



LINDSEY MANUFACTURING COMPANY

760 N. Georgia Ave. P.O. Box 877 Azusa, CA 91702 U.S.A.

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www.Lindsey-usa.com

PROPOSAL – 1070

February 21, 2019

**Power Transmission Corporation of
Uttarakhand Limited
India**

Subject: Emergency Restoration Structures (ERS) for 400kV

In accordance with your request, Lindsey Manufacturing Company is pleased to submit the following quotation for one (1) complete set of Emergency Restoration Structures (ERS). This set of Two (2) single-circuit columns will provide materials to create the following structure:

- Two (2) Horizontal V Single Circuit Suspension columns 0-2° (Drawing Number R-26460)
Or
- Two (2) Dead End Single Circuit Tension columns 0° (Drawing Number R-26462)
Or
- Two (2) Dead End Single Circuit Tension columns 30° (Drawing Number R-26463)
Or
- Two (2) Horizontal V Single Circuit Suspension columns 0-2° (Drawing Number R-26465)
Or
- Two (2) Dead End Single Circuit Tension columns 0° (Drawing Number R-26466)
Or
- Two (2) Dead End Single Circuit Tension columns 30° (Drawing Number R-26467)

to restore damaged or destroyed permanent single circuit towers.

Additional hardware, insulators, anchors, containers, software, training, tools, and also all other equipment specified and recommended for the successful installation of ERS towers.

A one-week training program conducted with utility linemen and engineers is also proposed. This would cover all aspects of ERS and satisfies the requirement for training.

See Attached Annex "B" for Drawings of Towers proposed.

See Attached Annex "C" for ProSpot analysis of Towers proposed.

SUMMARY OF PRICES for one (1) complete set of ERS

- | | |
|--|-------------------------------|
| 1. Total Ex-Works Lot price for One Set consisting of Two(2) Emergency Restoration Structure towers, including software and training.
(Items No. 1 thru 48) | US Dllrs. \$361,438.00 |
| 2. Cost of Freight and Insurance for One Set of ERS | US Dllrs. \$26,560.00 |
| 3. Total CIP price to port of India of One set of ERS | US Dllrs. \$387,998.00 |

Duties, taxes and inland freight are not included.

See Attached Annex "A" for a complete description of all the proposed materials and services for One (1) set.

Should Lindsey Manufacturing Company be awarded a contract/purchase order, terms of payment shall be an Irrevocable Commercial Letter of Credit with 100% of contract/purchase order value, confirmed by a U.S. Bank approved by Lindsey. Payment to be effected in U.S. Dollars payable "At Sight" as follows:

Letter of credit must be issued within 15 days after the receipt of purchase order or contract. Production will begin after the receipt and approval of the Letter of credit by Lindsey. Lindsey will not be held liable for late shipment due to the delay of the issuance of the Letter of credit. Lot prices do not include any cost for Import duties, customs duties, etc.

Delivery Lead Time

Delivery can occur Fourteen (12) weeks after receipt of order or earlier if possible. Ability to deliver in 2019 will depend on timing of the purchase order.

Validity

The price will remain valid for acceptance of a contract/purchase order for 120 days from the date of this letter.

Should Lindsey Manufacturing Company be awarded a contract/purchase order, column sections for one (1) Set will be packed in Three(3) 40ft high cube containers; and one (1) 20-foot containers for storage of Tools, Insulators, and Hardware. 20ft Container will be property of PITCUL the 40 ft containers will be returned to freight forwarder upon delivery.

We would like to discuss our proposal in further detail at your convenience. Should you have any questions or require additional information, please do not hesitate to contact me directly.

Best regards,

Emigdio Aguilera
ERS Product Engineer
Lindsey Manufacturing Co.
760 N. Georgia Ave.
Azusa, CA 91702 USA
Ph: (626) 969-3471 Ext 168
www.lindsey-usa.com

Annex A

Complete description of the proposed materials and services for One (1) Set of ERS to be used at 400kV Transmission Lines.

