

May 3, 2016

Mr. Robert Stein
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Petition No. Petition 1227 - 1975 Line Project

Dear Mr. Stein:

This letter provides the response to requests for the information listed below.

Response to CSC-01 Interrogatories dated 04/20/2016
CSC-001, 002, 003, 004

Very truly yours,

Kathleen Shanley
Manager
Transmission, Siting
As Agent for CL&P
dba EversourceEnergy

cc: Service List

**Witness: Witness Panel
Request from: Connecticut Siting Council**

Question:

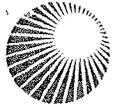
Is the Royal Oak Subdivision and Eversource agreement to preserve vegetation along the ROW still in place? If so, how would Eversource manage vegetation management during construction and post construction? [Council Docket No. 272, Finding of Fact 538 - The Royal Oak Bypass is supported by the towns of Middletown, Durham and Middlefield. There is an agreement in place since 1997 between the residents of Royal Oak Subdivision and Northeast Utilities to preserve vegetation along this unique ROW in this area. The Applicants do not oppose construction of the Royal Oak Bypass. (Brief of City of Middletown, 3/16/05, p. 6; Tr. 2/27/04, p. 59; Tr. 3/31/05, p. 218, p. 221, p. 263)]

Response:

There is no "agreement to preserve vegetation along the right-of-way" with the Royal Oak residents as a whole or with all abutters of the ROW through the Royal Oak subdivision. The Company has individual agreements with some residents in the Royal Oak subdivision who own property subject to Eversource easements that allow these owners to maintain the vegetation on their properties to the Company's specifications in lieu of Eversource removing trees or using herbicides to control incompatible vegetation on these properties. As a matter of practice, the Company has managed the entire section of ROW through the Royal Oak subdivision as if these agreements applied to the entire section, so as to maintain a uniform appearance of the ROW. These agreements, and the Company's practice consistent with them, apply only to maintenance of the ROW and not to new construction where previously allowed vegetation would conflict with the installation of new facilities. During construction, vegetation that conflicts with or impedes the installation of the new facilities will need to be removed. Following construction, vegetation will be allowed to re-establish in the cleared areas to the extent consistent with the Company's specifications to maintain adequate clearances.

Attached below are a list of the property owners in the Royal Oak subdivision with whom Eversource has these agreement and a copy of one of the agreements.

Plante	Gilles	44 Ironwood Lane	Durham	CT
Bradley	Mitchell	47 Ironwood Lane	Durham	CT
Brant	James	35 Evergreen Terrace	Durham	CT
Hicks	Norman	34 Little Lane	Durham	CT
Pietruska	Walter	58 Black Walnut Dr.	Durham	CT



**Northeast
Utilities System**

107 Selden Street, Berlin, CT 06037

Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270
(860) 665-5000

July 3, 1997

Mr. Walter Pietruska
58 Black Walnut Dr.,
Durham, Ct 06422
(860) 349-8102

Dear Mr. Pietruska:

This will confirm our conversation on July 1, 1997 concerning the maintenance (trimming and pruning) of trees and shrubs within the 115 kV CL&P right of way from the Carpenter La. Jct. in Wallingford, Ct. to Oxbow Jct. in Haddam, Ct. If this letter correctly states our agreement on this matter, please sign it on the line after the word "Agreed" in the margin below and return it in the enclosed addressed envelope to:

Northeast Utilities

PO Box 270

Hartford, CT 06141

Attn.: Alan T. Chapman - Bldg. 3333

Proper maintenance of our transmission lines, including keeping the lines and structures free from contact or interference from woody vegetation, is essential to safe and reliable electric service. We have an easement on your land that allows us to control woody vegetation in the right-of-way, in order to keep our lines structures and access to them clear. Normally, all woody vegetation (trees and vines) are removed from the right-of-way. Because you do not want us to remove the trees from the right-of-way on your property, you have agreed to trim or prune these trees in accordance with the maximum heights listed below after initial :

- Trees within the conductor zone (the continuous area under the conductors extending outward a distance of 15 feet from the outermost conductors) shall be kept at or below a height of 15 feet. Trees to be cut in conductor zone are cherry (except on the lawn), sumac and ash. Trees to be trimmed are pine, apple, sassafras, cedar, Flowering Dogwood, maple and spruce. Treat stumps with Accord. Chip the brush.

Call 48 hours before starting work.

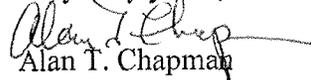
- The trees in the side zones shall be kept at or below 20 feet.

The woody vegetation that you have agreed to maintain includes all trees that are capable of growing tall enough to contact the overhead lines. You have agreed to keep these trees trimmed or pruned within the above stated heights and in accordance with the standards set forth in the enclosed Transmission Easement Right-of-Way Conditions to be Met in Lieu of Vegetation Removal ("Conditions").

However, if after that time the trees are not trimmed and we determine that the right-of-way area does not meet the standards set forth in the "Conditions" or with this agreement, we will remove the trees as allowed by our easement.

