



NATIONAL ALUMINIUM COMPANY LIMITED

(A Government of India Enterprise)

(A NAVRATNA COMPANY)

Panchpatmali Bauxite Mine, Damanjodi-763008.

(T & C DEPARTMENT)

E mail: nissankararao.sudhakar@nalcoindia.co.in, deo.azad@nalcoindia.co.in, k.rao@nalcoindia.co.in**TENDER DOCUMENT COVERING LETTER****Tender Ref. No: T&C/MINES/ELEC/C-1639****Dt: 12.07.2025****Name of the Work: Rerouting of part section of 33 KV water intake line from tower no- 58 to pump house 4-pole switch yard, NALCO Mines, Damanjodi.**

Dear Sirs,

With reference to above, you are requested to submit your best competitive offer for above referred work as specified in the enclosed documents, considering all the terms, conditions and specifications etc. in **online mode/e-mode** at the tendering portal (indicated in salient points of the tender).

The Bidders shall have to upload the scan copy of **Bank Guarantee (only if BID SECURITY amount >or = Rs. 1,00,000.00) or receipt for payment by electronic mode** towards Bid Security amount along with the **Online** offer.

The copy of receipt for payment against BID SECURITY by electronic mode or Original copy of Bank Guarantee shall have to be submitted /sent beforehand so as to reach the office of tender inviting authority on or before the bid submission due date & time or extended bid due date & time of the tender. In case you are claiming exemption from payment of BID SECURITY, the valid attested by gazetted officer/notarized supporting documents for claiming the exemption (Ref clause no: 6.0 of Annexure-AA) must be uploaded along with the Online offer, failing which the offer will be liable for rejection.

The bidder must be a registered vendor under GST and must possess valid GSTIN.

- a) In case of **SINGLE PART BID TENDER**, the tender document, duly filled in & signed, on each page digitally, along with the required documents in support of terms and conditions as per the NIT/GCC etc are to be submitted in **online** mode along with the requisite BID SECURITY, as per details, indicated at clause no:25.0 of Annexure-AA.
- b) In case of **TWO PART BID TENDER**, the tender document, duly filled in & signed, on each page digitally along with the requisite BID SECURITY, required documents in support of qualifying criteria & other conditions of NIT/ GCC (Part-I: Techno-commercial bid) and the Price Bid (Part-II: Price bid) are to be submitted in online mode as per the details indicated at clause no: 25.0 of Annexure-AA.

NALCO reserves the right to reject any or all offers without assigning any reason thereof.

You are requested to refer to clause **25.0** of Instructions to bidders (Annexure-AA) for details regarding mode, submission, receipt and opening of tender.

Important Note:

- (i) **Bidders are requested to quote online well ahead of the schedule tender submission date and time to avoid unforeseen problem like last hour congestion, internet failure etc.**
- (ii) **Bidders are requested to visit the tendering portal for online participation, downloading the tender documents and submit the offer only in e-tendering mode as per the tender schedule. Bids submitted in any other mode shall not be considered.**

Thanking you,

Yours faithfully,
For and on behalf of
NATIONAL ALUMINIUM COMPANY LIMITED

HOD- T&C, (Tender Inviting Authority)

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CONTRACT DETAILS

1.	NAME OF THE WORK	Rerouting of part section of 33 KV water intake line from tower no- 58 to pump house 4- pole switch yard, NALCO Mines, Damanjodi.			
2.	LOCATION OF THE WORK	Outside Mines Gate but within Mines Lease Area			
3.	TENDER REFERENCE	T&C/MINES/ELEC/C-1639			
4.	CONTRACT PERIOD	06 (Six) Months			
5.	MODE OF TENDERING	OPEN/TWO PART at GEM Portal			
6.	No. of Agency Required and percentage distribution of Work (Subject to availability of suitable vendors)	ONE, 100%			
7.	EMD/BID SECURITY (Ref clause no:6.0 of Annexure-AA)	Rs. 80,000.00			
8.	TENDER FEE (Ref clause no:5.0 of Annexure-AA)	NIL			
9.	TENDER SUBMISSION DATE / TIME (Ref. clause 25.6 of Annexure-AA)	On or before: As indicated in the portal			
10.	TENDER OPENING DATE / TIME (Ref. clause 25.6 of Annexure-AA)	On Date: As indicated in the portal			
11.	VALIDITY OF OFFER (Ref Clause 25.8 of Annexure-AA)	120 days from the date of tender opening			
12.	BANK GUARANTEE VALUE (As per clause no. 12.2 of Annexure-AA)	NIL			
13.	INDEMNITY BOND VALUE (As per clause no. 12.2 of Annexure-AA)	NIL			
14.	DEFECT LIABILITY PERIOD (Ref clause 7.0 of Annexure-AA).	01 Year (Ref: Cl. No. 7.0 of SCC)			
15a.	The value of L0 applicable to clause 20.2 of Annexure-AA (Basic +VDA+ Additional Element)	Not Applicable			
15b.	Gate Pass Details	USW	SSW	SW	HSW
		Temporary gate passes will be issued as required			
16a.	Applicability of Labour charge variation clause (Ref cl no:20.2 of Annexure-AA)	Not Applicable			
16b.	The values of D ₀ applicable (D ₀ = Diesel rate at Damanjodi)	Not Applicable			
16c.	Applicability of POL/Material variation (as per cl no:4.4 of contract manual)	Not Applicable			
17.	Applicability of income tax deduction at source (Ref cl.no. 10.8 of Annexure-AA)	Applicable			
18.	Applicability of GST (Ref cl.no. 10.0 of Annexure-AA)	Applicable			
19.	Applicability of ITC on GST (Ref cl.no. 10.0 of Annexure-AA)	Applicable			
20.	Minimum Workable rate (Ref: Clause no.2.7 of Annexure-AA)	Not Applicable			
21.	Applicability of Pre- Contract Integrity Pact (Ref Cl No. 14.1 & 14.2 of Annexure- AA)	Applicable			
22.	Date of Pre-bid meeting	Not Applicable			
23.	Joint Venture /Consortium Bidding	NOT ALLOWED, Offers submitted by such Bidders shall be summarily rejected.			

SALIENT POINTS OF THE TENDER

1	Schedule Quantity & Rates: clause no 2.1 of Annexure AA		<i>The Quantity and rate schedule (Price bid format) is enclosed at the GeM bid document in GeM portal.</i>
2	Quantity Variation: Cl no 3.1, of Annexure AA		Item rate contracts: <i>The Quantities mentioned in the schedule are approximate in nature and may vary by a wide margin for which the contractor shall have no option but to execute the works as per the direction of Engineer-in-charge at the same rates, terms & conditions. Payment shall be released to the contractor for the actual executed quantity.</i>
3	Independent External Monitor (IEM) details of NALCO		
	Smt. Deepa Krishnan, IRS (Retd.) e-mail: deepakrishnan@gmail.com	Ms. Meeran C Borwankar IPS(Retd), E-mail: mcborwankar@gmail.com	Mr. Hare Krushna Das, IAS (Retd.) e-mail: hkdash184@hotmail.com
1. "Only representation in respect of Integrity Pact need to be addressed to the IEMs and no query regarding tender terms and conditions should be address to the IEMs". 2. "Any clarification regarding the tender details and terms & conditions should be addressed to NALCO's officials as per details given below "			
4	Nominated IEM for the tender		Mr. Hare Krushna Das, IAS (Retd.)
5	Concurrent Commitments		Applicable
6	Reverse Auction		Not Applicable
7	Retention / Release of Statutory wage components: 1. The monthly statutory components on wage like EPF, ESI, NH/PH as applicable in the month shall be released along with monthly RA Bill. 2. The Yearly /Annual wage components like Bonus / Annual Leave with wages and End of Contract components like Retrenchment Benefit and Gratuity (if applicable) will be retained from the monthly RA Bills and shall be released on payment of these components to the workmen.		Not Applicable
8	Tendering Portal		www.gem.gov.in
9	Details of Tender inviting Authority		N. Srinivasa Sudhakar GM(E), T&C Department Email: nissankararao.sudhakar@nalcoindia.co.in

GeM portal General Terms and Conditions (GTC) shall form a part of the tender



CIRCULAR

Circular No.PBM/H&A/IR-25

Dated: 23/04/2025

CALCULATION SHEET FOR MINIMUM WORKABLE RATE FOR DIFFERENT CATEGORIES OF CONTRACT WORKMEN BEING ENGAGED THROUGH VARIOUS CONTRACTS AT NALCO MINES UNIT W.E.F 01/04/2025 AS PER CORPORATE OFFICE IOM NO.CHRD / IR / 7.2 /854/2025 DATED 17.04.2025 CONSIDERING WAGES, STATUTORY BENEFITS AND SAFETY BUT EXCLUDING EMPLOYEE COMPENSATION / PROFIT/ ADMINISTRATIVE EXPENSES COMPONENT.

MINIMUM WORKABLE RATE AT MINES W.E.F. 01.04.2025

S.No	WAGE COMPONENTS	USW	SSW	SW	HSW
1	Minimum Basic wages per day as declared by Central Govt.	350.00	437.00	523.00	510.00
2	VDA as declared by Central Government	191.00	237.00	282.00	328.00
3	Minimum wages per day as declared by Central Govt.	541.00	674.00	805.00	938.00
4	Additional Element declared by Nalco - Revised w.e.f. 01.04.2025	55.08	55.08	55.08	55.08
5	Total Minimum Wages including Additional element (Sl.No.3+4)	596.08	729.08	860.08	993.08
6	Canteen subsidy revised w.e.f. 01.04.2025	30.04	30.04	30.04	30.04
7	Total Wages including canteen subsidy	626.12	759.12	890.12	1023.12
8	Medical benefit @ 4.75% of Sl.No.7	29.74	36.05	42.28	48.60
9	Total wages qualifying for PF	655.86	795.18	932.40	1071.72
10	Special Compensatory Allowance (revised from 01.06.2018)	30.00	30.00	30.00	30.00
11	Total wage including Canteen & Medical benefit & Spl. Com. allowance	685.86	825.18	962.40	1101.72
12	Employer's contribution towards PF @13% of Sl.No. 9 (Basic wage + DA + Addl element + canteen + medical)	85.26	103.37	121.21	139.32
13	Payment towards Leave(1 day for every 20 days of work) 5% of Sl.No. 7(Wages+Additional Element + Canteen Subsidy)	31.31	37.96	44.51	51.16
14	Payment towards National / Festival Holidays (10 days for every calendar year (2.74% of Sl.No. 7 (Wages + Additional Element + Canteen Subsidy)	17.16	20.80	24.39	28.03
15	Bonus @ of 8.33% of (Wages + Additional Element i.e. 8.33% of Sl.No.5)	49.65	60.73	71.64	82.72
16	Payment Towards Retrenchment Benefit in case contract period exceeds 240 days (15 days of wages for every completed year of service) (4.11 % of (Wages + Additional Element + Canteen Subsidy i.e. 4.11% of Sl.No.7)	25.73	31.20	36.58	42.05
17	Payment towards Gratuity in case contract period exceeds beyond 05 years (15 days wages for every completed year of service)(4.81% of Sl.No.5 (Wages+Additional element)	28.67	35.07	41.37	47.77
18	Payment towards Safety	9.90	9.90	9.90	9.90
19	Total Workable rate for contracts continuing for more than 240 Days (Sum of Sl.No.11 to 18 except Sl.No. 17)	904.87	1089.14	1270.64	1454.90
20	Total Workable rate for contracts continuing for less than 240 Days (Sum of Sl.No.11 to 18 except Sl.no. 16 & 17)	879.14	1057.94	1234.05	1412.65

CHECKLIST FOR BIDDERS**Following documents are to be submitted for two-part bids.**

Sl. No.	Description	Submitted/ Not submitted	Remarks
1.	Attested/Notarized Copy of Work Order meeting similar works as specified in PQC with Scope of Work, Special Conditions of Contract and Schedule of Rates/Bill of Quantity	Yes / No/ NA (*)	
2.	Attested/Notarized Copy of Work Completion Certificate/Part Completion Certificate against above Work Order	Yes / No/ NA (*)	
3.	Attested/Notarized Copy of Audited financial statements/profit & loss accounts of the last three Financial Years, duly certified by a Chartered Accountant or Annual Report indicating annual turnover.	Yes / No/ NA (*)	
4.	Attested/Notarized Copy of audited balance sheet for the last Financial Year duly certified by a Chartered Accountant.	Yes / No/ NA (*)	
5.	BID SECURITY Amount in form of RTGS/NEFT/ECS/BG as per NIT specification/Attested copy of BID SECURITY exemption Certificate like UAM/NSIC	Yes / No/ NA (*)	*
6.	Attested/Notarized Copy of Independent E.P.F. A/c CODE of Bidder	Yes / No/ NA (*)	
7.	Attested/Notarized Copy of PAN Card of bidder	Yes / No/ NA (*)	
8.	Copy of GSTIN of bidder	Yes / No/ NA (*)	
9.	Attested/Notarized Copy of Proprietorship deed/ Partnership Deed / Article & Memorandum of Association of the bidder	Yes / No/ NA (*)	
10.	Attested/Notarized Copy of Power of Attorney of the signatory of the bid, if signed by other than proprietor	Yes / No/ NA (*)	
11.	Pre-Contract Integrity Pact/ Declaration on implementation of integrity duly filled in & signed in all pages	Yes / No/ NA (*)	*
12.	Tender Document duly digitally signed	Yes / No/ NA (*)	*
13.	Filled-up Internet Banking / R.T.G.S. Banking mandate form	Yes / No/ NA (*)	*
14.	Declaration form duly filled in & signed by authorized signatory of Bid	Yes / No/ NA (*)	*
15.	Undertaking letter on downloaded tender documents duly filled in & signed by authorized signatory of Bid	Yes / No/ NA (*)	*
16.	Deviation from NIT terms & conditions are listed in Deviation Sheet only & signed by authorized signatory of Bid	Yes / No/ NA (*)	*
17.	Appendix I & II regarding relatives in NALCO duly filled up	Yes / No/ NA (*)	*
18.	Appendix III, IV & V regarding details of commitments and proposed site organization of the tenderer and anti-profiteering declaration format duly filled up	Yes / No/ NA (*)	*
19.	Litigation History duly notarized Appendix VII	Yes / No/ NA (*)	*
20.	Appendix IX on letter head & Appendix X regarding PPP-MII and GFR compliance	Yes / No/ NA (*)	*
21.	Supporting documents are attested by Gazetted Officer / Notary Public	Yes / No/ NA (*)	
22.	Documents as mentioned against sl. nos. A2 (Other Technical Conditions) in "Documentary Proof" column of "PRE- QUALIFICATION CRITERIA" (Annexure- 1C).	Yes / No/ NA (*)	

NOTE:

IN CASE OF SINGLE PART BIDDING, THE ABOVE DOCUMENTS AS APPLICABLE & MARKED AS (*) SHOULD BE SUBMITTED.

Attested – implies attestation by Gazetted officer

*** 'NA' means 'NOT APPLICABLE'.

ANNEXURE-IA**SCOPE OF WORK**

Name of the Work: REROUTING OF PART SECTION OF EXISTING 33 KV WATER INTAKE LINE FROM TOWER NO. 58 TO 4 POLE SWITCH YARD

CONTENTS

Sl. No.	Sections	Chapter
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2	SECTION-II	SCOPE OF WORK & TECH. SPECIFICATIONS
3	SECTION-III	TRANSMISSION LINE
4	SECTION-IV	TOWER EARTHING SPECIFICATIONS
5	SECTION-V	QUESTIONNAIRE TO BE FILLED-IN BY THE TENDERER AND SUBMITTED WITH THE OFFER
6	APPENDIX-A	LIST OF APPROVED MAKES/VENDORS
7	APPENDIX-B	LIST OF INDIAN AND INTERNATIONAL STANDARDS TO BE COMPLIED WITH
8	APPENDIX-C	LIST OF TOOLS & TACKLES AND PLANT & MACHINERY WITH ESTIMATED QUANTITIES FOR ERECTION OF TRANSMISSION LINE
9	APPENDIX-D	TENTATIVE TOWER SCHEDULE & ROUTE ALIGNMENT DRAWING
10	APPENDIX-E	LIST OF DRAWINGS AND DOCUMENTS TO BE SUBMITTED BY THE SUCCESSFUL TENDERER
11	APPENDIX-F	SOIL INVESTIGATION REPORT

SECTION I

GENERAL SITE INFORMATION

- 1.0 Location:** The site is under Panchpatmali bauxite mine of NALCO & is situated at DAMANJODI, DISTRICT: KORAPUT, ODISHA 763008. This site is inside the lease boundary of NALCO Mines at Panchpatmali. The Panchpatmali Bauxite Mine is located at the top of a **hilly terrain** and is at an approximate distance of about 25 km from Damanjodi railway station.
- 2.0 Works Terrain:** The 33 kV proposed transmission lines shall be part sections of existing two transmission lines emanating from the Alumina Refinery Plant at Damanjodi to Hill top Panchpatmali Bauxite Mine. The transmission line will be at level of about 1350 meters (Approx.) from MSL with intermittent hills/valley along the transmission line length. The surface soil is generally hard rocky.
- 3.0 Climatic Conditions:** The climatic conditions is as indicated below:
- | | | |
|---------------|---|----------------------------------|
| 3.1.1 | Latitude | : 18° 49' N |
| 3.1.2 | Longitude | : 82° 59' E |
| 3.1.3 | Altitude from mean sea level | : About 1350 m |
| 3.1.4 | Maximum of mean daily temperature | : 32.5 deg. Centigrade |
| 3.1.5 | Minimum of mean daily temperature | : 16.5 deg. Centigrade |
| 3.1.6 | Absolute maximum temperature | : 44 deg. Centigrade |
| 3.1.7 | Absolute minimum temperature | : 1 deg. Centigrade |
| 3.1.8 | Maximum wet bulb temperature | : 21.6 deg. Centigrade |
| 3.1.9 | Minimum wet bulb temperature | : 14 deg. centigrade |
| 3.1.10 | Relative humidity maximum | : Approx 95% (July - August) |
| 3.1.11 | Relative humidity minimum | : 40% (February) |
| 3.1.12 | Maximum rainfall intensity for 24-hour duration | : 101 mm |
| 3.1.13 | Annual rain fall | : 2300 mm |
| 3.1.14 | Wind Zone | : Wind zone 5 as per IS: 802 |
| 3.1.15 | Maximum wind speed | : 200 km/hr. |
| 3.1.16 | Prevailing wind direction. | : West & West-South West |
| 3.1.17 | Terrain category | : Category 1 |
| 3.1.18 | Susceptibility to Earthquake | : Zone II as defined in IS:1893. |
| 3.1.19 | Other ambient data: Dense Foggy & cloudy climate for nearly 5/6 months in a year. | |
- 4.0 Susceptibility to Earthquake:** The plant is situated in a region falling under **Zone II**.
- 5.0 Railways:** The nearest railway station to Panchpatmali Bauxite Mine is Damanjodi which is at a distance of about 25 km from the mines. Other than Damanjodi railway station, the major railway stations are Vizianagram (Andhra Pradesh) 160 kms road distance from Damanjodi (via NH26 & NH43) & Vishakhapatnam (Andhra Pradesh), 200 kms by road & Raipur (Chattisgarh) approx. 415 Kms by road.
- 6.0 Roads:** NH-43 passes at a distance of 15 km south the NALCO Refinery, Damanjodi. There is an interconnection road from NH-43 (Similiguda) to NALCO, Damanjodi. Koraput Rayagada State Highway passes through Laxmipur and also a connecting road from Damanjodi to Kakriguma located on the Koraput Raigarh state highways is available.
- 7.0 Seaport:** The nearest seaport is at Visakhapatnam at about 200 Km away.
- 8.0 Airport:** The nearest major airport is at Visakhapatnam.

SECTION – II

SCOPE OF WORK & TECHNICAL SPECIFICATIONS

1.0 GENERAL

- 1.1 **Preamble:** National Aluminium Company Limited (NALCO), A Navratna PSU organization of Govt. Of India is having its Bauxite Mines & Alumina Refinery Complex at Damanjodi, District Koraput of Odisha.

The power supply to the water pump house facilities & utilities are fed from 01 no. 33 KV overhead line which are passing over LMV and HEMM access roads in Central Block part-2.

In order allow safe operation of heavy earth moving equipment from the roads passing beneath the above 33 KV line section & compliance to statutory requirements of CEA reg., NALCO envisages re-routing of some sections of existing 33 KV overhead transmission line section **with shortest possible project execution plan.**

NALCO envisage achieving the same without any major outage of both the existing 33 KV transmission lines at the same time, through proper shutdown planning of the lines.

1.2 SCOPE OF WORK:

The scope of work shall include the following.

- a) Detailed survey, finalisation of route alignment, structure (tower) spotting, optimisation of structure location, geo-technical investigation, soil testing for tower structure, electrical soil resistivity test for earthing
- b) Liaisoning with statutory authorities for obtaining approval after detailed survey and for charging of the erected system including arrangement of all required document for the purpose.
- c) The design, engineering, testing, supply and erection of 132KV lattice type structures on double circuit support structures, including cross-arms, bolts, nuts and washers, D-shackles, support stays and all type of accessories such as phase plate, circuit, bird guard or support structure identification plate, danger plate, anti-climbing and earthing devices;
- d) The design, engineering and supply of AAAC Dog conductors, insulators, insulator hardware/ fittings, earth-wire & accessories, joints, connectors and all other conductor and earth-wire clamps and accessories;
- e) Design, selection and installation of foundations for all types of towers and other structures required for the lines;
- f) Design, manufacture, supply, erection of guard/jally or cradle at road crossings.
- g) Hook up & charging of new line sections into existing power system & maintenance of transmission lines till complete handover to NALCO.
- h) Dismantling of part sections of existing old 33 KV lines along with all other materials and proper stacking thereof and shifting these to scrap yard/stores as per instruction of owner
- i) Submission of drawings, type test certificates, routine tests and all technical data sheets of supplied equipment and statutory compliance reports. Expenditure for obtaining approved drawings from OPTCL or other govt agencies for the erections by the contractor.
- j) Transportation/Storage/Handling/Insurance: All the equipment and materials being supplied & erected by the Contractor shall be kept in their custody and completely insured by the Contractor

including transit insurance. Packing list shall also be submitted for all procured materials and Tonnage certificate shall be from a registered weigh bridge. Transportation of testing equipment, machinery, personnel to site and their withdrawal on completion of work. Accommodation of all contract personnel.

- k) All the civil construction works shall be executed as per CPWD standards. Necessary testing of construction materials and cube test for design mix concrete shall be submitted by the contractor.
- l) Compliance to all applicable standards of DGMS, IE, CEA, Mining installations and rules/regulations of statutory authorities applicable to the work

The work needs to be carried out as per General Conditions of Contract of NALCO and Special Conditions of Contract and specifications mentioned in this tender. For carrying out above activities, payment shall be released to the contractor as per **BOQ. The quantities reflected in this tender is based on preliminary survey conducted by NALCO and which may change depending on detailed survey to be conducted by the successful vendor.**

- 1.3 The Tenderer shall study all sections of the specification and shall visit site both prior to submitting his offer as well as during execution stage, collect all information as required for his offer. The Tenderer shall satisfy himself thoroughly regarding the workability & suitability of all items and shall take full responsibility for the guaranteed smooth, safe and satisfactory operation as well as reliable working of the individual items and the installed system. All support structures, equipment, insulators, hardware, conductors and accessories shall be complete in all respects and any item/fittings and accessories not covered specifically in this specification but essential for proper installation, testing, commissioning, operation and maintenance shall be included by the Tenderer in his offer as per the price quoted by him in the Price schedule (**BOQ**). The quantity mentioned in the price schedule (BOQ) is tentative in nature and in case the tenderer feels that the quantities indicated in the tender to complete the project will vary widely, the same may be indicated by the tenderer.
- 1.4 The work shall be carried out by the contractor, holding a valid Project License issued by Electrical Licensing Board of Orissa (ELBO), for carrying out similar type of work for the voltage class involved. The work shall be carried out under the direct supervision of and by person holding valid certificates of competency for the same voltage class recognized by the State Government/statutory bodies.

1.5 **Owner (NALCO)'s Scope:**

A preliminary survey has already been conducted by NALCO. A pre-bid meeting (optional virtual/physical) shall be held at Mines before submission of offer by parties.

- Clearance of the engineering drawings like final route alignment, tower schedule etc
- Application for approvals/clearance for submitted documents.
- Necessary shutdown permits & isolation of line as required for the hook up work of 33 KV load/source.
- Statuary fees related to approval of the erected over-head lines.

1.6 **Tentative route & statutory clearances:**

- 1.6.1 Drawing No.1 shows the route of existing 33 KV lines as well as the proposed lines based on the preliminary survey conducted by NALCO. The quantitative in the BOQ are based on this survey.

- 1.6.2 The successful Tenderer shall carry out a full “Check Survey” based on the proposed 33 KV line route shown in Drawing Nos. The successful Tenderer shall also prepare a detail tower schedule based on check survey.
 - 1.6.3 Though the area over which transmission lines are to be erected are under Nalco lease, yet the vendor has to sort out the site ROW issues, if any, for executing the job.
 - 1.6.4 The Contractor will have to obtain all necessary statutory clearances from concerned statutory authorities. Necessary assistance will be rendered by NALCO for submission of formal applications. All statutory fees will be borne by NALCO. The contractor shall do all necessary liaisoning and follow up activities with all statutory bodies for obtaining these approvals. The successful Tenderer shall obtain clearance from the DGMS and other statutory bodies prior to energisation of the 33 kV transmission line. Tabulation of tower schedule, preparation of necessary drawings etc. is in the Contractor’s scope for onward submission to appropriate authorities.
- 2.0** Detailed scope of work for supply & erection of transmission line and conducting survey are defined in Section-III & IV.

3.0 Dismantling of old system & handing over:

The scope also covers the dismantling of old system without damaging the existing components as they are in good working conditions and these are to be shifted & deposited at NALCO’s store/scrap yard upto 2 kms lead on hill top area in Central block area.

4.0 Source of Supply

- 4.1 It will be the responsibility of the successful Tenderer to co-ordinate the supply of equipment/components from indigenous sources and execute the contract within the contract period.
- 4.2 For the sake of standardization, the successful Tenderer shall supply equipment, components and accessories only from the List of Preferred Makes as indicated in the enclosed **Appendix-A**. The equipment/materials for which preferred Make/vendors are not specifically mentioned in **Appendix-A** of tender, the Makes/Vendors shall be from list of OPTCL’s approved Makes/Vendors list subject to NALCO’s approval.
- 4.3 All equipment, components and accessories shall have successful and valid type test certificates and there shall not be any necessity to carry out fresh type test.

5.0 Standards

- 5.1 All equipment and their accessories covered by this specification shall be designed, manufactured and tested in compliance with the latest relevant standards published by the Bureau of Indian Standards (BIS), International Electro-technical Commission (IEC), Institution of Electrical and Electronics Engineers (IEEE), USA, Electronics Industries Association (EIA), Telecommunications Industries Association (TIA), National Electrical Manufacturer’s Association, USA (NEMA), American Society of Testing Materials (ASTM), ASHARE HAND BOOK, NEPA-72, TAC, British Standard etc. including their latest revisions/amendments as listed out in the List of Indian & International Standards to be complied with in **Appendix-B**.

