

TECHNICAL DATA

1. ASSEMBLY MINIMUM ULTIMATE TENSILE STRENGTH - 505 KN.
2. BALL & SOCKET DESIGNATION 28 MM AS PER IS:2486 PART-II.
3. BALL & SOCKET LOCKING BY R-CLIP MADE OF STAINLESS STEEL.
4. FERROUS PARTS HOT DIP GALVANIZED AND SPRING WASHER ELECTROGALVANIZED AS PER POWERGRID SPECIFICATION.
5. GENERAL TOLERANCE SHALL NOT EXCEED $\pm 3\%$.
6. TOLERANCE ON LENGTH OF HARDWARE IS $\pm 2\%$.
7. WEIGHT IS INDICATIVE ONLY.
8. ALL DIMENSIONS ARE IN MM.

FOR BID PURPOSE ONLY

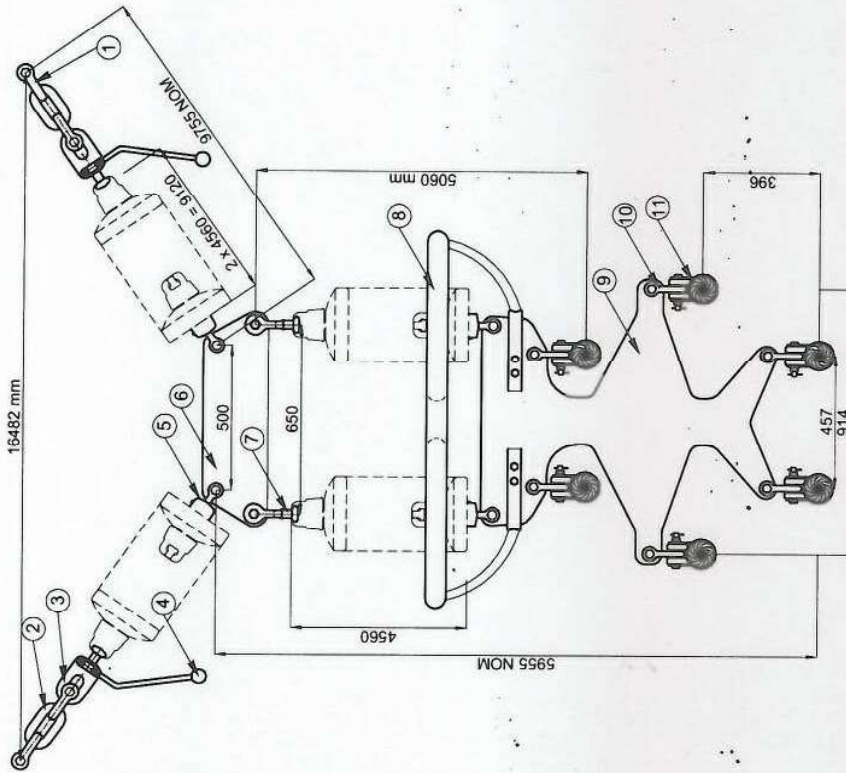
POWER GRID CORPORATION OF INDIA LTD.

PROJECT : 800 KV HVDC TRANSMISSION LINE

TITLE : OUTLINE DRAWING OF SINGLE 'Y' SUSPENSION INSULATOR STRING WITH 2 X 3 - 420 KN DC COMPOSITE LONG ROD INSULATORS SUITABLE FOR HEXA BUNDLE ACSR LAPWING CONDUCTOR

DRAWING NO.: TL/HVDC/800KV/SYS/02

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S.NO.	DESCRIPTION	QTY. (NOS.)	UTS (KN)
11	A.G.SUSPENSION CLAMP	6	130
10	CLEVIS EYE	6	130
9	MAIN YOKE PLATE	1	505
8	GRADING RINGS	1	-
7	BALL CLEVIS	2	440
6	TAPERZOIDAL YOKE PLATE	1	440
5	SOCKET CLEVIS	4	440
4	BALL ARCING HORN	2	440
3	H.H BALL LINK	2	440
2	CHAIN LINK	2	440
1	D-SHACKLE	4	440

