



June 26, 1985

P.O. BOX 159 • 210 NORTH 13TH STREET • SEWARD, NEBRASKA 68434 • PHONE (402) 643-2991 • TELEX 438076

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY
MONCKS CORNER, SOUTH CAROLINA
TYPE TS-14 DC
230 KV DOUBLE CIRCUIT TANGENT
HUGHES DRAWING NUMBER C4561-ADC
STRUCTURE RETEST

POLE DIMENSIONS
(Circumference)

	<u>West Pole</u>	<u>East Pole</u>
Top	36-1/2"	37-3/4"
Upper Crossarm	38-1/8"	40-1/4"
Lower Braces	39-1/4"	42"
Lower Crossarm	43-1/4"	47-3/8"
Top X-Brace	46-1/2"	50-1/2"
Bottom X-Brace	49-5/8"	53-1/2"
Groundline	55-3/4"	57-1/2"
Butt	62-1/2"	59-3/4"

90' Class 1 Douglas Fir Poles



August 27, 1985

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SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

230 KV DOUBLE CIRCUIT STRUCTURE TEST

TYPE TS-14DC

HUGHES DRAWING C4561-ADC

TEST NO. 6, CASE III LOADING

CASE III - NESC LIGHT LOADING

NO ICE
9 PSF WIND

VERTICAL LOADS - COND: 7,500 LBS./PHASE
SHIELD WIRE: 1,000 LBS./EA.

TRANSVERSE LOADS						
LOAD NO.	CONDUCTOR* LOAD/PHASE	SHIELD WIRE* LOAD/EA.	TOTAL STR. LOAD	DYNO. READING		SAFETY FACTOR
				COND. CIRCUIT	S.W.	
1	2,400	900	16,200	7,200	900	2.4 (60%)
2	3,200	1,200	21,600	9,600	1,200	3.2 (80%)
3	3,600	1,350	24,300	10,800	1,350	3.6 (90%)
4	4,000	1,500	27,000	12,000	1,500	4.0 (100%)
5	4,400	1,500	29,400	13,200	1,500	4.4 (109%)

*NOTE: These loads include wind-on-the-pole components. Wind on pole is based on ANSI 0.5-1979 minimum pole dimensions.

TYPE 75-140C (C4561-ADC)

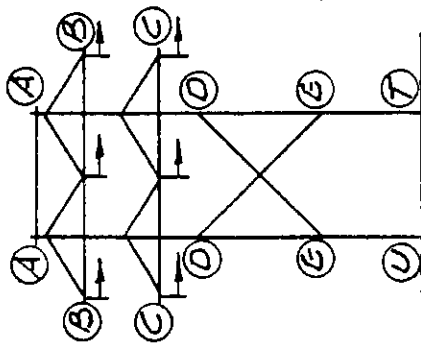
SOUTH CAROLINA PUBLIC SERVICE AUTHORITY
 DOUBLE CIRCUIT TANGENT STRUCTURE
 230 KV CONSTRUCTION

Date: 7-22-85

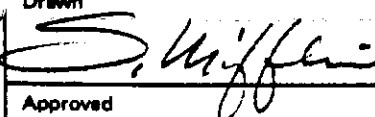
VERTICAL LOADS
 PER. PHASE: 7,500 lbs
 PER. S.W.: 1,000 lbs.