5.2 DETAILED LISTING OF ALL PROPOSED MATERIALS AND SERVICES
1070 SERIES ERS PTCUL INDIA 2/21/2019

Item Lindsey			
No.	Part No.	Description	Qty.
E.R.S. Structure Components			
1	7154	FOUNDATION PLATE	2
2	7424	RIGID GIMBAL	2
3	7153	7 FT COLUMN	10
4	7152	14 FT COLUMN	14
5	7156	0/45 DEG. GUY PLATE	8
6	7157	45/45 DEG GUY PLATE	20
7	7158	0/0 DEG GUY PLATE	8
8	7155	BOX SECTION	6
9	7500-3	ERS 5/8-11 x 3 1/2 HEX HD. BOLT GALV.(INC.20%	350
10	3-225	5/8-11 HEX NUT GALV (INC.20% EXTRA)	350
11	3-206	5/8 LOCKWASHER GALV. (INC.20% EXTRA)	350
E.R.S. Training & Computer Programs			
12	7001	ERS Computer Analysis Programs	1
13	7002	ERS On-Site Training (weeks)	1
Conductor and Guying Hardware			
14	3262BNC	ANCHOR SHACKLE, 60 kip	198
15	3405	CHAIN LINK, 60 kip	14
16	3790EE	7/8 x 12" EYE-EYE TURNBUCKLE	60
17	R-9058	30 KIP TRIANGULAR YOKE PLATE	7
18	R-10850	INSULATOR BLADE ADAPTER	7
19	R-11271/320	30 KIP STRAP LINK (81m/ 32in)	7
20	R-11268	30 kip, 4 Bundle Yoke Plate	7
21	1415/143SY	EHV Suspension Clamp 30.7-36.3 mm	27
22	1710SY	Conductor Strain Clamp	53
23	1329	OHWG SUSP. CLAMP	3
24	1701SY	OHWG STRAIN CLAMP	5

5.2 (CONTINUED)

Item No.	Lindsey Part No.	Description	Qty.
Insulators			
25	7003-38CH	400KV SUSPENSION INSULATOR w/Corona Rings	57
26	7003-44CH	STATION POST INSULATOR W/ Corona Rings	7
Guy Wire Components			
27	7950	THIMBLE CLEVIS	60
28	R-13467	PLP DEAD-END GUY GRIP	120
29	7045	9/16" Dia. EHS Guy Wire (m)	6000
30	7900/103	GUY STRAIN INSULATOR	44
Anchor Assemblies			
31	R-16624	MANTA RAY ANCHOR ASSEMBLY	19
		Each Set Consists of the Following Items	Qty/Set
	R-16624-1	Manta Ray-1 anchor,	1
	R-16624-2	SAR10A 1" x 7ft rod,	1
	R-16624-3	TE-1T Triple Thimble Eye	1
	R-16624-4	SAR10C 1" x 3.5ft rod	1
	R-16624-5	C-1 Nut	1
32	R-14384	MARSH ANCHOR ASSEMBLY, TRIPLE HELIX	4
		Each Set Consists of the Following Items	Qty/Set
	R-14384-1	Triple Thimble Eye	1
	R-14384-2	Triple Helix Anchor	1
	R-14384-3	10 ft. Extension Rod	1
	R-14384-6	5 ft. Extension Rod	2
33	R-16978	ROCK ANCHOR ASSEMBLY	3
		Each Set Consists of the Following Items	Qty/Set
	R-16978-1	Rock Anchor Head	1
	R-16978-2	All Thread Rod 1" x 12"	1
	R-16624-3	TE-1T Triple Thimble Eye	1
5.2	(CONTINUED)		

Item	Lindsey		
No.	Part No.	Description	Qty.
	Accessories		
34	R-17509	ASSEMBLY & ERECTION TOOL SET IEEE-1070	1
		Each Set Consists of the Following Items	Qty/Set
	R-16289	30 ft Gin Pole	1
	R-16513	2 ton Tirfor Griphoist	8
	7004H	Capstan with Foot Pedal	1
	R-15738	5/8" Polyester Rope, 600' Spool	6
	R-16884	Snatch Block for 5/8" Rope	5
	T-1005	12" Spanner wrench	3
	T-1006	1/2" Square Drive Ratchet	6
	T-1019	1/2" SQ. Drive Deep Socket 15/16"	6
	T-1020	12 Point Box Wrench - 15/16"	6
	R-15107	3 Ton Chain Hoist	6
	R-17103-10	Pulling Eye	12
	R-14301	Automatic Wire Grip	8
	R-14302	10 ft. Metal Sling	2
	R-14303	10 ft. Nylon Sling	2
	R-17105	6' (1.8m) Endless Rd. Sling (Green)	8
	R-14305	Conductor Lifting Hook	3
	7272	Anchor Construction Yoke Plate	6
	R-15258	6 Ton Hydraulic Wire Cutter	1
	(CONTINUED)		

35	R-16625	MANTA RAY INSTALLATION TOOL SET & HPU	1
		Each Set Consists of the Following Items	Qty/Set
	R-16625-1	GPU-18-8 Hydraulic Power Unit, 18hp	1
	R-16625-2	HB90-14 Hammer,	1
	7004-5	Hose Sets HC-16-25	2
	R-16625-4	LL-1 Load Locker,	1
	R-16625-5	SGC-14 Drive Steel Set,	1
	R-16625-6	SG2 Extensions (3ft)	3
	R-16625-7	SG4 Couplers	4
	R-16625-8	SG3 Radius Tip	1
	R-16625-9	SG-14 1 1/4" Shank	1