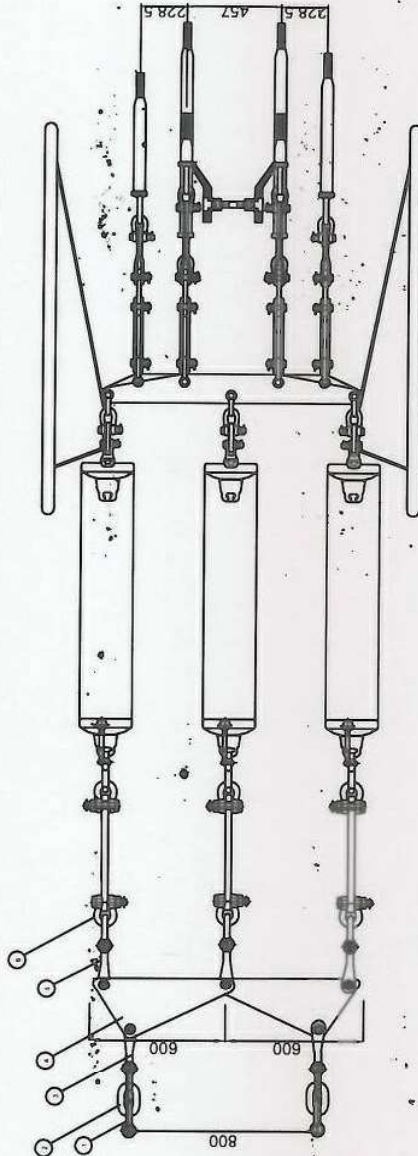
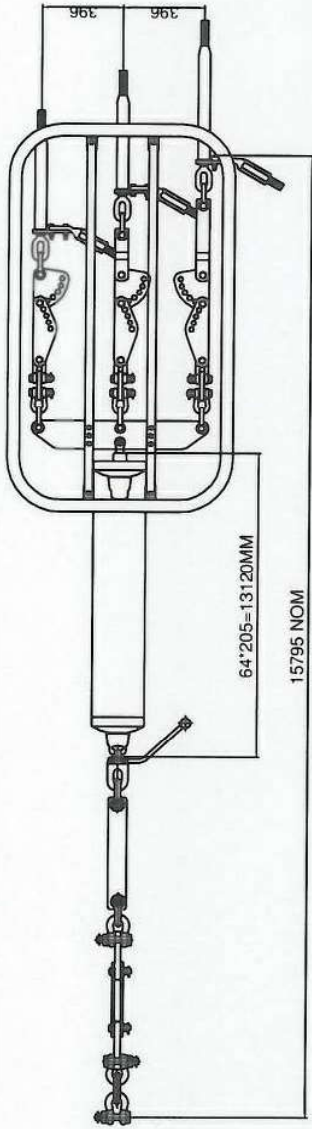
TECHNICAL DETAILS:

- 1) ALL DIMENSIONS ARE IN MM.
- 2) SPRING WASHER ELECTRO GALVANIZED.
- 3) SLIPPING STRENGTH OF CLAMP BETWEEN 16 TO 24 KN.
- 4) BALL & SOCKET SIZE 20 mm. IS:2486. (PART-II).
- 5) ALL FERROUS PARTS HOT DIP GALVANIZED AS PER IS : 2629.
- 6) MIN. CORONA EXTINCTION VOLTAGE (OR) 510 KV (RMS).
- 7) RV AT 510 KV (OR) BELOW 1000 MICROVOLTS.
- 8) HARDWARE TOLERANCES ON LENGTH $\pm 2\%$.
- 9) INSULATOR DISC TOLERANCES : ± 5 mm. PER DISC.
- 10) GENERAL TOLERANCE $\pm 3\%$ APPLICABLE FOR INDIVIDUAL COMPONENTS.

BID PURPOSE ONLY

Title:
 +/- 800 KV. TRIPLE TENSION INSULATOR
 STRING FOR HEXAGONAL ACSR "LAPWING"
 CONDUCTOR.
 UTS : 1320 KN.