- 5.2 All equipment shall conform to the latest Indian Electricity Rules as regards to safety, earthing and other essential provisions specified therein for installation and operation of the plant. All items of equipment shall also comply with the latest regulations of **CEA, DGMS, Pollution Control Boards & other applicable statutory bodies of Government of India and the State Government**, as applicable. Nothing will be construed to relieve the successful Tenderer of this responsibility. Wherever required, the successful Tenderer will have to obtain approval from the concerned statutory authority. OWNER will assist the successful Tenderer in submitting formal applications. All cost related to obtaining approval from statutory authorities shall be borne by the successful Tenderer.
- 5.3 In cases, where the offer deviates from the specified standards, the successful Tenderer shall indicate clearly in his documents the standards proposed to be adopted by him along with details thereof and the reasons for the deviation. Unless deviations are specifically indicated in the offer itself, no further deviation will be granted during engineering, manufacture and testing / installation.

6.0 Other Requirements:

- 6.1 **Accessibility and Interchangeability:** All working parts, in so far as possible, are to be arranged for convenience of operation, inspection and ease of replacement with minimum downtime. All like parts of equipment furnished shall be interchangeable.
- 6.2 **Quality and Workmanship:** Workmanship and materials shall be of good commercial quality suitable for the purpose intended and in accordance with the highest standards and practices for equipment of the class covered by the specification.
- 6.3 **Safety:**
All equipment shall be complete with approved safety devices wherever a potential hazard to personnel exists with provision for safe access of personnel to and around equipment for operation and maintenance functions. The design shall include all reasonable precautions and provisions for the safety of operating and maintenance personnel.

Continuity of power supply is the first consideration and the design shall be such as to provide facilities to simplify inspection, testing, maintenance, cleaning and repair/replacement at site.

The successful Tenderer shall abide by OWNER's safety norms as stipulated in the tender/GCC. Special safety procedures and precautions apply to pole erection and stringing activities in the vicinity of live existing electricity networks especially where conductor is being strung under or over networks, which are alive or are capable of being made alive. In such circumstances the Contractor shall be responsible for strict adherence to, and compliance with any safety procedures, practices and requirements, as need be.

The Contractor shall provide and erect approved work signs; bollards, lighting, safety barriers and such like where necessary or required to ensure the safety of the public and workers. In any case, the vendor shall be responsible and bear the cost arising out of any untoward incident during execution of the work.

- 6.4 **Special Site Conditions:** All equipment shall be designed for smooth and trouble free operation for outdoor ambient air temperature of 47 degree C (max) and maximum relative humidity of 95%. It may,

however, be noted that the maximum temperature and maximum relative humidity may not occur simultaneously.

- 6.5 **Galvanizations and Painting:** All structures for towers shall be galvanized and provided with all other treating/anti corrosive components etc. to prevent any rusting, corrosion, sulphation or any other physical damage to the equipment or the components thereof, whether or not the equipment are kept energized.
- 6.6 **Lubrication:** All equipment shall be provided with proper lubrication of all parts requiring the same and the fittings and equipment necessary for carrying out satisfactory lubrication during the operating life span shall be included. However, all equipment shall preferably be lubricated, suitable for life, in the manufacturer's shop prior to dispatch.

7.0 Construction Power, Construction Water and Land for Contractor's Field Office, Go-down and Workshop:

- 7.1 The arrangement for construction power, construction water and land required to set up Contractor's Field Office, Go-down and Workshop inside OWNER's work boundary are to be done by the bidder at his own cost in order to carry out civil & site works over the line route.
- 7.2 The successful Tenderer shall make at their own cost all necessary arrangements for making incoming supply of water from existing natural resources for use of the same in their stores/works site/workshops as well as meeting all other needs to carry out civil & site works over the line route. However, Nalco can provide power & water on chargeable basis, if available and can be spared, at owner's existing facility. Vendor has to make arrangement for further extension/transportation.
- 7.3 The successful Tenderer shall make at their own cost all necessary arrangements for supply of power to their stores/works site/workshops, if any at site where diesel engine/driven generator/excavator/pump-sets/hoists etc. need to be used in order to carry out civil & site works over the line route.

8.0 Drawings and Documents:

- 8.1 The Tenderer shall include in his offer, supply of all necessary drawings and documents including those indicated in **Appendix-E**. The Tenderer shall check for the completeness of the list and, if required, modify the same. The list will be finalised with the Tenderer before placement of order. The Tenderer shall also include in his offer, collection of all existing drawings and documents, modification of the same and submission of consolidated drawings incorporating the modifications, such that it will not be required to refer to any other drawing during operations and maintenance.
- 8.2 All drawings, documents and catalogues shall be in English language and all dimensions and weights shall be in metric units and shall be submitted in a report form in 3 sets. Besides, all drawings/documents including modified existing drawings shall be prepared on AutoCAD compatible format with proper file numbers for easy co-relation. All CDs shall be properly indexed indicating drawing file names for each drawing/ sheet.
- 8.3 Any change required for completeness of the installation and satisfactory operation of the various equipment and the system which may be carried out at site during erection, testing, commissioning and performance testing or to satisfy statutory requirements shall be incorporated by the successful Tenderer in the drawings submitted by him during design approval stage. These "As-Built" drawings

shall be submitted by the successful Tenderer before the issue of Provisional Acceptance Certificate in requisite sets of hard copies and CDs. The successful Tenderer shall incorporate the site changes in these drawings.

9.0 Consumables: The initial requirement of all consumable materials required for start-up and commissioning upto issue of Provisional Acceptance Certificate (PAC) shall be included in the offer. The successful Tenderer will furnish specifications with names of recommended brands/makes and yearly requirement of all such consumables for normal operation of the equipment.

10.0 Tools and Tackles:

- 10.1 The Tenderer shall include in his offer special tools, tackles and accessories as may be required for normal operation and maintenance of the equipment as per relevant clauses of the Notice Inviting Tender, Instruction to Bidder, Form of Contract Agreement and General Conditions of Contract.
- 10.2 Special handling device, if required, for normal operation and maintenance shall also be included in the offer.
- 10.3 The Tenderer shall include in his offer, a list of such tools and tackles, which will be finalized with the successful Tenderer before placement of order. A list of tools & tackles and plant & machinery with estimated quantities for erection of transmission line work is given in **Appendix-C** of this specification for the Tenderer's guidance. All tools and tackles are to be included in the main offer and must be at site along with the main equipment and the successful Tenderer shall be responsible for having all required items at site in requisite numbers and on time for completion of the entire work within scheduled completion time.

11.0 Inspection and Testing:

- 11.1 All supply items of equipment under the scope of this specification including prototype inspection of towers shall be inspected by the OWNER or any person authorized by owner as per General Conditions of Contract and relevant Inspection Procedure to be finalized between successful Tenderer and the OWNER.
- 11.2 After placement of order, successful Tenderer shall submit proposed Inspection Procedure including routine tests, if any, of all the supplied out items in duly filled-in formats (to be made available by the OWNER) to the OWNER for finalization.
- 11.3 The Tenderer shall assemble in his own/sub-suppliers' works complete equipment covered under this specification in accordance with drawings approved/cleared by the OWNER. Inspection shall be carried out first by the Tenderer on the assembled unit as per relevant standards and approved/cleared drawings and then in presence of the OWNER. The Tenderer shall furnish test certificates as called for. Test certificates of all bought out items shall be submitted together with Tenderer's Inspection Report.
- 11.4 The Tenderer shall include in his offer submission of test certificates as stipulated in relevant Indian Standards. The Tenderer shall include and provide for in his offer, all facilities, which shall enable inspection by the OWNER.
- 11.5 Any cost incurred by the owner with inspection or re-testing as a result of failure of the equipment under test or damage during transport or offloading shall be to the account of the owner.

12.0 Guarantee and Performance

- 12.1 All equipment shall be guaranteed for workmanship, materials and satisfactory performance in accordance with the relevant clauses of the General Conditions of Contract for **twelve (12) months** from the date of issue of Provisional Acceptance Certificate (PAC). The guarantee for performance shall cover individual items and accessories as well as the installed system as a whole.
- 12.2 The successful Tenderer will include in his a complete list of recommended tests with test procedures to be conducted at site including tests to be carried out for demonstrating successful performance of **all** equipment supplied by him with acceptable test values. This list and test procedure will be discussed and finalized just after the order.
- 12.3 The Performance Test shall be deemed to have been carried out successfully, if there is no failure of individual items or an equipment as a whole and meeting other conditions of the contract. In case of failure, the successful Tenderer shall rectify the defect/replace the defective item and start the test again for twenty one (21) more days' of uninterrupted satisfactory operation.
- 12.4 The successful Tenderer shall make arrangements for all necessary instruments and accessories, consumables, manpower as required upto issue of PAC within the price quoted by him. The successful Tenderer shall keep log of all parameters and get them validated by OWNER.

13.0 PROJECT MILESTONE :

The completion time for all the activities defined/stated/ required is covered in Annexure 1B (Special conditions of contract).

- 13.1 Further, it is intended to shift existing 33KV line and for that the following sequence of execution is envisaged. *However, the bidder is free to adopt different method provided all the activities are completed quicker.*

Step	Activities
1	Detailed survey & engineering
2	Submission of drawings & documents & approval of NALCO/statutory bodies
3	<ul style="list-style-type: none"> Tower spotting & stud setting, excavation for foundation & earthing. Preparation of safe storage facility & site office Manufacturing & procurement actions as per approved documents
4	Casting of foundations & foundation bolts
5	Receipt of materials at site & safe storage
6	Erection of towers & stringing
7	Testing of completed circuit & charging approval of O/o DGMS
8	Hook up with existing line & terminating switchyard
9	Dismantling of existing structures of 33 KV line section

- 13.2 The successful Tenderer shall submit a detailed bar-chart (Equipment and facility wise) within two weeks of placement of order.

SECTION – III

33 KV TRANSMISSION LINE

1.0 Introduction

This section of the specification covers the requirements of Single Circuit 33 kV Transmission Line to be constructed as part sections:

The existing equipment in above sections are described below.

- a) **33 KV Single Circuit Over Head Line from DC tower no. 58 to 4 pole (near water distribution pump house)** on Double & Triple rail pole structures with MS cross bracings & cross arms, with 3 runs of AAAC DOG conductor & 02 runs of 7/3.15 GI earthed shielding wire installed in 1985. The total length of section to be diverted is approx. 740 meters.

2.0 Scope of Work:

- 2.1 The scope of work of the successful Tenderer covers collection of data/drawings of existing systems, design, engineering, preparation of new drawings, modification of existing drawings, manufacture, assembly, testing, packing, dispatch and supply on door delivery basis to site of work.
- 2.2 The scope of work of the successful Tenderer shall also include but not be limited to the following:
- 2.2.1 Check survey for finalization of line routes, type of towers with extension pieces as required with acceptable sag clearance curve and their co-ordinates.
- 2.2.2 Site tests for soil resistivity at each tower locations.
- 2.2.4 **Tower foundations.**
- 2.2.4.1 Supply and installation of structural steelwork with stub setting templates, nuts, bolts, washers for towers, foundation bolts, tower fittings and accessories, earthing.
- 2.2.4.2 Marking of the bases of tower foundation on four corner legs and one center shall be within the contractor's scope of work
- 2.2.5 Supply and installation of all towers, (As per **Appendix- D**), phase conductors, earth wires, insulator strings, hardware, fittings and accessories for establishment of 33 kV lines as per tentative schedule attached.
- 2.2.6 Preparation of sequence of activities including shutdown schedule and obtaining approval for the same from OWNER, dismantling, modifications, changeovers, if any.

3.0 CHECK SURVEY

- 3.1 **Basis of Check Survey :** The successful Tenderer shall carry out sag-tension calculation and prepare sag-clearance curve over the 'Line Profile' following the guidelines of IS:5613 (Part 2) and shall ensure over his check survey if the route alignments plotted on a map, as enclosed in this specification could be adhered to at actual site work.
- A. The successful Tenderer shall carry out Check Survey over the route with the survey Instruments using microprocessor based 'Total Station Equipment' for preparation of the following documents, conforming to IS:5613 (Part-2/Sec-1 and Sec-2) – 1985:
- i. Route Profile
 - ii. Sag Clearance Curve to be prepared by the Successful Tenderer and approved by the OWNER.
 - iii. List of tower schedules, span lengths showing type of tower with extensions, if any, required and angle of deviations at each location of tension tower. The weight span shall be maintained within 300 meters and negative span shall be kept as minimum.
 - iv. Orientation of tower foundation based on the basic design parameters.

- v. Listing of all crossings over Conveyors/Roads etc. to be included on the tower schedule of item crossing.
- vi. Details of Conveyors/Roads in the vicinity of the proposed route of the transmission line.

B. Line alignment or deviation points shall preferably be within a distance of 500 meter from the road to facilitate easy maintenance/inspection. Various options/mode of transport facilities of materials for erection of foundations, structures and stringing of lines shall also be looked into during the check survey. Visual inspection of type of soil and recording the same for locations of tower foundations. Upon completion of “check-survey” work, a ‘Survey Report’ enclosing ‘Route Alignment Map’ with revisions, if any shall be submitted to the OWNER.

- 3.2 The successful Tenderer immediately after receiving the Letter of Intent from the OWNER, shall start “Check Survey”.
- 3.3 Along with approval from concerned Government/Statutory Authorities etc. necessary formalities shall be arranged by successful Tenderer for carrying out check survey. Check survey work over the line route shall include but not limited to the following activities:
 - 3.3.1 Survey for the final line route including taking spot levels at 30 M intervals over ground, survey of on/over ground features, roads, Conveyor and showing line profiles and sag clearance curves from ground and above ground installations (if any) with submission of necessary drawings.
- 3.4 Setting out and construction of bench mark pillars with angle iron spike marking of all deviation points, tower foundation centers as applicable, complete in all respects for suspension as well as tension towers.
- 3.5 Fly levelling for indicating the level from the location of permanent BM to the site at approximate separating distance of more than 1 km.
- 3.6 In the hill-areas, where ground profile makes a steep slope, location of special type towers has been indicated in the tentative tower schedule and marked in the line route plan drawing. In each of the location, a thorough investigation has to be carried out with the help of sag-templates before peg-marking for the four tower-base-corner points. Uplift force, if any, which would be experienced by towers has also to be indicated.
- 3.7 The successful Tenderer shall find out and check the exact detail of the reconnecting facilities available at either ends of the lines.

4.0 DESIGN BASIS:

The basic design parameters for 33 kV transmission line are as follows:

Rated nominal system voltage (phase to phase)	: 33 KV (rms)
i) Highest system voltage	: 36 KV (rms)
ii) System frequency	: 50 Hz. +/- 3%
iii) Rated current	: 200 A
iv) Fault level	: 8.9 KA
v) Basic insulation level (BIL)	: 170 KV (P)
vi) Rated lightning impulse voltage (with 8/20 μ S waveform)	: 170 KV (P)
vii) Rated switching voltage level (at 10/350 μ S waveform)	: 80 KV (rms)
viii) Configuration	: 3 phase, 3 wires, solidly /effectively earthed at source end.
ix) Creepage distance for insulators	: 900 mm
x) Min. ground clearance (as per CEA Reg)	: 13.5 meters
xi) Transmission Line Conductor	: AAAC Dog
xii) Reference design temperature	: 47 Deg. Centigrade.
xiii) Number of circuits per DC tower	: 1

Detailed technical particulars of different equipment have been specified in the respective specifications in the subsequent section. **If any technical particulars are missed from this volume the same may please be referred from relevant IS specification for bidding purpose.**

4.1 Following the basic design parameters for 33 kV transmission line on 132 kV or more Double Circuit towers, the applicable vertical, transverse & longitudinal loads at each point of application of ground wire & phase conductor of particular type of tower are to be calculated and cross-checked with the chosen type of tested tower to check the acceptability of each one of them.

4.2 Wind Loads

4.2.1 The design to withstand the prevalent wind pressure with factor of safety as per norm.

4.3 Clearances

4.3.1 Ground clearance: It shall be as per latest IS/CEA guidelines applicable to Mines. However, some of the requirements are indicated below.

4.3.1.1 The minimum clearance above ground of the lowest point of the bottom-most phase conductor under maximum sag conditions shall not be less than **13.5 m** shall be kept (as pertains to Mine haulage road crossing)

4.3.1.2 The horizontal clearance between the nearest phase conductors under conditions of maximum deflection due to wind pressure and any adjacent conveyor galleries etc. if any, shall not be less than 5.0 m.

4.3.2 Clearances of live parts from steelwork

4.3.2.1 The minimum electrical clearances between live parts and steel members or cross-arms shall be as follows in case of suspension insulator strings:

Swing angle of suspension string from vertical Minimum in degrees	Minimum Clearance in mm
0	1,530
15	1,530
30	1,370
45	1,220

4.3.2.2 The minimum electrical clearance between live parts and steel members of towers or cross-arms shall be 1,530 mm, in case of tension insulator strings.

4.3.2.3 The minimum electrical clearance between jumper connection and steel members of towers or cross-arms shall be as follows:

Swing angle of suspension string from vertical Minimum in degrees	<u>Clearance (mm)</u>
Upto 10 degrees	1,530
20 degrees	1,530

4.3.2.4 The protection angle of ground wire for effective shielding of live parts shall be taken as 30 degrees (maximum) with the vertical.

4.4 Types of Towers

The requirement of different types of towers is given briefly as below:

Type Designation	Duty Requirements
PC with 6 meter extension (as used by OPTCL/PGCIL)	Tension tower for line deviations above 30 deg and upto 60 deg and dead-ends

However, if required after check survey & route alignment engineering, a different type of tower is required, the same may be provided. The tower shall be a proven & Type tested tower by OPTCL/PGCIL or other transmission companies.

4.5 Extension Pieces

- 4.5.1 Where the transmission lines are required to cross roads, conveyors etc. extension piece(s) shall be fitted at the base of the standard towers to increase height of towers by 3 m, 6 m, 15 m or 24 m as required.
- 4.5.2 **The latest edition of IS:802 (Part-1)-1977 and IS:5613 (Part-II/Sec-1) shall form the basis of design of all towers.** However, in the event of any counter stipulation being made in this section, the same shall be applicable and override the stipulations made in the IS codes.
- 4.5.3 **Towers and their foundations shall be selected from the various types of towers and foundations presently in use by others for more than twenty (20) years.** It shall be the responsibility of the successful Tenderer to select the proper type of tower and extension piece from the existing design based on the site survey to be conducted by him and ground clearance profile. The successful Tenderer shall also be responsible for designing the proper foundation from the specified sample design based on his soil test and tower type selected. The structural drawings of the towers shall be collected by the successful Tenderer from OPTCL for preparation of the civil foundation drawings and submission of the same for OWNER's acceptance.

5.0 Towers and Accessories

5.1 General

- 5.1.1 Towers and accessories shall be complete with stubs, superstructures and all necessary fittings and accessories including but not being limited to items like bolts, nuts, washers, step-bolts, attachment for insulator strings and ground wires, anti-climbing devices, bird guards, danger plates, number, circuit plates, phase plates etc. to enable a complete and successful installation.
- 5.1.2 All towers shall comprise structural steel members, duly protected against weather by galvanizing. Only bolted connection shall be used for assembly at site.
- 5.1.3 Stubs and stub-templates for all requisite types of towers shall be supplied within two (2) months from date of award of contract/ finalization of tower location, whichever is earlier.
- 5.1.4 The probable minimum number of non-galvanized stub- Templates, befitting all necessary extension to towers, complete with bolts & nuts required for successful completion of the work is given herewith for the reference of the Tenderers only:
Type-PC with 6M extension or as per required type of tower -----02 sets for a total of 2 Nos of towers.

5.2 Tower Structural Steelwork

- 5.2.1 The tower members including cross-arms shall be for thickness less than 20 mm of structural steel conforming to IS:2062 - Grade-A and IS:2062 - Grade-B for members with thickness greater than 20 mm. In any case, thickness shall not be less than that of existing bolts, nuts and washers shall comply with the requirements specified in IS:802.
- 5.2.2 All steel structures to be used for fabrication shall be reasonably straight, free from rust, scales and pitting. Angle sections shall have appropriate root radius as provided in IS:808 and shall have sharp heel lines. Sections having a rolling chamber of 1 in 1000 shall not be used.
- 5.2.3 In case of bent members or plate, all fabrication shall be done after bending is over.
- 5.2.4 Before any other work or cutting is started, all steel sections shall be carefully straightened and trued up by pressure. These sections shall be trued up again after being fabricated.
- 5.2.5 All bending shall be done hot. Redundant members with angle section up to 65 x 65 x 6 mm and plates not exceeding 6 mm in thickness with bends not exceeding 5 degrees could be cold bent.
- 5.2.6 All joggling flange opening or closing shall invariably be done hot. The flange thickness shall not be reduced during bending operations. Over-heating shall be avoided.

- 5.2.7 All cut bends of angles shall be clean square and free from any distortion with the length.
- 5.2.8 All burrs at the edges shall be removed. Cropping/ cutting shall be normally done after straightening/ bending is over.
- 5.2.9 Cropping and shearing shall be permitted on sections upto 12 mm thick. Sections with thickness over 12 mm shall be sawn/gas cut.
- 5.2.10 Bolt holes shall be punched or drilled to sizes. The bolts must be square with the plates or angles with their walls being parallel. Slant holes should be avoided. All burrs left by punch or drill shall be removed. In case of bent members or plate punching/drilling shall be done after bending operation is completed. Punching shall be permitted on sections up to 12 mm thick and section with thickness over 12 mm shall be drilled.
- 5.2.11 Where a lap splice is used in leg members, the steel of the inside angle shall be chamfered to clear the fillet of the outside angle. Leg splices shall be located near strut connections but clear of the strut.
- 5.2.12 In drawing the assemblies, the Successful Tenderer shall see that the axes of steel sections meet at the same point wherever possible. Joints shall be so designed as to avoid eccentricity.
- 5.2.13 All parts shall be accessible for cleaning and inspection. Pockets or depressions shall have drain holes.
- 5.2.14 Cross shall be designed and fabricated in halves. Full cross—arms made or long members and running right across the towers shall not be accepted. Each half cross—arm shall be bolted to the tower body irrespective to the other corresponding half to facilitate its replacement, if required without disturbing the other. All cross—arms shall be provided with holes as well as hangers for supporting insulator assemblies.
- 5.2.15 The length of bolts shall be such that the threaded portion does not lie in the plane of contact of members. At least two threads shall be left exposed after proper tightening of the nuts so that the length of projection beyond the nuts shall be within 9 to 12 mm.
- 5.2.16 To obviate bending stresses in bolts or to reduce the same to minimum, no bolt shall connect aggregate thickness more than three times its diameter or more than three thicknesses.
- 5.2.17 All nut threads shall be oiled before dispatch.
- 5.2.18 A spring washer shall be provided with each bolt.
- 5.2.19 Workmanship and finish shall correspond to the best modern practice. All similar parts shall be made interchangeable. All steel sections, before and after any work is done on them, shall be carefully levelled, straightened and made true by methods which shall not injure the material. Care shall be taken so that when assembled, the adjacent surfaces are in close contact throughout. No rough edge shall be permitted anywhere throughout the work. Shearing clipping or punching shall be done neatly and accurately. For joints care shall be exercised to provide steel chamfer required on cover cleats and lap joints as well as joggling or lattice when placed/laid in different places.
- 5.2.20 All dimensional tolerances on the sections used for fabrication shall be within the provisions of IS:1852.
- 5.2.21 Suitable holes shall be drilled in tower legs for connecting earthing conductor.

5.3 Tower Accessories

- 5.3.1 The tower accessories namely number plates, danger notice plates, phase plates, circuit plates, anti-climbing devices, step bolts and bird guards shall conform to IS:5613 (Part-II/ Sec-I). The price shall include the galvanised small parts steel work, if any, for fixing the plate to the structure.
- 5.3.2 Each tower shall be provided with drilled holes at suitable locations for fixing one number plate, one danger notice plate, two sets of red, yellow and blue phase plates and two circuit plates. It shall be possible to fix the plates on the tower face at an easily visible location within 4.5 m above ground level. The plates shall be made of a material capable of withstanding the specified site conditions without deterioration and shall be subject to the approval of the Purchaser. The plates and all bolts required for fixing these plates to the tower shall be included in the scope of supply.
- 5.3.3 Effective and mechanically sounded anti-climbing devices comprising barbed wires shall be provided for each tower at a height of 2.5 m from ground level.

- 5.3.4 Step bolts shall be provided on alternate flanges of the two diagonally opposite legs of each to their descending from the top of the tower upto the anti-climbing device. Each step bolt shall be provided with two nuts on one end to fasten the bolt securely to the tower structure and a button head or hexagonal head of minimum 50 mm diameter at the other end to prevent the foot from slipping. The bolts shall be capable of withstanding without deformation a vertical load of not less than 150 kg.
- 5.3.5 Saw tooth type bird guards shall be fitted over the string insulators of suspension towers.

5.4 Galvanising

- 5.4.1 Steel members, bolts, nuts, fittings shall be hot dipped galvanised except spring washers which shall be electro-galvanised. Black bolts and nuts shall be used for stubs and stub setting templates. Galvanising shall be done after the fabrication is completed but the nuts may be tapped or re-run after galvanising. Threads of the bolts may be undercut to provide for increase in diameter because of galvanising. Re-running of the bolt threads is not permitted.
- 5.4.2 Before galvanising the steel section should be thoroughly cleaned of any paint, grease, rust, scale, acid or alkali or any such foreign matters as are likely to interfere with the galvanising process or with the quality or durability of the zinc coating. Galvanising of each member shall be carried out in one complete immersion. The galvanising bath shall contain only the approved standard spelter.
- 5.4.3 The galvanising bath shall be reasonably free from dross, and the steel shall be dipped in the molten zinc in such a manner that it does not come in contact with the dross which might have collected at the bottom of the bath. On removal from the kettle the galvanised materials shall have the excess spelter removed from the surface by "bumping". The process known as "wiping" or "scrapping" shall not be used for this purpose. The temperature of the spelter in the kettle shall be controlled by means of accurate pyrometers within close limits.
- 5.4.4 The galvanised surface shall consist of a continuous and uniformly thick bright coating of zinc, minimum weight of coating being 910 gm/sq m, firmly adhering to the surface of steel. The galvanising shall be free from any defect which may affect or tend to affect its anti-corrosive properties. The finished surface shall be smooth and clean and shall be free from defects like discoloured patches, bad spots, uneven coating, zinc which is loosely attached to the steel, globules of zinc, spiky deposits of zinc, blistered surface, flaking or peeled off zinc etc. The presence of any of the above defects or deformation noticed on visual inspection even without carrying out any tests shall render the material liable for rejection.
- 5.4.5 Defective galvanised steel sections requiring re-galvanising shall have the zinc coating entirely removed by suitable acid treatment without damaging the steel surface and regalvanised only after proper pickling.
- 5.4.6 Galvanised articles, zinc to be used for galvanising, method of testing etc., shall conform to the relevant standards. The contractor shall also take guidelines from the recommended practices for hot dip galvanizing laid down in IS 2629 while deciding and implementing the galvanizing procedure.

5.5 Marking of tower members

Each separate member shall have stamped on it, with a die, a number conforming to the piece mark on the erection and detail drawings, in at least one place. If the same numerals are used for different types of towers a distinguished letter shall also be used. The marks shall be placed on the same relative position on each member, using different members, and the same marks for duplicate parts. The marks shall be stamped into the steel with letters and numbers at least 20 mm high before galvanising in such a manner as to be plainly visible after galvanising. In addition to the above, a second marking shall be made by means of a stencil or stamp using black printers ink after galvanising. Stencilled or printed letters and numbers shall be at least 25 mm high.