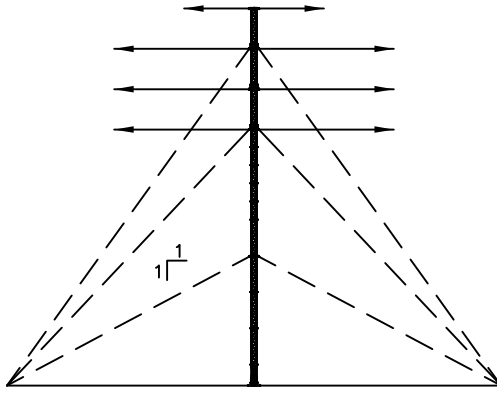
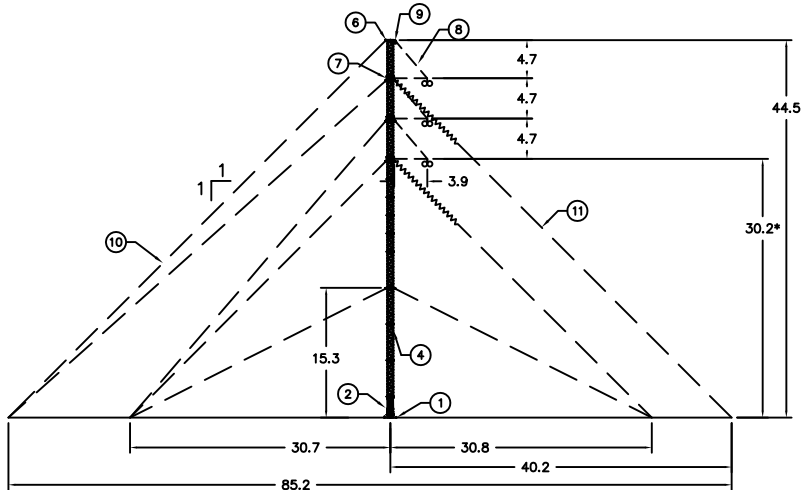
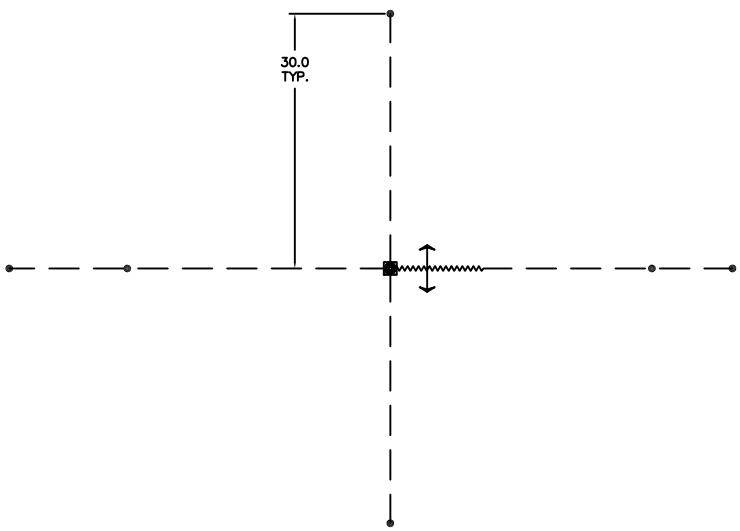
36 R-14384-4 MARSH ANCHOR MANUAL INSTALLATION TOOL 2
5.2

Item Lindsey			
No.	Part No.	Description	Qty.
37	R-14304	FOUNDATIONS STAKES 1.2 Mts.	9
38	R-16001	20 ft. INSULATOR & HARDWARE STORAGE CONTNER.	1

