrock is encountered at a depth of less than 18 inches) with deep tillage by such devices as a deep-ripper (subsoiler). Final soil compaction results will not be more than 250 pounds per square inch as measured by a penetrometer. Following the deep ripping, all stone and rock material 4 inches and larger in size that has been lifted to the surface will be collected and taken off-site for disposal. The topsoil that has been temporarily removed for the period of construction will then be replaced. Finally, deep subsoil shattering will be performed with a subsoiler tool with angled legs. Stone removal will be completed, as necessary, to eliminate any additional rocks and stone brought to the surface as a result of the final subsoil shattering process. Should subsequent construction and/or restoration activities result in compaction, then restoration activities will include additional deep tillage.

2.4 Restoration – Excess Topsoil

There will be no topsoil stripping within agricultural areas. As such, restoration of excess topsoil is not applicable to this Project.

2.5 Seeding

NEETNY will seed agricultural lands disturbed by construction of the Project. Seeding will be directed by the Agricultural Inspector based on coordination with the farm operator and in accordance with NYSAGM recommendations, as described below.

NEETNY will apply seeding rates that are somewhat higher than the standard seeding rates, per NYSAGM recommendations:

1) Common hayland plantings are listed below.
    a) Alfalfa - 20 lbs. per acre. if timothy, orchargrass or bromegrass are being added to the alfalfa, they will be added at the rate of 8 lbs. per acre.
    b) Pardee bird's-foot trefoil - 16 lbs. per acre and either: timothy, orchargrass, or bromegrass should be added at the rate of 6 lbs. per acre.
    c) Red clover - 15 lbs. per acre and either: timothy, orchargrass, or bromegrass should be added at the rate of 6 lbs. per acre.
2) Common pasture plantings are listed below.
    a) Ladino white clover - 3 lbs. per acre and either: timothy (6 lbs. per acre), orchargrass (8 lbs. per acre), or bromegrass (10 lbs. per acre).

While the other plants become established, annual ryegrass can be added to the seed mixtures described above to provide quick erosion control (6 to 7 lbs. per acre if a drill seeder is used and 12 to 14 lbs. per acre is a broadcast seeder is used). Additionally, the seedbed should be firm and not compacted or too wet (soil should not stick to seeder or tractor tires). Moreover, consistent with NYSAGM recommendations, fresh inoculants will be mixed with all legumes (alfalfa, bird's-foot trefoil, and clover) at the time of planting.

2.6 Drain Line Repair

Drawings showing the general technique to be implemented for drain line repairs are provided in the Drainage Line Repair Plan in Appendix K of this EM&CP. NEETNY met with the Erie County SWCD on February 13, 2020. During that meeting, the Erie County SWCD indicated that they were coordinating with Niagara County SWCD with respect to the Project. NEETNY provided the Erie County SWCD a Draft Drainage Line Repair Plan on April 10, 2020, for review and comment. The Erie County SWCD provided comments on the Draft Drainage Line Repair Plan to NEETNY on August 10, 2020. NEETNY submitted a revised Drainage Line Repair Plan to the Erie County SWCD for review on August 24, 2020. On August 28, 2020, the Erie County SWCD advised NEETNY that the revised plan addressed their comments (see Appendix H).

3.0 AGRICULTURAL LAND MONITORING AND REMEDIATION

3.1 General

The Agricultural Inspector will monitor the conditions of topsoil thickness, relative content of rock and large stones, crop productions, trench settling, drainage and repair of severed fences, etc. Agricultural areas that are impacted by construction will be identified by monitoring, consultation with farm owners and operators and NYSAGM. The Agricultural Inspector will work with farm operators during the planning phase to develop a plan to delay the pasturing of the Project, following construction until pasture areas are adequately revegetated. NEETNY will maintain the temporary fencing on the Project until the Agricultural Inspector determines that the vegetation in that area is established and able to accommodate grazing. At such time, NEETNY will remove the fences.

Following the completion of Project restoration in agricultural areas, NEETNY will complete monitoring for a period of two growing seasons to identify any remaining agricultural impacts associated with Project construction that require remediation and to implement the follow-up restoration. During the monitoring and remediation period, the Agricultural Inspector will perform on-site monitoring three times during each growing season including a comparison of growth and yield for crops on and off the disturbed areas.

3.1.1 Seeding

Seeding will be considered satisfactory if plant density and plant vigor are equal to or better than adjacent undisturbed areas, and weed population is less than the adjacent undisturbed areas. If necessary, NEETNY will employ weed control measures in accordance with its Vegetation Management Plan.

If topdressing hayland and pasture with fertilizer is necessary to improve the plant stand, the soil will be tested to determine the appropriate fertilizer application rate. In the absence of soil test information, a minimum of 50 lbs. of nitrogen, 10 to 30 lbs. of phosphorous, and 50 lbs. of potassium per acre will be applied, per NYSAGM recommendations.

3.2 Special Crop Productivity Monitoring

The following crop monitoring procedures will be implemented to compare crop yields on and off the ROW, in accordance with the Special Crop Productivity Monitoring Procedures guidance provided by NYSAGM (NYSAGM 1993). For measuring comparative yields for grain corn, small grains, and soybean, relative yields may be determined using real-time yield monitors. If the farm operator has such technology available, it may be used with the agricultural inspector's approval and assistance at the time of harvest. Results would be shared and assist in making a remediation plan, if needed.