DRAWING NO. PL/800 KV/HVDC/03



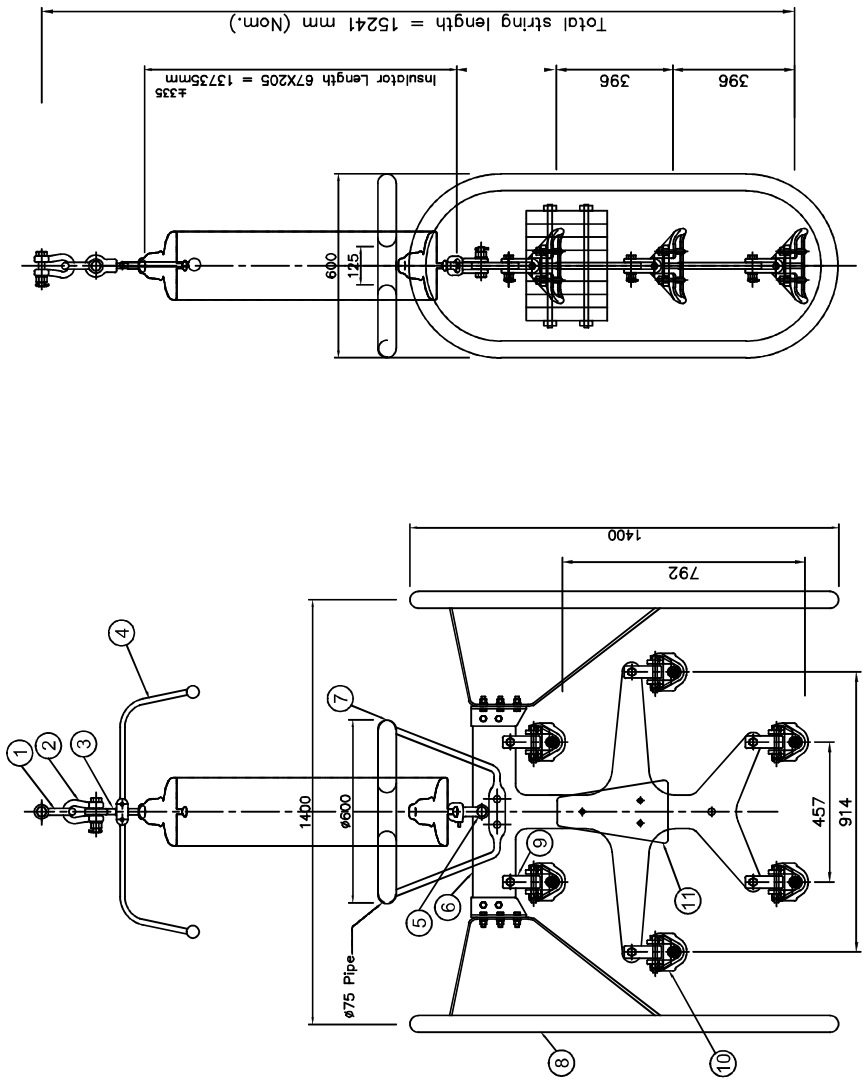
Sr.No.	DESCRIPTION	U.T.S.	QTY.
6	ANCHOR SHACKLE	440 KN	6
5	EXTENSION LINK	440 KN	3
4	YOKE PLATE	660 KN	2
3	EXTENSION LINK	660 KN	2
2	CHAIN LINK	660 KN	2
1	ANCHOR SHACKLE	660 KN	4

INDICATIVE DRAWING ONLY

Notes :

1. General Tolerance $\pm 3\%$ unless otherwise specified.
2. Tolerance on length of hardware fitting $\pm 2\%$
3. Ferrous Parts are hot dip galvanised as per IS:2629
4. Ball & socket designation 28mm as per IS:2486 Part II/IEC-120
5. Ultimate Tensile Strength of assembly 160 kN
6. Ultimate Tensile Strength of Suspension Clamp 70 kN
7. Slip strength of clamp 20 to 29 kN
8. Clamp is suitable for ACSR Lapwing (dia. 38.22 mm)
9. Spring washer are electro galvanised as per PGCIL Spec.
10. Flat washer are hot dip galvanised as per PGCIL Spec.
11. Min corona extinction voltage (Dry) 880 kV
12. RIV at 22 kV/cm (+ve) below 1000 microvolts.