REVISIONS		
LTR	DESCRIPTION	ENG/DATE
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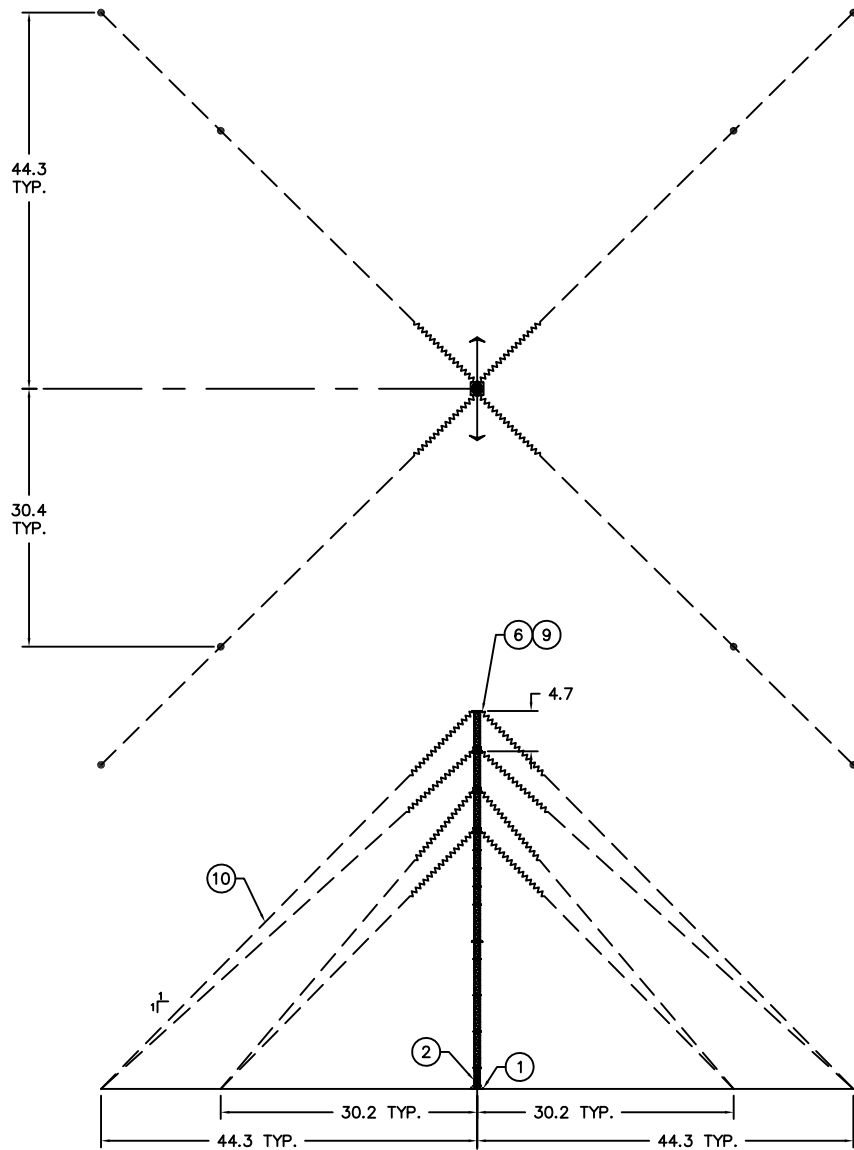
ITEM NO.	QTY.	LINDSEY PART NO.	DESCRIPTION	MAT'L	WT.EA. LBS.
1	1	7154	ERS FOUNDATION BASE ASSY.	AL	551.2
2	1	7424	GIMBAL JOINT ASSY.	AL	562.2
3	0	7151	21 FT. COLUMN ASSY.	AL	564.4
4	7	7152	14 FT. COLUMN ASSY.	AL	416.7
5	5	7153	7 FT. COLUMN ASSY.	AL	271.2
6	8	7157	45° / 45° GUY PLATE	AL	50.7
7	3	7155	BOX SECTION ASSY.	AL	271.2
8	3	R-26460-1	CONDUCTOR HARDWARE ASSY.	-	-
9	1	R-19588-2	OHGW HARDWARE ASSY.	-	-
10	12	R-19588-3	GUY WIRE ASSY.	-	-
11	2	R-19588-4	INSULATED GUY WIRE ASSY.	-	-
12					

TOTAL GUYS	14
TOTAL ANCHORS	6
TOTAL GUY WIRE REQD.	500M



* MAXIMUM CONDUCTOR HEIGHT SHOWN.
 1. ALL DIMENSIONS ARE IN METERS
 NOTES: UNLESS OTHERWISE SPECIFIED

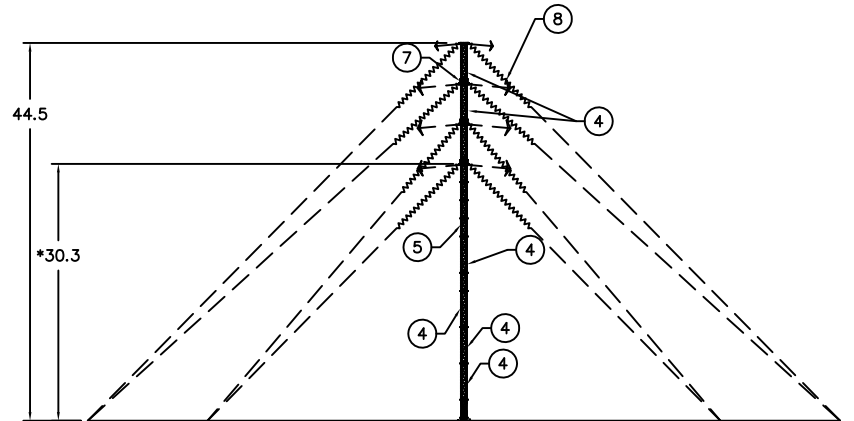
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APPROVALS	DATE	400kV 0° HORIZONTAL VEE E.R.S.			
DRAWN PAUL LARA	2/20/19				
ENGINEER EMIDGIO AGUILERA	XXXX	SIZE B	SCALE 1:600	DWG R-26460	REV 1
REF. NO.: PTCUL-INDIA					