5.6 Foundation

Reinforced Cement Concrete (RCC) foundation shall be used for all types of towers. In very loose soils and wet locations reinforced concrete foundations or any other types of foundation may be provided to suit the actual site condition. All the four footings of the tower shall be similar irrespective of down thrust and uplift. The foundation work shall include all necessary excavation, benching/leveling/profile correcting, dewatering, shoring, stub setting concrete, shuttering, reinforcement, compacted backfill, earth-fill and removal of all surplus excavated soil as directed.

5.6.2 Soil Characteristics and Foundations

- 5.6.2.1 The soil characteristic of the area has been already investigated by NALCO & is attached for reference (Appendix- F).
- 5.6.2.2 Based on the existing sub-soil stratification as ascertained from soil investigations and its characteristics, it appears that open foundations will suffice.
- 5.6.2.3 The depth of foundation shall be determined based on loading on foundation, net safe bearing capacity at founding level, settlement considerations, constructional and technological/utility services requirements etc.
- 5.6.2.4 Net SBC of soil at foundation level of foundation shall be taken to be 10T/ m² at 1.5 meter depth, 39 T/m² at 3 meter & 133 T/m² at 4.5 meter for ascertaining the tentative design of foundation.

5.6.3 **Blasting:** Blasting shall NOT be allowed in any case.

5.6.4 Design of Foundation:

The type tested foundation drawings of OPTCL/ other reputed central or state sector utilities shall be furnished to NALCO for approval for execution.

The foundations shall generally be designed in accordance with IS:4091 and satisfy the following conditions also.

- i. The thickness of the concrete in the chimney portion of the tower footings would be such that it will provide minimum cover of not less than 125 mm from any part of the stub angle to the nearest outer surface of the concrete in normal dry conditions, limiting the minimum section of the chimney to 350 x 350 mm.
- ii. The chimney top or muffing must be at least 300 mm above existing ground level, whichever is higher.
- iii. The spread of concrete pyramid or slab shall be limited to 45 degrees with respect to vertical.
- iv. At least 100 mm thick pad of concrete grade (1:3:6) shall be provided below the entire base of pyramid with its sides vertical.
- v. The distance between the lowest edge of stub angle and the bottom surface of the concrete foundation shall not be more than 125 mm in case of dry locations.
- vi. Necessary retaining wall and stone pitching works to retain the earth profile at respective locations shall be carried out by the agency.

5.6.5 Properties of Materials

5.6.5.1 Concrete:

The minimum grade of reinforced concrete used for foundation shall be M 25 notwithstanding mentioning of M20 in the drawing. For designing the foundations the weight of concrete shall be taken as 2500 kg per cum. Other properties of concrete necessary for design shall be as per IS:456 and IS: 4091. The minimum cement content and maximum water cement ratio shall ensure durability under severe exposure conditions as laid down in Table-5 of IS:456. All concrete surface in contact with ground shall be painted with two coats of hot bitumen paint.

5.6.5.2 Cement

Cement shall conform to ordinary or rapid hardening portland cement conforming to IS:269 or blast furnace slag cement conforming to IS:455.

5.6.5.3 Steel

Steel shall be mild steel and medium tensile conforming to IS:432 (Part-I)–1982 and high yield strength deformed steel bars and wires for concrete reinforcement conforming to IS:1786.

5.6.5.4 Aggregate

Coarse and fine aggregate shall conform to IS: 383.

5.6.6 Factors of Safety

The factors of safety based on the ultimate strength of the foundation strata when the towers are under full working load and under various conditions of loading combined with specified loads of foundations shall not be less than 2.5 under normal condition and 1.65 under broken wire condition.

5.7 Tower Earthing

Each tower shall be earthed as per the TOWER EARTHING SPECIFICATIONS at **Section-IV**.

6.0 Insulators, Hardwires, Fittings and Accessories

- 6.1 This part covers supply of insulator strings to be provided for the suspension and tension towers and shall be complete with all necessary hardware, fittings and accessories including but not being limited to items such as disc insulators, supporting shackles and yoke plates, ball and socket clevis, security clips, arcing horns, dead-end compression clamps/suspension clamps etc so as to enable a complete and successful installation.
- 6.2 Disc insulators to be used shall be of anti fog type, wet-process brown glazed porcelain of size 255 mm x 145 mm and shall be designed, manufactured and tested as per IS:731 and IS:3188. All fittings and accessories shall conform to IS:2486.
- 6.3 **Seven (7) numbers of disc insulator units** or as per the design of the vendor & approved by NALCO shall be used for each single (suspension/tension) insulator string. The minimum creepage distance of each disc insulator shall be not less than 430 mm. The corresponding protected creepage distance shall be not less than 50% of the total creepage distance.
- 6.4 Electro-mechanical strength of each part of the tension insulator strings shall not be less than 80% of the ultimate tensile strength (UTS) of phase conductors. The minimum electro-mechanical strength of each part of the tension insulator string shall not be less than 120 kN/ 90 kN. The suspension clamp shall accommodate AAAC line conductors covered with armour rods and shall be free centre type. Discs identical to those used for tension string shall also be used for suspension string so that disc strength and creepage distances shall remain unaltered for future interchangeability, if required. The slipping strength of suspension clamps shall be 25% of the UTS of corresponding conductors.
- 6.5 All steel components except washers shall be hot dip galvanized as per IS: 2633 and washer shall be electrogalvanized.
- 6.6 **Two (2) x Seven (07) nos.** of disc insulator units or as per the approved design of the vendor shall be used for each double tension insulator string applicable for all tension towers.
- 6.7 **Two(2) x Seven (07) nos.** of disc insulator units or as per the approved design of the vendor shall be used for double suspension string assembly which shall be used for all crossing over Conveyor/ roads if suspension towers stand on either side of crossings backed-up by tension towers.
- 6.8 Double tension/double suspension string insulator shall have yoke plate and other accessories.
- 6.9 The Insulator strings shall consist of standard discs for use in three phases. 50 Hz effectively earthed 33 KV transmission system of NALCO in a high polluted and high fog atmosphere. The discs shall be cap and pin, ball and socket type and all ferrous parts shall be hot dip galvanized as per the latest edition of IS 2629. The zinc to be used for making sleeves shall be 99.95 % pure.
- 6.10 The porcelain used in the manufacture of the shells shall be nonporous, of high dielectric, mechanical and thermal strength, free from internal stresses blisters, laminations, voids, forgone matter imperfections or other defects which might render it in any way unusable for insulator shells. Porcelain shall remain unaffected by climatic conditions ozone, acid, alkalis, zinc or dust. The manufacturing shall

be by the wet process and impervious character obtained through vitrification. The insulator shall be made of highest grade, dense, homogeneous, wet-process porcelain, completely and uniformly vitrified throughout to produce uniform mechanical and electrical strength and long life service. The porcelain shall be free from warping, roughness, cracks, blisters, laminations, projecting points, foreign particles and other defects, except those within the limits of standard accepted practice. Surfaces and grooves shall be shaped for easy cleaning. Shells shall be substantially symmetrical.

- 6.11 The finished porcelain shall be glazed in brown colour. The glaze shall cover all exposed parts of the insulator and shall have a good lusture, smooth surface and good performance under the extreme weather conditions of a tropical climate. It shall not crack or chip by ageing under the normal service conditions. The glaze shall have the same coefficient of expansion as of the porcelain body throughout the working temperature range.
- 6.12 Ball pins shall be made with drop forged steel caps with malleable cast iron. They shall be in one single piece and duly hot dip galvanized. They shall not contain parts or pieces joined together welded, shrink fitted or by any other process from more than one piece of materials. The pins shall be of high tensile steel, drop forged and heat-treated. The caps shall be cast with good quality black heart malleable cast iron and annealed. Galvanizing shall be by the hot dip process with a heavy coating of zinc of very high purity. The bidder shall specify the grade composition and mechanical properties of steel used for caps and pins. The cap and pin shall be of such design that it will not yield or distort under the specified mechanical load in such a manner as to change the relative spacing of the insulators or add other stresses to the shells. The insulator caps shall be of the socket type provided with nonferrous metal or stainless steel cotter pins and shall provide positive locking of the coupling.
- 6.13 The security clips shall be made of phosphor bronze or of stainless steel.
- 6.14 Cement to be used, as a filler material be quick setting, fast curing Portland cement. It shall not cause fracture by expansion or loosening by contraction. Cement shall not react chemically with metal parts in contact with it and its thickness shall be as small and as uniform as possible.
- 6.15 All raw materials to be used in the manufacture of these insulators shall be subject to strict raw material quality control and to stage testing/ quality control during manufacturing stage to ensure the quality of the final end product. Manufacturing shall conform to the best engineering practices adopted in the field of extra high voltage transmission. Bidders shall therefore offer insulators as are guaranteed by them for satisfactory performance on Transmission lines.
- 6.16 The design, manufacturing process and material control at various stages be such as to give maximum working load, highest mobility, best resistance to corrosion, good finish elimination of sharp edges and corners to limit corona and radio interference voltages.
- 6.17 The design of the insulator shells shall be such that stresses due to expansion and contraction in any part of the insulator shall not lead to deterioration. Shells with cracks shall be eliminated by temperature cycle test followed by mallet test. Shells shall be dried under controlled conditions of humidity and temperature.
- 6.18 The pin and cap shall be designed to transmit the mechanical stress to the shell by compression and develop uniform mechanical strength in the insulator. The cap shall be circular with the inner and outer surfaces concentric and of such design that it will not yield or distort under loaded conditions. The head portion of the pinball shall be suitably designed so that when the insulator is under tension the stresses are uniformly distributed over the pinhole portion of the shell. The pinball shall move freely in the cap socket either during assembly of a string or during erection of a string or when a string is placed in position.
- 6.19 Metal caps shall be free from cracks, seams, shrinks, air holes, blowholes and rough edges. All metal surfaces shall be perfectly smooth with no projecting part or irregularities, which may cause corona. All load bearing surfaces shall be smooth and uniform so as to distribute the loading stress uniformly. Pins shall not show any microscopically visible cracks, inclusions and voids.
- 6.20 All ferrous parts shall be hot dip galvanized in accordance with IS: 2629. The zinc to be used for galvanizing shall conform to grade Zn 99.95 as per IS: 209. The zinc coating shall be uniform, smoothly adherent, reasonably light, continuous and free from impurities such as flux, ash, rust stains, bulky white deposits and blisters. Before ball fittings are galvanized, all die flashing on the shank and on the bearing surface of the ball shall be carefully removed without reducing the designed dimensional requirements.

- 6.21 The insulator design shall be such that the insulating medium shall not directly engaged with hard metal. The surface of porcelain coated with resilient paint to offset the effect of difference in thermal expansions of these materials. High quality Portland cement shall be used for cementing the porcelain to the cap & pin.
- 6.22 The security clips to be used as locking device for ball and socket coupling shall be „R“ shaped hump type to provide for positive locking of the coupling as per IS: 2486 (Part-IV). The legs of the security clips shall allow for spreading after installation to prevent complete withdrawal from the socket. The locking device shall resilient corrosion resistant and of sufficient mechanical strength. There shall be no possibility of the locking device to be displaced or be capable of rotation, which placed in position, and under no circumstances shall it allow separation of insulator units and fittings. „W“ type security clips are also acceptable. The hole for the security clip shall be counter sunk and the clip shall be of such design that the eye of the clip may be engaged by a hot line clip puller to provide for disengagement under energized conditions. The force required for pulling the clip into its unlocked positions shall not be less than 50 N (5 kg.) or more than 500 N (50 kgs.).
- 6.23 Each insulator shall have the rated combined mechanical and electrical strength marked clearly on the porcelain surface. Each insulator shall also bear symbols identifying the manufacturer, month, and year of manufacture. Marking on porcelain shall be printed, not impressed, and shall be applied before firing.
- 6.24 The dimensions of the ball and sockets for 120 and 90 KN insulator strings shall be of 16 mm or as per the approved structural design of the vendor.
- 6.25 The insulators inclusive of the ball and socket fittings shall be of standard design suitable for use with hardware fittings of any make conforming to relevant Indian Standards.
- 6.26 All surfaces shall be even, smooth, without cuts, abrasions or projections. No part shall be subject to excessive localized pressure. The metal parts and porcelain shall not produce any noise-generating corona under all operating conditions.

7.0 Fittings and Accessories

- 7.1 **Mid-Span Compression Joint:** Mid-Span joints shall be avoided as far as possible. However in case of exigencies and approval of NALCO, joints may be adopted as per the following specifications:
 - 7.1.1 The mid-span joint shall be of compression type. The aluminium sleeve shall be made of extruded aluminium and the steel sleeve shall be made of stainless steel.
 - 7.1.2 The aluminium sleeve shall be supplied with two (2) aluminium filler plugs.
 - 7.1.3 After compression, the minimum failing loads of the compression joints shall not be less than 95% of the corresponding ultimate tensile strength of the line conductor.
- 7.2 **Armoured Rods**
 - 7.2.1 The armour rods for AAAC conductor for installation over conductor at the point of suspension shall be of preformed type, made of high strength aluminium alloy made of IS:739-1977.
 - 7.2.2 The minimum slip strength shall be 25% of the conductor. The lay of direction shall be of right hand type and the ends of rods shall be of ball ended type and the rods shall have centre marked in black colour. Number of rods per set shall be twelve (12) and the overall length of armour rod shall be 2.5 m (approx) having overall weight more than two times that of AAAC conductor.
- 7.3 **Vibration Dampers**
Vibration dampers shall be '4R' type comprising weights, clamps, messenger cable etc.
- 7.4 **Repair Sleeves**
Repair sleeves for line conductor shall be of extruded aluminium.
- 7.6.2 The ultimate tensile strength and slipping strength after compression shall not be less than 90% of that of ground wire.

8.0 PHASE CONDUCTORS, GROUND WIRES AND ACCESSORIES

- 8.1 Phase conductors and ground wires shall be complete with all necessary fittings and accessories including but not being limited to items like clamps, connectors, armour rods, vibration dampers etc so as to enable a complete and successful installation. Phase conductors and ground wires shall be supplied of required lengths to minimize the number of joints. The size of phase conductor and ground wire shall be as follows:
Phase conductor – 19/2.89 mm “DOG” AAAC,
Ground wire of size equivalent to 7/3.15 mm galvanised steel wire.
- 8.2 Phase conductors shall comprise AAAC conductors, designed manufactured and tested as per IS:398.
- 8.2.1 The conductors shall comply in all respects to the clauses of this specification as indicated below & with the Indian Standard Specification, International standards with latest amendments. Some of the standards are:- IS 398 - Specification for Aluminium Conductors for overhead transmission purposes, IS 398, Part-II-Aluminium conductors for overhead Transmission purpose – Specification, IS 1521, 1972 - Method of tensile testing of steel, IS 1778 -1989 – Reel & drums for bare conductors, IEC – 1098.
- 8.2.2 The material offered shall be of best quality and workmanship. The steel Cored Aluminum conductor strands will consist of hard-drawn aluminum wire manufactured from 99.5% pure electrolytic aluminum rods of E.C. Grade. The steel wire shall be made from materials produced either by the acid or basic open hearth process or by electric process. No steel wire drawn from pressmen process shall be used. The steel wire shall not contain sulphur or phosphorus exceeding 0.05 percent, and the total of sulphur and phosphorus shall not exceed 0.085 percent.
- 8.2.3 The steel wires shall be evenly and uniformly coated with zinc complying with Indian Standard 4826-1979 specification for galvanized coatings on round steel wires.
- 8.2.4 The coating on the galvanized steel wires may be applied by the hot process or the electrolytic process.
- 8.2.5 The wires shall be smooth and free from inequalities, spills and splits. The surface conductor shall be free from points, sharp-edges, abrasions or other departures from smoothness or uniformity of surface contour that would increase radio interference and corona losses. When subjected to tension up to 50% of the ultimate strength of the conductor, the surface shall not depart from its cylindrical form nor any part of the component, parts or strands, move relative to each other in such a way as to get out of place and disturb the longitudinal smoothness of the conductor.
- 8.5 **Earth Wire specifications:**
The ground wire shall comply in all respect with the Indian Standard (IS) 2141-1979.
- 8.5.1 The steel cored earth wire shall be minimum of 7/3.15 mm size.
- 8.5.2 The Earth wire shall be hot dip galvanized as per the applicable IS.
- 8.5.3 The Earth wire shall be suitable for being installed directly in air supported on suspension clamps (hardware) or anchored through tension clamps (hardware) at the power cross arms of double circuit transmission line towers.
- 8.5.4 The Earth wire shall therefore be suitable for satisfactory operation under the tropical climatic conditions listed in the relevant clause.
- 8.5.5 Galvanised steel wire shall be drawn from high carbon steel rods produced by either acidic or basic open Earth process, electric furnace process or basic oxygen process. All the properties of the steel strands and wires shall confirm to the relevant standards.
- 8.5.6 The Zinc used for galvanising shall be electrolytic high grade Zinc not less than 99.95 percent purity. It shall conform to and satisfy all the requirements of relevant IS, BS or other Standards to be specified with the due justification. Galvanising has to be done by hot dip galvanising process. Neutral grease may be applied between the layers of wires, however the weight of the same shall be specified and added to the total weight of the conductor.
- 8.5.7 The wires shall be smooth and free from all imperfections such as spills, splits, slag inclusion, die marks, scratches, fittings, blow-holes, projections, looseness, overlapping of strands, chipping of layers etc. and all such other defects which may hamper the mechanical & electrical properties of the Earth wire and also the installation of the Earth wire at the site etc. Special care should be taken to keep away dirt, grit etc. during stranding.
- 8.6 **Fittings & Accessories:** All fittings and accessories shall be in accordance with IS:2121. All tension joints shall be of compression type. The aluminum parts of tension joints shall be of at least 99.5% purity. No

part of compression clamps/joints, parallel groove clamps and earthing clamps shall be allowed to present a temperature rise higher than that of the corresponding conductor when any current passes through these parts. Mechanical strength of all clamps shall be matched with the ultimate tensile strength of concerned conductor. Vibration dampers shall be stock bridge type and shall be complete with weights, clamps and all other fittings. Armour rods shall be of aluminium of 99% purity or of aluminium alloy and shall be complete with ferrules and other accessories.

8.7 Double rail pole structure for cradle guard support/ end terminating structure:

The Double Pole structure shall be prepared or 152x152 mm x 13 mtr long RS joist / Rail pole including excavation of pole foundation of minimum size 900x900x 2000 mm in all kind of soil/ rock, base padding of 200 mm thick with 1:2:4 cement concrete before erection of the pole.

The poles to be erected in truly vertical position before grouting of foundation with 1:2:4 cement concrete by using 20 mm machined stone chips, supply & fabrication of MS cross arms and bracings

Minimum 6 nos. x 6 meters of ISMC 125 x 65 x 6 with mounting structure to be provide on the top & bottom sides with cross bracing of MS angles of minimum ISA 65 x 65 x 5 mm to be provided per DP.

Painting of one coat anti rust primer, two coat aluminium paint including supply of paints and all grouting materials including cement, sand, aggregates, panting materials, stay set, insulator, clamps, all other material like bolts and nuts, tools tackles under scope of the vendor.

8.8 CRADLE GUARD:

The earthed cradle guard wire shall be as per provision of CEA regulation 2023 cl no. 72.

The guard wire cross guard wire mesh shall be GI wire of minimum 6 SWG in 1 meter mesh spacing including all hardware & fixing at site on the erected DP structure.

The cradle guard shall be designed to cover upto 20 meter wide road crossing & width 6 meter wide.

8.9 OFF LOAD ISOLATOR:

36 KV, 1250A, mechanical gang parallel motor operated double break isolator (DBR) with manual operated earth switch including terminal connector suitable for AAAC DOG conductor) suitable for mounting on 4 pole rail pole structure with mounting width 4500 mm (including the operating handles) and mounting height upto 8 meters.

Technical details of the isolator are as follows:

- Design type : 3 phase Horizontal Double break off load outdoor type with earth switches for all three poles.
- Rated Nominal Voltage : 33 KV
- Highest System Voltage : 36 KV
- Rated current : Minimum 1250 amp at 50 deg. Cent.
Ambient & temperature rise as per ref. IS/IEC standard
- Rated frequency : 50 Hz
- No of poles : 03 (Three) (all poles are ganged
(for isolator & earth switch) mechanically for parallel operation)
- Pole to pole spacing : above 900 mm as per type tested design.
- Rated short circuit current : Minimum 25 KA (3 sec) rms, 62.5 KA peak
- Dielectric withstand rating : 70 KV rms (power frequency) / 170 KV (p) lightning impulse)
w.r.t ground
- Operating mechanism : Isolator motorized operation but with additional manual operation provision but earth switch Manual operated
- Main contact(Moving) : Preferably Turn and twist
- Main contact(Fixed) : Preferably Reverse loop pressure relieving finger type

- MOC of isolator : Preferably Aluminium while main contacts can be of copper design with/without silver coating
- Aux. voltage ratings : 415 V +/- 10% for motor, control voltage for remote operation/ interlocking 230 V AC
- Aux. contacts : Minimum 2 NO + 2 NC potential free dry contacts of minm. 250 V AC, 1 A each for isolator and earth switch
- Enclosure protection : Minimum IP 55 for the motor control box. The isolator and earth switch boxes to be clearly identified and displayed by embossed tags with On/ OFF position indicator. Suitable terminals, push buttons, and other control gear for local & remote operation to be provided. The motor control box shall have provision of anti-condensation heater and bottom cable entry provision, earthing provision & pole mounting frame.
- Applicable standard : IS:9921/IEC 60694.
- Interlock arrangement:
 - 1) Isolator and earth switch to be mechanically interlocked on the pole top as well as with interlock key at the operating handle level.
 - 2) Provision for mechanical castle key interlock to be provided between more than one of the same type of Isolators.
 - 3) Any other safety provision as per statute including padlock etc to be provided.
- Complete isolator unit to be provided including operating rod, interconnection rods, operating handles for both the isolator and earth switch, operating mechanism interlock switch box with motor arrangement with all accessories

Note:

- 1) If the isolators are transported in dismantled state, the assembling of isolator as per assembly drawing & demonstration of the operation in isolator OEM's scope.

8.10 LIGHTNING ARRESTOR:

33 KV Lightning Arrester station class, Heavy-duty, outdoor, self-supporting as per the following Specification.

1. Rated voltage : 33 KV.
2. Type: Gapless zinc oxide type Lightning Arresters with insulating base and surge monitor
3. Nominal discharge current : 20KA.
4. Discharge class : IV
5. Type of housing : Porcelain housing
6. Lightning impulse withstand voltage of arrester housing : 170 KVp
7. Minimum creepage distance of arrester housing : 900 mm
8. Pressure relief : class A 65 KA rms
9. Minm. Energy handling capability for cumulative operation of rating: 8 KJ/KV

The LA shall be installed for 33 KV system with Highest System Voltage HSV 36 KV, Solidly grounded. Each arrester must include a permanent connected type surge monitor consisting of lightning counter and leakage current indicator with all the mountings and accessories for connection to the arrester & within IP 54 enclosure.

Each arrester must include 3 nos. Of insulator cum mounting bolt nut for lightning arrester base along with triangular base plate having adjustable mounting holes. Also the down conductor earth strips to be fixed with insulated supports along the pole body.

Applicable standard for the lightning arrester: IS 3070(part-iii) & IEC-60099-4:2004

9.0 TESTS AT SITE: Checks and tests to be carried out at site after completion of erection of the transmission lines shall include but not be limited to the following:

9.1 At each tower

- 9.1.1 Sufficient back filled earth is lying over each foundation pit and is adequately compacted.
- 9.1.2 Concrete chimneys and their capings are in good and finally shaped conditions.
- 9.1.3 The steel sections are straight and not damaged.
- 9.1.4 The bolts and nuts are fitted with washers, properly tightened and locked.
- 9.1.5 The accessories of towers are fixed.
- 9.1.6 The insulators are free of conspicuous foreign material or mud and all shells are undamaged.
- 9.1.7 The fittings and accessories of phase conductors and ground wires are erected in accordance with the drawings and are complete. The conductors are properly clamped. Earth connections are properly tightened. All the bolts, nuts, safety pins of every part of equipment are properly locked. The tower frames are free of any foreign body, object, wire etc.

9.2 Along the lines

The conductors are clean, without any strand failure, free of mud, boughs, wires etc. The sag of phase conductors and ground wires are complying with relevant sag tension chart and vertical as well as horizontal clearance are properly maintained. All packing and surplus materials are removed from the site.

9.3 Electrical Circuit

- 9.3.1 Continuity of each circuit.
- 9.3.2 Insulator resistance test.

9.4 Earthing System

- 9.4.1 Checking continuity of all earth connections.
- 9.4.2 Measurement of earth resistance.

10.0 ERECTION AND DISMANTLING:

- 10.1 Erection of the 33 kV double circuit transmission lines shall include but not be limited to the line survey, finalisation of locations and types of tower, excavation, stub setting, concreting and back-filling of all tower foundations, erection of superstructure, insulators and hardware, stringing of phase conductors, ground wires and jumpers, fixing of all fittings and accessories, earthing, etc. to enable a complete and satisfactory installation. Necessary approval shall be obtained from NALCO by the successful Tenderer for satisfactory completion of erection work.

10.2 Line Alignment and Tower Locations

- 10.2.1 The transmission lines shall generally be laid as shown in the tender drawings. However, the route, locations and types of towers and extension pieces as shown are tentative and shall be finalised during engineering stage based on site survey to be carried out by the successful Tenderer. The Successful Tenderer shall be responsible for final route survey and fixing of tower locations along the given route in consultation with OWNER. Types of towers and extension pieces selected shall be subject to the approval of the OWNER.
- 10.2.2 The centre-line spacing between two adjacent double circuit transmission lines running parallel shall be about 35 m. The towers of two sets of such adjacent lines shall preferably be staggered.
- 10.2.3 Where plant roads are crossing the transmission line alleys. No tower shall be located within 35 m on either sides on the roads. The distance being measured from centre-line of the roads.
- 10.2.4 Towers shall be so erected that cross-arms of Type-PC towers shall be perpendicular to the line axis.

10.3 TOWER FOUNDATION

- 10.3.1 Proper water tight forms and moulds adequately braced to retain proper shape while concreting shall be used for chimney and pyramid. The stub angle shall be thoroughly cleaned to remove dust and old paint if any and then coated with cement paste before the concrete shall be laid against the stub angle.

- 10.3.2 Stub setting shall be carried out in such a manner that the distance between the stubs and their alignment and slope is accurate to permit assembling or superstructures without undue strain or distortion in any member.
- 10.3.3 The concrete shall be laid and consolidated well either by prodding or by vibrating mechanically. Honey combs in concrete shall not be acceptable. Concreting is to be done continuously so that subsequent layers are laid before the initial/setting at the bottom layer begins.
- 10.3.4 In wet locations, the site must be kept completely dewatered both before placing the concrete and for the twenty-four hours after completion of concreting.
- 10.3.5 The concrete after it is twenty-four (24) hours old shall be cured by keeping the concrete wet continuously for a period of fourteen (14) days after laying. The pit may be filled with selected earth in layers not exceeding 150 mm and well consolidated after painting the concrete surfaces with two coats of hot bitumen as specified.
- 10.3.6 Towers shall be erected on foundations after at least 14 days of laying of concrete.

