

LEGEND:

- C129 LINE:
- C129 STR:

DWG REV	EPN/DESCRIPTION	CONT/PEP	DATE	DRN	CHKD	APPR
1	SUBMITTED TO PUC		10/22/20	CTS	SDR	APS

EVERSOURCE

ENERGY

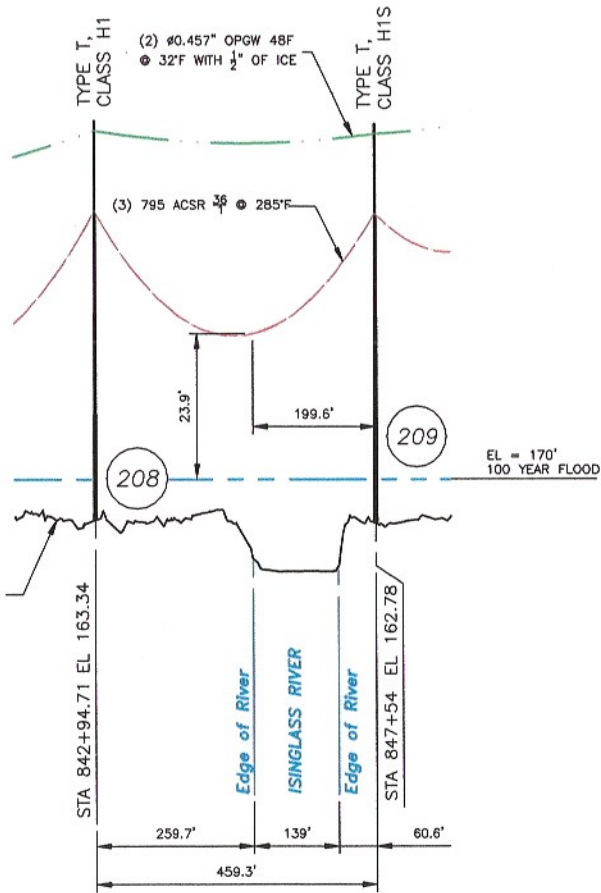
T	1
DRAWN	CTS
ENGINEER	APS
CHECKED	SDR
APPROVED	APS
DATE	10/22/20

C129 115kV LINE
ISINGLASS RIVER, WATERBODY CROSSING LOCATION PLAN
ROCHESTER, NEW HAMPSHIRE
EXHIBIT 1

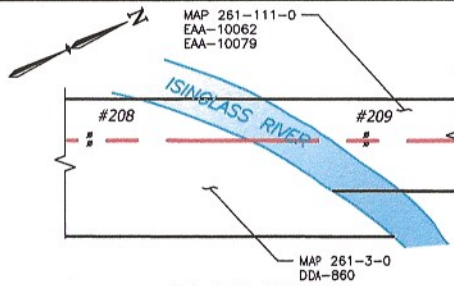
SCALE
1" = 5000'

FILE: C12943901.DWG
IMAGE:

DRAWING NO.
G12843901

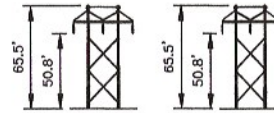


PROFILE VIEW
SCALE: HORZ 1" = 200'
VERT 1" = 20'



PLAN VIEW
SCALE: 1" = 200'

STRUCTURE 209 IS APPROXIMATELY 1,120' SOUTHWEST FROM FLAGG ROAD



STRUCTURE 208 TYPE T
STRUCTURE 209 TYPE T

STR'S 208 & 209: ARE AN EVERSOURCE TYPE T, SINGLE CIRCUIT STEEL POLE, TANGENT, H-FRAME.

