

SECTION – 1

SCOPE, SPECIFIC TECHNICAL REQUIREMENTS AND QUANTITIES

1.0 Scope

This technical specification covers the requirements of design, manufacture, testing at works, packing and dispatch of Cable Glands for 1.1 kV Control and Aux. Power Cable for 66 kV Switchyard at Nimoo Bazgo Site, J & K.

This section covers the specific technical requirements of Cable Glands for 1.1 kV Control and Aux. Power Cable. In case of any discrepancies between the requirements mentioned in this section and those specified in the following sections of this specification, then those given herein shall prevail and shall be treated as binding requirements.

1.1 The equipment is required for the following project.

Name of customer : National Hydro Electric Power Corporation Ltd, Faridabad

Name of the project : 66 kV Switchyard at NIMOO BAZGO HE Project

Refer section-3 of this document for project details and general specification.

1.2 SPECIFIC TECHNICAL REQUIREMENTS

1.2.1 Type CGT -- Double compression, Heavy Duty Tin plated (coating thickness not less than 10 microns) brass cable glands shall be provided by the vendor for all **PVC/Cu un-armoured** power and control cables to provide dust and weather proof terminations. The cable glands shall be tested as per BS: 6121. They shall comprise of heavy duty, brass casting, machine finished and Tin plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. The glands shall be dust proof, screw on type, shrouded complete with necessary armour clamp and tapered washers etc.

1.3 QUANTITIES

The quantities for Cable Glands are tentative only. Bidder shall estimate the final quantity at later stage. Approved cable schedule shall be provided.

S. No.	Type of Cable Glands	Quantity in Nos.
	FOR CONTROL CABLES	
1.	Type CGT-1 for 2C × 2.5 sq. mm PVC/Cu.	500
2.	Type CGT-3 for 5 C × 2.5 sq. mm PVC/Cu.	70
3.	Type CGT-4 for 7 C × 2.5 sq. mm PVC/Cu.	300
4.	Type CGT-5 for 10 C × 2.5 sq. mm PVC/Cu.	150
5.	Type CGT-6 for 14 C × 2.5 sq. mm PVC/Cu.	100
6	Type CGT-7 for 19 C × 2.5 sq. mm PVC/Cu.	150
7	Type CGT-10 for 4 C × 6 sq. mm PVC/Cu.	500
	FOR AUX. POWER CABLES	
8	Type CGT- 28 for 2 C× 6 sq. mm PVC/Al.	120
9.	Type CGT- 30 for 4 C× 6 sq. mm PVC/Al.	150
10.	Type CGT –27 for 3.5 C× 35 sq. mm PVC/Al	80
11.	Type CGT–21 for 3.5 C× 300 sq. mm PVC/Al	10
12.	Type CGT for 1 C× 70 sq. mm PVC/Al	10

SECTION-2

2.0 SCOPE

This technical specification covers the requirements of design, manufacture, testing at works, packing and dispatch of Cable Glands. No deviation from the requirements specified in various clauses of this specification shall be allowed.

2.1 TYPE OF CABLE GLANDS & CABLE DATA

- 2.1.1. NICKEL PLATED CABLE GLANDS (25mm projected) -- Type CGP for following type of Cables
- 2.1.2. TIN PLATED CABLE GLANDS -- Type CGT for following type of Cables
- 2.1.3. NICKEL PLATED CABLE GLANDS -- Type CGN for following type of Cables
- 2.1.4. NICKEL-CHROMIUM PLATED CABLE GLANDS -- Type CGNC for following type of Cables

SI No.	Type of Cable Glands				Type of Control & Aux. Power Armoured Cable
1	CGP-1	CGT-1	CGN-1	CGNC-1	2C x 2.5 sq mm PVC/ Cu.
2	CGP-2	CGT-2	CGN-2	CGNC-2	3C x 2.5 sq mm PVC/ Cu.
3	CGP-3	CGT-3	CGN-3	CGNC-3	5C x 2.5 sq mm PVC/ Cu.
4	CGP-4	CGT-4	CGN-4	CGNC-4	7C x 2.5 sq mm PVC/ Cu.
5	CGP-5	CGT-5	CGN-5	CGNC-5	10C x 2.5 sq mm PVC/ Cu.
6	CGP-6	CGT-6	CGN-6	CGNC-6	14C x 2.5 sq mm PVC/ Cu.
7	CGP-7	CGT-7	CGN-7	CGNC-7	19C x 2.5 sq mm PVC/ Cu.
8	CGP-8	CGT-8	CGN-8	CGNC-8	27C x 2.5 sq mm PVC/ Cu.
9	CGP-9	CGT-9	CGN-9	CGNC-9	4 C x 4 sq mm PVC/ Cu.
10	CGP-10	CGT-10	CGN-10	CGNC-10	4 C x 6 sq mm PVC/ Cu.
11	CGP-11	CGT-11	CGN-11	CGNC-11	4 C x 10 sq mm PVC/ Cu.