10.4 SUPERSTRUCTURE

- 10.4.1 The erection procedure to be followed shall be in accordance with the best and latest engineering practices and shall generally conform to IS:5613 (Part II/Sec-2).
- 10.4.2 During storing handling, transporting and erection by the successful Tenderer shall take such steps and use such protective methods as to prevent mechanical or corrosion damage to steel pieces or galvanising dragging of members or assembled sections along the ground or other members shall be avoided.
- 10.4.3 All shall be reasonably straight before fabrication and despatch. Shaft bends in fabrication shall not be permitted but a uniform camber within the limits of best modern practice for transmission line tower work will be permitted. Shearing and chipping shall be neatly and accurately done and all portions of the work neatly finished without leaving any rough edges. Fabrication shall be accurate in every respect so that the tower can be assembled at site easily and without any undue strains in the tower members or in the bolts. Inaccuracy in straightness of members, rough edges left due to shearing or chipping, poor matching of holes or any other defects in workmanship shall be cause for rejection.
- 10.4.4 Care must be taken to ensure that towers are vertical after erection. The maximum deviation in plumb at towers from the vertical shall not exceed 1 in 360. No straining will be permitted for erection of the plumb.
- 10.4.5 To ensure minimum eccentricity of loading, material which is slightly bent in transit or storing shall be thoroughly straightened and made true in the shop by methods which will not impair its specified strength in any manner before being laid out or worked on in any way. Material damaged or badly bent in transit or otherwise shall not be used for fabrication.
- 10.4.6 Joints shall be so designed and detailed as to avoid eccentricity as far as possible. Gusset and spacer plates shall be used in conformity with the best modern practice. The use of drift pins to bring holes forcibly in to alignment shall be forbidden so as to prevent broadening of holes, damages metal and galvanization and setting up of unbalanced or excessive stress in members.
- 10.4.7 Bolts shall be systematically tightened in a manner to prevent loosening under any operative condition as well as damage galvanisation of both and nuts. All parts shall be easily accessible for inspection and cleaning.
- 10.4.8 Bolts at a joint shall be so staggered that nuts may be tightened with spanners without fouling.
- 10.4.9 Prior to assembly, surfaces at connection points shall be applied a coat of aluminium or zinc rich points.
- 10.4.10 Bolted members shall bear upon the shank of the bolt and not upon the thread, bolts shall be such that after proper tightening there shall be at least two threads left exposed.
- 10.4.11 From the ground level upto and including the anti-climbing device provision shall be made to render removal of any bolt impossible without special tools. Above the anti-climbing devices threads of all bolts shall be centre punched at three places to prevent loosening due to any vibration or temperature variation.

10.5 INSULATORS

- 10.5.1 All insulators shall be free from any damage with porcelain portions bright and all other parts free from dirt.
- 10.5.2 Each disc insulator shed shall be suitably cleaned prior to assembly of suspension/tension strings. All string insulator assemblies shall be complete with all fittings and accessories.
- 10.5.3 Yoke plates and arcing horns of double suspension insulator string assemblies shall be parallel to phase conductors while those of double tension insulator string assemblies shall lie in vertical planes.

10.6 Stringing of Phase Conductor and Ground Wire

- 10.6.1 In sagging phase conductors and ground wires relevant sag tension charts shall be strictly followed and in no case over stressing of conductors, tower parts, insulators or fittings shall be permitted, specified clearances shall be strictly maintained at all places including at crossing of roads, railway tracks, conveyor lines, pipes etc.
- 10.6.2 Each stringing section shall be sagged with due consideration to the corresponding stringing span. The sagging and clamping of conductors shall be such that they are subjected to uniform horizontal tension over the entire span and the suspension insulator strings shall remain vertical. Ground wires shall be strung and securely clamped to the tower before the phase conductors are strung. Dynamometer of tested accuracy shall be used in tensioning phase conductors and ground wires.
- 10.6.3 Due to high wind in the site NALCO do not allow any joints in the initial stringing plan. In case the same is unavoidable during erection work or post erection warranty period, there shall not be more than one joint per conductor in any one span. No joints shall be allowed within 20 meters from a tower. There shall neither be any joint in spans over crossings of road, conveyor lines, pipe trestles etc. nor shall there be any joint in a span adjacent to the span crossing the same if the crossing span is not terminated at the support.
- 10.6.4 During unrolling, stringing and sagging of phase conductors and ground wires, the same shall be kept clear of all obstructions like trees, conveyor lines, pipe trestles, tower steel etc by means of sufficient number of suitable intermediate supports. Aluminium wires shall be protected against any damage by the use of adequate number of stringing sheaves of suitable material.
- 10.6.5 Only compression type clamps and joints shall be used with prior approval of NALCO. All clamps and joints develop at least 95% of the ultimate tensile strength of the conductor when installed. The electrical conductivity shall not be less than 100% the conductor concerned. Contact surface of all clamps, jumper termination shall be flat. Cut ends of phase conductors and ground wires shall be cleaned of the protective greasing before insertion in clamps or joints. After compression the conductors immediately outside the finished clamp/joint shall be regressed with the same grease as used by the conductor manufacturer.
- 10.6.6 Repair sleeves shall be used to make good a conductor of which not more than one-sixth of the strands in the outermost layer have been served. In all cases prior approval of the OWNER shall be required before any repair sleeve is used. Conductors with more than 1/6th of the strands in the outermost layer damaged shall not be used in any case.
- 10.6.7 At each suspension or tension clamp, armour rods shall be suitably attached to the conductors. The armour rods shall be centred on the conductors at the point at which the suspension clamps is to be installed. When completed, the rods shall fit snugly against the conductor.
- 10.6.8 Stock bridge or similar type vibration dampers of approved design shall be fitted to phase conductors. Two dampers shall be fitted in each span of each phase at suitable distance from suspension or tension clamps.

10.7 DISMANTLING:

- 10.7.1 The vendor shall dismantle the 3 pole & double pole structure from which the supply have been shifted to the new transmission tower line.
- 10.7.2 It covers dismantling of existing listed transmission line structure and their insulators and accessories as per the final tower schedule along with other materials including cutting of welded bolts by gas cutter and proper stacking of thereof as per the direction of EIC with all contactors of materials, labour, tools and plants, lead and lift as a complete job.
- 10.7.3 The materials generated from the dismantling shall be shifted to the Central store of NALCO Mines for handing over to NALCO by the Contractor.

SECTION – IV

TOWER EARTHING SPECIFICATIONS

Foreword: This document is intended to provide guide lines for installation & testing of long lasting, maintenance free chemical earthing system / conventional earthing system as per IS 3043 for each tower of the transmission line.

- 1.0 SCOPE:** This specification covers components, enhancing material & jointing used and procedure for constructing the earth pit for maintenance free earthing system to get desired tower footing resistance (TFR) of 10 ohms.
- 2.0** Tower earthing shall conform to the requirements given in IS:5613 (Part-II/Section 2) and IS:3043, IEC 62561 & IEC-62305.
- 3.0** General resistivity of the areas is 2000-3500 Ohm meters measured via fall of potential 4 spike method.
- 4.0** The earth resistance shall be measured using fall of potential method as per IS:3043.
- 5.0** Tower earthing includes earth electrode, installation of earth electrode in suitable pit size, construction of earth pit with cover for the installation, inter connection of earth electrodes with earth conductor and connection of tower to earth conductor. The system shall be complete with all items like electrodes, Ground Enhancing Material, earth conductors, nuts, bolts, washers etc. as well as carrying out soil resistivity test at each location.
- 6.0 Inspection chamber and marking:** Inspection chambers (at least 4 nos. per tower) made of thick and weather proof FRP/Polycarbonate body with metal hinged door on the top/brick with cement mortar and RCC cover with handle. The inspection chambers should be laid in such a way that they are not projected much above the ground surface but visually identifiable from at least 2 meter distance. The earth pit inspection chamber shall be painted using weather proof paint reading out the earth grid tag, average earth resistance value of the earth grid and the date of testing. This display sign board shall be painted with the earth values whenever the grid is tested during the performance guarantee period.
- 7.0 Back fill material:** Normally the excavated soil shall be used if it is free from sand, gravel and stones. In case the excavated soil contains sand, gravel and stones these shall be removed by appropriate methods such as hand picking, sieving etc. Small proportion of sand in the soil may be permissible. Material like sand, salt, coke breeze, cinders and ash shall not be used because of its acidic and corrosive nature. If the excavated soil contains sand, gravel and stone in large proportion and it is not feasible to remove these economically, good quality soil from other place may be used for backfilling.

While backfilling the soil shall be thoroughly compacted with at least 5 kg compactor. In case the soil is dry, small quantity of water may be sprinkled only to make it moist enough suitable for compacting. Large quantity of water may make the soil muddy which is not suitable for compacting and after drying the soil may contain voids which may permanently increase earth resistance.

8.0 Earth Conductor:

Earth Conductors shall be used for connecting the earth electrodes to the tower legs as well as for the inter connection of the earth electrodes as follows:

Wherever it is not possible to achieve required earth resistance with one earth electrode/pit per tower leg due to difficulty/rocky soil conditions, provision of interconnecting earth grid consisting of more than one earth pit in ring fashion shall be done. The number of pits required shall be decided based on the resistance achieved for the earth pits already installed. The procedure mentioned above for one earth pit shall be repeated for other earth pits.

The distance between two successive earth electrodes shall be minimum of 3000 mm or length of electrode (2 x length) whichever is higher and maximum up to twice the length of the earth electrode.

The earthing connection to the tower legs, earth electrode, extension of earth conductors to multiple earth pits shall be inter linked using minimum 7/3.15 mm size GI ropes using exothermic welding or normal welding process with painting or straight through crimping process.

The interconnecting strips shall be buried at a minimum level of 500 mm below the ground level. These strips shall also be covered with the specified earth enhancing compound.

9.0 Earthing types:

Three types of maintenance free earthing systems shall be adapted. They are maintenance free pipe/rod earthing system, maintenance free counter poise earthing system and maintenance free ring earthing system.

9.1 Pipe/rod earthing: The system shall have earth electrode or concentric pipe per tower, bimetallic earthing clamps/ bus bars for connecting the earth rod to the earth conductors, earth enhancement chemicals & earth fill materials and earth conductors for connecting the earth electrodes to the tower

Earth electrodes: The earth electrode is the main component of the earthing system which is in direct contact with the ground and thus provides a means of releasing or collecting any earth leakage currents. The material should have good electrical conductivity and should not corrode in a wide range of soil conditions. This system should have **at least 04 (FOUR)** earth electrode i.e. one per leg on each tower. In any case the horizontal separation between consecutive earthing electrodes should not be less than the depth (or 2x the depth) of the earth electrode. For an effective earthing system, two types of earth electrodes can be used as described here. Either of the two can be considered for this design:

9.1.1 Rod earth electrode:

9.1.1.1 High tensile-low carbon steel rod having diameter more than 17 mm complying with requirements of BS 4360 Grade 43A or EN10025:2-004 S275JR, tensile strength > 700 N/m² molecularly bonded by 99.95% pure high conductivity copper on outer surface with copper coating thickness 250 micron or more, Length 3000 mm (minimum). Length of the electrode may be increased in multiple of 1 meter to reduce earth resistance if required. To increase the length, pieces of similar rod shall be either exothermally welded to basic 3 meter electrode or connected using socket of suitable size. These sockets shall also be molecularly bonded by 99.95% pure high conductivity copper on inner & outer surface with copper coating thickness 250 micron or more.

9.1.1.2 Copper bus bar of size 250 mm x 50mm x 6 mm having electrical conductivity of 101% IACS, minimum 99.95% copper content shall be exothermically welded to rod with 4 holes of 12 mm dia. (2 on each side) for connecting earthing conductor **OR** a suitable bimetallic earth clamp with requisite length & holes for clamping the earth conductors. The design of each electrode should be such as to have more than 17kA (rms) current carrying capacity for 1 second.

9.1.2 Concentric pipe earth electrode:

9.1.2.1 Primary conductor: MS pipe with minimum 25 mm diameter, class B, ISI mark as per IS-1239, Length minimum 3000 mm.

9.1.2.2 Secondary Conductor: MS pipe with minimum 50 mm diameter, class B, ISI mark as per IS-1239, Length minimum 3000 mm.

9.1.2.3 The design of each electrode should be such as to have more than 17kA (rms) current carrying capacity for 1 second. Complete electrode shall be molecularly bonded by 99.95% pure, high conductivity copper on outer surface with copper coating thickness 250 micron or more.

9.1.2.4 Its surface shall be clean and free from any visible oxide layer or foreign material.

9.1.2.5 Copper bus bar of size 250 mm x 50mm x 6 mm having electrical conductivity of 101% IACS, minimum 99.9% copper content shall preferably be exothermically welded to earth electrode or connected with the help of two number stainless steel nut bolts of appropriate size having 4 holes of 12 mm dia. (2 on each side) for connecting earthing conductor.

- 9.1.2.6 **Conductive mixture:** For hermetically filling inside the cavity i.e. between secondary conductor & primary conductor, crystalline compound is to be injected in the electrode assembly. It is a combination of high conductivity metal alloys, copper & aluminium powder, conductive carbon/cement and bonding material etc. mixed in different proportion. The mixture is forced (pressurized) filled inside the earth electrode in the paste form and after solidification of the same, the end caps are welded. The metal alloys shall help in conducting the current and conductive carbon gives anti corrosive property. Bonding material should provide strength to the mixture. Resistivity of the mixture shall be less than 2 ohm-centimeter. Resistivity shall be tested by making a 20cm cube of the material and checking resistance across the opposite face of the cube.
- 9.1.3 **Earth enhancement material:** A superior conductive material filled around the electrode inside the excavated/augured pit shall improve the earth effectiveness by improving earth conductivity of earth electrode and ground contact area and retaining moisture.

SECTION – V

**QUESTIONNAIRE TO BE FILLED-IN BY THE TENDERER AND
SUBMITTED WITH THE OFFER (Techno-Commercial Part)**

Sl. No.	Item	Tenderer to Indicate/Confirm
1.0	General	
1.1	Name and address of Tenderer	To indicate
	a) Name and address of the Engineer-in-Charge for "Check Survey" with qualification and past experience.	
	*b) Name and address of the Chief Surveyor for final preparation of Route profile with qualification and past experience.	To indicate
	*Furnish Reference List for carrying out similar job in last five (5) years.	
1.2	Furnish organizational chart planned for this job with number of staffs	To indicate
	a) Head/Design Office	To indicate
	b) Site work	To indicate
1.3	a) Name and address of agency who shall carry out transmission line work.	To indicate
	b) Reference list of similar jobs (scope and order value wise) executed by the agency in last five years	To indicate
1.4	a) Name and address of the structural fabricator & galvaniser	To indicate
	b) Reference list of similar jobs (scope and order value wise) executed by the agency in last five years	To indicate
1.5	a) Name and address of the structural erector	To indicate
	b) Reference list of similar jobs (scope and order executed by the agency in last five years	To indicate
1.6	a) Name and address of agency who shall carry out Civil work.	To indicate
	b) Reference list of similar jobs (scope and order value wise) executed by the agency in last five years	To indicate
1.7	a) Name and address of agency who shall carry out phase conductor Work	To indicate
	b) Reference list of similar jobs (scope and order value wise) executed by the agency in last five years	To indicate
1.8	a) Name and address of agency who shall carry out installation, testing, commissioning and performance testing of equipment	To indicate
	b) Reference list of similar jobs (scope and order value wise) executed by the agency in last five years	To indicate
2.0	No deviation from Technical and General Specifications	To confirm
3.0	No exclusion from specification	To confirm
4.0	Availability of valid type test certificates for all equipment offered	To confirm
5.0	No deviation from Preferred List of Makes	To confirm
6.0	No deviation from list of drawings & documents to be submitted by Tenderer	To confirm
7.0	Submission of equipment wise detailed GTP during tender discussions for inclusion in contract document in the event of an order	To confirm
8.0	No deviation from Inspection/Test Procedure	To confirm
9.0	Equipment & accessories to be offered can be accommodated within the space shown in tender drawings maintaining the indicated clearances satisfying specified and statutory requirements	To confirm
10.0	Bar-chart indicating completion time (in weeks from Order)	To indicate

	<ul style="list-style-type: none"> - Submission of drawings - Approval of drawings - Supply of equipment & accessories - Installation, testing, commissioning, performance testing 	
11.0	Equipment Details of Transmission Lines	
11.1	Names & address of: i) Designer .. ii) Fabricator .. iii) Civil contractor .. iv) Erection Contractor .. v) AAAR conductor manufacturer .. vi) Earth conductor manufacturer vii) Insulator manufacturer viii) Tower and its manufacturer	To indicate
11.2	Confirm compliance with specified design criteria	To confirm
11.3	Confirm that towers shall be selected from the existing types of towers	To confirm
11.4	Confirm inclusion of site survey, soil tests for foundations and soil resistivity test for earthing in scope of work	To confirm
11.5	Confirm that constructional features and technical parameters of AAAC conductors, insulators, clamps, connectors, hardware, fittings & accessories, earth stations shall be as specified	To confirm
11.6	Confirm that grade of steel, galvanisation, tower construction shall be as specified	To confirm
11.7	Confirm that foundation design and construction shall be as specified	To confirm
11.8	Confirm inclusion of stub-setting templates, structural steel members, nuts, bolts, washers, phase conductors, earth wires, insulators, hardware, clamps, connectors, fittings, accessories, earthing as required for complete and satisfactory installation	To confirm
11.9	Indicate drum length of AAAC conductor	To indicate
11.10	Confirm all AI clamps & connectors shall be of extruded type	To confirm
11.11	Confirm that you will prepare any drawings/documents which may be required for completion of the job	To confirm
12.0	Installation, Testing, Commissioning	
12.1	Confirm inclusion of all handling equipment, cranes, winches, pulleys, cable & conductor rollers, derricks, jacks, wire ropes, ladders, scaffoldings, vibrators, concrete mixers, pumps, excavators, welding machines, bar-bending device, tools and tackles for installation of transmission lines, support structures, electrician tools and testing kits, continuity tester, multimeters, meggers, phase rotation tester, crimping machine, labours/ technicians/supervisors	To confirm
12.2	Confirm inclusion of all commissioning spares, consumables, first fills, shock treatment charts, danger & caution notice boards, operation and maintenance tools & tackles	To confirm
12.3	Confirm that installation shall be carried out in compliance with specification by agencies holding valid licence issued by Government of Orissa and contractor will render all assistance to OWNER for obtaining clearance from Statutory Authorities	To confirm
12.4	Confirm inclusion of specified site tests as well as tests as may be asked by statutory authorities	To confirm
12.5	Confirm inclusion of foundation frames, bolts, bolts of special nature, embedments, inserts and civil work as may be required for erection, earthing purpose for successful completion of the job	To confirm

APPENDIX – A

LIST OF APPROVED MAKES/VENDORS

The following makes shall be considered as approved vendor list of NALCO. In case the vendor is unable to supply from any of these makes, then the vendor is to propose for other make for approval of NALCO subject to the same being in approved list of OPTCL / PGCIL and the justification for its inability to procure from the below mentioned makes.

Sr No	Description of Materials	Name of the Vendor
1	Conductor	APAR, GPIL, ERITECH, STERLITE, VIJAYA/ LUMINO/CABCON/TIRUPATI/ TERACOM/ KJV ALLOY
2	Earth Wire	BHARAT WIRE ROPES/UIC WIRES/USHA MARTIN /GK WIRE, BEDMUTHA INDUSTRIES
3	Disc Insulators	BHEL/WS/MODERN INSULATOR/ADITYA BIRLA INSULATORS/ SRAVANA, M/S INSULATORS & ELECTRICALS COMPANY/ MANDEEP/ BIKANER CERAMICS/
4	GI structural materials (SAIL, TATA, RINL/Jindal steel to be used)	KEC, RPG/JYOTI /L&T/EMC/KALPATARU/ NEXO/ UTKAL GALVANIZER/IVRCL INFRASTRUCTURES &PROJECTS LTD, NAGPUR/ UNIQUE STRUCTURES&TOWERS LTD BHILAI/TECHNO ENGINEERING &CO LTD NEW DELHI/UNISTAR GALVANISERS & FABRICATORS(P) LTD, JAMSEDPUR/ NEW MODERN TECHNO MECH PVT. LTD, BARIPADA / GLOBAL GALVANISER, KHURDA/ AGARWAL STEEL STRUCTURES (INDIA) PVT LTD, HYDERABAD/ SRI ASHUTOS ENGINEERING, RAIPUR/ ASTER PVT LIMITED, HYDERABAD/ SHREEM ELECTRICALS PVT LIMITED, BANGALORE./ A.K.POWER INDUSTRIES/ VIJAY TRANSMISSION /GURUNANAK OVERSEAS/ SOLUX GALFAB /G.S.ENGINEERS
5	Cement OPC Grade-43	ACC/ULTRA TECH/KONARK/LAFARGE/RAMCO
6	Steel	SAIL/TATA/RINL/JINDAL.
7	Clamps & Connector	ELECTROMECH & TRANSTECH/ RASTRA UDYOG/TYCO/IAC /ASWINI KUMAR & CO./KTHL
8	GI Bolts & Nuts	NEXO/ GKW/ ASP/ MAHESWARI (P) FASTENERS & BRIGHT PVT. LTD
9	Survey/GEO Tech Study	IDAX TESTING LAB. PVT.LTD/TECHNO SOCIETY OF ENGINEERS FOR TECHNICAL SOLUTIONS / ALPHA TESTING LABORATORY
10	Off load isolator	SIEMENS LTD./ ELPRO INTERNATIONAL/ ABB INDIA LTD./ CROMPTON GREAVES/ S&S POWER SWITCHGEAR EQUIPMENT LTD./ACRASTYLE POWER INDIA LTD
11	Lightning arrestor	ELPRO INTERNATIONAL/ SIEMENS/ RAYCHEM/ ABB/ ELEKTROLITE/ OBLUM

APPENDIX – B

LIST OF INDIAN AND INTERNATIONAL STANDARDS TO BE COMPLIED WITH

Sl. No.	Latest Revisin/ amend. Of Standard No.	Description
1	IS 5613 (Part-2/Sec 1 and Sec 2)	Code of practice for design, installation and maintenance of overhead power lines Part 2 : Lines above 11 kV and upto and including 220 kV Sec 1 : Design, Sec 2 : Installation and Maintenance
2	IS 802 : (Part I Sec I)	Code of practice for use of structural steel in overhead transmission line towers.
	IS 802 : (Part II & Part III)	Part II : Fabrication, galvanising, inspection Part III : Testing
3	IS: 1852	Rolling & Cutting tolerances for H.R. Steel Products
4	IS: 4091	Code of practice for design and construction of foundations for transmission line towers and poles
5	IS:456	Code of practice for plain and reinforced concrete
6	IS:269	33 grade ordinary portland cement
7	IS:455	Portland slag cement
8	IS:432 (Part 1 & 2)	Mild steel and medium tensile steel bars and hard-drawn steel wire for concrete reinforcement
9	IS:1786	High strength deformed steel bars and wires for concrete reinforcement
10	IS:383	Coarse and fine aggregates from natural sources for concrete
11	IS:731	Porcelain insulators for overhead power lines with nominal voltage greater than 1000 V
12	IS:3188	Characteristics / Dimensions of string insulator units
13	IS: 2486 (Part 1)	Metal fittings of insulators for overhead power (Part 1) lines with a nominal voltage greater than 1000 V Part 1 : General requirement and tests
	IS: 2486 (Part 2)	Insulator fittings for overhead power lines with (Part 2) a nominal voltage greater than 1000 V overhead power lines Part 2 : Dimensional requirements
	IS: 2486 (Part 3)	Part 3 : Locking devices
	IS: 2486 (Part 4)	Part 4 : Test for locking devices
14	IS: 2121 (Part 1)	Conductor and earthwire accessories for overhead power lines Part 1 : Armour rods, binding wires and tapes for conductors
	IS: 2121 (Part 2)	Part 2 : Mid span joints and repair sleeves for conductors
	IS: 2121 (Part 3)	Part 3 : Accessories for earthwire
	IS: 2121 (Part 4)	Part 4 : Non-tension joints
15	IS: 739	Wrought aluminium and aluminium alloy wire for general engineering purposes (Third revision)
16	IS: 3043	Code of practice for earthing
17	IS: 2633	Methods for testing uniformity of coating of zinc coated articles (Second revision)
18	IS: 2141	Hot dipped galvanised stray strand
	IS: 226	Structural steel (Standard Quality)
19	IS: 2062	Specification for hot rolled medium and high tensile steel for structural purpose
20	IS: 808	Dimensions for hot rolled steel beam, column channel and angle section
21	IS: 398 (Part 1)	Specification for aluminium conductors for overhead lines
	IS: 398 (Part 4)	Aluminium alloy stranded conductor

22	IS: 209	Specification for zinc
23	IS: 5561	Electric power connectors
24	IS: 278	Specification for barbed wire
25	IS: 406	Method for chemical analysis of zinc
26	IS: 1139	Hot rolled mild steel, medium tensile steel and high yield strength deformed bars for concrete reinforcements.
27	IS: 1367	Technical supply conditions for threaded fasteners
28	IS: 1521	Method of tensile testing of steel wires
29	IS: 1573	Electroplated coating of zinc on iron and steel
30	IS: 1778	Reels and drums for bare conductors
31	IS: 1893	Criteria of earthquake resistant design of structures.
32	IS: 2016	Plain Washers
33	IS: 2071 Part 1,2 & 3	Methods for high voltage testing
34	IS: 2131	Method of standard penetration test for soils.
35	IS: 2551	Danger notice plates
36	IS: 2629	Recommended practice for hot dip galvanising of iron and steel.
37	IS: 3063	Single coil rectangular section spring washers for bolts nuts, screws.
38	IS: 4826	Galvanised coating on round steel wires.
39	IS: 5358	Hot dip galvanised coatings on fasteners.
40	IS: 6610	Specification for heavy washers for steel structures.
41	IS: 6639	Hexagonal bolts for steel structure.
42	IS: 6745	Methods for determination of weight of zinc coating of zinc coated iron and steel articles.
43	IS: 8263	Method of radio interference tests on high voltage insulator
44	IS: 8269	Method of switching impulse tests on HV insulators.
45	IS: 8500	Specification for weldable structural steel (medium and high strength qualities)
46	IS: 9708	Specification for Stock Bridge vibration dampers for overhead power lines.
47	IS: 9997	Aluminium alloy redraw rods
48	IEC: 889	Hard drawn aluminium wires for overhead line conductors.
49	IEC: 575	Thermal mechanical performance tests and mechanical performance tests on string insulator units.
50	IEC: 507	Salt fog pollution voltages withstand tests.
51	IEC: 797	Residual strength of string insulator units of glass or ceramic material for overhead lines after mechanical damage of the dielectric.
52	IEC: 815	Guide for the selection of insulators in respect of polluted conditions.
53	IEC: 383	Tests on insulators of ceramic material or glass for overhead (Part I and II) lines with a nominal voltage greater than 1000 Volts.
54	ASTM D-1171	Ozone test on elastomer
55	IS: 1363 Part 1 Part 3	Hexagonal head bolts, screws and nuts of product Grade – C Hexagonal head bolts Hexagonal nuts
56	IS: 1367 Part 3 Part 6	Technical supply conditions for threaded steel fasteners Mechanical properties and test methods for bolts, screws and studs with full loadability Mechanical properties and test methods for nuts with full loadability
57	IS: 1498	Classification and identification of soil for general engineering purposes
58	IS: 1888	Method of load test on soils
59	IS: 1892	Code of practice for subsurface investigation for foundation
60	IS: 4453	Code of practice for exploration by pits, trenches, drifts and shafts
61	IS: 6935	Method for determination of water level in a bore hole
62	IS: 8009 Part 1	Code of practice for calculation of settlement of foundation subjected to symmetrical vertical loads (Shallow Foundation)