STRUCTURE DETAIL
SCALE: NTS

LEGEND:

- #208 STRUCTURE LINE, C OF CONSTRUCTION
- LIMITS OF EVERSOURCE RIGHT OF WAY

STRUCTURE LOCATION		
STRUCTURE	LONGITUDE	LATITUDE
208	-70.9909294	43.2533603
209	-70.9902033	43.2545032

NESC VERTICAL CLEARANCE (FT) FROM TABLE 232.1, C2-2012	
NATURE OF SURFACE UNDERNEATH WIRES, CONDUCTORS OR CABLES	115kV
WATER AREAS NOT SUITABLE FOR SAIL BOATING OR WHERE SAIL BOATING IS PROHIBITED	18.6

CABLE SCHEDULE						
WIRE	QTY OF CABLES	DESCRIPTION	DESIGN CONDITION			
			MAX DESIGN TENSION (lb)	TEMP (°F)	ICE (in)	WIND (psf)
CONDUCTOR	3	ACSR 795 Kcmil 48	4644	0	0.5	4
OPGW	2	OPGW 48F	3279	0	0.5	4

NOTES:

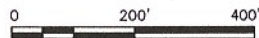
- PARCEL INFORMATION PROVIDED BY NH GRANIT.
- ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
- THE 100 YEAR FLOOD ELEVATION FROM THE FEMA FLOOD MAP SERVICE CENTER, NATIONAL FLOOD HAZARD LAYER FIRMETTE, 09/01/2020 IS A ZONE A. THE ELEVATION WAS DEVELOPED THROUGH CONTOUR INTERPOLATION AS DEFINED IN THE FEMA APPROXIMATE ZONE A AREAS. A GUIDE FOR OBTAINING AND DEVELOPING BASE (100 YEAR) FLOOD ELEVATIONS, SECTION V; DEVELOPING BASE (100 YEAR) FLOOD ELEVATIONS.

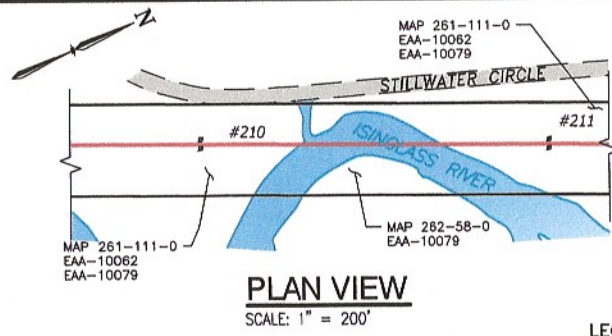
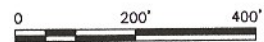
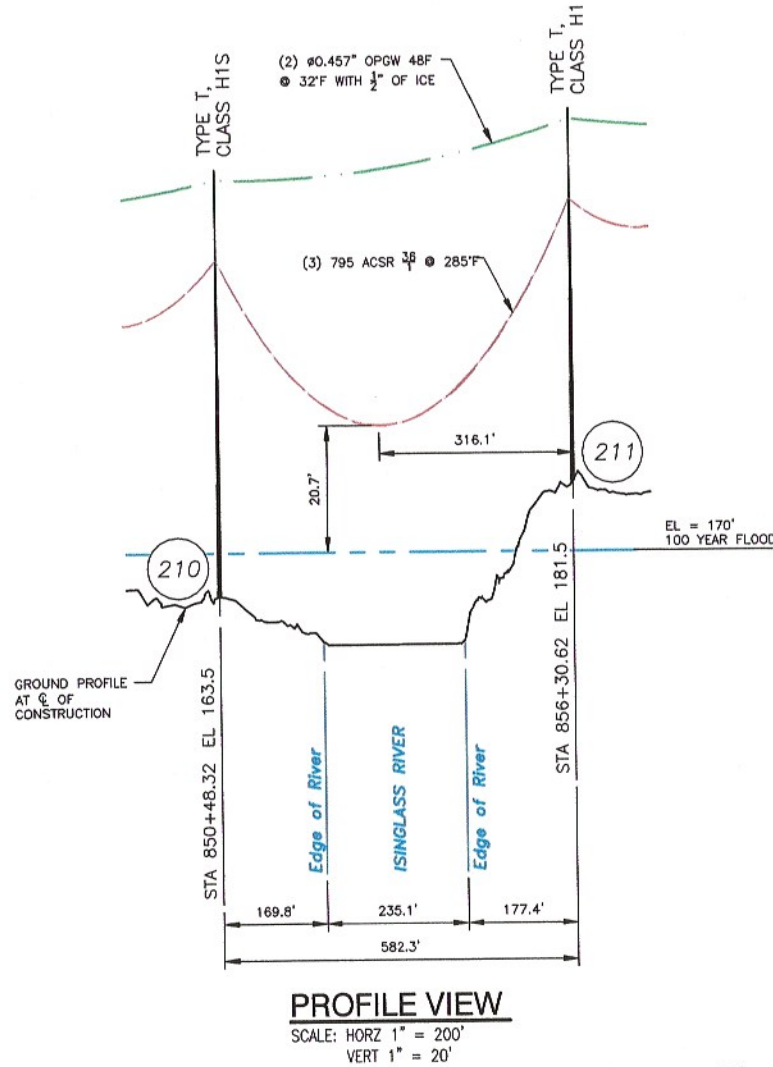
EVERSOURCE ENERGY