REVISIONS		
LTR	DESCRIPTION	ENG/DATE
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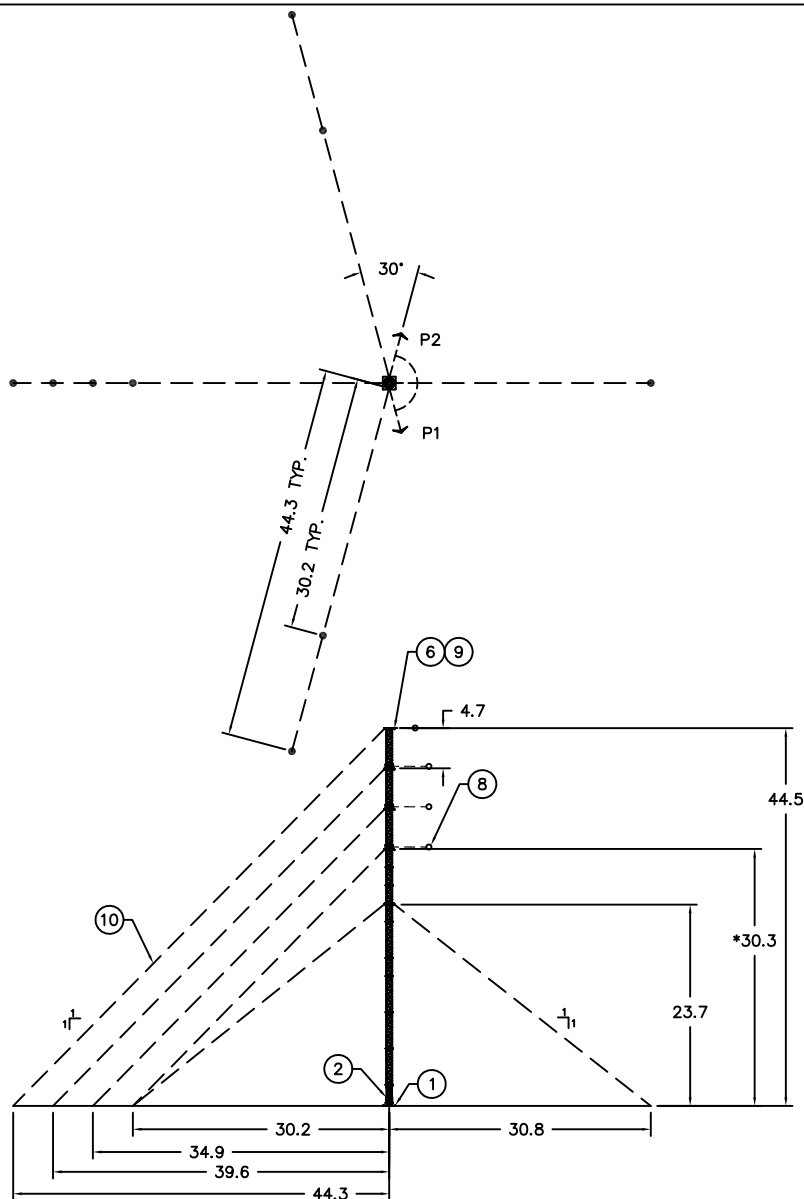
ITEM NO.	QTY.	LINDSEY PART NO.	DESCRIPTION	MAT'L	WT.EA. LBS.
1	1	7154	ERS FOUNDATION BASE ASSY.	AL	551.2
2	1	7424	GIMBAL JOINT ASSY.	AL	562.2
3	0	7151	21 FT. COLUMN ASSY.	AL	564.4
4	7	7152	14 FT. COLUMN ASSY.	AL	416.7
5	5	7153	7 FT. COLUMN ASSY.	AL	271.2
6	10	7157	45°/ 45° GUY PLATE	AL	50.7
7	3	7155	BOX SECTION ASSY.	AL	271.2
8	3	R-26462-1	CONDUCTOR HARDWARE ASSY.	-	-
9	2	R-19589-2	OHGW HARDWARE ASSY.	-	-
10	0	R-19588-3	GUY WIRE ASSY.	-	-
11	16	R-19588-4	INSULATED GUY WIRE ASSY.	-	-
12	4	7158	0°/ 0° GUY PLATE	AL	50.7