63	IS: 2386 Part 3	Methods of test for aggregates for concrete : Specific gravity, density, voids, absorption and bulking
64	IS/IEC 62305	Protection against lightning
65	IEC 62561	Lightning protection system components

APPENDIX – C

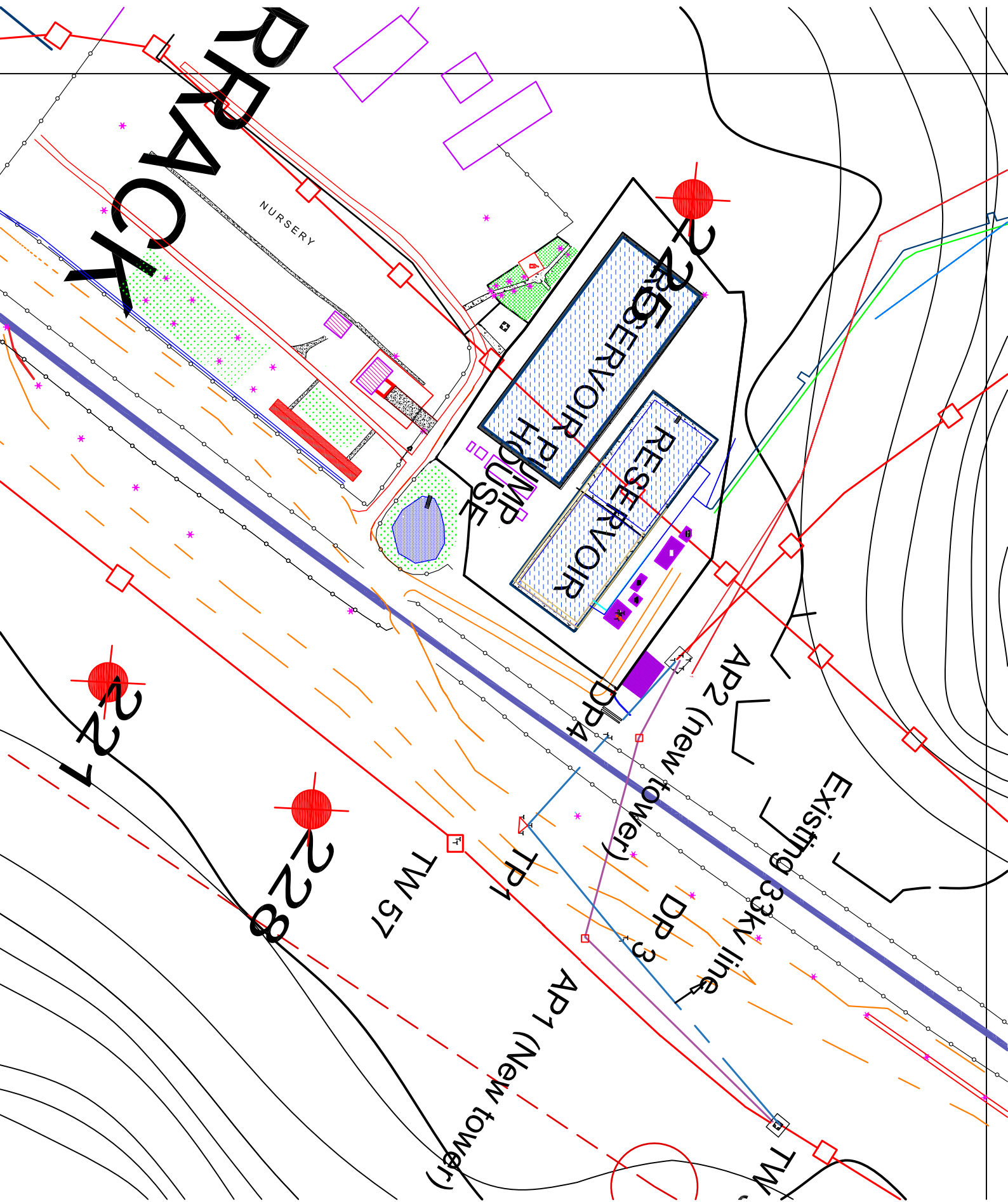
**LIST OF TOOLS & TACKLES AND PLANT & MACHINERY
WITH ESTIMATED QUANTITIES FOR ERECTION OF TRANSMISSION LINE**

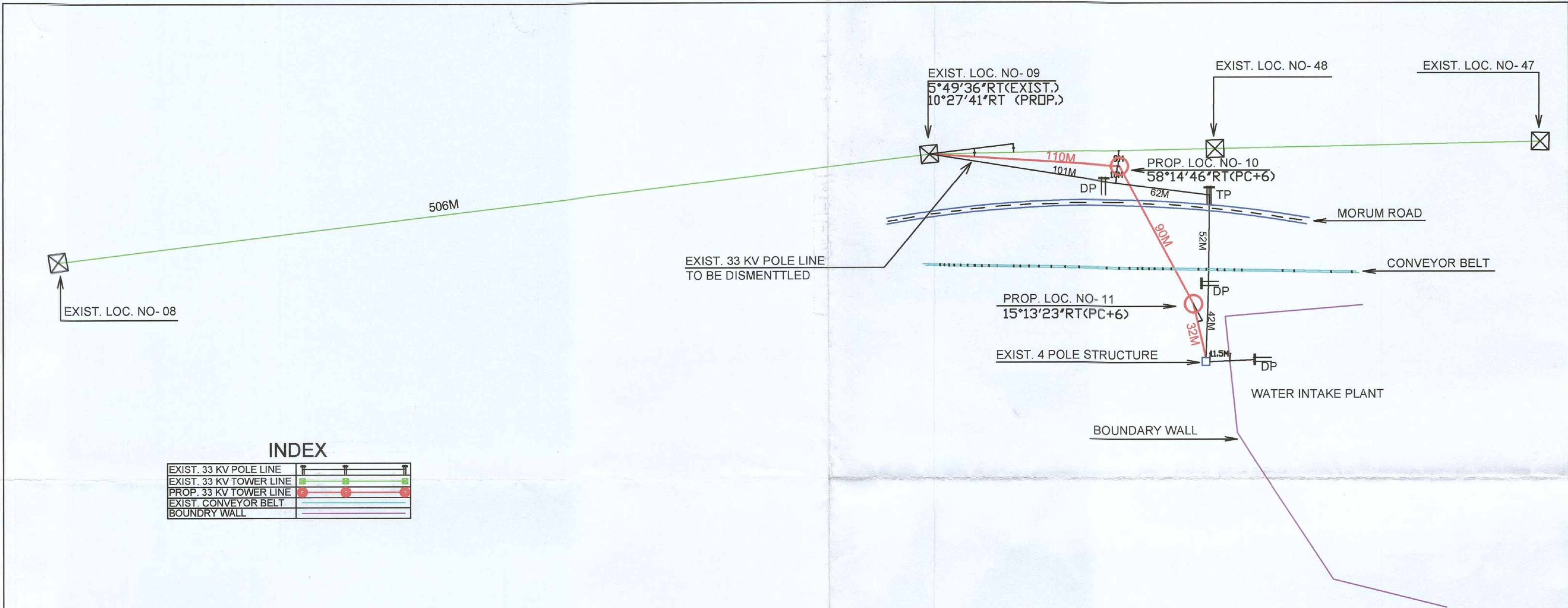
Sl. No.	Tools & Tackles	Minimum Quantity Recommended
1	Microprocessor based "Total Station Equipment" for survey	.. 1 set
2	Theodolite/Level instruments(Auto/Engineering /Dumpy)	.. 1 set
3	Concrete Mixers	.. 1 No
4	Concrete Vibrator Machines	.. 2 Nos.
5	Earth Augur	.. 2 Nos.
6	Template Lifting Jacks	.. 36 Nos.
7	Water Pump	.. 5 Nos.
8	Water Tanker	.. 2 Nos.
9	Polypropoline Ropes	.. 6 bundles
10	Stranded Wire Ropes	.. 4 bundles
11	Derrick Poles	.. 4 Nos.
12	Pulleys (Single, Double & 4 Sheave)	.. 16 Nos.
13	Chain Pulley Blocks	.. 4 Nos
14	Come-along clamps	.. 4 Nos.
16	Ariel Rollers	.. 6 Nos.
17	Ground Rollers	.. 3 Nos.
18	Turn Table	.. 1 Nos.
19	Tirfor Pulling Machine	.. 2 Nos.
20	Compressor Machine with Dias	.. 2 Nos.
21	Tractor & Trailer	.. 1Nos.
22	Lorry	.. 1 no
23	Bolero/equivalent	.. 1 no
24	Excavator (JCB Escorts) or equivalent for earth excavation	.. 1 No.

APPENDIX – E

**LIST OF DRAWINGS AND DOCUMENTS TO BE SUBMITTED BY
THE SUCCESSFUL TENDERER**

Sl. No.	Drawing/Document No.	Drawing/Document Description	Category	Submission Schedule (in weeks from L.O.I.)
A.0 Major Drawings				
A.1		Line Profile & Ground Clearance Diagram	A	
A.2		Tower GA (for each type)	A	
A.3		Tower loading diagram for various applications	A	
A.4		Tower stub template drawing (for each tower)	A	
A.5		Insulator string GA & data sheet (Tension & Suspension)	A	
A.6		Tower Earthing drawing with earth station GA	A	
A.7		Bill of Quantities (for each tower)	A	
A.8		Implementation Bar Chart	I	
B.0 Other drawing/ documents				
B.1		Site check survey report	I	
B.2		Sag Tension Calculations for various applications	I	
B.3		Tower structural material list (for each tower)	I	
B.4		Sag tension charts for various applications	I	
B.5		Phase conductor & Earth wire data sheet	I	
B.6		Fittings & accessories GA & data sheet	I	
B.7		Number Plate	I	
B.8		Phase Plate	I	
B.9		Circuit Plate	I	
B.10		Bird Guard	I	
B.11		Anti-climbing Device	I	
B.12		Vibration damper	I	
B.13		Spacer	I	
B.14		Armour rod	I	
B.15		Conductor clamp	I	
B.16		Earth-wire clamp	I	
B.17		Insulator hardware	I	
B.18		Tower-wise Foundation Details with Loadings	I	
C.0 General Documents				
C.1		Master Chart for Inspection	I	
C.2		Factory & Type Test Certificates	I	
C.3		Site Test Results	I	
C.4		Performance Guarantee Test Results	I	
C.5		Operating & Instruction Manuals	I	
C.6		Completion Report as per CEA Regulations & DGMS requirements	I	





INDEX

EXIST. 33 KV POLE LINE	
EXIST. 33 KV TOWER LINE	
PROP. 33 KV TOWER LINE	
EXIST. CONVEYOR BELT	
BOUNDARY WALL	

NATIONAL ALUMINIUM COMPANY LIMITED

ROUTE ALIGNMENT DRAWING

FOR REROUTING OF EXISTING 33 KV WATER INTAKE LINE FROM EXISTING LOCATION NO-09 TO HILL TOP PUMP HOUSE.

TOTAL ROUTE LENGTH OF LINE : 0.738 KM.

SURVEYED BY :	CHECKED BY :	VERIFIED BY :	RECOMMENDED BY :	APPROVED BY :
AAY BEE ELECTRICAL & CONSTRUCTION				



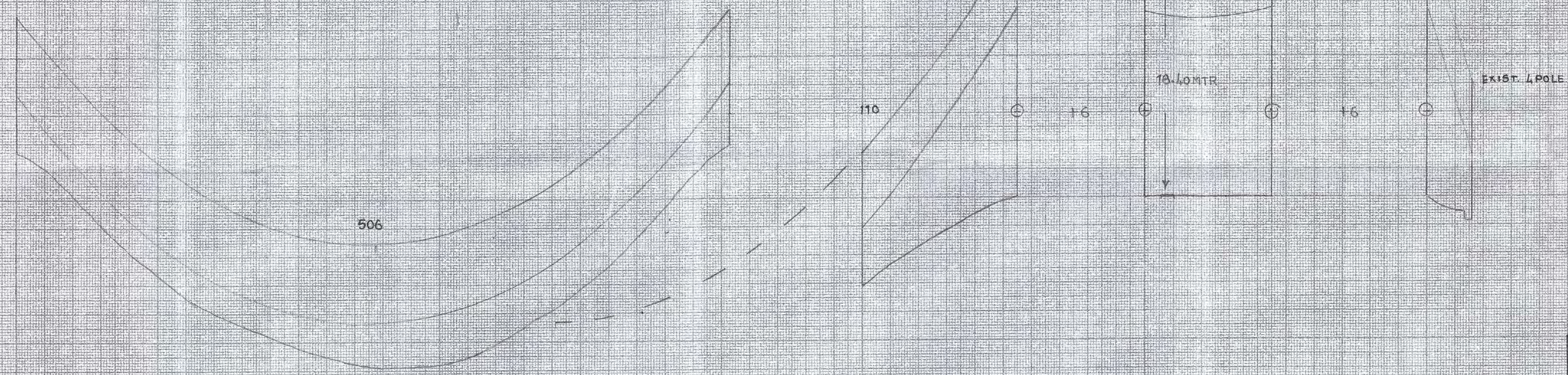
LGC. NO :-
TYPE OF TOWER :-
WEIGHT SPAN :-
WIND SPAN :-

EXIST. LOC. NO - 08
'NZ+0'
0 + 254 = 254
0 + 253 = 253

EXIST. LOC. NO - 09
'NZ+0'
252 + (-218) = 34
253 + 55 = 308

PROP. LOC. NO - 10
'PC+0'
328 + 44 = 372
55 + 45 = 100

PROP. LOC. NO - 11
'PC+0'
46 + 0 = 46
45 + 16 = 61



DATUM : 470.00

REDUCED LEVEL :

0.0	493.48
20	492.12
40	490.24
60	488.22
80	486.34
100	484.74
120	483.02
140	481.99
160	481.10
180	480.42
200	479.60
220	479.00
240	478.64
260	478.20
280	478.22
300	478.44
320	478.82
340	479.80
360	481.00
380	482.17
400	483.60
420	485.20
440	481.32
460	489.40
480	491.56
500	493.75

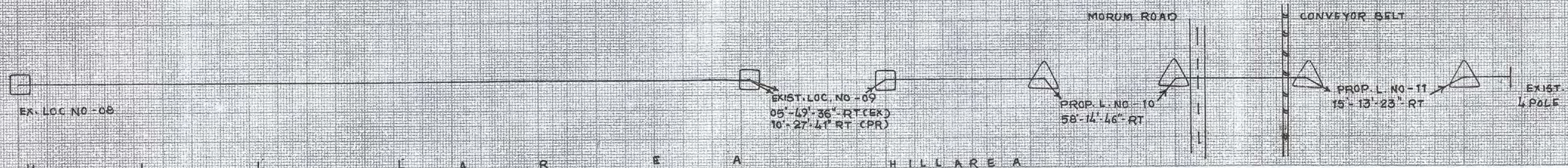
DISTANCE :

0.0	493.75
20	495.40
40	496.57
60	497.77
80	498.90
100	499.95
110	499.95

0.0	499.95
20	500.00
40	499.94
60	499.90
80	499.92
90	499.92

0.0	499.92
20	498.54
32	498.54

PLAN :



NATIONAL ALUMINIUM COMPANY LIMITED.

DETAILED SURVEY & PROFILE PLOTTING FOR REROUTING OF EXISTING 33 KV WATER INTAKE LINE FROM EXISTING LOCATION NO-09 TO HILL TOP PUMP HOUSE.

SAG TEMPLATE USED : AARE DOG
SCALE: HOR: 1CM = 20M, VER: 1CM = 2MTR
TOTAL LENGTH OF LINE: 0.738 KM



SURVEYED BY: CHECKED BY: VERIFIED BY:

M/S AAY BEEBBSR
ELECTRICAL
CONSTRUCTION

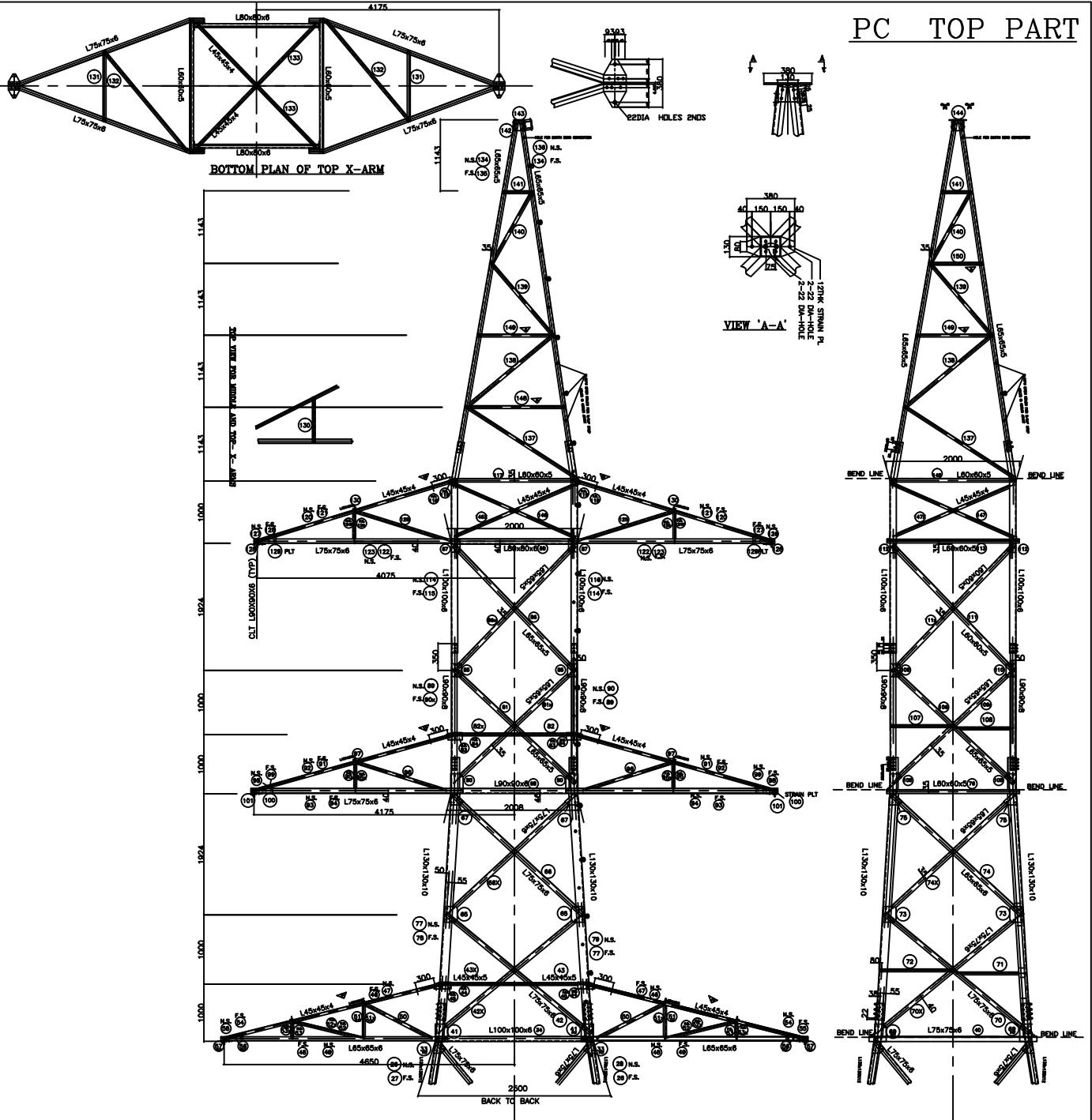
TOWER SCHEDULE

FOR REROUTING OF EXISTING 33 KV WATER INTAKE LINE FROM EXISTING LOCATION NO-9 TO HILL TOP PUMP HOUSE.

Sl. No.	Loc. No.	Type of Tower	Span Length in Mtr.	Angle of Deviation	WEIGHT SPAN			WIND SPAN			Remarks/ Crossing details.
					Left	Right	Total	Left	Right	Total	
1	2	3	4	5	7	8	9	10	11	12	13
2	EX. Loc No.-8	NZ+0			0	254	254	0	253	253	
			506								HILL AREA
3	EX. Loc No.-9	NZ+0		05°-49'-36"RT(EX.) 10°-27'-41"RT(PR.)	252	-218	34	253	55	308	
			110								HILL AREA
4	PR. Loc No.-10	PC+6		58°-14'-46"RT	328	44	372	55	45	100	
			90								HILL AREA
5	PR. Loc No.-11	PC+6		15°-13'-23"RT	46		46	45	16	61	
			32								HILL AREA
6	4 POLE						0			0	
TOTAL= 0.738 KM.											

SURVEYED BY: 	CHECKED BY: 	CHECKED BY:
		
AAY BEE ELECTRICAL & CONSTRUCTION		
VERIFIED BY:	RECOMMENDED BY:	APPROVED BY:

PC TOP PART

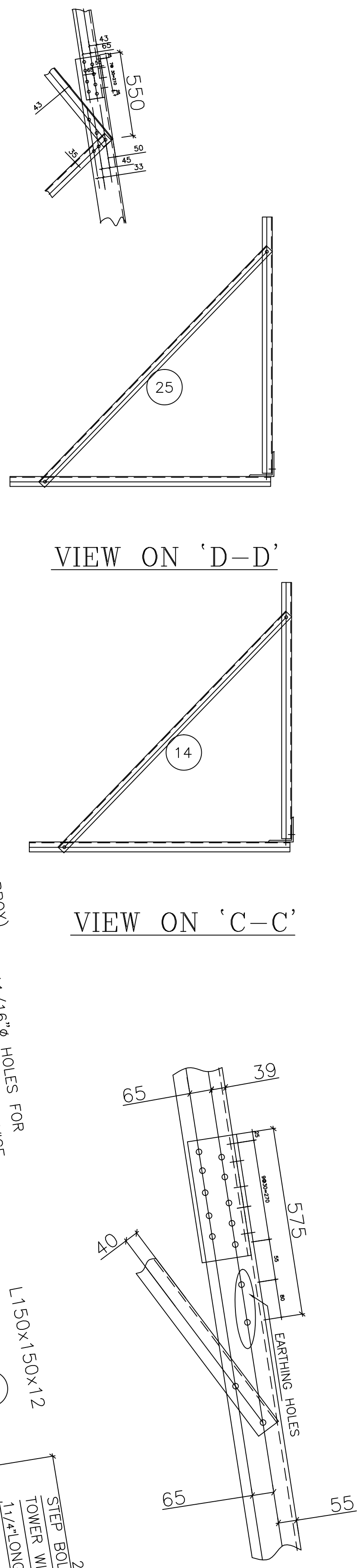




GENERAL NOTES

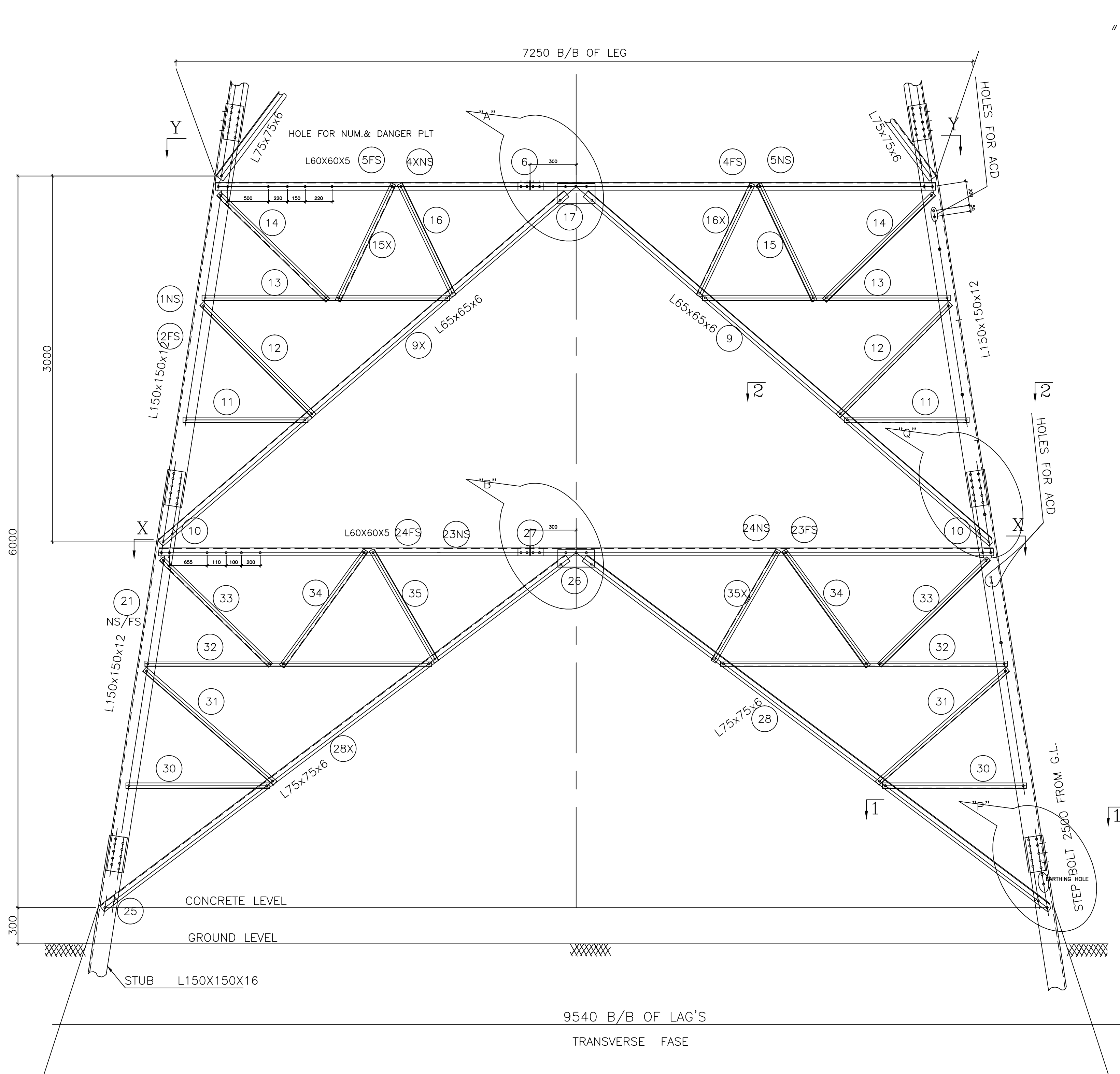
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL BOLTS ARE 17.5MM FOR MAIN BOLT UNLESS OTHERWISE SPECIFIED.
3. 35MM SPRING WASHER TO BE SUPPLIED WITH EVERY BOLT.
4. NON CORROSION FOR MAIN BOLT SHALL BE 35MM FROM CUT EDGE.
5. ALL STEEL ITEMS BOLTS & NUTS TO BE HOT DIP GALVANIZED.
6. ALL BOLTS NUTS & LOCKWASHERS SHALL CONFORM TO IS 1567 (GRADE-5.6).
7. FABRICATION SHALL CONFORM TO IS 808 PART - 1 (1972).
8. ALL STEEL MEMBERS SHALL CONFORM TO IS 2062 - 2001.