TEST No 6 #
 CASE III NE-SC LIGHT
 NO ICE 9 PSF WIND

TRANSVERSE LOADS

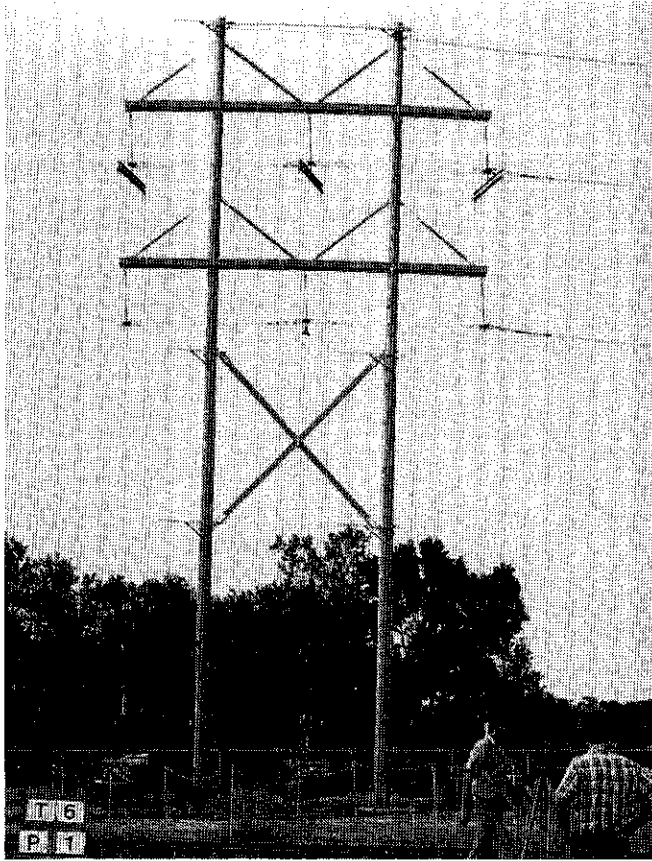


LOAD No.	LOADS (lbs.)		DEFLECTION (in.)												PIC. No.
	PER. PHASE	TOTAL	WEST POLE			EAST POLE			WEST POLE			EAST POLE			
	PER. PHASE S.W.	WIND ON POLE	A	B	C	D	E	UPRIFT	A	B	C	D	E	THRUST	Uo.
1	2400	900	10	9 3/8	7 1/2	6 3/8	5 5/8	0	9 3/8	8 3/8	7 1/8	5 7/8	5	0	76P1
2	3200	1200	14 5/8	13 3/4	10 3/4	9	8	0	13 5/8	13 1/4	10 3/8	8 1/4	6 3/8	0	76P2
3	3600	1350	19	17 7/8	14	11 3/8	9 3/4	0	17 3/8	16 3/8	13 1/8	10 1/4	8 1/8	0	76P3
4	4000	1500	24 3/8	23 5/8	18 1/8	15	12	0	24 3/8	23 1/8	18 3/8	14	10 3/8	0	76P4
		29400	FAILURE OF THE X BRACE												76P5
			COMPRESSION MEMBER												76P6