TENDER PURPOSE ONLY



Sl.	Description	Qty.	UTS(kN)
11	Counter Weight Assem.(200 Kgs)	1 set	-
10	Suspension Clamp	6	70
9	Clevis Connector	6	70
8	Corona/Grading Ring & Brackets	1 set	-
7	Corona/Grading Ring & Brackets	1	-
6	Yoke Plate	1	160
5	Socket Clevis	1	160
4	Arcing Horn	1	1.5
3	Ball Eye (Horn Holder)	1	160
2	Anchor Shackle	1	160
1	Anchor Shackle	1	160
Sl.	Description	Qty.	UTS(kN)

Title: 800KV SINGLE 'I' SUSPENSION PILOT HARDWARE
FITTINGS SUITABLE FOR ACSR LAPWING
UTS :160 kN



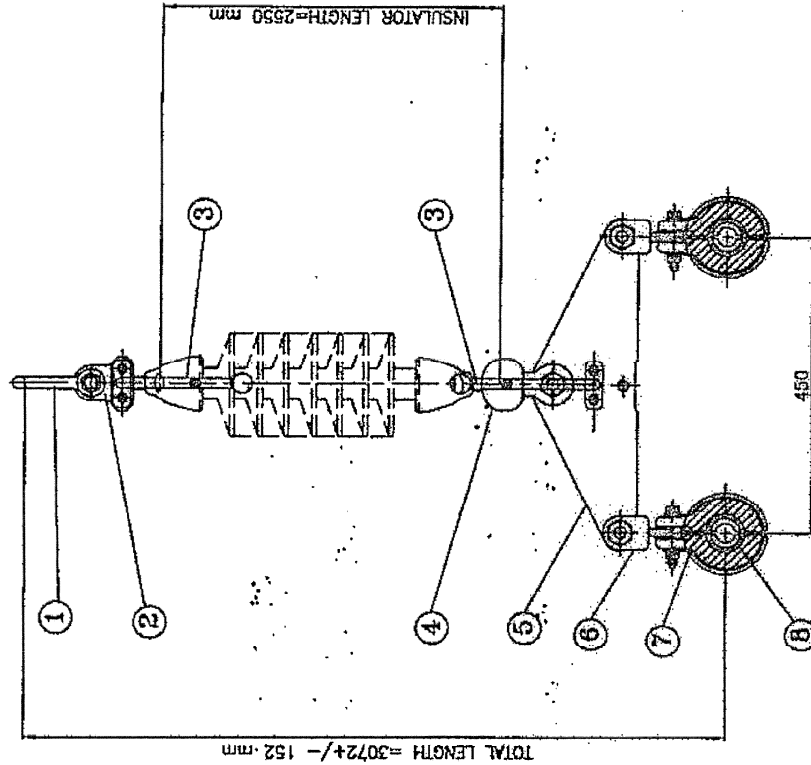
**POWER GRID CORPORATION
OF INDIA LIMITED**
(A GOVERNMENT OF INDIA ENTERPRISE)

DRAWING NO.: -DL/800kV/HVDC/04

TECHNICAL DATA :-

- 1) ALL DIMENSIONS ARE IN MM.
- 2) ALL FERROUS PARTS HOT DIP GALVANIZED AS PER POWERGRID SPECIFICATION.
- 3) SEEBING WASHERS ARE ELECTRO GALVANIZED.
- 4) BALL & SOCKET SIZE 20 mm. B AS PER IS:2488 (PART-II)
- 5) TOLERANCE ON TOTAL LENGTH OF HARDWARE FITTING. $\pm 2\%$.
- 6) MAGNETIC POWER LOSS AT 500 AMP CONDUCTOR CURRENT LESS THAN 0.5 WATT PER CLAMP ASSEMBLY.
- 7) TOTAL WEIGHT : 150.0 KG (APPROX)