THIS DRAWING IS PREPARED / REBORN FROM DRAWING SUPPLIED BY
M/S ODISHA POWER TRANSMISSION CORPORATION LTD. VINDHYA
CONTRACTOR NO.- SRGM-CPC-RLY-TSS-5/04-2003 ALL DATED 25.11.05
FOR SUPPLY OF 132KV D.C. TOWER

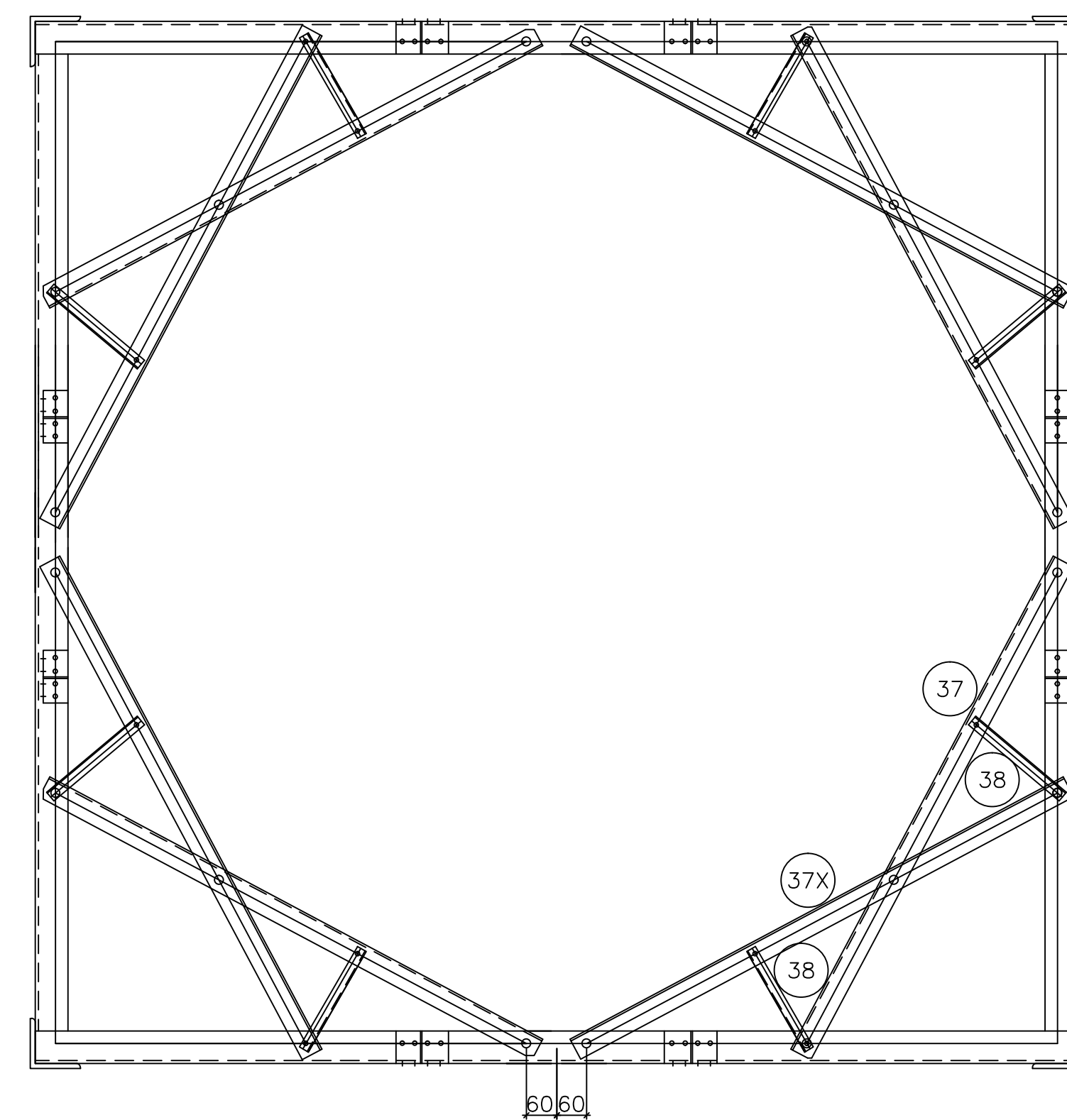
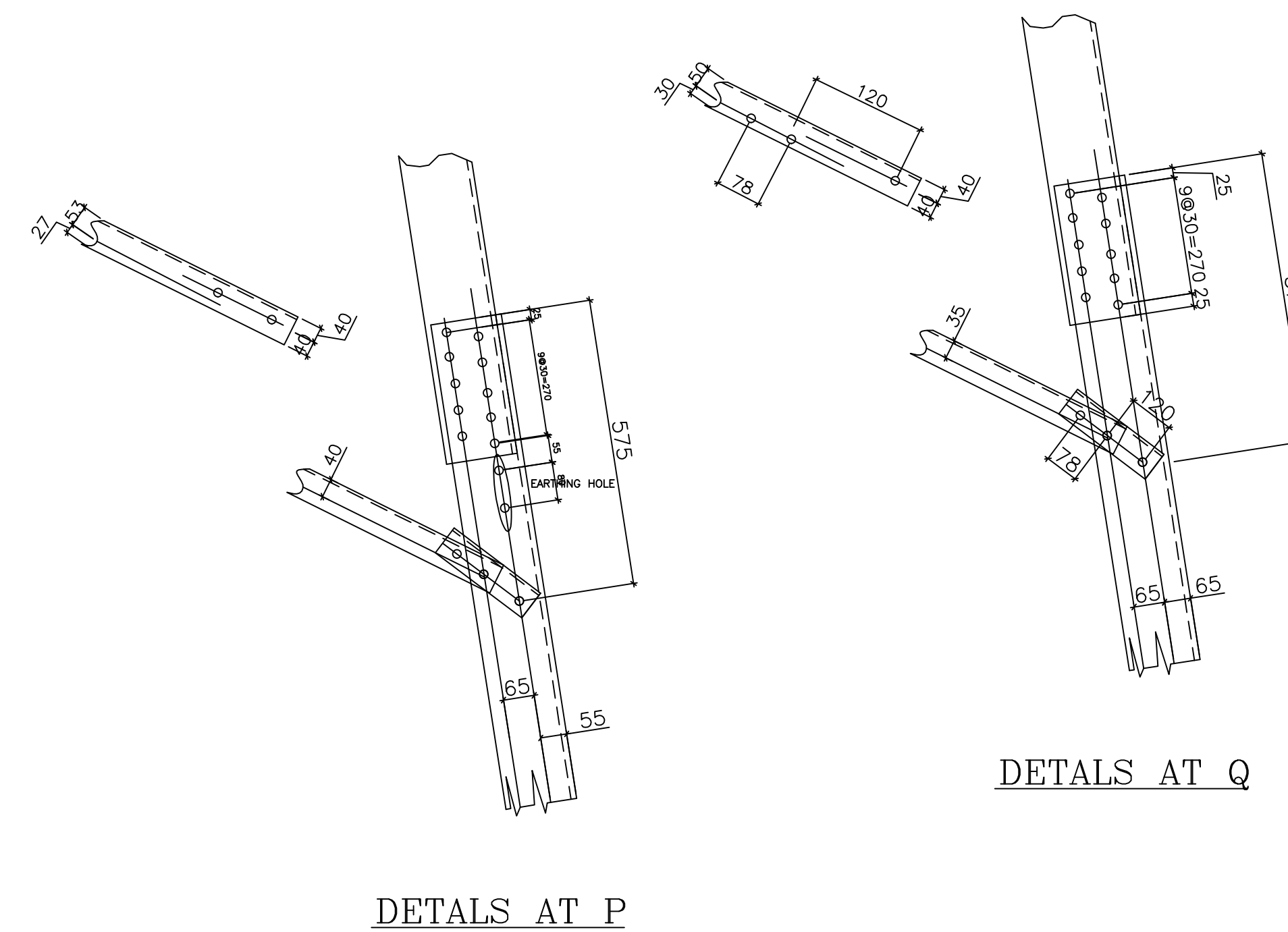
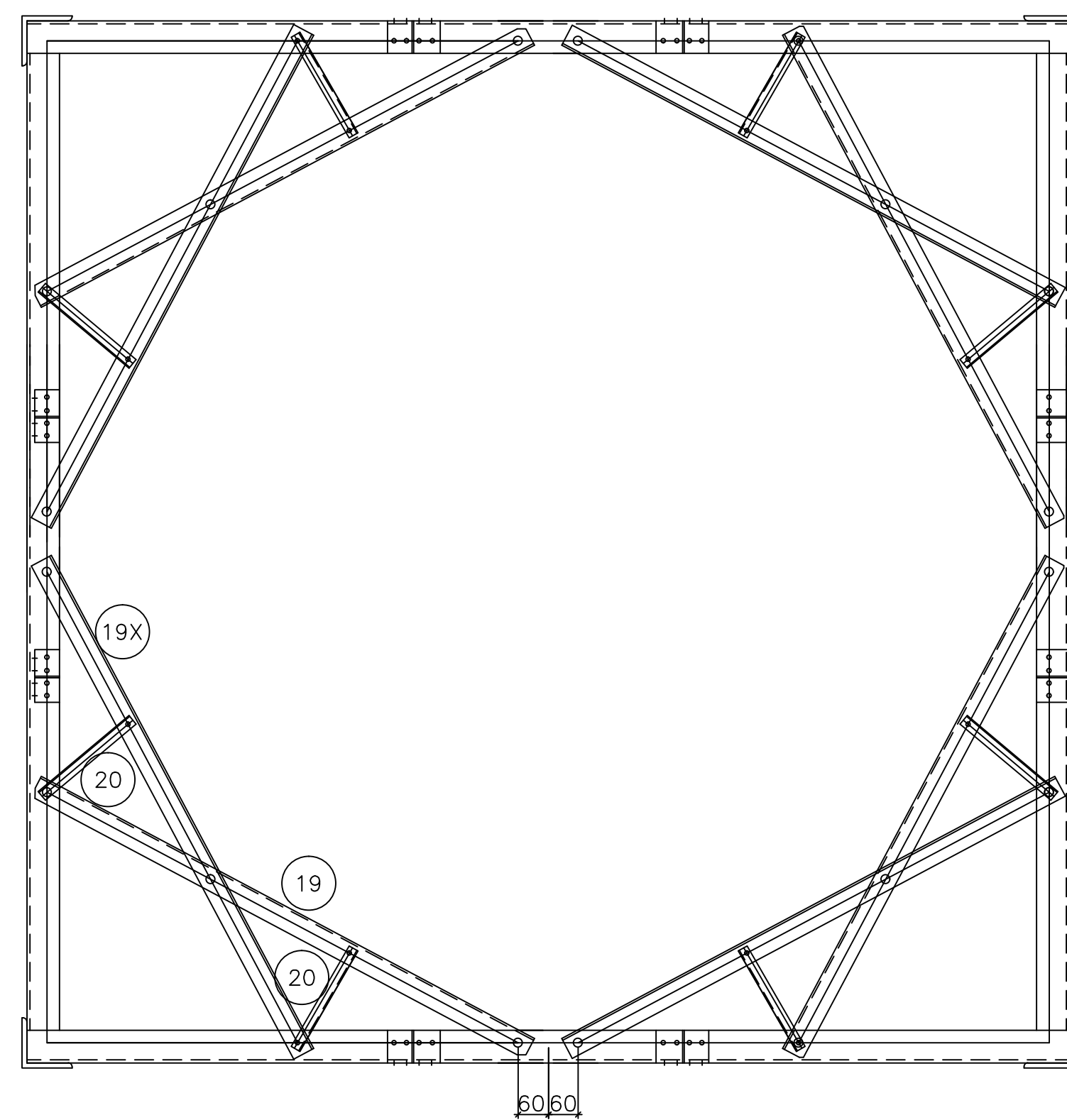
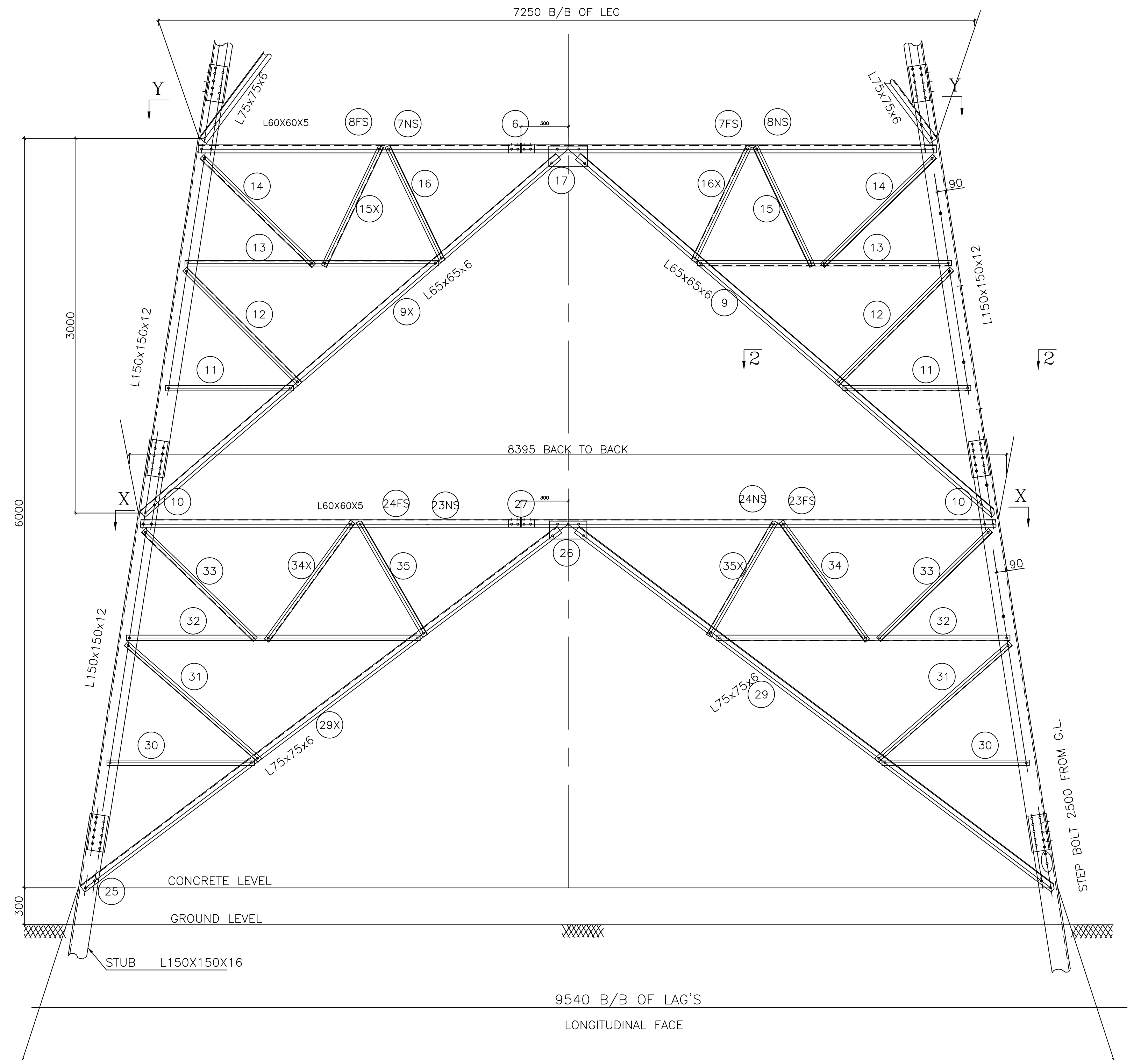
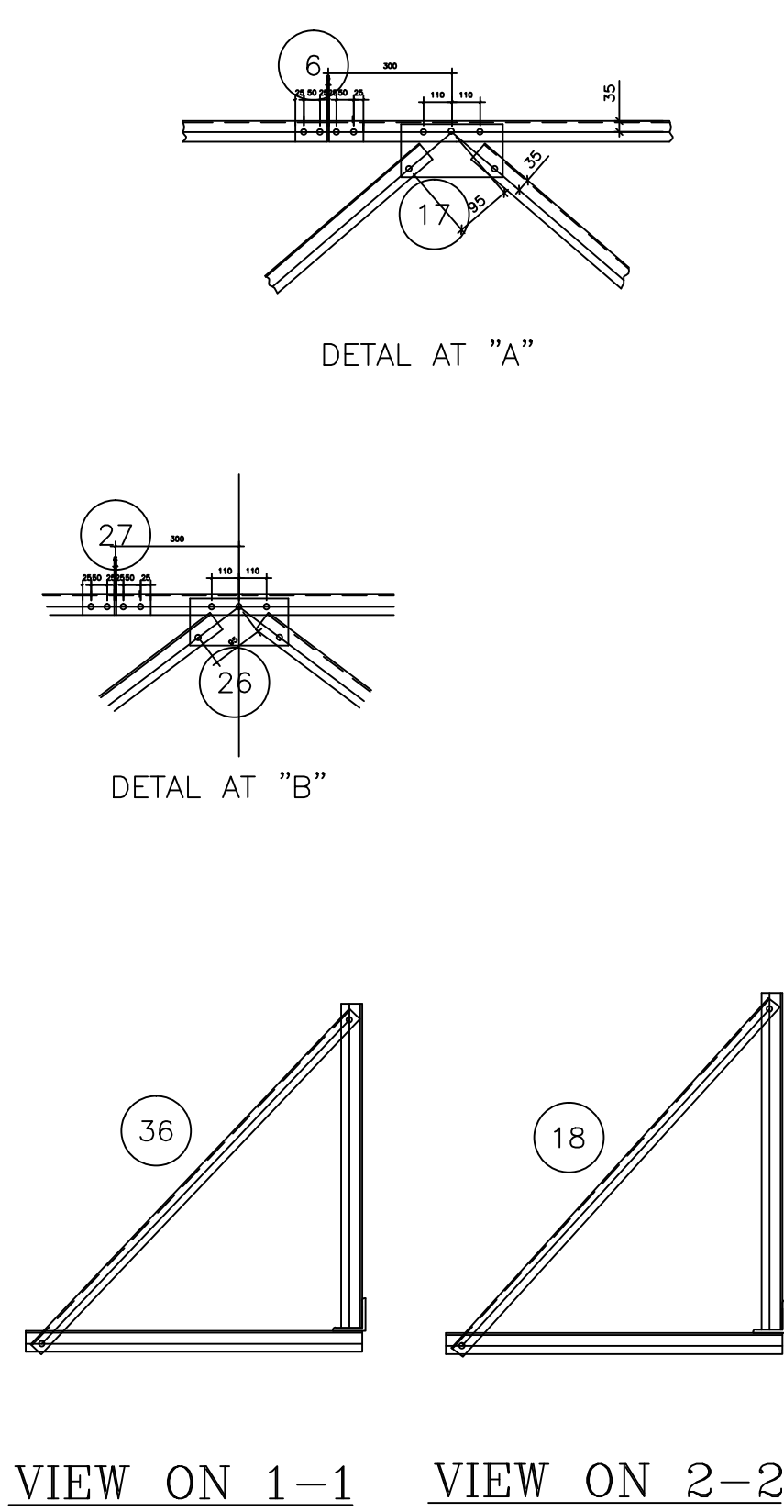
CLIENT:-	ODISHA POWER TRANSMISSION CORPORATION LTD.
CONTRACTOR:-	SR ASSOCIATES INFRASTRUCTURE PVT. LTD.
MANUFACTURER:-	NEW MODERN TECHNIQUE PVT. LTD.
PROJECT NAME:-	CONSTRUCTION OF 132KV, 132KV/11KV SUBSTATION AT UDALA AND ASSOCIATED 132KV LLD LINE FROM EXISTING 132KV BALASORE-BARPUR 22 LINE TO PROPOSED UDALA SUBSTATION ON TURNKEY BASIS.
PD. NO. :-	SRGM/NTPL/OPTCL/0408/02 , 07-04-08-18
DESCRIPTION:-	DETAIL OF 132KV TOWER "PC" TOP PART DRAWING.
DRAWING NO:- NTML-OPTCL-PC-02, REV-00	SH. NO.-20F2/DRAWN BY:-TINA
AUTHORISED SIGNATORY:-	CHECKED BY:-
	APPROVED BY:-



CLIENT:-	 ODISHA POWER TRANSMISSION CORPORATION LTD. BHUBANESWAR-751010		
CONTRACTOR:-	SR ASSOCIATES INFRASTRUCTURE PVT. LTD. BHUBANESWAR-751010		
MANUFACTURER:-	 NEW MODERN TECHNO MECH PVT.LTD. -2/29,Chhancha Industrial Estate, Station Bazar,Bariapada,Mayurbhanj, Odisha-757001		
PROJECT NAME:-	CONSTRUCTION OF 2X20MVA , 132/33 kV GRID SUBSTATION AT UDALA AND ASSOCIATED 132KV LULO LINE FROM EXISTING 132KV BALASORE-BARIPADA SC LINE TO PROPOSED UDALA GRID SUBSTATION ON TURNKEY BASIS.		
P.O. NO. :-	SRAIPL/NMTPL/OPTCL/0405/02 , 0T-04-05-16		
DESCRIPTION:-	DETAIL OF 132KV TOWER "PC" BOTTOM PART .		
DRAWING NO:-NMTPL-OPTCL-PC-02, REV-00		SH. NO.-1OF2	DRAWN BY:-TINA
AUTHORISED SIGNATORY:-	CHECKED BY:-	APPROVED BY:-	


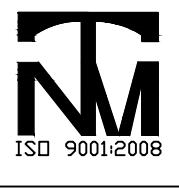


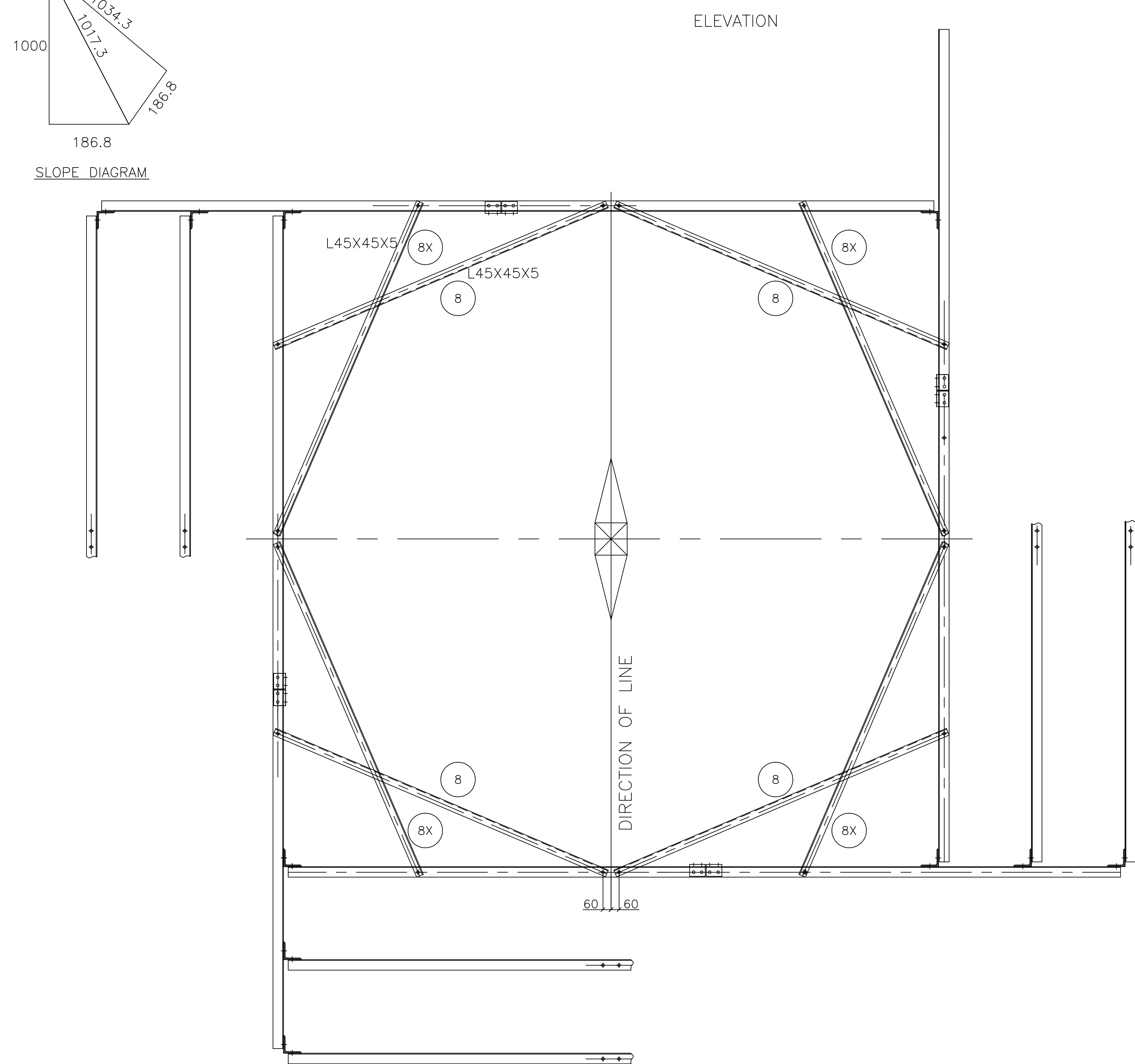
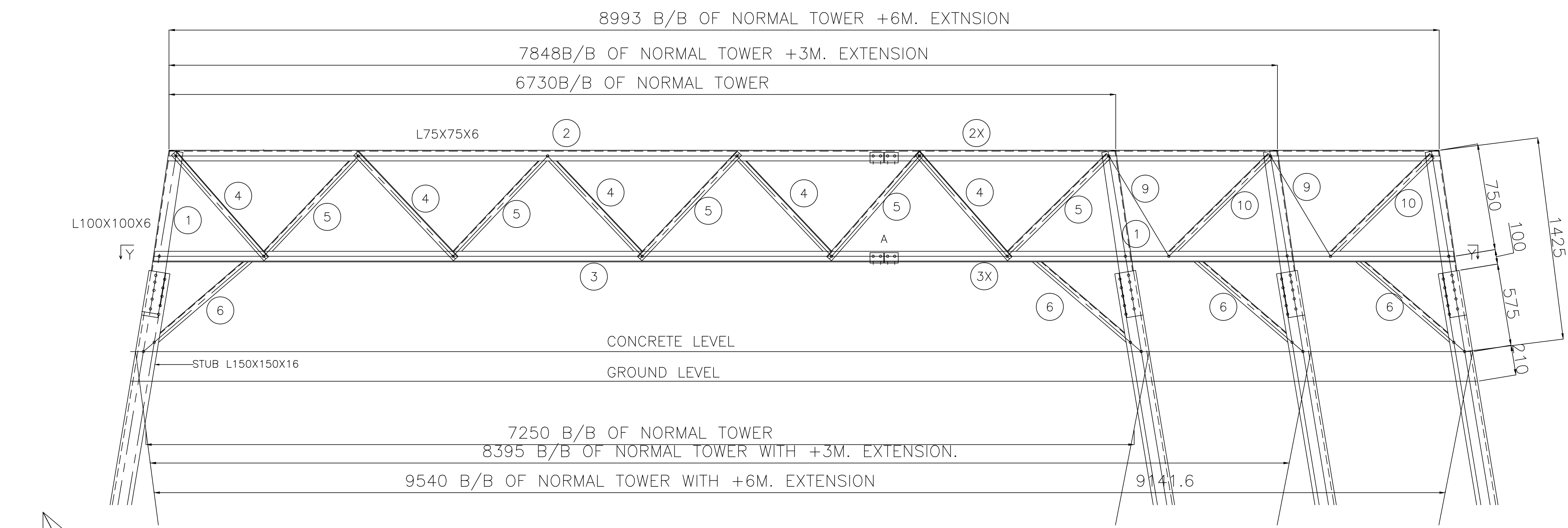
"PC" +3MTR & +6MTR EXTENSION



- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
 2. ALL HOLES ARE 17.5MM FOR Ø16MM BOLT UNLESS OTHERWISE SPECIFIED.
 3. 3.5MM SPRING WASHER TO BE SUPPLIED WITH EVERY BOLT.
 4. MIN EDGE SECURITY FOR 16MM BOLT SHALL BE 20MM FROM CUT EDGES & 20MM FROM ROLLED EDGE.
 5. ALL STEEL ITEMS, BOLTS & NUTS TO BE HOT DIP GALVANISED.
 6. ALL BOLTS NUTS & LOCKNUTS SHALL CONFORM TO IS : 1367 (GRADE-5.6)
 7. FABRICATION SHALL CONFORM TO IS 802 PART - II (1972).
 8. ALL STEEL MEMBERS SHALL CONFORM TO IS 2062 - 2011.