3.2.1 Corn Crops

1) Plant Population
   a) The plant population will be checked in corn fields in late May or early June.
   b) The number of plants will be counted in an area equal to 1/1,000 of an acre (see Table 3-1). The population count will be performed for the traffic area of the ROW, where equipment matting was used. The same will be performed for the unaffected adjacent field.
   c) The population count will be repeated for two other locations along the ROW.
   d) The population counts will be averaged from on the ROW and converted into plants per acre. The same counts will be done from off the ROW.

Table 3-1: Row Length to Sample 1/1000 Acre

Row Width (inches)	Length of Row
42	12 feet 5 inches
40	13 feet 1 inch
38	13 feet 9 inches
36	14 feet 6 inches
34	15 feet 5 inches
32	16 feet 4 inches
30	17 feet 5 inches

Source: NYSAGM 1993

2) General Appearance
   a) In late July or early August, the general appearance of the fields will be observed and any visual differences in population, color, or size on and off the ROW will be noted.
3) Yield
   a) Differences in general appearance on and off the ROW will be recorded during early September (silage) or early October (grain corn).
   b) Sample plots will be selected using the same method as mentioned above (1b). The number of rows of kernels and the number kernels per row will be counted on at least three of the ears in the sample area. Kernels at the tip of the ear that are less than one half of the normal size will not be counted.
   c) The following will be calculated to find the number of bushels per acre:

      multiply the number of ears x the number of rows of kernels x the number of kernels per row x 0.01116.

d) The results from the three ears from one sample plot will be averaged. The results from the nine sample plots on the ROW and the three sample plots off the ROW will be averaged.

3.2.2 Small Grains

1) Plant Population

   a) The plant populations will be checked in October (winter grains) or in mid to late May (spring grains). Population counts will be performed for the spoil area, trench area, traffic area, and the unaffected field. The number of plans will be counted in 1/10,000 of an acre (2.09 feet by 2.09 feet). This will be repeated for the other two locations in the same field.

2) General Appearance

   a) The fields will be observed in June or early July and any visual differences in color, size, and plant population on and off the ROW will be recorded.

3) Yield

   a) The crop will be harvested for yield checks in mid-July or early August (earlier for winter grains).

   b) Sample plots will be selected using the same method that was used for population checks.

   c) The crop will be cut by hand from the sample plot approximately 3 inches above the ground.

   d) The grain will be separated, weighed, tested for moisture level, and the results will be averaged and converted into bushels per acre and compared.

3.2.3 Soybeans

1) Plant population

   a) The plant populations will be checked in late June or early July. If the soybeans are planted in rows, the same method that was used for corn will be used. If the soybeans are planted with closer spacing, the method for small grains will be used.

2) General Appearance

   a) The general appearance will be checked in early August and any visual difference in population, color, or size on the ROW will be noted.

3) Yield

a) The plants will be harvested in late September and early October. If the soybeans are planted in rows, the same method used for corn will be used. If they are planted with closer spacing, the method for small grains will be used.

b) The beans will be separated, weighed, and tested for moisture. The results for the sample areas on the ROW will be averaged using the same method as was used for small grains. The same will be done for the sample area off the ROW.

c) The averages will be converted to bushels per acre.

324 Hay Crops

1) Plant Population

a) Population counts for hay crops are not necessary, however, the Agricultural Inspector will note the percentage of alfalfa in mixed stands on and off the ROW.

b) Any visible difference in populations of pure alfalfa stands will be noted.

2) General Appearance

a) The general appearance of hay stands will be recorded in the late spring, mid-summer, and late summer. Differences in color, height, and stand quality will be noted.

3) Yield

a) Yield checks for hay will be completed just before the second cutting is done.

b) The vegetation will be cut from the sample plot (1/10,000 of an acre) 2 to 3 inches above the ground. The moisture level will be tested, the weight recorded, and the weights will be adjusted using the example below. The results from on and off the ROW will be averaged.

Ideal moisture level = 18%
Sample weight = 0.6 lbs.
Moisture level of sample = 25%

25% - 18% = 7%
0.6 lbs. x 0.07 = 0.042 lbs.
0.6 lbs. – 0.042 lbs. = 0.56 lbs.
0.56 lbs. x 10,000 = 5,600 lbs./ac. = 2.8 tons/ac.

3.3 Remediation

In cases where crop productivity within the affected area is less than that of the adjacent unaffected agricultural land, the Agricultural Inspector, in conjunction with NEETNY and NYSAGM, will determine the appropriate rehabilitation measures to be implemented by NEETNY (e.g., soil decompaction and topsoil replacement).

NEETNY will retain the Agricultural Inspector on at least a part-time basis through the entire monitoring and remediation period. After completion of the monitoring and remediation period, spanning two growing seasons, NEETNY will continue to respond to the reasonable requests of the farmland owner/operators to correct Project-related effects on the impacted agricultural resources.

4.0 REFERENCES

New York State Department of Agriculture and Markets (NYSAGM). 1993. *Special Crop Productivity Monitoring Procedures.* February 1993.

_____. 2012. *New York State Farmland: Fertilizing, Lime and Seeding Recommendations for Restoration of Construction Projects on Farmlands* (revised 9-25-2012).

_____. 2011. *Guidelines for Electric Transmission Right-of-Way Projects.* April 27, 2011.