C129, 115kV LINE
ISINGLASS RIVER, PUBLIC WATER CROSSING
ROCHESTER, NEW HAMPSHIRE
EXHIBIT 2

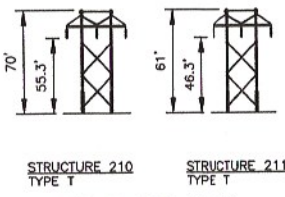
DRAWN CTS	T 1
ENGINEER APS	CHECKED SDR
APPROVED APS	DATE 10/22/20
DRAWING NO. G12843901	

NO	DATE	BY	CHKD	APPD	DESCRIPTION
1	10/22/20	CTS	APS	SDR	SUBMITTED TO PUC





STRUCTURE 211 IS APPROXIMATELY 230' SOUTHWEST FROM FLAGG ROAD



STR'S 210 & 211: ARE AN EVERSOURCE TYPE T, SINGLE CIRCUIT STEEL POLE, TANGENT, H-FRAME.

STRUCTURE DETAIL
SCALE: NTS

NOTES:

1. PARCEL INFORMATION PROVIDED BY NH GRANIT.
2. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. THE 100 YEAR FLOOD ELEVATION FROM THE FEMA FLOOD MAP SERVICE CENTER, NATIONAL FLOOD HAZARD LAYER FIRMETTE, 09/01/2020 IS A ZONE A. THE ELEVATION WAS DEVELOPED THROUGH CONTOUR INTERPOLATION AS DEFINED IN THE FEMA APPROXIMATE ZONE A AREAS, A GUIDE FOR OBTAINING AND DEVELOPING BASE (100 YEAR) FLOOD ELEVATIONS, SECTION V; DEVELOPING BASE (100 YEAR) FLOOD ELEVATIONS.

LEGEND:

- #210 STRUCTURE
- LINE, ϕ OF CONSTRUCTION
- LIMITS OF EVERSOURCE RIGHT OF WAY

STRUCTURE LOCATION		
STRUCTURE	LONGITUDE	LATITUDE
210	-70.9879649	43.2590477
211	-70.9876695	43.2600481

NESC VERTICAL CLEARANCE (FT)	
FROM TABLE 232.1, C2-2012	
NATURE OF SURFACE UNDERNEATH WIRES, CONDUCTORS OR CABLES	115kV
WATER AREAS NOT SUITABLE FOR SAIL BOATING OR WHERE SAIL BOATING IS PROHIBITED	18.6

CABLE SCHEDULE						
WIRE	QTY OF CABLES	DESCRIPTION	DESIGN CONDITION			
			MAX DESIGN TENSION (lb)	TEMP (°F)	ICE (in)	WIND (psf)
CONDUCTOR	3	ACSR 795 Kcmil $\frac{3}{8}$ "	4644	0	0.5	4
OPGW	2	OPGW 48F	3279	0	0.5	4

EVERSOURCE ENERGY

C129, 115kV LINE
ISINGLASS RIVER, PUBLIC WATER CROSSING
ROCHESTER, NEW HAMPSHIRE
EXHIBIT 3

DRAWN CTS	T 1
ENGINEER APS	CHECKED SDR
APPROVED APS	DATE 10/22/20

DRAWING NO.
G12843902




1	SUBMITTED TO PUC	10/22/20	CTS	SDR	APS
0	EPN/DESCRIPTION	CON/PER	DATE	DRN	CHKD

SCALE AS SHOWN FILE: C12943902.DWG DRAWING NO. G12843902

EXHIBIT 4 - Site Location Map

Line C129, 115kV
Isinglass River Waterbody Crossing
Rochester, New Hampshire
Image credit: Google Earth (5/4/2018)

