

December 1, 1982

SBN -394
T.F. B7.2.3

United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: G. W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing

References: (a) Construction Permits CPPR-135 and CPPR-136, Docket Nos.
50-443 and 50-444
(b) Seabrook Station Environmental Report - Operating License
Stage, as revised

Subject: Supplemental Information on the Use of Steel H-Frame Structures
along the Seabrook to Newington Transmission Line Right-of-Way

Dear Sir:

In response to a verbal request by your Mr. L. Wheeler, we are providing the following additional information concerning Applicants use of steel H-frame structures along the Seabrook to Newington transmission line right-of-way, rather than wooden H-frames as mentioned in the Seabrook Station Final Environmental Statement-Construction Permit Stage (FES-CP). The reasons for this change in H-frame structural materials were briefly discussed in Applicant's response to ER-OLS RAI 310.2 [Reference (b)].

Line #369, the 345 kV transmission line that connects Seabrook Station to Newington Station, was constructed with 80 steel tangent structures, rather than those of wood as mentioned in the Seabrook FES-CP. These steel structures are located at regular intervals along the transmission right-of-way from Seabrook to Newington, except for the stretch across the Hampton Marsh and from the Portsmouth Rotary into Newington Station where single steel poles were used as explained in the Seabrook Station FES-CP.

At the time of the CP proceedings, PSNH testified that wood structures would be used for Seabrook related transmission line construction, and that the alternative to wood was the use of galvanized steel lattice towers. Not only did PSNH believe there was a visual impact advantage to wood over steel lattice structures, but the need for concrete foundations for steel was a further environmental disadvantage. Years later, when these transmission line material specifications were being reviewed, it became evident that new concepts in steel structure design, together with the use of weathering steel, permitted further reduction in environmental impact beyond the degree committed. At that time, PSNH felt the change from wood to steel was not a

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step backwards, rather it represented an improvement in the overall environmental acceptability of the structures. The advantages of the weathered steel simple H-frame supports over similar structures of wood are as follows:

1. The use of steel permitted installation of H-frames with less bulk, making the structures appear less massive, hence reducing their visual impact. A comparison of critical dimensions of steel vs. wood is as follows:

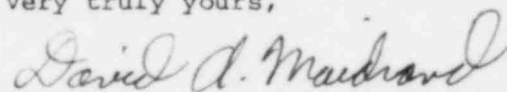
	<u>Steel</u>	<u>Wood</u>
Typical diameter of poles	14.5 inches	18 inches
Dimensions of crossarms	4.5 x 4.5 inches	5.25 x 9.0 inches
Height of structure and length of crossarms	Same	Same

2. The steel poles were set into the ground just as wood poles would be, thereby avoiding foundation work.
3. The life of steel structures is equal to or greater than wood with less maintenance. Wood structures must be inspected periodically and occasionally require ground-line treatment with wood preservatives. Wood pole maintenance would increase the travel over the right-of-way.
4. The weight of wood structures is about twice that of steel thus construction could be accomplished with smaller, lighter equipment.
5. The color of the steel structures is very much like that of treated wood, so their appearance is quite similar (see enclosed photos).

In summary, the use of steel for tangent structures on the Seabrook-Newington line was a change from that explained in PSNH's testimony before NPC. However, it is PSNH's opinion that the change was totally in keeping with the spirit of the commitment to minimize the environmental impact of this transmission line.

This expanded discussion on the use of steel vs. wood H-frame structures on the Seabrook-Newington transmission line will be included in the next revision to the Seabrook Station ER-OLS.

