

**CENTRAL MAINE POWER COMPANY  
RESPONSE TO ORAL DATA REQUEST NO. 1  
DOCKET No. 2008-255**

December 15, 2008

**ODR-01-74, Corrected: Attachments now labeled correctly**

- Q.** Provide cost comparison between H-frame 345 kV and single pole 345 kV.
- A.** For the purposes of this request, the Petitioners have prepared an estimate utilizing a single pole structure configuration for Section 3026. An outline sketch of the structure type utilized in preparing this estimate is included here as Attachment 1. This structure type is designed as a tubular steel pole, supported on a caisson type foundation. Using topographic and environmental survey data and the criteria set for the 345kV MPRP lines, a preliminary structure spotting was developed using this structure type.

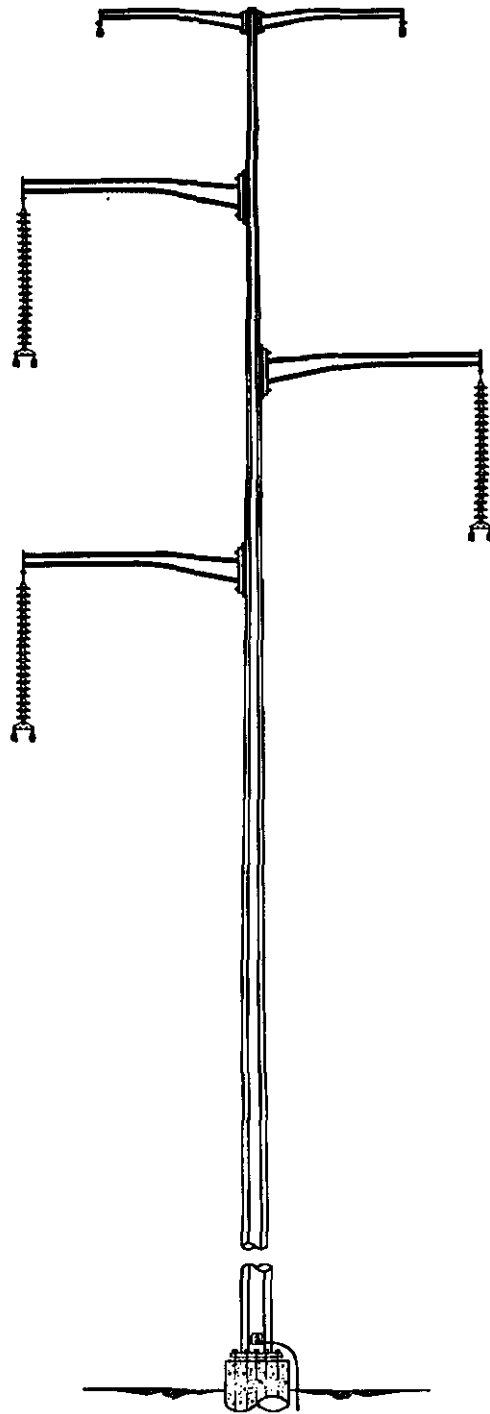
Using an approach similar to that used in the preparation of the deterministic estimate included in the 9/26/08 update to this filing, a deterministic estimate of 2008 construction costs was prepared, using the preliminary structure spotting as a basis for the scope. The 2008 estimated construction cost of this 16.4 mile line is \$42,600,000, or \$2,600,000 per mile. A detailed breakdown of this cost estimate is included as Attachment 2.

The estimate previously prepared for section 3026 using wood H-frame construction is \$26,300,000, or \$1,600,000 per mile. For reference the detailed breakdown of this estimate is included here as Attachment 3.

**Response Prepared and Submitted By:**  
Steve Walker, PE  
POWER Engineers, Inc.

**Attachment(s):**

Attachment 1: 345 kV Steel Single Pole Sketch  
Attachment 2: Cost estimate using 345 kV Steel Single Pole Construction  
Attachment 3: Cost estimate using 345 kV Wood H-frame Construction



**DRAFT**

345kV STEEL SINGLE POLE  
TANGENT STRUCTURE



**MAINE POWER RELIABILITY PROGRAM  
LINE SUMMARY COST ESTIMATE**



42 Single circuit Single Steel Pole 345kV on existing ROW. Gulf Island II to Surowiec  
3026 START DATE 7/2/2010 DURATION 257 DAYS END DATE 3/19/2011  
16.4 MILES