WARNING: The Transmission lines located in the right-of-way carry live electric current. As a safety precaution, you must **not** cut or trim trees that are in close proximity to the overhead conductors. Contact with the energized lines can cause serious injury or death. If trees are growing near the lines when this agreement is signed, the NU Representative will make a determination on whether or not CL&P will cut, top or trim back the trees away from the conductors to a safe distance. After that, the property owner or his contractor will be required to perform all future tree trimming and maintenance.

Very truly yours,



Alan T. Chapman

Construction Representative

Agreed: Walter R. Pietr
(Land Owner)

Enclosure: Transmission Easement Right-of-Way Conditions and Easement

ilopietr.doc

- 1) Please, if possible widen the access road towards Middletown (White House) side of the existing path.
- 2) Leave all trees on lawn untouched.
- 3) Only top cedar & other bushes in area where blueberry & pines are growing. I will remove all pines in the fall & transplant them.
- 4) Two trees by white house try to leave standing removing all branches growing towards power lines.

NORTHEAST UTILITIES
TRANSMISSION
EASEMENT RIGHT-OF-WAY CONDITIONS
TO BE MET IN LIEU OF VEGETATION REMOVAL

- A. The right-of-way shall be cleared and kept clear at all times of live woody vegetation as follows:
1. Established access routes within the right-of-way easement area, areas around pole or tower structures and guying anchors shall be clear of all woody tree and brush species. Low growing shrubs that mature at a height of 2 feet or less (e.g. lowbush blueberry) may remain as well as grasses and forbs (e.g. herbs and ferns).
 - Access routes shall be maintained to a width of 14 feet.
 - Structure areas shall be maintained to a distance of 10 feet outward from each structure.
 - Anchors guys shall be maintained to a distance of 5 feet around each anchor.
- B. All trees and shrubs to remain within the right-of-way easement area shall be maintained, trimmed or pruned, so that they will not grow tall enough to potentially contact the overhead conductors.
- C. If cut-off brush, limbs or branches are piled by the land owner within the limits of the right-of-way easement area, they shall be piled as near to the cleared or maintained edges as possible and outside of the outermost conductors. No vegetative debris shall be piled within the cleared access route, within the cleared areas around structure or guy anchors or within any other area designated by the Northeast Utilities' Representative.
- If the debris is chipped, the land owner may spread the chips anywhere within the maintained portion of the right-of-way. The maximum depth of the chips shall not exceed three inches.
- D. The land owner shall identify with visible markings that boundaries of his property within the right-of-way.

CL&P dba Eversource Energy
Petition No. Petition 1227

Data Request CSC-01
Dated: 04/20/2016
Q-CSC-002
Page 1 of 1

Witness: Witness Panel
Request from: Connecticut Siting Council

Question:

Would the proposed increase in replacement structure height and associated conductors comport with a) North American Electric Reliability Corporation reliability criteria and b) Eversource's storm hardening requirements?

Response:

Yes. The proposed line layout in this area will provide the required clearances at maximum operating temperature underneath this transmission line. In addition, the structures comply with Eversource's storm hardening requirements because they are designed to exceed the structural loading criteria as defined in Section 25 of the 2012 edition of the National Electrical Safety Code which includes being designed to withstand a 110 MPH wind.

Witness: Witness Panel
Request from: Connecticut Siting Council

Question:

How far (distance and direction) is the nearest residence from a) an existing structure to be removed and b) the tallest proposed structure? Would the residence be the one and the same, if not explain.

Response:

- a. The nearest residences to an existing structure to be removed are at a distance of approximately 53 feet , which occurs at two locations. The existing structure 4501 is approximately 53 feet from the house at 11 Packinghouse Hill Road in Durham (due West-Northwest from house to pole). Also, the existing structure 3579 is approximately 53 feet from the house at 49 Black Walnut Drive in Middletown (due South-Southwest from house to pole).
- II. The tallest proposed structure is #3581 with an above-ground height of 74.5 feet. The nearest house is located at 30 Evergreen Terrace in Durham and is approximately 190 feet from the pole (pole is due North from the house).

The residences are not the same. The houses do not affect the clearance requirements (and therefore structure heights) for the transmission line design because the houses are outside of the easement area. So for these structures, the line design is only governed by terrain, above ground utilities, and other obstacles that exist within the ROW.

Witness: Witness Panel
Request from: Connecticut Siting Council

Question:

Is the same average annual load used for calculating electric and magnetic fields for both the existing and proposed conductor configurations? If so explain why the proposed electric and magnetic fields are higher even though the conductors are five feet higher than existing conductors?

Response:

The same current flow on the 1975 Line is assumed both pre- and post-construction for the calculation of magnetic fields. The electric field calculations are not a function of transmission line current but rather line voltage. It should be noted that the electric field for the proposed construction is lower at and beyond the edges of the ROW and has a lower maximum within the ROW. The magnetic field for the proposed project is lower at the edges of the ROW and beyond, but higher in center of the ROW. The higher maximum magnetic field directly underneath the new line is a result of the lines being brought together. That is, the new single circuit will carry twice as much current as each of the existing two circuits. The reason that the magnetic field is lower at the edges of the ROW is that the new line will be constructed in the middle of the ROW, and the conductors are therefore farther from the ROW edge.