Very truly yours,



John DeVincentis *for*
Project Manager

RAM/fsf

Enclosures
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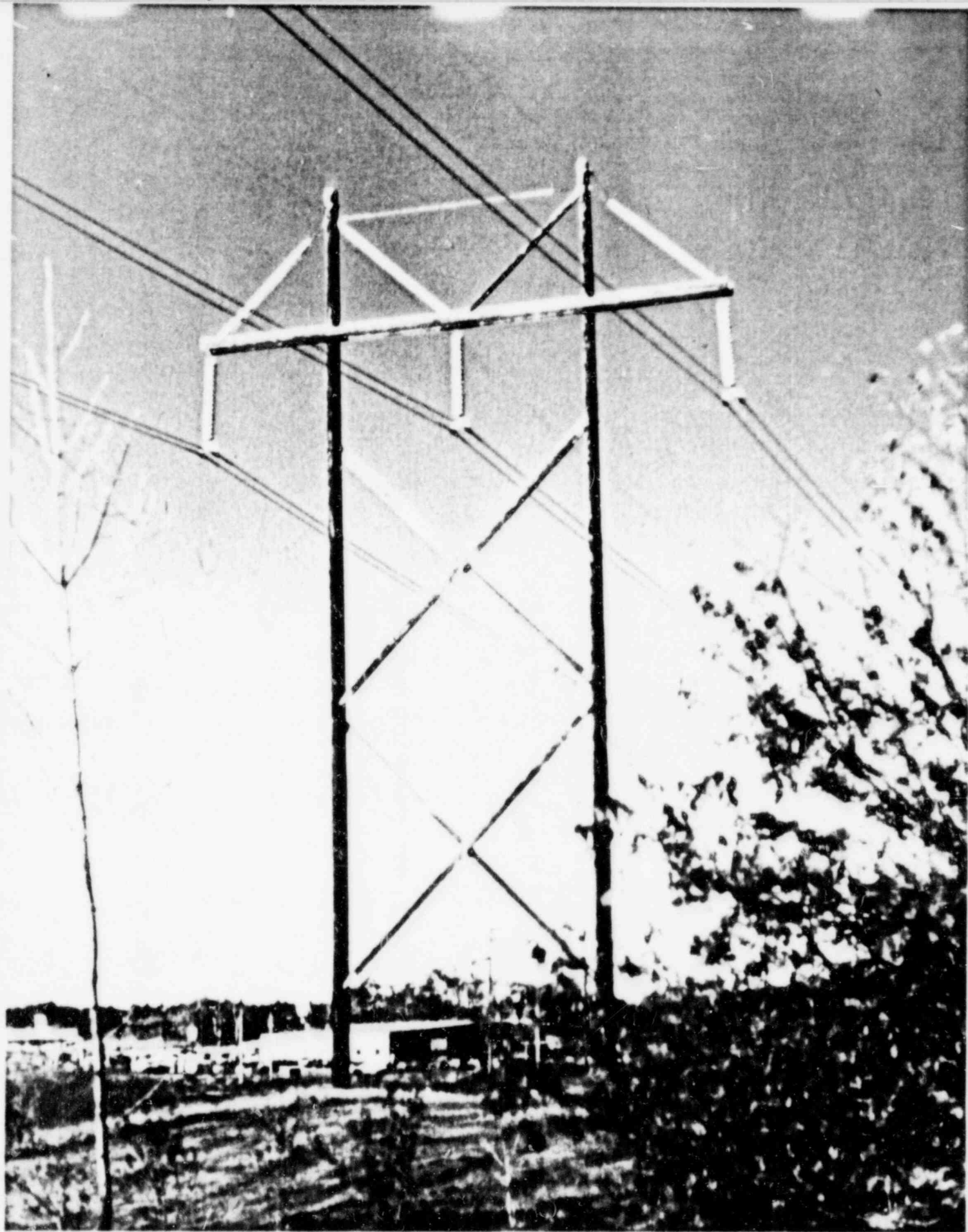
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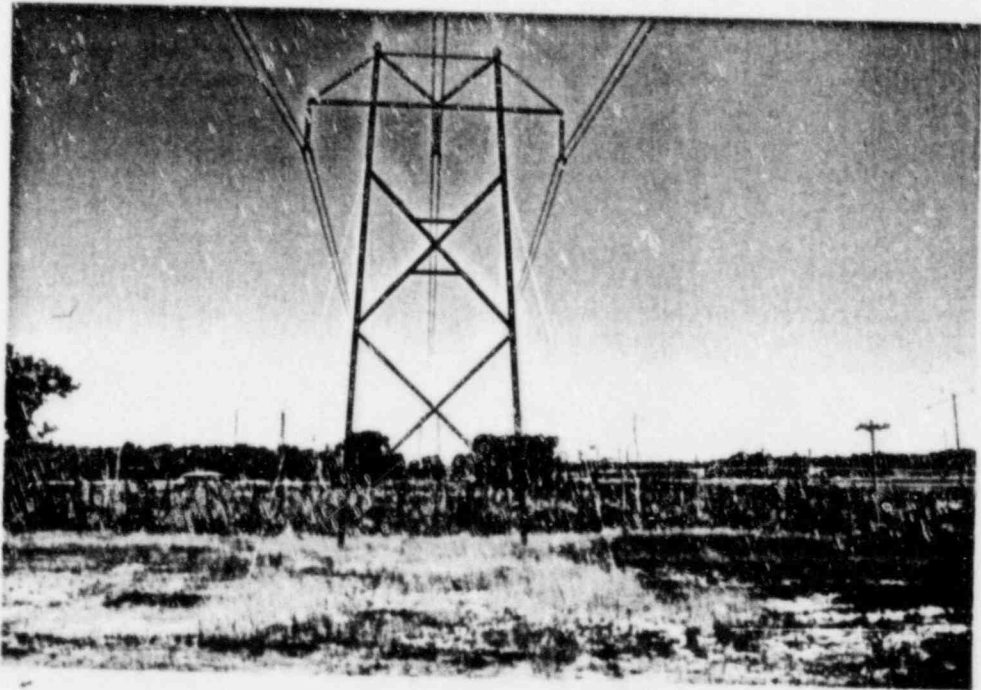
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Wood H-Frame Tower



— Steel H-Frame Tower —