ITEM	THUMBED COSTS	COST PER MILE
<b>WOOD POLE STRUCTURE: MATERIAL</b>	\$0	\$0
<b>STEEL POLE STRUCTURE, MATERIAL</b>	\$6,470,000	\$394,512
<b>CONDUCTOR, OPGW, SW AND GUY WIRE: MATERIAL</b>	\$2,356,479	\$143,688
<b>INSULATORS: MATERIAL</b>	\$189,600	\$11,561
<b>HARDWARE: MATERIAL</b>	\$90,320	\$5,507
<b>SUBTOTAL</b>	<b>\$9,106,399</b>	<b>\$555,268</b>
<b>EXCAVATIONS: LABOR &amp; EQUIP.</b>	\$11,172,858	\$681,272
<b>HAUL, ASSEMBLE AND ERECT STRUCTURES: LABOR AND EQUIP.</b>	\$1,944,000	\$118,537
<b>INSTALL GUYS: LABOR AND EQUIP.</b>	\$0	\$0
<b>INSTALL CONDUCTORS: LABOR &amp; EQUIP.</b>	\$1,990,068	\$121,346
<b>INSTALL OPGW: LABOR &amp; EQUIP.</b>	\$187,039	\$11,405
<b>INSTALL SHIELD WIRES: LABOR &amp; EQUIP.</b>	\$93,519	\$5,702
<b>REMOVE EXISTING STRUCTURES</b>	\$0	\$0
<b>REMOVE EXISTING WIRE</b>	\$0	\$0
<b>SUBTOTAL</b>	<b>\$15,387,485</b>	<b>\$938,261</b>
<b>CONSTRUCTION ACCESS</b>	\$2,123,800	\$129,500
<b>CATHODIC PROTECTION</b>	\$0	\$0
<b>CONSTRUCTION INSPECTION</b>	\$587,429	\$35,819
<b>MOBILIZATION / DEMOBILIZATION</b>	\$100,000	\$6,098
<b>SCREENING/PLANTING/MATTING/REMEDICATION/3 PI</b>	\$3,849,234	\$234,709
<b>ROW CLEARING / TRIMMING</b>	\$1,043,636	\$63,636
<b>SUBTOTAL</b>	<b>\$7,704,099</b>	<b>\$469,762</b>
<b>RESERVE</b>	10%	\$3,219,798
<b>CMP OVERHEADS</b>	1%	\$160,990
<b>ENGINEERING / DESIGN</b>	10%	\$3,219,798
<b>ESCALATION</b>	0%	\$0
<b>PERMITTING</b>	10%	\$3,219,798
<b>PROCUREMENT / RECEIVING</b>		\$312,071
<b>AFUDC</b>		\$0
<b>SUBTOTAL</b>	<b>\$10,132,456</b>	<b>\$617,833</b>
<b>TOTAL</b>	<b>\$42,330,440</b>	<b>\$2,581,124</b>

**ASSUMPTIONS**

- 129 - 345kV, Single Circuit, Self Supporting Single Steel Pole on Fdn (SC-1)
- 5 - 345kV, Single Circuit, Self Supporting Single Steel Pole Fdn (SC-3)
- 8 - 345kV, Single Circuit, Self Supporting Single Steel Pole on Fdn (SC-5)
- 16 - Guard Structure



**MAINE POWER RELIABILITY PROGRAM  
LINE SUMMARY COST ESTIMATE**



42 Single circuit 345kV on existing ROW. Gulf Island II to Surwlec  
3026 START DATE 7/2/2010 DURATION 137 DAYS END DATE 11/19/2010  
16.4 MILES