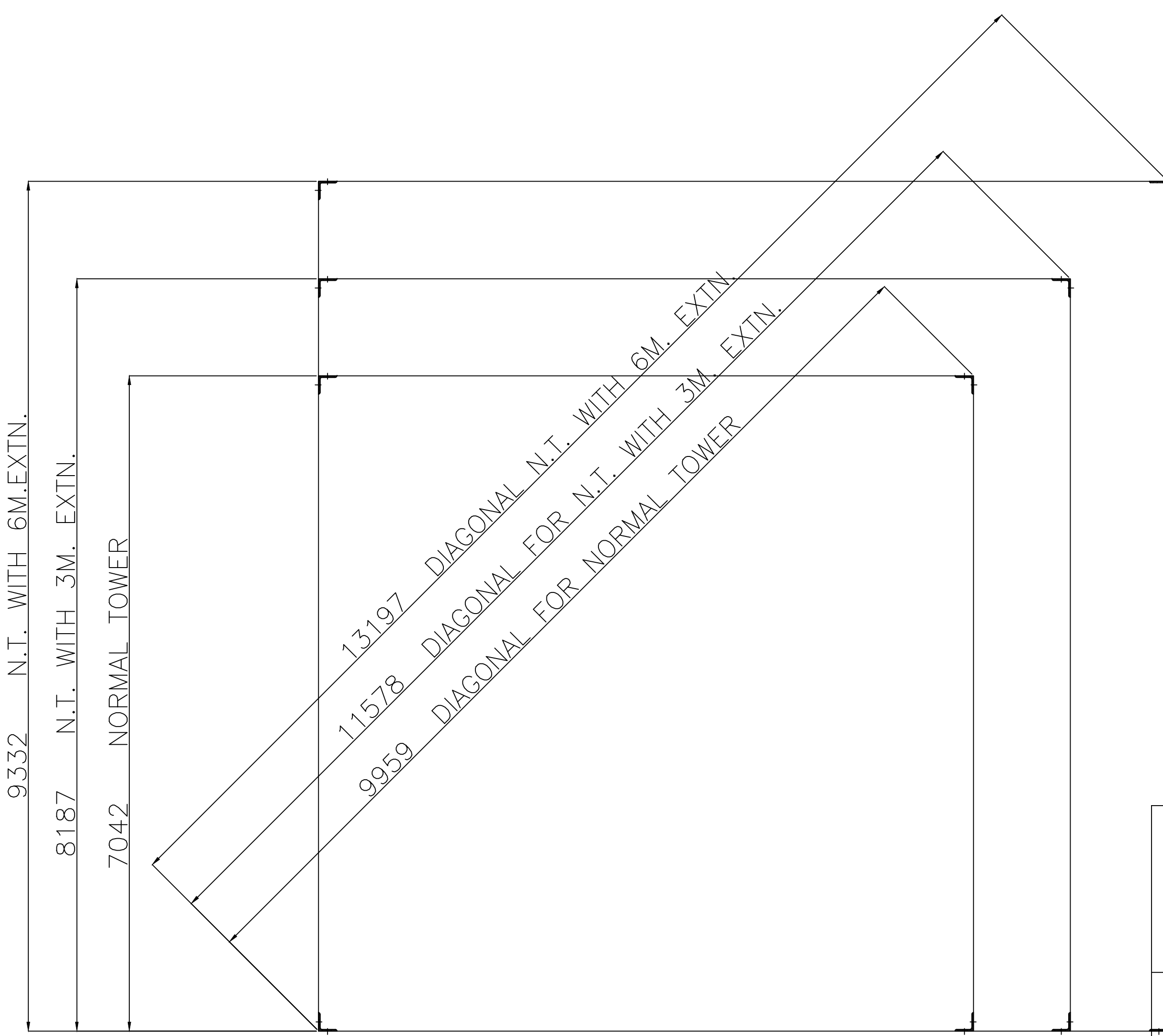
THIS DRAWING IS PREPARED / REDRAWN FROM DRAWING SUPPLIED BY
M/S ORISSA POWER TRANSMISSION CORPORATION LTD. VIDE LETTER /
CONTRACTOR NO.- SR.GM.-CPC-RLY-TSS-5/04-2893ALL DATED 25.11.05
FOR SUPPLY OF 132KV D.C. TOWER

CLIENT:-	 ODISHA POWER TRANSMISSION CORPORATION LTD. BHUBANESWAR-751010
CONTRACTOR:-	SR ASSOCIATES INFRASTRUCTURE PVT. LTD. BHUBANESWAR-751010
MANUFACTURER:-	 NEW MODERN TECHNOMECH PVT.LTD. -2/29,Chhancha Industrial Estate, Station Bazar,Baripada,Mayurbhanj, Odisha-757001
PROJECT NAME:-	CONSTRUCTION OF 2X20MVA , 132/33 kv GRID SUBSTATION AT UDALA AND ASSOCIATED 132KV LILO LINE FROM EXISTING 132KV BALASORE-BARIPADA SC LINE TO PROPOSED UDALA GRID SUBSTATION ON TURNKEY BASIS.
PO. NO. :-	SRAIPL/NMTPL/OPTCL/0405/02 , DT-04-05-16
DESCRIPTION:-	DETAIL OF 132kV TOWER "PC" +3MTR & +6MTR EXTENSION DRAWING.
DRAWING NO:-NMTPL-OPTCL-PC-03, REV-00	SH. NO.-10F1
AUTHORISED SIGNATORY:-	CHECKED BY:-
	DRAWN BY:-TINA
	APPROVED BY:-

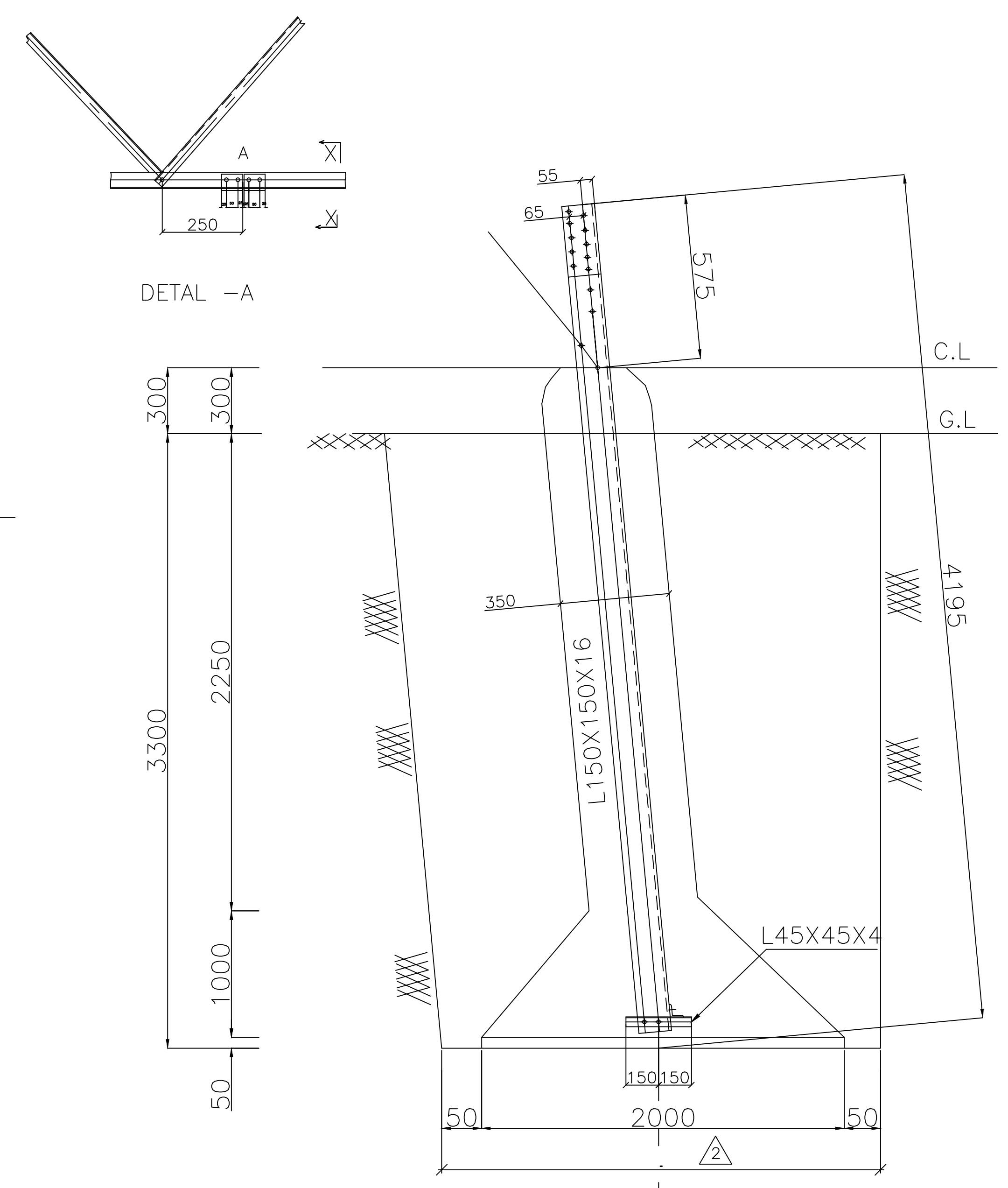
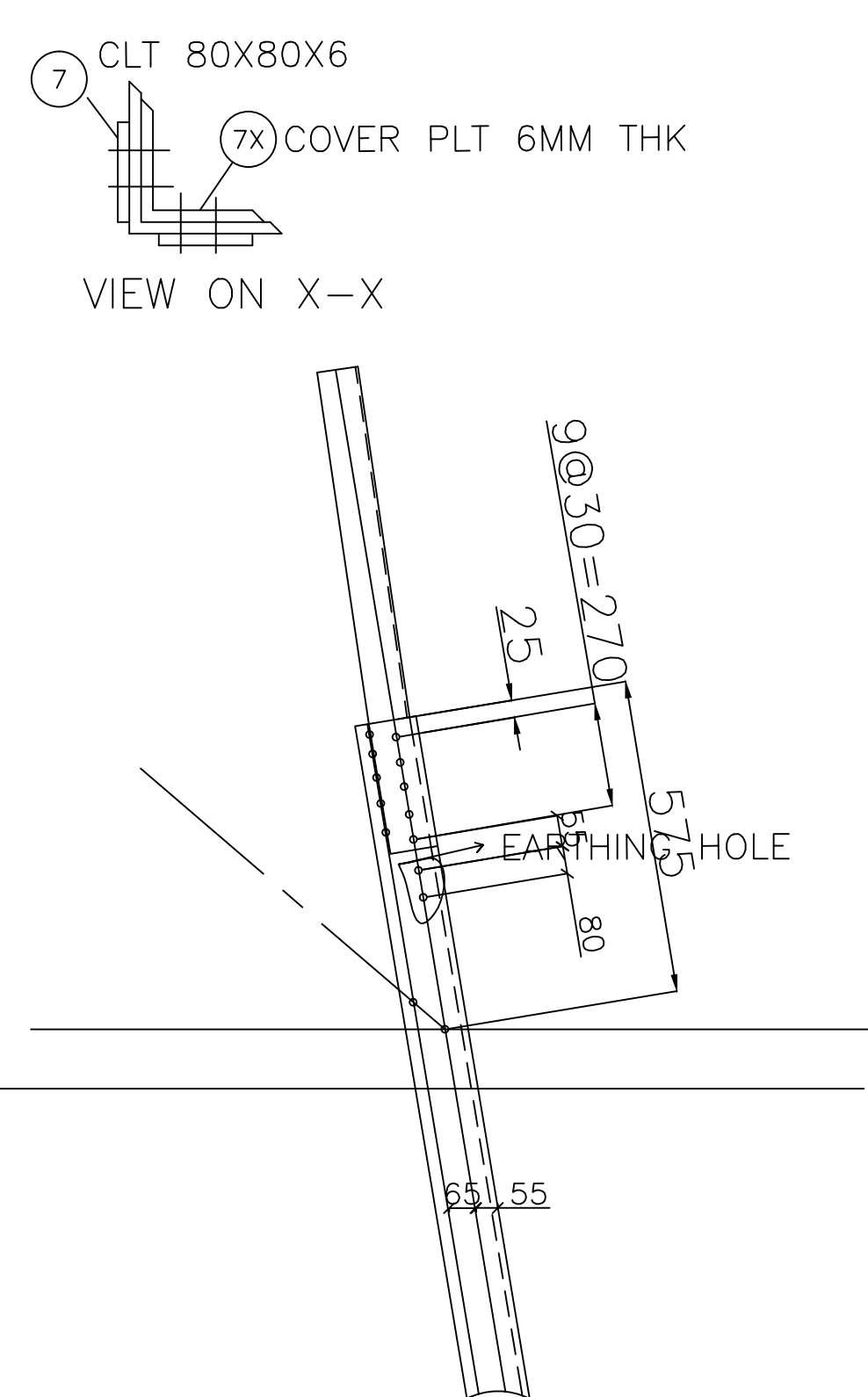


VIEW ON 'Y-Y'

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M/S ORISSA POWER TRANSMISSION CORPORATION LTD. VIDE LETTER /
CONTRACTOR NO.- SR.GM.-CPC-RLY-TSS-5/04-2893ALL DATED 25.11.05
FOR SUPPLY OF 132KV D.C. TOWER



TOP PLAN OF STUB

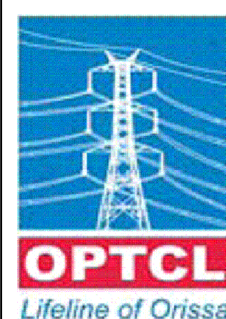



- 8425 NORMAL TOWER
- 9570 N.T. 3M. EXTN.
- 10715 N.T. 6M. EXTN.

DETAILS OF STUB

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL HOLES ARE 17.5MM FOR Ø16MM BOLT UNLESS OTHERWISE SPECIFIED.
3. 3.5MM SPRING WASHER TO BE SUPPLIED WITH EVERY BOLT.
4. MIN EDGE SECURITY FOR 16MM BOLT SHALL BE 23MM FROM CUT EDGE& 20MM FROM ROLLED EDGE.
5. ALL STEEL ITEMS, BOLTS & NUTS TO BE HOT DIP GALVANISED.
6. ALL BOLTS NUTS & LOCKNUTS SHALL CONFORM TO IS : 1367 (GRADE-5.6)
7. FABRICATION SHALL CONFORM TO IS 802 PART - II (1972).
8. ALL STEEL MEMBERS SHALL CONFORM TO IS 2062 - 2011.

CLIENT:—	 ODISHA POWER TRANSMISSION CORPORATION LTD. BHUBANESWAR-751010		
CONTRACTOR:—	SR ASSOCIATES INFRASTRUCTURE PVT. LTD. BHUBANESWAR-751010		
MANUFACTURER:—	 NEW MODERN TECHNOMECH PVT.LTD. -2/29,Chhancha Industrial Estate, Station Bazar,Baripada,Mayurbhanj, Odisha-757001		
PROJECT NAME:—	CONSTRUCTION OF 2X20MVA , 132/33 kv GRID SUBSTATION AT UDALA AND ASSOCIATED 132KV LILO LINE FROM EXISTING 132KV BALASORE-BARIPADA SC LINE TO PROPOSED UDALA GRID SUBSTATION ON TURNKEY BASIS.		
PO. NO. :—	SRAIPL/NMTPL/OPTCL/0405/02 , DT-04-05-16		
DESCRIPTION:—	DETAIL OF 132kv TOWER "PC" STUB & STUB SETTING TEMPLATE		
DRAWING NO:—NMTPL—OPTCL—PC—01, REV—00	SH.NO:—10F1	DRAWN BY:—TINA	
AUTHORISED SIGNATORY:—	CHECKED BY:—	APPROVED BY:—	

"PC" TYPE

	PCC VOL./TOWER	CONC. VOL./TOWER	EXVN, VOL./TOWER
NORMAL AND FOR WITH EXTNS.	0.816	7.60	72.124

STUB 4195 LONG
4 x 12 mm rod
8 mm sfp 200 C/C
G.L.
C.L.
300
3500
3300
2465
50
1920
50
785
50
NORMAL DRY @ 200 mm C/C Both ways

	PCC VOL./TOWER	CONC. VOL./TOWER	EXVN, VOL./TOWER
NORMAL AND FOR WITH EXTNS.	1.740	20.64	141.54

STUB 4195 LONG
4 x 12 mm rod
8 mm sfp 200 C/C
G.L.
C.L.
300
3500
3300
2050
50
2850
50
1200
50
WET SOIL (PC TYPE) @ 200 mm C/C Both ways

	PCC VOL./TOWER	CONC. VOL./TOWER	EXVN, VOL./TOWER
NORMAL AND FOR WITH EXTNS.	2.380	31.33	188.44

STUB 4195 LONG
4 x 12 mm rod
8 mm sfp 200 C/C
G.L.
C.L.
300
3500
3300
1800
50
3350
50
1450
50
SEMI SUBMERGED @ 200 mm C/C Both ways

	PCC VOL./TOWER	CONC. VOL./TOWER	EXVN, VOL./TOWER
NORMAL AND FOR WITH EXTNS.	3.042	43.972	226.376

STUB 4195 LONG
4 x 12 mm rod
8 mm sfp 200 C/C
G.L.
C.L.
300
3500
3300
1575
50
3800
50
1675
50
FULLY SUBMERGED @ 200 mm C/C Both ways

NOTE:-

ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED

BACK FILL OF EARTH SHALL BE WELL COMPACTED.

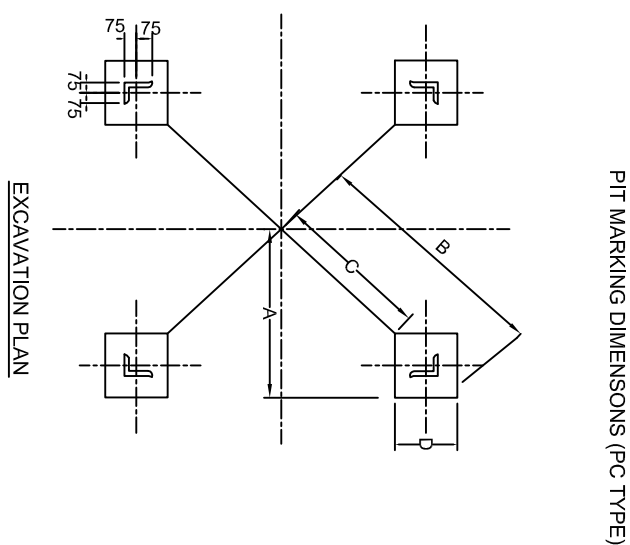
CEMENT CONCRETE SHALL BE OF M-20 GRADE.

CONCRETE AND EXCAVATION VOLUMES ARE IN CUB METRE.

VALUES SHOWN IN BRACKETS ARE FOR EXTENSIONS.

THIS DRAWING IS AS PER THE APPROVED DRAWINGS OF OPTCL FOR KONARK-NIMAPARA 132 KV SINGLE CIRCUIT LINE.

SLOPE DIAGRAM
12500
12912
12716
12336
12336
11



		A	B	A+B	C	D
NORMAL SOIL	NORMAL TOWER	5177	7321	12498	4182	2220
	+ 3M EXTN	5800	8202	14002	4921	2320
	+ 6M EXTN	6372	9011	15383	5730	2320
WET SOIL	NORMAL TOWER	5564	7869	13433	3414	3150
	+ 3M EXTN	6186	8748	14934	4152	3250
	+ 6M EXTN	6759	9558	16317	4962	3250
SEMI SUBMERGED SOIL	NORMAL TOWER	5767	8156	13923	2994	3650
	+ 3M EXTN	6390	9037	15427	3734	3750
FULLY SUBMERGED SOIL	+ 6M EXTN	6962	9846	16808	4542	3750
	NORMAL TOWER	5950	8415	14365	2616	4100
	+ 3M EXTN	6573	9296	15869	3356	4200
	+ 6M EXTN	7145	10105	17250	4165	4200

CONTENTS

Sl.	Subject	Page
	Executive Summary	2
1	Introduction	3
2	Scope of Services	3
3	Field investigation program	4-5
4	Laboratory testing	6
5	Discussion the engineering properties	7
6	Abstract of Safe Bearing Capacity	8
7	Conclusion & Recommendation	9
8	Borehole format	10
9	Soil Test result	11
10	Calculation of SBC	12-14
11	Settlement Calculation	13-17
12	Bore Hole Photos	



EXECUTIVE SUMMARY

A. General Objectives of Investigation: The scope of work is to complete a geotechnical investigation work for "*Construction of alternate 33kv overhead line to jholaguda pump house, Nalco, Damanjodi*" This report presents the results of the site investigation and geotechnical recommendations related to the project.

B. Fieldwork and Laboratory Testing: The Drilling of 01 no's of borehole was conducted. Field testing was conducted and samples (soil sample) were collected during drilling. Field Standard penetration tests (SPT) were conducted in boreholes during drilling. Geotechnical laboratory tests on collected soil samples were conducted in laboratory. Field standard penetration tests (SPT) were conducted in the borehole during drilling. These tests include grain size distributions, DFS, specific gravity, Atterberg's limits Bulk density, Moisture Content & Tri axial Shear Test Unconsolidated Undrained triaxial shear test.

C. Geotechnical Foundation Report: A general description of the strata encountered during boring, the soil properties, anticipated behavior of soils during construction and measured groundwater levels are provided in this report. Geotechnical recommendations for Shallow foundations and other general geotechnical engineering parameters related to the proposed structure are provided in this report. The foundation design parameters were derived from calculations based on Indian standards and some standard geotechnical books.



A handwritten signature in blue ink.

1.0. INTRODUCTION

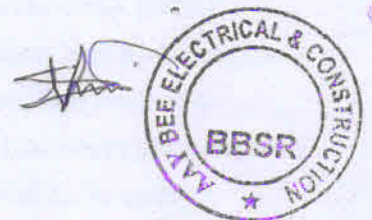
This report presents results of sub-soil Exploration work for "**Construction of alternate 33kv overhead line to jholaguda pump house, Nalco, Damanjodi**". This work was performed by **MKS Consultants**. The laboratory test results of collected samples presented in this report are based on the strata available at bore holes locations. These results should not be extrapolated to other areas without our prior review.

2.0. PURPOSE AND SCOPE OF SERVICES

The purpose of the current geotechnical investigation was to explore and determine the existing sub-strata conditions such as stratification, denseness or hardness of the strata, position of ground water table at the location etc. and to evaluate approximate range of safe bearing capacity for the proposed structure using empirical formulae provided in the relevant IS codes. The goal of our investigation was to identify the key geotechnical issues that could potentially impact the proposed project and to develop geotechnical recommendations for design and construction of the project.

Our scope of services included the following tasks:

- Field marking of boring locations.
- Drilling of **One** number of borehole up to **7.50m** depth below the respective existing ground level in order to know the sub surface stratification, conducting necessary field tests and collection of sub-strata samples for laboratory testing.
- Testing of soil samples in the laboratory to determine its physical and engineering properties and analyzing all field and laboratory data to evaluate bearing capacity of the sub-strata for given foundation sizes.
- Preparation of this report containing our findings and recommendations including:
 - a) Brief description of the proposed project;
 - b) Description of the field exploration and laboratory testing programs;
 - c) Discussion on the site surface and subsurface conditions.
 - d) Preliminary geotechnical parameters for design of foundations for structural support.



3.0. FIELD INVESTIGATION PROGRAM

Field investigation work was in accordance with IS: 1892 -1979.

Field works include:

- Boring in the sub-strata by Rotary Drilling Method.
- Collection of disturbed samples from bore holes.
- Conducting SPT in soil as per IS: 2131 and collection of SPT samples.

3.1. Methodology of Investigation:

By using rotary drilling rigs, the boreholes were progressed up to desired depth. Rotary method of boring is most widely used method of advancing a boreholes. This method along with use of drilling mud to stabilize the side of the borehole is likely to give the least disturbance to soils beneath the base of the borehole and permit taking near to truly undisturbed samples. Diameter of boreholes was 150 mm. Where caving of boreholes occurred, casings were used to keep the boreholes stable.

Standard Penetration Tests (SPT) were conducted in the boreholes alternate to UDS. By connecting a split spoon sampler to 'A' rods and driving it by 45cm using a 63.5 kg hammer falling freely from a height of 75cm. The tests were conducted in accordance with IS: 2131-1981(Reaffirmed 1987).

Number of blows required for each 15cm penetration of the split spoon sampler was recorded. First 15cm penetration is ignored. The cumulative no. of blows required to penetrate the rest 30cm of the 45cm sampling interval is reported as the SPT value (N value).

For collection of un-disturbed sample thin wall samplers have been used. In order to reduce wall friction, suitable precautions such as oiling the surface shall be taken.

3.2. Logging and Sample collection

During exploration for each borehole log of borings showing details about the exploration were prepared. Bore logs were presented in this report.

Disturbed samples were collected from the split spoon sampler after conducting SPT. The samples were preserved in transparent polythene bags with proper identification mark.

In case of undisturbed samples, tubes were sealed with wax at both the ends. Then samplers were wrapped with moist jute bags to prevent loss of moisture.



3.4. Summary of field work

The table below shows the detail of borehole with maximum explored depth and concerned water table.

Table -1

SI No.	BH Reference	Max depth of exploration in m.	Ground water table below E.G.L
01	BH-01	10.00	6.58



4. LABORATORY TESTING

Laboratory methods in accordance with relevant standard codes of practices are adopted to ascertain the different essential characteristics of sub-soil using field samples obtained in course of filed investigations. The tests as under have been conducted to ascertain the parameters indicated in the test. The finding of these test are required for use in relevant engineering designs.