TOTAL GUYS	16
TOTAL ANCHORS	8
TOTAL GUY WIRES REQD.	1100M



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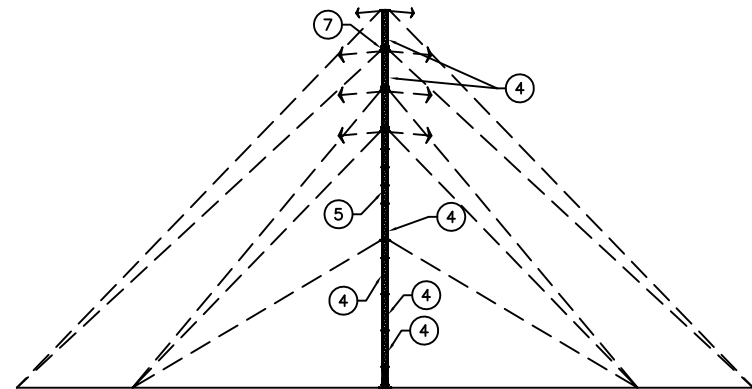
SALES		INNOVATIONS IN TRANSMISSION AND DISTRIBUTION		 780 N. GEORGIA / AZUSA, CA 91702 (626) 989-3471	
		APPROVALS	DATE	400kV TENSION 0° DEAD-END	
DRAWN	PAUL LARA	2/20/19	ENGINEER	EMIDGIO AGUILERA	XXXX
REF. NO.:	PTCUL-INDIA	SIZE	B	SCALE	1:600
			DWG	R-26462	REV
					1



REVISIONS		
LTR	DESCRIPTION	ENG/DATE
1	INITIAL SALES DRAWING SUBMITTAL	P.L 2/20/19

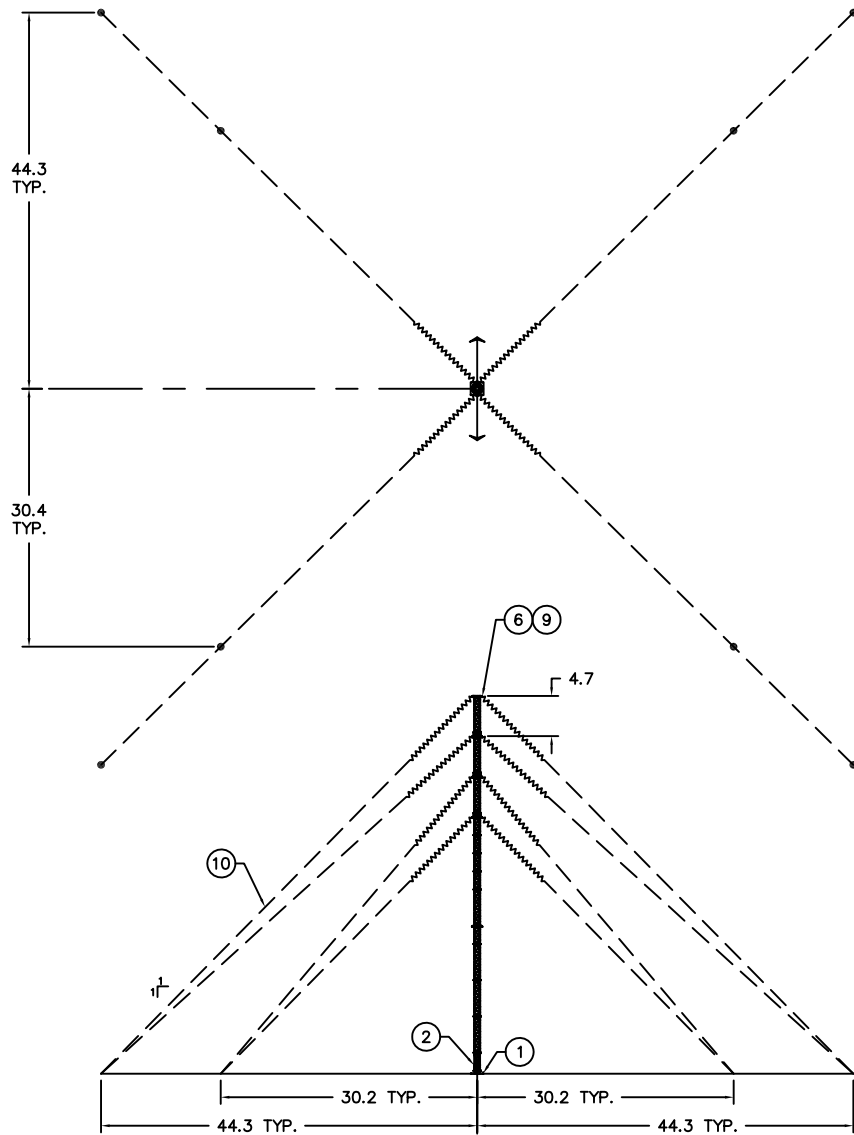
ITEM NO.	QTY.	LINDSEY PART NO.	DESCRIPTION	MAT'L	WT.EA. LBS.
1	1	7154	ERS FOUNDATION BASE ASSY.	AL	551.2
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5	5	7153	7 FT. COLUMN ASSY.	AL	271.2
6	10	7157	45°/ 45° GUY PLATE	AL	50.7
7	3	7155	BOX SECTION ASSY.	AL	271.2
8	3	R-26462-1	CONDUCTOR HARDWARE ASSY.	-	-
9	2	R-19589-2	OHGW HARDWARE ASSY.	-	-
10	16	R-19588-3	GUY WIRE ASSY.	-	-
11	0	R-19588-4	INSULATED GUY WIRE ASSY.	-	-
12	4	7158	0°/ 0° GUY PLATE	AL	50.7