Legend

-  Barrington Family Eye
-  Line C129
-  Rochester Truck Repair

Str 211 (-70.9876695 , 43.2590477)

Str 210 (-70.9879649 , 43.2590477)

Str 209 (-70.9902033 , 43.2545032)

Str 208 (-70.9909294 , 43.2533603)

Google Earth

2000 ft



STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

DE 11-073

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Petition for License to Construct and Maintain Lines and Static Wires
Over and Across the Oyster River and Bellamy River in the Town of Barrington, the Bean
River, North River and Little River in the Town of Nottingham, and the Isinglass River in
the City of Rochester, New Hampshire

Order *Nisi* Granting License

ORDER NO. 25,261

August 11, 2011

I. BACKGROUND

On April 5, 2011, Public Service of New Hampshire (PSNH) filed a petition with the Commission for a license to construct and maintain electric lines and static wires over and across seven bodies of water located in the towns of Barrington, Nottingham and Rochester, New Hampshire. Each of the proposed crossings comprises a portion of line C-129, a 115 kV transmission line that PSNH currently operates and maintains between substations in Deerfield and Rochester, New Hampshire. According to the filing, the line is an integral part of the PSNH transmission system and the overall New England transmission grid.

PSNH has determined that it is necessary to upgrade the C-129 line in order to continue to meet the reasonable requirements of service to the public, due to load growth in the seacoast area of New Hampshire and installation of an additional autotransformer at the Deerfield Substation in Deerfield, New Hampshire. According to the petition, the C-129 line upgrade will involve replacement of the C-129 conductors and static wires at four of the seven water crossings. At the other three crossings, the existing C-129 conductors and static wires will not be

replaced but the conductors will be operationally up-rated in current carrying capacity to result in new, lower sag clearances. PSNH anticipates a construction start date for the C-129 line upgrade project of approximately September 5, 2011, with in-service completion of the projects in December 2011.

The filing notes that replacement of one structure (structure 49) will occur within the protected shoreland of the North River as defined by RSA 483-B and within jurisdictional wetlands as defined by RSA 482-A. PSNH states that it will comply with applicable requirements under Department of Environmental Services (DES) rule Env-Wq 1406.04(d)(7), and that an application for a permit under RSA 482-A is pending before the DES. According to the petition, each of the crossings will be constructed and maintained within the limits of permanent easements currently owned by PSNH on each side of the water bodies at each of the proposed crossing locations.

PSNH further states in its petition that minimum safe line clearances above the water surface and affected shorelines will be maintained at all times, and that the use and enjoyment by the public of the waterway will not be diminished in any material respect as a result of the overhead line crossing. As a result, according to the petition, the requested licenses may be exercised without affecting the rights of the public in the affected public waters.

II. SUMMARY OF CROSSINGS AND STAFF REVIEW

A. NOTTINGHAM

Bean River. The upgrading of the C-129 line will require reconductoring at one location (structures 21 and 22) on the Bean River in Nottingham. The petition portrays a vertical clearance of at least 27.3 feet from the 100-year flood elevation level over the Bean River, meeting the NESC minimum requirements for 115 kV conductor clearance of 22.1 feet over

water surface areas less than 20 acres. The maximum conductor sag at 285 degrees Fahrenheit weather conditions (the maximum operating temperature based on PSNH transmission standards) will be approximately 14 feet with a clearance to the water surface of 27.3 feet, thereby meeting NESC requirements.

North River. The upgrading of the C-129 line will require reconductoring at one crossing location (structures 77, 78 and 79) on the North River in Nottingham. According to the petition, the vertical line clearances between structures at this location will be at least 27.3 feet, 28.8 feet, 18.9 feet and 25.9 feet from the 100-year flood elevation level, meeting the required NESC minimum clearance standard of 18.6 feet for water areas not suitable for sailboating. The maximum conductor sag at 285 degrees Fahrenheit weather conditions will be approximately 38 feet with a minimum clearance to the water surface of 18.9 feet, consistent with NESC requirements.