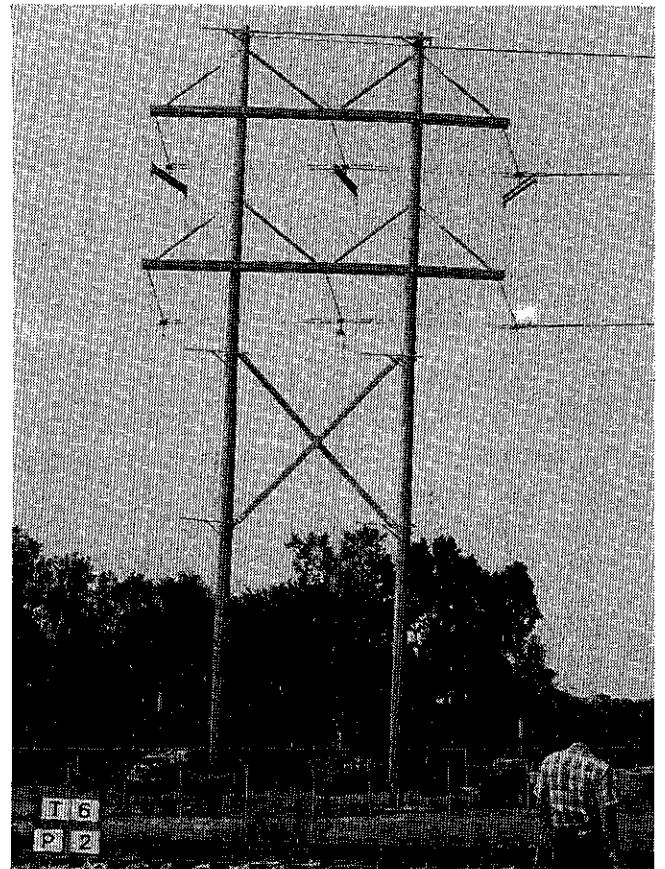
Drawn

 Approved

HUGHES BROTHERS
 Seward, Nebraska

Date Printed
 DRG. NO. A2376-F



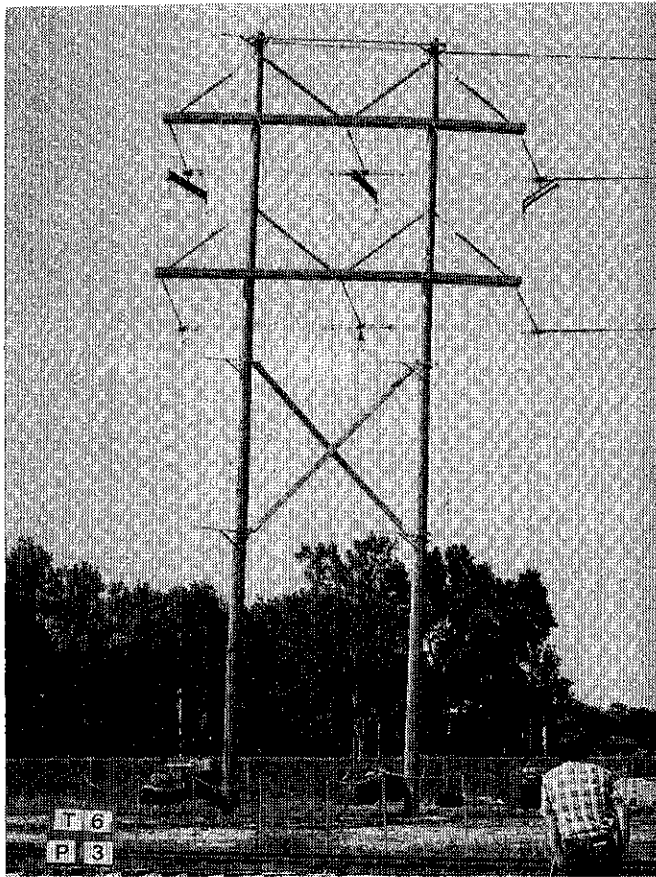
VERTICAL LOADS APPLIED



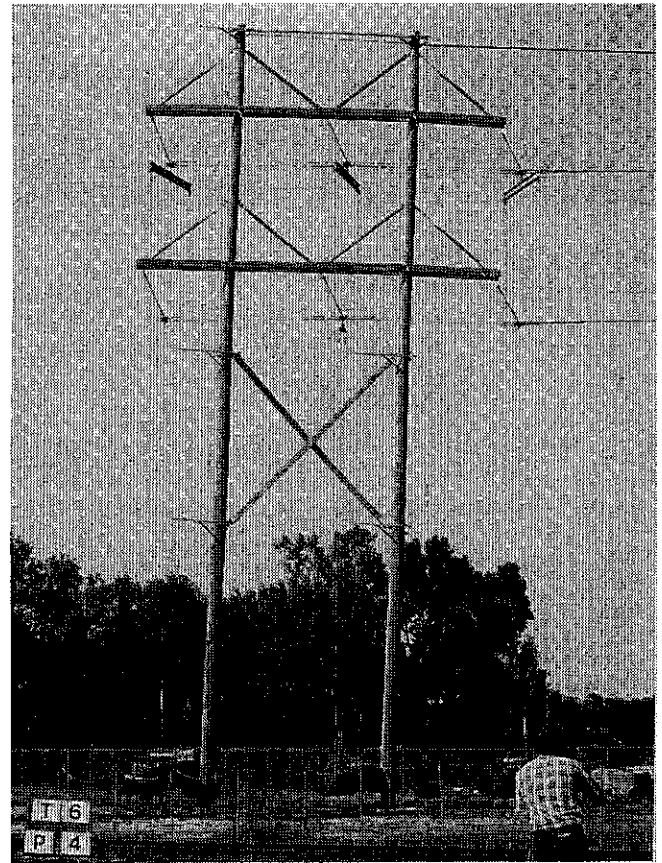
16200 lbs.

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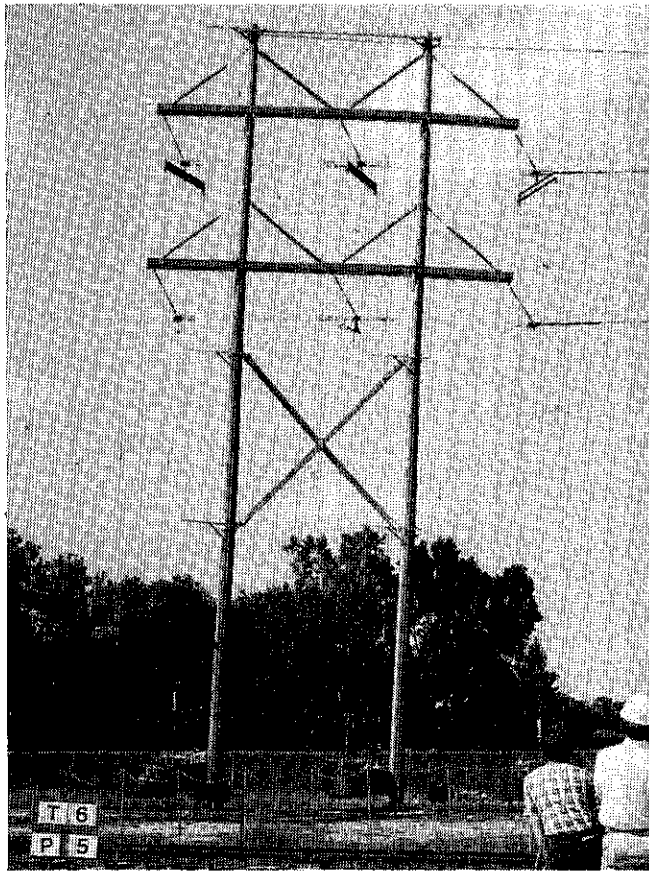
21600 lbs.



