PSNH

Public Service of New Hampshire

May 2, 1985

Mr. Arthur V. Gigliello
United States Forest Service
Ammonoosuc District
White Mountain National Forest
Trudeau Road
Bethlehem, NH 03574

Dear Mr. Gigliello:

Public Service Company of New Hampshire's 115 kV transmission line X-178 between Beebe River substation in Campton, New Hampshire and Sugar Hill, New Hampshire must be upgraded as a part of the Hydro Quebec Phase I power import. Approximately nine (9) miles of this line between Woodstock and Easton, New Hampshire is located within the White Mountain National Forest.

The chart that follows compares the existing and proposed facilities:

	Existing	Proposed
Year Constructed	1948	1985-1986
Structure Type	Wood H-Frame	Wood H-Frame
Drawing Numbers	4-21-1;4-21-11;4-21-23	R-6750-73,77,78
Average Height	55'	60'
Conductor Size	336,400 Circular Mils	795,000 Circular Mils
Conductor Diameter	0.721 inches	1.108 inches
Conductor Stranding	26 Aluminum 7 Steel	26 Aluminum 7 Steel
Conductor Weight	0.463 pounds/ft.	1.094 pounds/ft.
Maximum Current Carrying Capacity	768 amps	1372 amps
Minimum Conductor to Ground Clearance	22 feet	25 feet
Aerial Ground or Shield Wire Diam.	0.349 inches	0.4375 inches
Wire Type	Copperweld Copperweld	Galvanized Steel Galvanized Steel

1000 Elm St., P.O. Box 330, Manchester, NH 03105 • Telephone (603) 669-4000 • TWX 710-220-1115

As seen on the chart above the major differences between the existing and proposed transmission line is the average structure height and the conductor size. The increase in average structure height is a result of the following:

1. Change in configuration of the tangent structure necessary to support the larger conductor. Please note that above ground conductor heights won't change significantly since the crossarm is mounted lower on new structures.

2. Larger conductor which has a greater sag than existing conductor for the same span.

3. Increase in ground clearance to conform to the 1984 edition of the National Electrical Safety Code (NESC).

Structure height increases were kept to a minimum by designing the new line with a higher tension than PSNH normally utilizes for this type construction, 7500 pound tension per phase at NESC heavy loading.

Construction will begin either in late June or early July, 1985. Structure setting and framing will be the first phases of construction. It is hoped that this work can be completed before winter in the dryer season of the year to minimize the environmental impact. During the coldest part of the year, December through February, no construction will take place unless absolutely necessary since this transmission line is important to the PSNH transmission system during peak loads. Conductor stringing and cleanup will be done in 1986 with all construction activity, except restoration, completed by June 1st. Construction techniques will depend upon the time of year and difficulties encountered but all techniques will be selected to minimize the environmental impact. Erosion control will be of primary concern. No unnecessary vegetation will be disturbed.

PSNH mile sheets and structure details are enclosed for your information. Mile sheets indicate structure locations, sizes, type of structure, and whether existing or new are preliminary, since a field review of all structure locations has not been complete. No significant changes are expected, only minor adjustments to allow for elevation differences between poles on each structure. Final sheets will be forwarded as soon as they are complete. Structure details depict structure configuration, components, and dimensions.

In conclusion, this project is a key link to Hydro Quebec Phase I power import. Completion of this project by June 1, 1986 will mean a minimum cost savings of 4.7 million dollars in the five year period between

1987 and 1991. This project is supported and financed by the Hydro Quebec project. A prompt response by the United States Forest Service is essential to the timely completion of the project. If you desire additional information, I can be reached at (603) 669-4000, extension 2406.