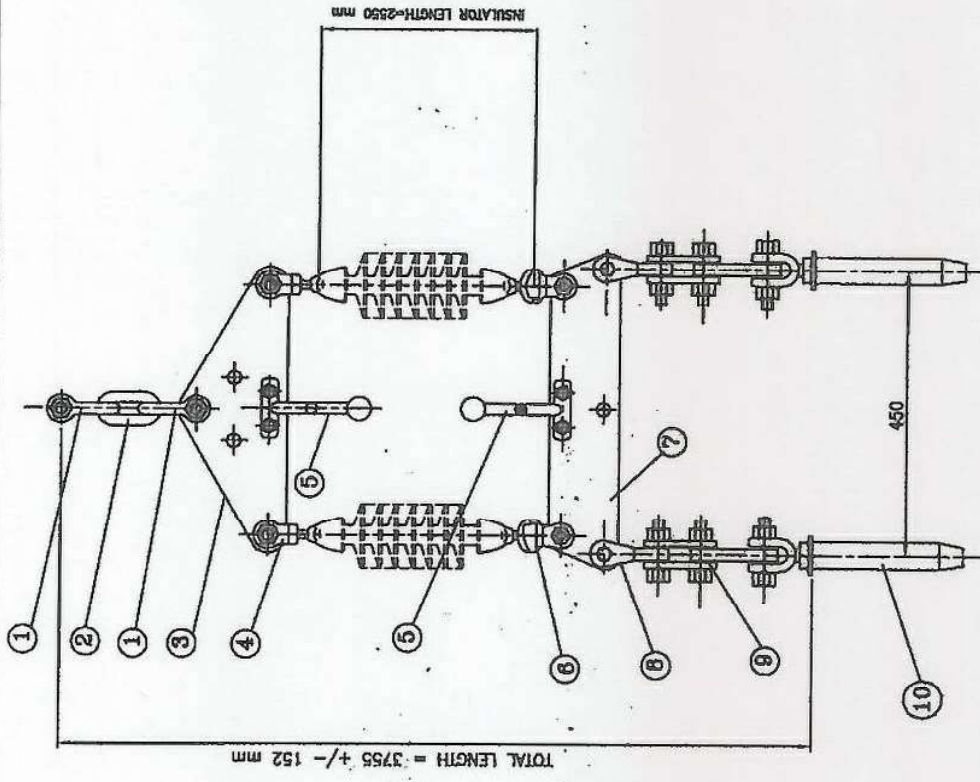
FOR TENDER PURPOSE ONLY



Sr. No.	DESCRIPTION	MATERIAL	QTY
8	ARMOUR ROD	HIGH TENSILE ALUMINIUM ROD IS:5032/IS:6811 IS:733	2
7	SUSPENSION CLAMP (ACS)	ALUMINIUM ALLOY A-6 IS:617	2
6	CLAMP EYE	FORGED STEEL CL-N IS:2004	1
5	YOKE PLATE	MILD STEEL Fe-410 IS:2082	1
4	SOCKET GLENS	FORGED STEEL CL-V IS:2004	2
3	ARMOUR WASHERS	MILD STEEL Fe-410 IS:2082	2
2	ARMOUR WASHERS	FORGED STEEL C. V. S:2004	2
1	ARMOUR WASHERS	FORGED STEEL C. V. S:2004	2

TRD:-
 SINGLE T. SUSPENSION INSULATOR
 STRING FOR TWIN LAPWING ACSR COND.
 WITH ARMOUR GRIP TYPE CLAMP
 UTS 160 KN

Drq No. 800HVDC/MR/SIS



TECHNICAL DATA:

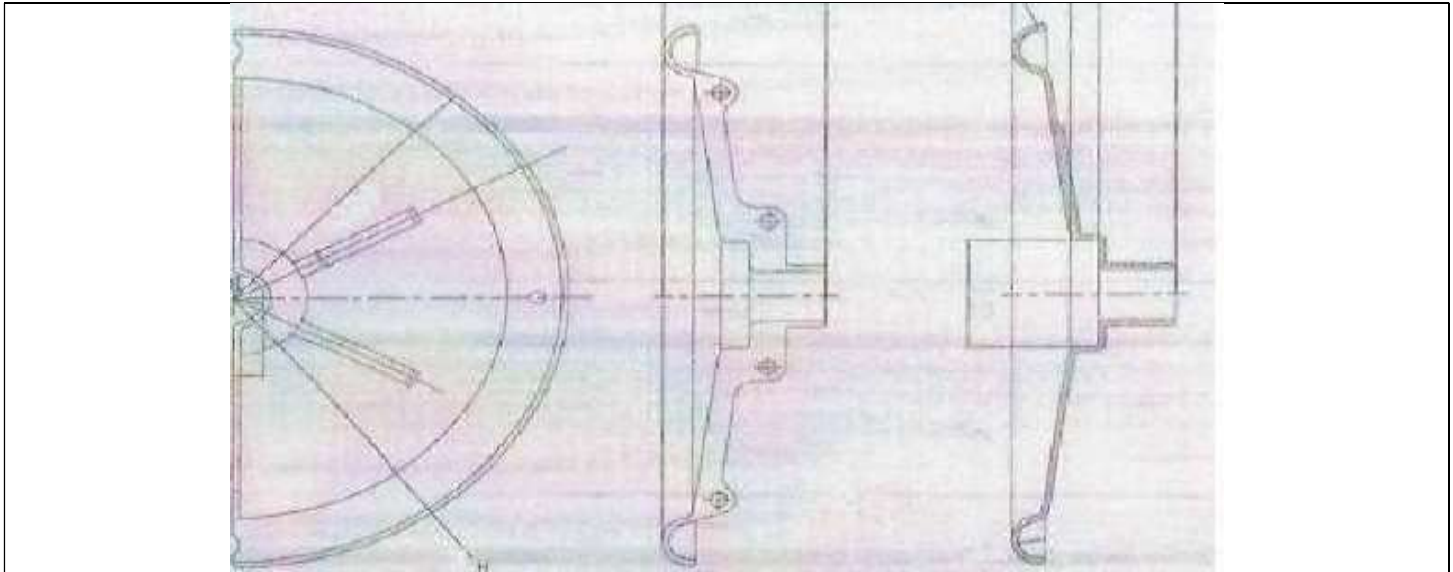
- 1) ALL DIMENSIONS ARE IN mm.
- 2) TOLERANCE ON TOTAL LENGTH OF HARDWARE FITTING, ±2%.
- 3) BALL & SOCKET SIZE 24mm AS PER IS:2486 (PART-II)
- 4) ALL FERROUS PARTS HOT DIP GALVANIZED AS PER POWERGRID SPECIFICATION.
- 5) SPRING WASHER ARE ELECTRO GALVANIZED.
- 6) TOTAL WEIGHT : 325 KG (APPROX)

FOR TENDER PURPOSE ONLY

Title:-
DOUBLE TENSION INSULATOR
STRING FOR TWIN LAPWING ACSPR COND.
UTS 420 KN

Drg no. 800HVDC/MR/ DT

SR. NO	DESCRIPTION	MATERIAL	U.T.S.	QTY.
10	COMPRESSION DEADEND CLAMP	ALUMINIUM ALLOY & STEEL IS:400/5003 IS:233		2
9	SAG ADJUSTABLE PLATE	MILD STEEL Fe-410, IS:2002	210 KN	2 SET
8	CLEVIS EYE	FORGED STEEL CL-M, IS:2004	210 KN	2
7	YOKE PLATE	MILD STEEL Fe-410, IS:2002	420 KN	1
6	SOCKET CLEVIS	FORGED STEEL CL-M, IS:2004	210 KN	2
5	ARCHING HORN	MILD STEEL Fe-410, IS:2002	1.5 KN	2
4	BALL CLEVIS	FORGED STEEL CL-M, IS:2004	210 KN	2
3	YOKE PLATE	MILD STEEL Fe-410, IS:2002	420 KN	1
2	CHAIN LINK	FORGED STEEL CL-M, IS:2004	420 KN	1
1	ANCHOR SWAGLE	FORGED STEEL CL-M, IS:2004	420 KN	2



Indicative drawing/ photographs of covered type grading ring (to be used on suspension strings at tower/ cold end)