Little River. Although PSNH has demonstrated a public need for the crossing upgrades proposed in its petition for the crossing over the Little River in Nottingham and Staff has determined that the proposed upgrades are in compliance with applicable safety codes, Staff has determined that the segment of the Little River in question here is not included in the March 1, 2011 Official List of Public Waters compiled and published by the DES. As a result, Staff concluded that this crossing does not meet the intent of the statute with respect to the licensing requirements for crossings over public waters.

B. BARRINGTON

Oyster River. The reconductoring of the C-129 line will require upgrading of one location (structures 104-105) on the Oyster River in Barrington.

Bellamy River. Although PSNH will not be replacing conductors over the Bellamy River (structures 148-149) in Barrington, it has petitioned to license this location because of the proposed up-rate of the lines and resulting differences in sag clearances.

As with the Little River crossing, Staff notes that, although PSNH has demonstrated a public need for the proposed upgrades at each of the Oyster River and Bellamy River crossings, and the proposed upgrades are in compliance with applicable safety codes, the bodies of water over which the lines will cross in each location are not included on the Official List of Public Waters compiled and published by the DES. As a result, Staff concluded that these crossings do not meet the intent of the statute with respect to the licensing requirements of crossings over public waters.

C. ROCHESTER

Isinglass River. PSNH will not be replacing conductors over the two Isinglass River crossings in Rochester, but is petitioning to license these locations (structures 208-209, and structures 210-211) because of the proposed up-rate and resulting incremental sag clearances. Specifically, PSNH portrayed a vertical clearance of at least 19.1 and 25.1 feet from the 100-year flood elevation over the two crossings in Rochester, meeting the NESC required minimum of 18.6 feet for water areas not suitable for sailboating. The maximum conductor sag at 285 degrees Fahrenheit weather will be approximately 31.7 feet with a minimum clearance to the water surface of 19.1 feet.

III. COMMISSION ANALYSIS

RSA 371:17 requires utilities and corporations to petition the commission for a license to construct and maintain cable, conduit or poles and associated wires and fixtures over, under or across any public waters of the state whenever such facilities are necessary to meet the

reasonable requirements of service to the public. The Department of Environmental Services is assigned responsibility under RSA 271:20 for preparing, maintaining, and publishing an official list of all public waters in the state. That list is maintained at

http://des.nh.gov/organization/divisions/water/dam/public_waters/index.htm and includes great ponds (natural water bodies of 10 acres or more in size), public rivers and streams, and tidal waters, which is consistent with the definition of public waters set forth in RSA 371:17.

PSNH has filed a petition for licenses to upgrade and re-conductor lines and static wires at seven locations that cross bodies of water. On June 22, 2011, Staff filed three memoranda recounting its review, town-by-town, of PSNH's petition pursuant to RSA 371:17. Staff's review included field visits and an examination of the technical details of the facilities in question, compliance with NESC requirements, the applicability of other state agency permitting requirements, and land ownership associated with the crossings. Based on its field inspection and review of the petition and attachments, the Safety Division determined that the proposed crossings will conform to the standards established by the NESC C2-2007, as required by N.H. Code Admin. Rules Puc 1303.07, Installation and Maintenance of Utility Pole Attachments, and the standards established by NESC CW-2002, as required by Puc 306.01, Standard Practice in Construction, Operation, and Maintenance. Staff further reported that a document search revealed no record of licenses for the PSNH facilities at any of the existing crossing locations.

Staff recommends that licenses be granted for the Bean and North River crossings in Nottingham and the two Isinglass River crossings in Rochester, with the following conditions: 1) that all future alterations to the crossings conform to the requirements of both the 2002 and 2007 editions of the NESC and be submitted to the Commission 60 days prior to any alteration; and 2) that PSNH be required to maintain and operate the crossings in conformance with the

NESC or risk future revocation of the license. Staff also recommends that PSNH be directed to construct and maintain the crossings at the Oyster and Bellamy River crossings in Barrington and the Little River crossing in Nottingham in conformance with the same requirements as for the licensed crossings.