Very truly yours,

David J. Hickey

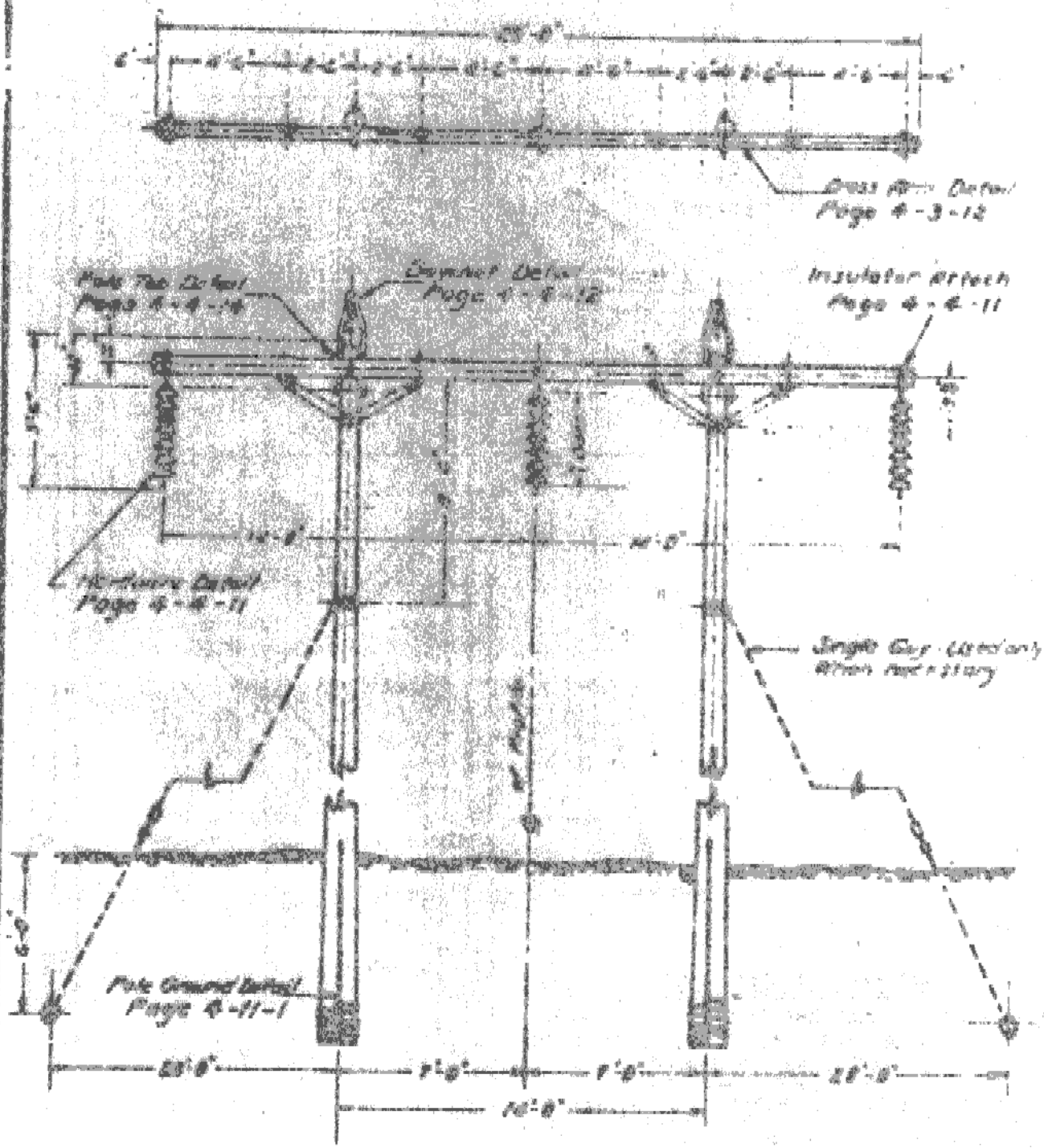
David J. Hickey, P.E.
Transmission Line Engineer