12	CGP-12	CGT-12	CGN-12	CGNC-12	1C x 630 sq mm XLPE/Al.
13	CGP-13	CGT-13	CGN-13	CGNC-13	1C x 400 sq mm XLPE/Al.
14	CGP-14	CGT-14	CGN-14	CGNC-14	1C x 500 sq mm XLPE/Al.
15	CGP-15	CGT-15	CGN-15	CGNC-15	3.5C x 240 sq mm XLPE/Al.
16	CGP-16	CGT-16	CGN-16	CGNC-16	3.5C x 300 sq mm XLPE/Al.
17	CGP-17	CGT-17	CGN-17	CGNC-17	3.5C x 400 sq mm XLPE/Al.
18	CGP-18	CGT-18	CGN-18	CGNC-18	1C x 630 sq mm PVC / Al.
19	CGP-19	CGT-19	CGN-19	CGNC-19	1C x 400 sq mm PVC/Al.
20	CGP-20	CGT-20	CGN-20	CGNC-20	3.5C x 400 sq mm PVC/Al.
21	CGP-21	CGT-21	CGN-21	CGNC-21	3.5C x 300 sq mm PVC/Al.
22	CGP-22	CGT-22	CGN-22	CGNC-22	1C x 185 sq mm PVC/Al.
23	CGP-23	CGT-23	CGN-23	CGNC-23	1C x 120 sq mm PVC/Al.
24	CGP-24	CGT-24	CGN-24	CGNC-24	3.5C x 95 sq mm PVC/Al.
25	CGP-25	CGT-25	CGN-25	CGNC-25	3.5C x 70 sq mm PVC/Al.
26	CGP-26	CGT-26	CGN-26	CGNC-26	1C x 50 sq mm PVC/ Al.
27	CGP-27	CGT-27	CGN-27	CGNC-27	3.5C x 35 sq mm PVC/Al.
28	CGP-28	CGT-28	CGN-28	CGNC-28	2C x 6 sq mm PVC/Al.
29	CGP-29	CGT-29	CGN-29	CGNC-29	2C x 10 sq mm PVC/Al.
30	CGP-30	CGT-30	CGN-30	CGNC-30	4C x 6 sq mm PVC/ Al.
31	CGP-31	CGT-31	CGN-31	CGNC-31	4C x 10 sq mm PVC/ Al.
32	CGP-	CGT-32	CGN-32	CGNC-32	4C x 16 sq mm PVC/ Al.

	32				
33	CGP-33	CGT-33	CGN-33	CGNC-33	4C x 25 sq mm PVC/ Al.

The actual cable data as guaranteed by the cable supplier will be furnished separately. However, for exact measurements, supplier should contact site for cable samples. The final supply shall be made based on actual cables supplied at site.

2.2 SPECIFIC TECHNICAL REQUIREMENT

2.2.1 Type CGN, CGT & CGNC -- Double compression, Heavy Duty. Nickel/Tin/ Nickel-Chromium plated (coating thickness not less than 10 microns) brass cable glands shall be provided by the vendor for all power and control cables to provide dust and weather proof terminations. The cable glands shall be tested as per BS: 6121. They shall comprise of heavy duty, brass casting, machine finished and Nickel/Tin/ Nickel-Chromium plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. The glands shall be dust proof, screw on type, shrouded complete with necessary armour clamp and tapered washers etc.

2.2.2 Type CGP -- Double compression, Heavy Duty, Nickel plated (coating thickness not less than 10 microns) brass cable glands shall be provided by the vendor for all power and control cables to provide dust and weather proof terminations. The cable glands shall be tested as per BS: 6121. They shall comprise of heavy duty, brass casting, machine finished and Nickel-plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. The gland shall project at least 25mm above gland plate to prevent entry of moisture in cable crutch. The Nickel-plated glands shall be dust proof, screw on type, shrouded complete with necessary armour clamp and tapered washers etc. The gland shall have provision for securing armour of the cable separately and shall be provided with earthing tag. Cable glands shall be of QIEP, Sunil & Co, Comet, Arup make or Powergrid approved vendor.

2.3 TEST

All valid test reports as per relevant standard shall be furnished including Proof Torque Test, Tensile Test, Seal Test and Electrical Continuity Test as per BS 6121. Cable glands shall also be tested for dust proof and weather-proof termination. Bidders shall submit valid reports of type tests carried out within seven years of bid opening. These reports should have been conducted on identical / similar equipment to those offered. In case less than seven years old type test reports OR valid type tests are not furnished, the tests shall be conducted free of charge. No separate type test charges shall be paid.