The segments of the Bean, North and Isinglass Rivers that are the subject of the PSNH petition are included on the Official List of Public Waters published by DES, while, as Staff discovered, the relevant segments of the Oyster, Bellamy and Little Rivers are not. Accordingly, we agree with Staff that the three crossing locations over the Oyster, Bellamy and Little Rivers do not require licenses under RSA 371:17. Furthermore, based on the record information presented by PSNH, and the review and recommendations of the Safety Division as set forth in Staff's June 22, 2011 memoranda, we find the four crossings over and across the Bean, North and Isinglass Rivers to be necessary for PSNH to continue to meet the reasonable requirements of reliable service to the public, and that the licenses may be exercised without substantially affecting public rights with respect to the affected public water bodies. Therefore, we grant PSNH's request for licenses to construct and maintain electric lines and static wires at the Bean, North and Isinglass River crossings. With respect to the Oyster, Bellamy and Little River crossings, we dismiss the petition insofar as it seeks a license to cross the relevant portions of those rivers or streams because we determine that such license is not prescribed. Our decision is issued on a *nisi* basis in order to provide any interested party the opportunity to submit comments on PSNH's petition or to request a hearing. Finally, inasmuch as DES is responsible by statute to maintain the official list of public waters, we determine that notice to the DES of each of the proposed crossings is warranted.

Based upon the foregoing, it is hereby

ORDERED *NISI*, that subject to the effective date below, PSNH is authorized, pursuant to RSA 371:17 *et seq.*, to construct and maintain electric lines and static wires over and across the public water bodies described in its petition and depicted in the plans and charts referenced in the petition and on file with the Commission; and it is

FURTHER ORDERED, that PSNH shall conform to all applicable requirements of the New Hampshire Department of Environmental Services related to the approved crossings; and it is

FURTHER ORDERED, that copies of all wetland permits, if any, required by the New Hampshire Department of Environmental Services for these crossings be filed with the Commission; and it is

FURTHER ORDERED, that all future alterations or reconstruction to the approved crossings shall conform to the requirements of the National Electrical Safety Code and all other applicable safety standards in existence at the time; and it is

FURTHER ORDERED, that PSNH maintain and operate the crossings in conformance with the National Electrical Safety Code; and it is

FURTHER ORDERED, that PSNH shall provide copies of this order to (i) the Town Clerks of Barrington, Nottingham and Rochester; (ii) the New Hampshire Attorney General and the owners of the land bordering on said properties at the locations of the crossings, pursuant to RSA 371:19; and (iii) the New Hampshire Department of Environmental Services. All copies should be provided by first class mail, postmarked no later than August 17, 2011, and documented by affidavit filed with the Commission on or before August 23, 2011; and it is

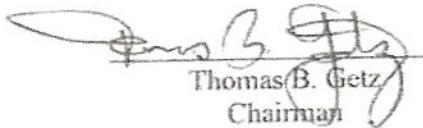
FURTHER ORDERED, that PSNH shall cause a copy of this Order *Nisi* to be published once in a statewide newspaper of general circulation or of circulation in those portions of the state where operations are conducted, such publication to be no later than August 17, 2011, and to be documented by affidavit filed with this office on or before August 23, 2011; and it is

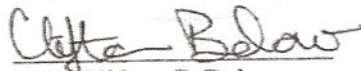
FURTHER ORDERED, that all persons interested in responding to this Order *Nisi* be notified that they may submit their comments or file a written request for a hearing which states the reason and basis for a hearing no later than August 24, 2011 for the Commission's consideration; and it is

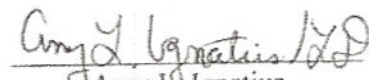
FURTHER ORDERED, that any party interested in responding to such comments or request for hearing shall do so no later than August 29, 2011; and it is

FURTHER ORDERED, that this Order *Nisi* shall be effective August 31, 2011, unless the Petitioner fails to satisfy the publication obligation set forth above or the Commission provides otherwise in a supplemental order issued prior to the effective date.

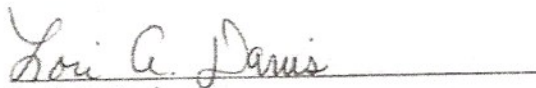
By order of the Public Utilities Commission of New Hampshire this eleventh day of August, 2011.


Thomas B. Getz
Chairman


Clifton C. Below
Commissioner


Amy D. Ignatius
Commissioner

Attested by:


Lori A. Davis
Assistant Secretary