ITEM	ITEMIZED COSTS	COST PER MILE	
<b>WOOD POLE STRUCTURE: MATERIAL</b>	\$2,958,527	\$180,398	
<b>STEEL POLE STRUCTURE, MATERIAL</b>	\$1,000,350	\$60,997	
<b>CONDUCTOR, OPGW, SW AND GUY WIRE: MATERIAL</b>	\$2,361,671	\$144,004	
<b>INSULATORS: MATERIAL</b>	\$178,800	\$10,902	
<b>HARDWARE: MATERIAL</b>	\$230,424	\$14,050	
<b>SUBTOTAL</b>	<b>\$6,729,772</b>	<b>\$410,352</b>	
<b>EXCAVATIONS: LABOR &amp; EQUIP.</b>	\$3,249,711	\$198,153	
<b>HAUL, ASSEMBLE AND ERECT STRUCTURES: LABOR AND EQUIP.</b>	\$1,369,440	\$83,502	
<b>INSTALL GUYS: LABOR AND EQUIP.</b>	\$52,380	\$3,194	
<b>INSTALL CONDUCTORS: LABOR &amp; EQUIP.</b>	\$1,994,388	\$121,609	
<b>INSTALL OPGW: LABOR &amp; EQUIP.</b>	\$187,039	\$11,405	
<b>INSTALL SHIELD WIRES: LABOR &amp; EQUIP.</b>	\$93,519	\$5,702	
<b>REMOVE EXISTING STRUCTURES</b>	\$0	\$0	
<b>REMOVE EXISTING WIRE</b>	\$0	\$0	
<b>SUBTOTAL</b>	<b>\$6,946,478</b>	<b>\$423,566</b>	
<b>CONSTRUCTION ACCESS</b>	\$893,800	\$54,500	
<b>CATHODIC PROTECTION</b>	\$0	\$0	
<b>CONSTRUCTION INSPECTION</b>	\$313,143	\$19,094	
<b>MOBILIZATION / DEMOBILIZATION</b>	\$100,000	\$6,098	
<b>SCREENING/PLANTING/MATTING/REMEDICATION/3 PI</b>	\$3,646,491	\$222,347	
<b>ROW CLEARING / TRIMMING</b>	\$1,391,515	\$84,848	
<b>SUBTOTAL</b>	<b>\$6,344,949</b>	<b>\$386,887</b>	
<b>RESERVE</b>	10%	\$2,002,120	\$122,080
<b>CMP OVERHEADS</b>	1%	\$100,106	\$6,104
<b>ENGINEERING / DESIGN</b>	10%	\$2,002,120	\$122,080
<b>ESCALATION</b>	0%	\$0	\$0
<b>PERMITTING</b>	10%	\$2,002,120	\$122,080
<b>PROCUREMENT / RECEIVING</b>		\$166,357	\$10,144
<b>AFUDC</b>		\$0	\$0
<b>SUBTOTAL</b>		<b>\$6,272,823</b>	<b>\$382,489</b>
<b>TOTAL</b>		<b>\$26,294,022</b>	<b>\$1,603,294</b>

**ASSUMPTIONS**

131 - 345kV Direct Embed, Single Circuit, Tangent (EA-1) 0°-2°
1 - 345kV Direct Embed, Single Circuit, Light Angle (EB-1) 1° - 5°
3 - 345kV Direct Embed, Single Circuit, Medium Angle (EB-3) 5° - 20°
3 - 345kV Direct Embed, Single Circuit, Medium Angle (EC-1) 20° - 30°
1 - 345kV Direct Embed, Single Circuit, Medium Angle (EC-2) 30° - 45°
5 - 345kV Direct Embed, Single Circuit, Light Angle DE (ED-1) 0° - 15°
16 - Guard Structure

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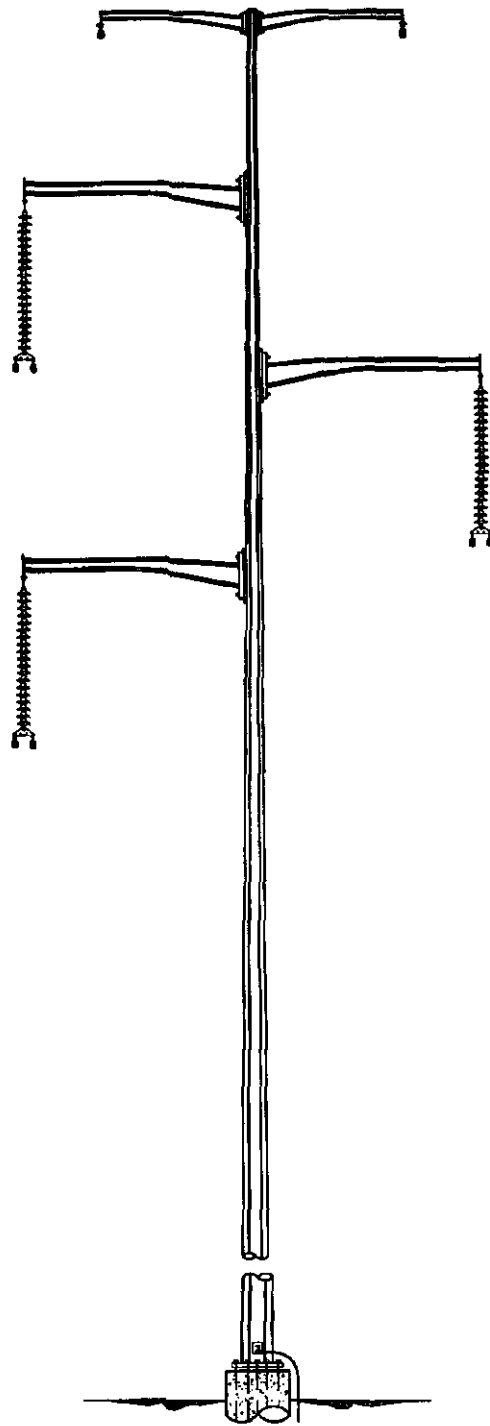
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