TOTAL GUYS	16
TOTAL ANCHORS	9
TOTAL GUY WIRES REQD.	900M



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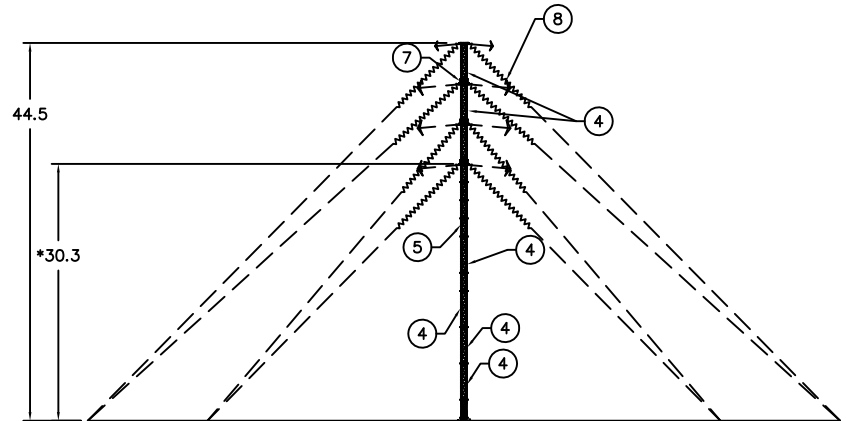
SALES		INNOVATIONS IN TRANSMISSION AND DISTRIBUTION LINDSEY MANUFACTURING COMPANY 700 N. GEORGIA / AZUSA, CA 91702 (626) 988-3471	
DRAWN PAUL LARA		2/20/19	
ENGINEER EMIDGIO AGUILERA		XXXX	
REF. NO.: PTCUL-INDIA	SIZE B	SCALE 1:600	DWG R-26463
			REV 1



REVISIONS		
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5	5	7153	7 FT. COLUMN ASSY.	AL	271.2
6	10	7157	45°/ 45° GUY PLATE	AL	50.7
7	3	7155	BOX SECTION ASSY.	AL	271.2
8	3	R-26466-1	CONDUCTOR HARDWARE ASSY.	-	-
9	2	R-19589-2	OHGW HARDWARE ASSY.	-	-
10	0	R-19588-3	GUY WIRE ASSY.	-	-
11	16	R-19588-4	INSULATED GUY WIRE ASSY.	-	-
12	4	7158	0°/ 0° GUY PLATE	AL	50.7

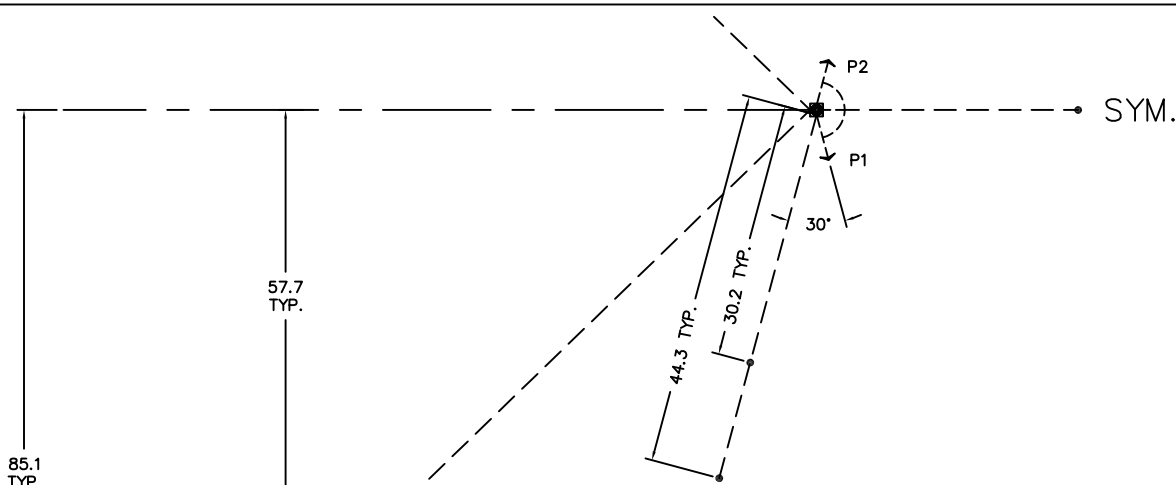
TOTAL GUYS	16
TOTAL ANCHORS	8
TOTAL GUY WIRES REQD.	1100M