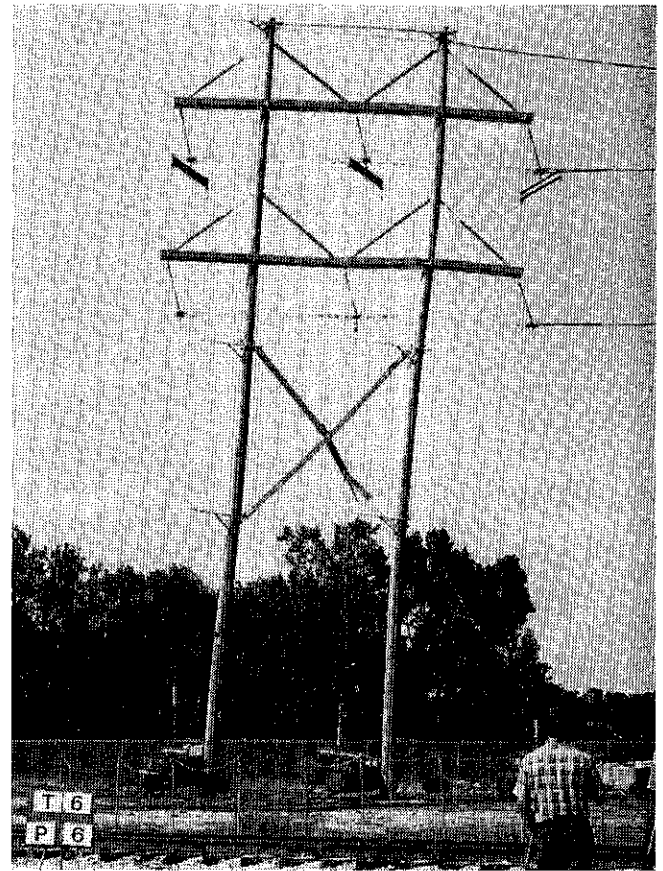
24300 lbs.

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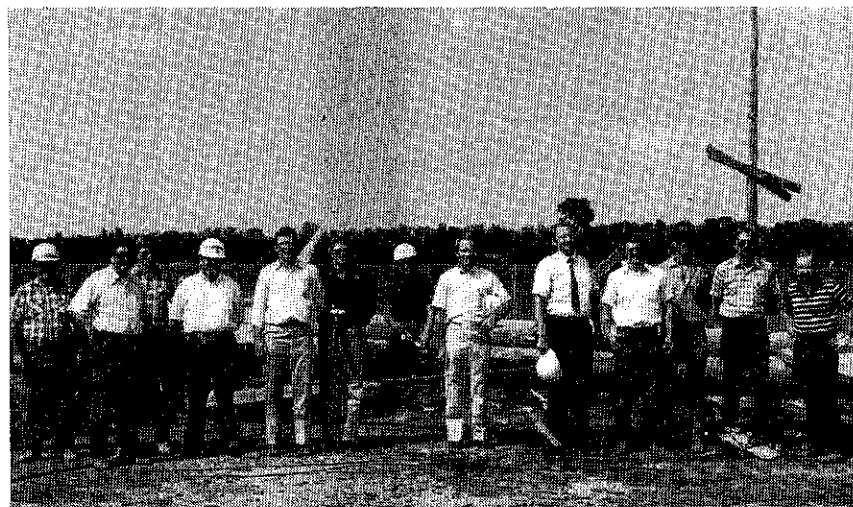
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27000 lbs.



29400 lbs. Failure



Left to Right: Stan Mifflin, HB; Steve Smith, HB; Carl Jirovsky, HB; Al Chaney, HB; Ken Johnson, SCPSA; Charlie Hamer, SCPSA; Wayne VonFeldt, PSCC; Larry Moore, SCPSA; Steve DeBoer, Reimers; Dan Policky, HB; Russ Mahalek, HB; Bob Reisdorff, HB; Merrill Peterson, HB.

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