November 15, 2018

Ms. Melanie Bachman
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Petition No. Petition 1351 - Wallingford to Branford Upgrade Project - 1655 Line

Dear Ms. Bachman:

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

Response to CSC-01 Interrogatories dated 11/07/2018
CSC-001, 002, 003

Very truly yours,

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

cc: Service List

Witness: **Gregory T. Emery**
Request from: **Connecticut Siting Council**

Question:
Can the new replacement structures be able to support increased structural loading if conductors are increased in size in the future? (e.g., reconductoring from 795 kcmil to 1,272 kcmil)

Response:
Yes, the majority of new structures will be able to support increased structural loading if the conductors are increased in size in the future, such as from 795 kcmil to 1,272 kcmil. Some structures, such as the 15 direct embed monopoles, may need to be replaced to support a larger conductor size. The proposed structures would be able to accommodate a reconductor from 795 kcmil ACSR to 795 kcmil ACSS, which would increase ampacity by approximately 20%.

Witness: **Gregory T. Emery**
Request from: **Connecticut Siting Council**

Question:
Referring to Petition Section 6, Electric and Magnetic Fields, p. 19, what factors account for the slight increase in magnetic field levels along the west ROW edge?

Response:
The slight increase in magnetic field levels along the west ROW edge from Branford Substation to Totoket Junction is due to a change from horizontal construction to vertical construction. As a result of the change to vertical construction, the east and center existing phases are proposed to move closer to the west ROW edge. The existing west phase is proposed to move closer to the east ROW edge. Overall, the magnetic field levels increase on the west ROW edge and decrease on the east ROW edge.

The slight increase in magnetic field level along the west ROW edge from Totoket Junction to East Wallingford Junction is due to an increase of phase spacing. The existing 115-kV single circuit wood H-frame structures have phase spacing of 13 feet. The proposed 115-kV single circuit steel H-frame structures have phase spacing of 15.5 feet. Eversource standard 115-kV single circuit steel H-frame structures typically have phase spacing of 15.5 feet.

STRUCTURE	EXISTING 115-kV TYPE	EXISTING 115-kV HEIGHT (FT)	NEW 115-kV TYPE	NEW 115-kV HEIGHT (FT)	HEIGHT CHANGE (FT)	EXISTING ADJACENT STRUCTURE	EXISTING ADJACENT HEIGHT (FT)
4696	H-Frame	79	H-Frame	83.5	4.5	8808	97
4696A	H-Frame	70	H-Frame	74.5	4.5	8810	83.5
4698	H-Frame	56.5	H-Frame	74.5	18	8812	79
4699	H-Frame	52	H-Frame	61	9	8813	88
4700	H-Frame	56.5	H-Frame	65.5	9	8814	83.5
4701	H-Frame	61	H-Frame	65.5	4.5	8816	83.5
4703	H-Frame	61	H-Frame	70	9	8817	88
4704	H-Frame	56.5	H-Frame	61	4.5	8818	79
4708	H-Frame	47.5	H-Frame	52	4.5	8822	83.5
4710	H-Frame	56.5	H-Frame	65.5	9	8824	74.5
4713	H-Frame	56.5	H-Frame	65.5	9	8827	88
4714	H-Frame	56.5	H-Frame	65.5	9	8827	88
4715	H-Frame	52	H-Frame	61	9	8829	70
4717	H-Frame	52	H-Frame	61	9	8830	74.5
4718	H-Frame	56.5	H-Frame	61	4.5	8831	83.5
4721.5	H-Frame	56.5	H-Frame	61	4.5	8834	74.5
4723	H-Frame	65.5	H-Frame	70	4.5	8836	79
4724	H-Frame	65.5	H-Frame	70	4.5	8837	83.5
4725	H-Frame	70	H-Frame	79	9	8839	70
4727	H-Frame	56.5	H-Frame	61	4.5	8841	88
4731	H-Frame	61	H-Frame	65.5	4.5	8844	79
4732	H-Frame	61	H-Frame	65.5	4.5	8845	79
4734	H-Frame	61	H-Frame	65.5	4.5	8847	79
4735	H-Frame	56.5	H-Frame	70	13.5	8848	83.5
4738	H-Frame	61	H-Frame	70	9	8850	74.5
4745	H-Frame	61	H-Frame	65.5	4.5	8859	65.5
4747	H-Frame	61	H-Frame	70	9	8861	83.5
4750	H-Frame	61	H-Frame	65.5	4.5	8864	88
4752	H-Frame	61	H-Frame	70	9	8867	79
4753	H-Frame	52	H-Frame	56.5	4.5	8868	74.5
4757	H-Frame	74.5	H-Frame	79	4.5	8872	92.5
4759	H-Frame	70	H-Frame	79	9	8874	92.5
4761	H-Frame	61	H-Frame	65.5	4.5	8876	88
4762	H-Frame	61	H-Frame	65.5	4.5	8877	88
4763	H-Frame	38.5	H-Frame	43	4.5	8878	125
4764	H-Frame	70	Monopole	95	25	4783A	61
4765	H-Frame	65.5	Monopole	84	18.5	4783	88.5
4766	H-Frame	70	Monopole	84	14	4784	88.5
4767	H-Frame	61	Monopole	95	34	4785	88.5
4768	H-Frame	56.5	Monopole	88.5	32	4786	84
4769	H-Frame	61	Monopole	88.5	27.5	4787	75
4770	H-Frame	61	Monopole	92.5	31.5	4788	84

STRUCTURE	EXISTING 115-kV TYPE	EXISTING 115-kV HEIGHT (FT)	NEW 115-kV TYPE	NEW 115-kV HEIGHT (FT)	HEIGHT CHANGE (FT)	EXISTING ADJACENT STRUCTURE	EXISTING ADJACENT HEIGHT (FT)
4771	H-Frame	61	Monopole	93.5	32.5	4789	84
4772	H-Frame	61	Monopole	84	23	4790	75
4773	H-Frame	61	Monopole	84	23	4791	75
4774	H-Frame	56.5	Monopole	84	27.5	4792	84
4775	H-Frame	47.5	Monopole	70	22.5	4793	61
4776	H-Frame	56.5	Monopole	84	27.5	4794	79
4777	H-Frame	61	Monopole	88.5	27.5	4795	84
4778	H-Frame	65.5	Monopole	93.5	28	4796	75
4779	H-Frame	61	Monopole	93.5	32.5	4797	88.5
4780	H-Frame	61	Monopole	93.5	32.5	4798	88.5
4781	H-Frame	65.5	Monopole	95	29.5	4799	88

Witness: **Gregory T. Emery**
Request from: **Connecticut Siting Council**

Question:
Referring to Petition p. 4, list the structures that require an increase in height.

Response:
Attached is the individual structure height information for the existing structures, proposed structures and the 345-kV structures within the right-of-way.