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SALES APPROVALS DRAWN PAUL LARA ENGINEER EMIDGIO AGUILERA		DATE 2/20/19		400kV TENSION 0° DEAD-END	
		REF. NO.: PTCUL-INDIA	SIZE B		

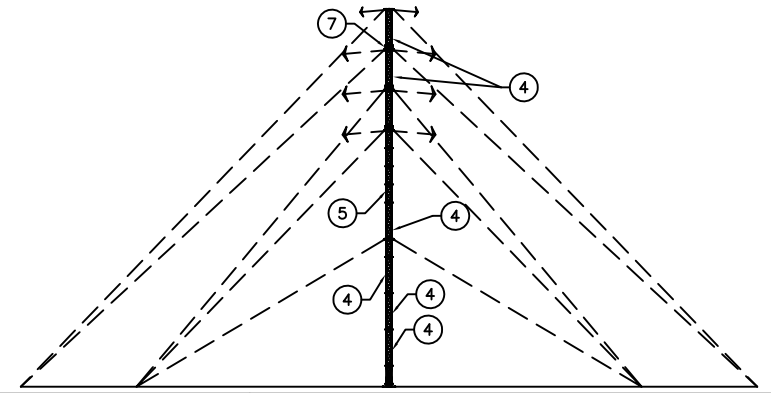
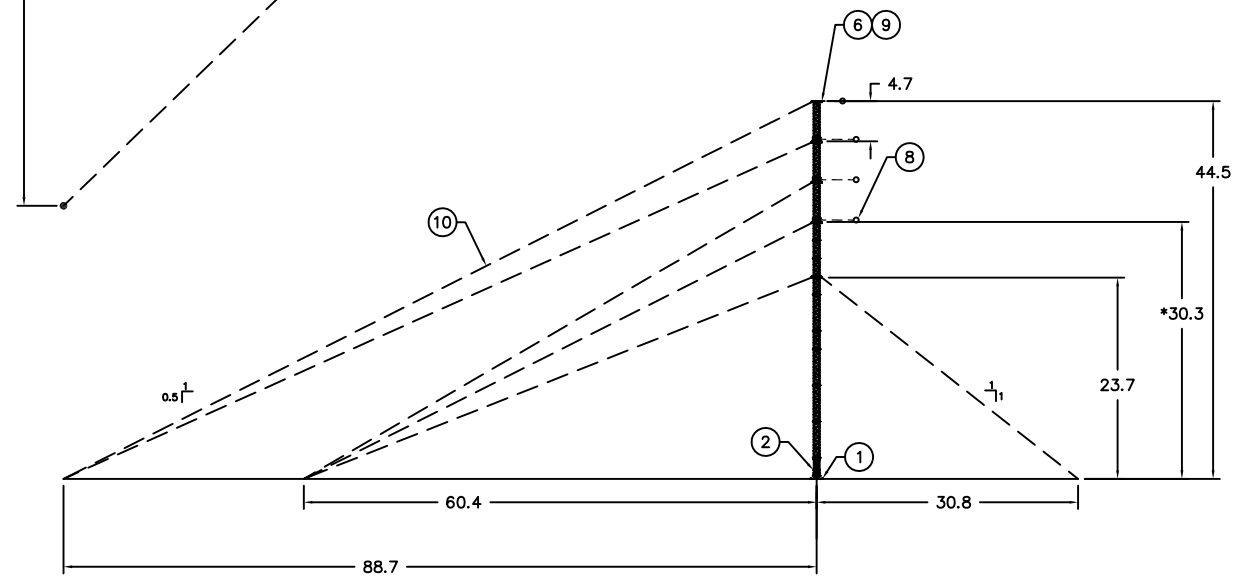
INNOVATIONS IN TRANSMISSION AND DISTRIBUTION
LINDSEY
 MANUFACTURING COMPANY
 780 N. GEORGIA / AZUSA, CA 91702 (626) 989-3471



REVISIONS		
LTR	DESCRIPTION	ENG/DATE
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9	2	R-19589-2	OHGW HARDWARE ASSY.	-	-
10	21	R-19588-3	GUY WIRE ASSY.	-	-
11	0	R-19588-4	INSULATED GUY WIRE ASSY.	-	-
12	4	7158	0°/ 0° GUY PLATE	AL	50.7

TOTAL GUYS	21
TOTAL ANCHORS	11
TOTAL GUY WIRES REQD.	2350M



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SALES		INNOVATIONS IN TRANSMISSION AND DISTRIBUTION LINDSEY MANUFACTURING COMPANY 700 N. GEORGIA / AZUSA, CA 91702 (626) 988-3471		400kV 30° TENSION DEAD-END			
							APPROVALS
DRAWN PAUL LARA		02/20/2019		B	1:600	R-26467	1
ENGINEER EMIDGIO AGUILERA		XXXX		REF. NO.: PTCUL-INDIA			