DJH/dfd

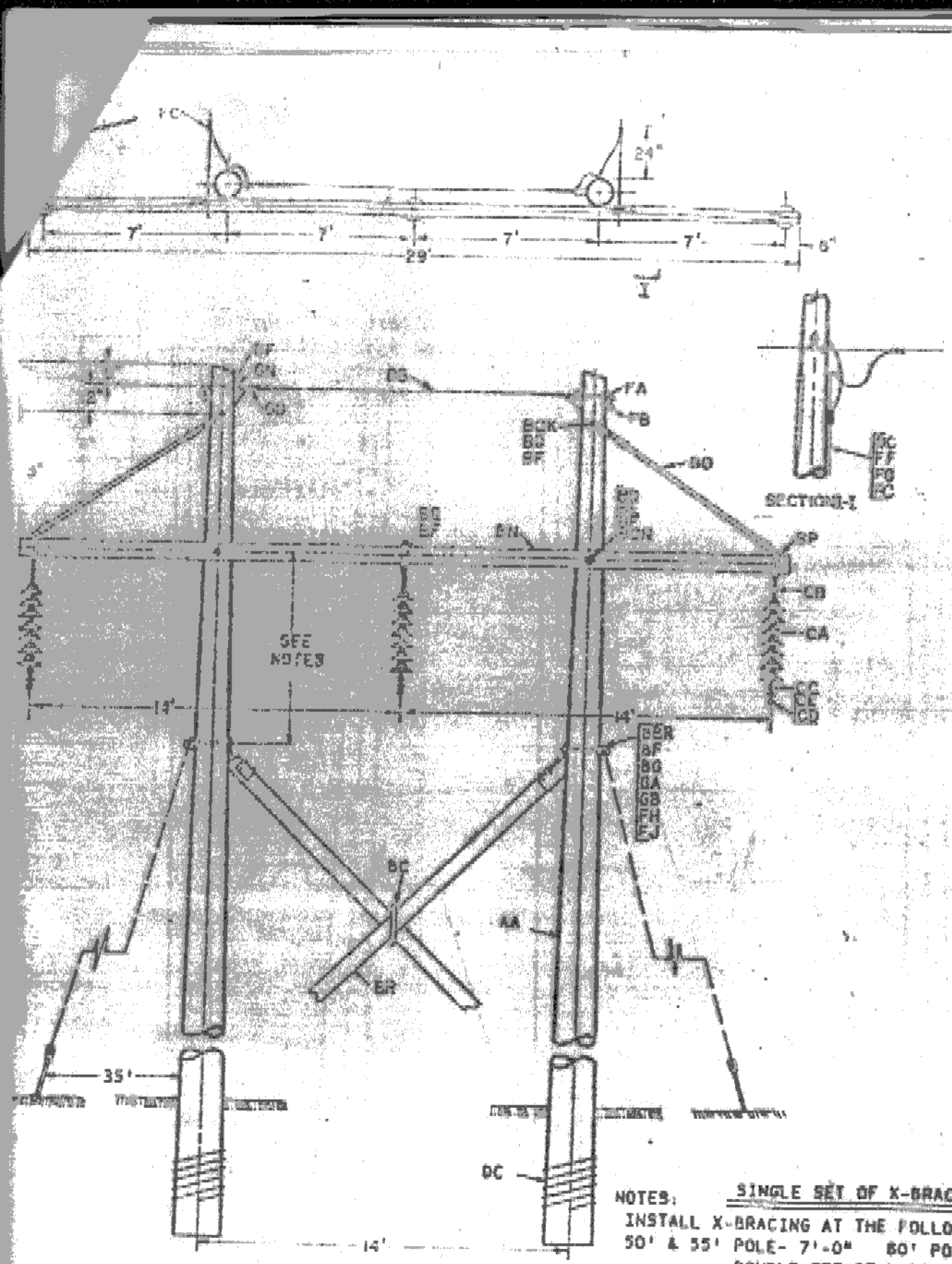
Presently in Use

4-21-1

TYPE A
TANGENT STRUCTURE



	115 KV TRANSMISSION STANDARDS	ISSUE / DATE
		ORIGINAL



NOTES:

SINGLE SET OF X-BRACING

INSTALL X-BRACING AT THE FOLLOWING DISTANCES BEL
50' & 55' POLE- 7'-0" 60' POLE - 9'-0"

DOUBLE SET OF X-BRACING

ALL TANGENT STRUCTURES 65 FEET AND ABOVE SHALL R
2 SETS OF X-BRACING. INSTALL TOP SET OF X-BRACIN
AT 7'-0" BELOW THE CROSSARM, AND INSTALL BOTTOM
OF X-BRACING 3'-0" BELOW UPPER SET.