The table below shows the laboratory tests with concerned IS codes followed.

Table -2

Sl. No.	Laboratory tests	IS Codes
1	Preparation of soil sample	IS: 2720(Part-1)-1983 (Reaffirmed 2010)
2	Specific gravity	IS: 2720(Part-3/Sec-2)-1980 (Reaffirmed 2011)
3	Grain size analysis	IS: 2720(Part-4)-1985 (Reaffirmed 2015)
4	Atterberg's limits	IS: 2720(Part-5)-1985 (Reaffirmed 2015)
5	Free swell Index	IS: 2720(Part-40)-1977 (Reaffirmed 2011)
6	Bulk density	-----
7	Moisture Content	IS: 2720 (Part -2)-1973,RA -2010
8	Tri axial Shear Test Unconsolidated undrained triaxial shear test	IS: 2720 (Part - XIII) - 1993,RA-2011
9	SBC Calculation for shallow Foundation.	IS: 6403 -1993
10	For Settlement Calculation	IS:8009 (Part -I)-1976



5. DISCUSSION ON THE ENGINEERING PROPERTIES OF THE SUB-STRATA AT THE PROJECT SITE:-

Borehole No. – 01 was have explored up to a depth of 10.00m the sub soil strata of the Borehole is summarized as follows.

LAYER- 1

The layer starts from 0.00m to 0.50 m consists of " Poorly Graded Gravel"

LAYER- 2

The layer starts from 0.50m to 3.45 m consists of "Silty Sand".

LAYER- 3

The layer starts from 3.45m to 4.50m consists of "Poorly Graded Gravel".

LAYER- 3

The layer starts from 4.50m to 10.00m consists of "Laterite Pieces " Which is not suitable for test.



6.0. ABSTRACT OF SAFE BEARING CAPACITY

Borehole	Depth in mtrs.	Footing Size	Net Safe Bearing Capacity in T/m^2	Gross Safe Bearing Capacity in T/m^2	Allowable Bearing Pressure in T/m^2 (60 mm)
BH-01	1.50	2 X 2	10.79	12.29	28.15
	3.00		39.10	42.10	49.91
	4.50		133.95	138.45	82.86



8.0 CONCLUSION AND RECOMMENDATION


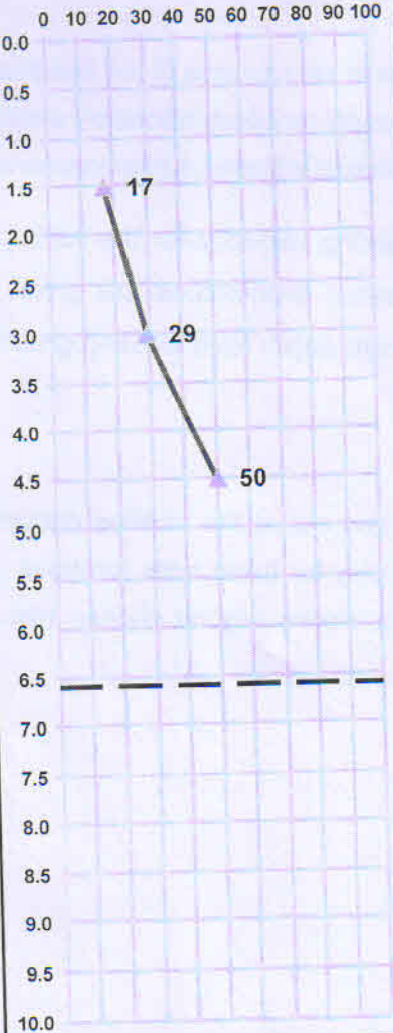


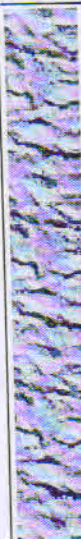
Based on our field and laboratory investigation, the following recommendations are made:

- i. The stratum encountered in different boreholes at different depths is presented in respective soil profile sheets.
- ii. The water table if encountered in the boreholes is also indicated in the soil profile sheets.
- iii. The depth of foundation shall be decided based on bearing capacity and uplift resistance required.
- iv. As per site condition which, visual observations of soil samples at site, field bore log record, local geology of the area, type of sample received, laboratory classification of soil samples and based on the experience of our Geotechnical Expert, it is recommended to provide Open foundation.
- v. The recommended safe bearing capacity for the footing is computed based on footing size as specified for suggested foundations are given below. It is feasible to provide Open Foundations below 3.0m depth from existing ground level..

LIMITATION

The soil investigation has been carried out at the location chosen by the client. Recommendations made in the report are hence valid only for these tests locations. However if there is any change in subsoil conditions and properties at places beyond chosen test locations, the soil consultants be contacted for further guidance.



Client Name:	M/s Aaybee Electrical & Construction,Bhubaneswar						
Name of project:	Soil Investigation for alternate 33kv overhead line to jholaguda pump house,Nalco,Damanjodi.						
DOT:	04.12.2022				Water table:- 6.58m		
DOC:	05.12.2022						
BORE HOLE -01							
Type of Soil	Soil Profile	Depth in mtrs.	SPT Value "N" Depth Plot	N	Type of Sample	Core Recovery (%)	R.Q.D (%)
				N ₁ - N ₂ - N ₃			
Poorly Graded Gravel					DS Collected		
Silty Sand					15-08-09 SPT Sample		
Poorly Graded Gravel					09-14-15 SPT Sample		
Laterite Pieces					>50 SPT Sample		



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TEST RESULT																						
LOCATION:		04																				
BH No. -01	Sampling Depth (m)	Type of sample	SPT Value (N)	Grain size analysis						D.F.S. In %	Atterberg's Limits			Classification of Soil	Density test		Natural Moisture content(%)	Specific gravity	Shear Parameters			
				Gravel in % (20mm - 4.75mm)	Coarse Sand in % (4.75mm - 2mm)	Medium Sand in % (2mm - .425mm)	Fine Sand in % (.425mm - .075mm)	Silty & Clay in % (.075mm Passing)	Liquid Limit (%)		Plastic Limit (%)	Plasticity Index (%)	Bulk density in gm/cc.		Dry density in gm/cc.	Type of Test			Cohesion (C) Kg/cm ²	Angle of internal friction(ϕ) in Degree	Void Ratio (e_0)	
	0.50	DS	—	43.52	25.62	21.46	6.58	2.82	0	20	NP	N _p	GP	—	—	9.52	2.58	—	—	—	—	
	1.50	SPT	17	19.27	27.02	20.13	14.63	18.95	0	22	NP	N _p	SM	—	—	10.23	2.58	—	—	—	—	
	3.00	SPT	29	36.85	7.32	27.42	14.62	13.79	0	20	NP	N _p	SM	—	—	10.58	2.58	With Some Laterite Pieces				
	4.50	SPT	>50	75.69	5.36	7.42	8.69	2.84	0	20	NP	N _p	GP	—	—	9.86	2.60	—	—	—	—	
	6.00	CORE	—	Laterite Pieces Which is not suitable for test																		
	7.00	CORE	—																			
	8.00	CORE	—																			
	9.00	CORE	—																			
10.00	CORE	—																				



CALCULATION OF SAFE BEARING CAPACITY (SBC) Based on SPT "N" Value																					
Bore Hole No.:	1	Depth of Sample:	1.50 mtrs	Water Table:	6.58 mtrs																
References	Calculations																				
	Input Data Field SPT Value N = 17 Depth of Foundation $D_f = 1.50$ mtr. IS:2131, Fig-1 Corrected SPT value after over burden pressure N' = 17.000 Corrected SPT value after Dilatancy N'' = 16.000 IS:6403, Fig-1 Angle of internal friction based on SPT "N" Value $\Phi = 31.5$ Degrees $\tan^{-1} (0.67 \tan \Phi)$ $\Phi' = 22$ Degrees Submersible density (Assumed) $\gamma_s = 1.000$ gm/cc Width / Diameter of Footing (Assumed) B = 2 mtr. Length of Footing (Assumed) L = 2 mtr. Type of Footing = Square Footing IS:6403, Fig-1 Condition of Soil = Medium																				
	Overburden Pressure $q = (D_f \times \gamma_s) / 1000 = 0.150$ Kg/cm ² $B_v = (B \times \gamma_s) / 1000 = 0.200$ Kg/cm ²																				
IS:6403, Table -1	Bearing Capacity Factors <table border="1" style="display: inline-table; margin-right: 20px;"> <thead> <tr> <th>Φ</th> <th>N_c</th> <th>N_q</th> <th>N_γ</th> </tr> </thead> <tbody> <tr> <td>32</td> <td>33.336</td> <td>21.380</td> <td>27.526</td> </tr> </tbody> </table> <table border="1" style="display: inline-table;"> <thead> <tr> <th>Φ'</th> <th>N'_c</th> <th>N'_q</th> <th>N'_γ</th> </tr> </thead> <tbody> <tr> <td>22</td> <td>17.186</td> <td>8.104</td> <td>7.586</td> </tr> </tbody> </table>					Φ	N_c	N_q	N_γ	32	33.336	21.380	27.526	Φ'	N'_c	N'_q	N'_γ	22	17.186	8.104	7.586
Φ	N_c	N_q	N_γ																		
32	33.336	21.380	27.526																		
Φ'	N'_c	N'_q	N'_γ																		
22	17.186	8.104	7.586																		
IS:6403, Table -2	Shape Factors For Square Footing Water Table Effect $S_c = 1.3$ $S_q = 1.2$ $S_\gamma = 0.8$ $W' = 0.5$																				
	Depth Factors Inclination Factors $d_c = 1 + 0.2 \times (D_f/B) \times \tan(45 + \Phi/2) = 1.268$ $i_c = i_q = i_\gamma = 1$ $d_q = d_\gamma = 1.134$																				
Dense	In case of general shear failure Net Ultimate Bearing Capacity C = 0 $q_d = C N_c S_c d_c i_c + q(N_q - 1) S_q d_q i_q + 0.5 B \gamma N_\gamma S_\gamma d_\gamma i_\gamma W'$ $= 0.000 + 4.160 + 1.249 = 5.409$ Kg/cm ²																				
Loose	In case of Local shear failure Net Ultimate Bearing Capacity $q'_d = 2/3 \times C N'_c S'_c d'_c i'_c + q(N'_q - 1) S'_q d'_q i'_q + 0.5 B \gamma N'_\gamma S'_\gamma d'_\gamma i'_\gamma W'$ $= 0.000 + 1.450 + 0.344 = 1.794$ Kg/cm ²																				
Medium	After Interpolating, Net Ultimate Bearing Capacity $Q_{nu} = 2.698$ Kg/cm ²																				
	Soil Bearing Capacity (SBC)= $Q_s = Q_{nu} / FS + OB$ Factor of Safety (FS) = 2.5 $Q_s = 1.229$ Kg/cm ² = 12.29 Tons/m ²																				
	Net Safe Bearing Capacity (NSBC)= $Q_{ns} = Q_{nu} / FS = Q_s - OB$ $Q_{ns} = 1.079$ Kg/cm ² = 10.79 Tons/m ²																				
	SBC = 12.29 Tons/m ²		NSBC = 10.79 Tons/m ²																		



CALCULATION OF SAFE BEARING CAPACITY (SBC) Based on SPT "N" Value								
Bore Hole No.:	1	Depth of Sample:	3.00 mtrs	Water Table:	6.58 mtrs			
References	Calculations							
IS:2131, Fig-1 IS:6403, Fig-1 IS:6403, Fig-1	Input Data							
	Field SPT Value		N =	29				
	Depth of Foundation		D _f =	3.00 mtr.				
	Corrected SPT value after over burden pressure		N' =	29.000				
	Corrected SPT value after Dilatancy		N'' =	22.000				
	Angle of internal friction based on SPT "N" Value		Φ =	33.3 Degrees				
	tan ⁻¹ (0.67 tanΦ)		Φ' =	24 Degrees				
	Submersible density (Assumed)		γ _s =	1.000 gm/cc				
	Width / Diameter of Footing (Assumed)		B =	2 mtr.				
	Length of Footing (Assumed)		L =	2 mtr.				
IS:6403, Fig-1	Type of Footing		= Square Footing					
	Condition of Soil		= Medium					
	Overburden Pressure							
	$q = (D_f \times \gamma_s) / 1000 =$		0.300	Kg/cm ²	$B_v = (B \times \gamma_s) / 1000 =$	0.200 Kg/cm ²		
IS:6403, Table -1	Bearing Capacity Factors							
	Φ	N _c	N _q	N _γ				
	33	39.728	27.340	37.778				
	Φ'	N' _c	N' _q	N' _γ				
	24	19.542	9.808	9.782				
IS:6403, Table -2	Shape Factors For Square Footing		Water Table Effect					
	S _c =	1.3	S _q =	1.2	S _γ =	0.8		
	Depth Factors		Inclination Factors					
	d _c =	1 + 0.2 x (D _f /B) x tan(45+Φ/2)	=	1.556	i _c =	i _q = i _γ =	1	
	d _q =	d _γ	=	1.278				
Dense	In case of general shear failure Net Ultimate Bearing Capacity					C = 0		
	q _d =	CN _c S _c d _c i _c	+	q(N _q -1)S _q d _q i _q	+	0.5 B _v N _γ S _γ d _γ i _γ W'		
	=	0.000	+	12.119	+	1.931	=	14.050 Kg/cm ²
Loose	In case of Local shear failure Net Ultimate Bearing Capacity							
	q' _d =	2/3 x CN' _c S _c d _c i _c	+	q(N' _q -1)S _q d _q i _q	+	0.5 B _v N' _γ S _γ d _γ i _γ W'		
	=	0.000	+	4.052	+	0.500	=	4.552 Kg/cm ²
Medium	After Interpolating, Net Ultimate Bearing Capacity					Q _{nu} =	9.776 Kg/cm ²	
	Soil Bearing Capacity (SBC)=		$Q_s = Q_{nu} / FS + OB$		Factor of Safety (FS) = 2.5			
	Q _s =	4.210 Kg/cm ²	=	42.10 Tons/m ²				
	Net Safe Bearing Capacity (NSBC)=		$Q_{ns} = Q_{nu} / FS = Q_s - OB$					
	Q _{ns} =	3.910 Kg/cm ²	=	39.10 Tons/m ²				
	SBC =		42.10 Tons/m²		NSBC =		39.10 Tons/m²	



ESTIMATION OF SAFE BEARING CAPACITY (SBC) Based on SPT "N" Value																		
Depth of Sample:		4.50 mtrs	Water Table: 6.58 mtrs															
Calculations																		
Input Data		$N = 50$ $D_f = 4.50$ mtr. $N' = 50.000$ $N'' = 32.500$ $\Phi = 36.3$ Degrees $\Phi' = 26$ Degrees $\gamma_s = 1.000$ gm/cc $B = 2$ mtr. $L = 2$ mtr. = Square Footing = Dense																
Field SPT Value																		
Depth of Foundation																		
Corrected SPT value after over burden pressure																		
Corrected SPT value after Dilatancy																		
Angle of internal friction based on SPT "N" Value																		
$\tan^{-1} (0.67 \tan \Phi)$																		
Submersible density (Assumed)																		
Width / Diameter of Footing (Assumed)																		
Length of Footing (Assumed)																		
Type of Footing																		
Condition of Soil																		
Overburden Pressure																		
$q = (D_f \times \gamma_s) / 1000 =$		0.450	Kg/cm ²															
$B_v = (B \times \gamma_s) / 1000 =$		0.200	Kg/cm ²															
Bearing Capacity Factors																		
<table border="1"> <thead> <tr> <th>Φ</th> <th>N_c</th> <th>N_q</th> <th>N_{γ}</th> </tr> </thead> <tbody> <tr> <td>36</td> <td>51.958</td> <td>39.480</td> <td>60.306</td> </tr> </tbody> </table>		Φ	N_c	N_q	N_{γ}	36	51.958	39.480	60.306	<table border="1"> <thead> <tr> <th>Φ'</th> <th>N'_c</th> <th>N'_q</th> <th>N'_γ</th> </tr> </thead> <tbody> <tr> <td>26</td> <td>22.628</td> <td>12.208</td> <td>13.184</td> </tr> </tbody> </table>	Φ'	N'_c	N'_q	N'_γ	26	22.628	12.208	13.184
Φ	N_c	N_q	N_{γ}															
36	51.958	39.480	60.306															
Φ'	N'_c	N'_q	N'_γ															
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Shape Factors For Square Footing																		
$S_c = 1.3$	$S_q = 1.2$	$S_\gamma = 0.8$																
Water Table Effect																		
$W' = 0.5$																		
Depth Factors																		
$d_c = 1 + 0.2 \times (D_f/B) \times \tan(45 + \Phi/2)$		$= 1.889$																
$d_q = d_\gamma$		$= 1.444$																
Inclination Factors																		
$i_c = i_q = i_\gamma = 1$																		
In case of general shear failure Net Ultimate Bearing Capacity																		
$q_d = CN_c S_c d_c i_c + q(N_q - 1) S_q d_q i_q + 0.5 B \gamma N_\gamma S_\gamma d_\gamma i_\gamma W'$		$C = 0$																
$= 0.000 + 30.005 + 3.483$		$= 33.488$ Kg/cm ²																
In case of Local shear failure Net Ultimate Bearing Capacity																		
$q'_d = 2/3 \times CN'_c S'_c d'_c i'_c + q(N'_q - 1) S'_q d'_q i'_q + 0.5 B \gamma N'_\gamma S'_\gamma d'_\gamma i'_\gamma W'$																		
$= 0.000 + 0.000 + 0.000$		$= 0.000$ Kg/cm ²																
Net Ultimate Bearing Capacity																		
$Q_{nu} =$		33.488 Kg/cm ²																
Soil Bearing Capacity (SBC)=																		
$Q_s = 13.845$ Kg/cm ²		$Q_s = Q_{nu} / FS + OB$																
		$= 138.45$ Tons/m ²																
Factor of Safety (FS) = 2.5																		
Net Safe Bearing Capacity (NSBC)=																		
$Q_{ns} = 13.395$ Kg/cm ²		$Q_{ns} = Q_{nu} / FS = Q_s - OB$																
		$= 133.95$ Tons/m ²																
SBC = 138.45 Tons/m ²		NSBC = 133.95 Tons/m ²																



CALCULATION OF SETTLEMENT OF FOUNDATION

BH-1 at 1.50m (2.0m X 2.0m)

(As per IS:8009 (Part -I)-1976)

Depth of foundation	1.5	m	
Corrected N Value	16		
Settlement from Fig No.9 of IS: 8009-1976	16.8	mm	(For 10 T/m ²)
Effect of water table (W')	0.5		Insert fig of fig 9, IS:8009-1976
Corrected Settlement	33.60	mm	As per cl. No. 9.1.4 of IS 8009(P-1)-1976
Imposed load =	NSBC =	10.79	t/m ²
Settlement for imposed load (Sf) =	36.25	mm	
Depth factor =	0.78		As per Fig No.12 of IS 8009(P-1)-1976
$S_{fd} = S_f \times \text{Depth factor} =$	28.28	mm	
Rigidity factor =	0.8		
Final settlement (S) = (Sfd x Rigidity Factor)	22.6	mm	
For 60mm settlement safe bearing pressure =	28.15	T/m ²	



CALCULATION OF SETTLEMENT OF FOUNDATION

BH-1 at 3.00m (2.0m X 2.0m)

(As per IS:8009 (Part-I)-1976)

Depth of foundation	3	m	
Corrected N Value	22		
Settlement from Fig No.9 of IS: 8009-1976	11.49	mm	(For 10 T/m ²)
Effect of water table (W')	0.5		Insert fig of fig 9, IS:8009-1976
Corrected Settlement	22.98	mm	As per cl. No. 9.1.4 of IS 8009(P-1)-1976
Imposed load =	NSBC =	39.10	t/m ²
Settlement for imposed load (Sf) =	89.85	mm	
Depth factor =	0.66		As per Fig No.12 of IS 8009(P-1)-1976
$S_{fd} = S_f \times \text{Depth factor} =$	59.30	mm	
Rigidity factor =	0.8		
Final settlement (S) = (Sfd x Rigidity Factor)	47.4	mm	
For 60mm settlement safe bearing pressure =	49.91	T/m ²	



CALCULATION OF SETTLEMENT OF FOUNDATION

BH-1 at 4.50m (2.0m X 2.0m)

(As per IS:8009 (Part -I)-1976)

Depth of foundation	4.5	m	
Corrected N Value	32.5		
Settlement from Fig No.9 of IS: 8009-1976	7.4	mm	(For 10 T/m ²)
Effect of water table (W')	0.5		Insert fig of fig 9, IS:8009-1976
Corrected Settlement	14.80	mm	As per cl. No. 9.1.4 of IS 8009(P-1)-1976
Imposed load =	NSBC =	133.95	t/m ²
Settlement for imposed load (Sf) =	198.25	mm	
Depth factor =	0.61		As per Fig No.12 of IS 8009(P-1)-1976
$S_{fd} = S_f \times \text{Depth factor} =$	120.93	mm	
Rigidity factor =	0.8		
Final settlement (S) = (Sfd x Rigidity Factor)	96.7	mm	
For 60mm settlement safe bearing pressure =	82.86	T/m ²	



ANNEXURE-IB**SPECIAL CONDITIONS OF THE CONTRACT**

NAME OF WORK: REROUTING OF PART SECTION OF EXISTING 33 KV WATER INTAKE LINE FROM TOWER NO. 58 TO 4 POLE SWITCH YARD

1.0 Special condition of the contract:-

1.1 The works should be carried out as per code of maintenance practices given in the IS standards & CEA regulations 2023 relevant to this work.

1.2 All the works related to shutdown of the lines etc should be done under the directions of NALCO & the contractors authorized persons.

2. Terms of contract Execution.

2.1 For covering the total scope of work of the contract, The contractor has to arrange his own vehicle for shifting of his manpower & equipment and free issue material issued by NALCO etc. The vehicle deployed by the contractor to execute his work & shifting of his man power & equipment should be minimally a four wheeler in good condition.

2.2 For the purpose of working at height, all the contract workmen to be tested for medical fitness to work at height & the height permit shall be issued by engineer in charge or his authorized coordinator based on the fitness of workmen, condition of the PPEs, insurance & gate passes etc.

2.3 Contractor has to agree to our execution plan and ensure to keep the line healthy in all respect at the end of the day or within one hour as intimated by E-I-C. Necessary contact nos. including mobile nos. / Email IDs/ etc of the responsible & authorized persons for normalizing the line shall be submitted to NALCO.

3.0. List of free issue materials. No free issue material consider for this contract

4.0 Contract period:

Six (06) months from the effective start date of the contract as indicated in the Letter of Intent/ Work Order.

5.0 Payment terms:

a) The contract price as per BOQ shall remain firm. Payment shall be released on fulfillment of activities as per the specifications/terms mentioned in this tender.

b) Payment of Supply nature Items (BOQ Item No-1 to 11):

- 70% of the item price on receipt of the materials at Site after successful inspection and duly certificated by Manager-In-Charge's representative at manufacture works or at site of works.
- 20% shall be paid on erection of these materials
- 10% shall be paid after commissioning & charging and handing over of the system to NALCO.

c) Dismantling Nature Works: (BOQ Item No-26):

- 80% shall be paid after dismantling and shifting to specified location

- 20% shall be made after approval of accounting & reconciliation of the dismantled structures/conductors/accessories

d) Submission of drawing/documents etc : (BOQ Item No-29):

- 100% shall be released in Final bill after handing over of the system.

e) Security Deposit: The 10% of contract value shall be held with NALCO to cover DLP and payable after successful completion of DLP. The same can be released on submission of BG for equivalent amount.

6.0 Penalty:

If the work is delayed beyond the stipulated time penalty is applicable as per GCC terms and condition. In case of extreme emergencies and non-responsiveness of the contractor to execute the job on time, NALCO reserves the right to get the job executed through another agency as decided by Nalco at the risk and cost of the contractor.

7.0 Defect Liability Period (DLP): The defect liability period for this contract shall be **ONE YEAR** with effect from the date of completion of the work .

7.0 Possession of valid H.T contractor license and statutory compliance by the successful bidder:

7.1 The contractor must possess a valid H.T /EHT contractor license during the entire contract period for execution of the contract. The successful bidder has to submit a copy of the valid H.T contractor license to the Engineer-In-Charge, before start of the contract.

7.2 The contractor must also possess competent/licensed HT supervisory staff under their rolls for execution of jobs for this contract.

8.0 Bank Guarantee /Indemnity bond – Not Applicable

9.0 Escalation:-

Labour escalation is not applicable for this contract. Price variation of the items also not applicable.

10.0 The contractor will be reimbursed the cost incurred towards periodical medical examination(PME) and Eye refraction Test (ERT) for the workers assigned to the contract at the following rates:

- a. Rs. 1300/- Per worker for PME whether done at Damanjodi or at Bhubaneswar.
- b. Rs. 300/- or Rs 200/- per worker as the case may be for ERT at Damanjodi or Bhubaneswar respectively.
- c. Any hike in the fees in the future, the same will be reviewed by the Management.

NB: in the above context, for an individual worker, PME is to be conducted once in five years and ERT once in a year (if applicable).

ANNEXURE-1C

SAFE OPERATING PROCEDURES

NAME OF THE WORK: REROUTING OF PART SECTION OF EXISTING 33 KV WATER INTAKE LINE FROM TOWER NO. 58 TO 4 POLE SWITCH YARD

1. Steps involved :

- (i) Basic engineering & survey.
- (ii) Making of tower foundation & other misc. structural work etc
- (iii) Erection of transmission line towers and other structures, over head line stringing along with insulators, hardware,, earth wires, guard wire, switchyard end terminating structure components like isolator, lightning arrestor, earthing etc.
- (iv) Dismantling of old over head line conductor & poles.

2. Risks Associated :

- (i) Electrocution from charged electrical lines & cables or due to stored charges.
- (ii) Injury due to fall of heavy objects while handling activities during erection testing and commissioning
- (iii) Slip and fall in foundation pit during excavation .
- (iv) Injury by improper use of tools, tackles etc
- (v) Fall from height during erection of towers, conductors & other components.

3. Procedure :

a. For Erection of electrical installations at height etc

- i. Authorized supervisor of the contractor should collect the job orders & permit for working at heights from the Engineer In charge.
- ii. Authorized supervisor of the contractor/ NALCO shall ensure use of proper PPEs like safety shoes, helmets, Safety belts etc before any electrical work at height.
- iii. Authorized supervisor of the contractor/ NALCO shall ensure that working personnel having requisite valid electrical licenses shall be allocated duties for electrical works.
- iv. Authorized supervisor of the contractor/ NALCO shall ensure the healthiness of the scaffolding, access ladders etc to be used for work at height . In case of work at height necessary safety clearances from Engineer In charge should be taken.
- v. Necessary height permits to be issued by E-I-C.
- vi. Authorized supervisor of the contractor/ NALCO shall ensure the proper maintenance procedures & electrical isolation as deemed necessary for the work as per relevant work instruction.
- vii. After execution of the necessary repair work, permit to work (Shut down paper shall be returned and the electrical circuits should be normalized by authorized NALCO staff .

b. For 33 kv HT switch gears/HT transmission line .

- i. Authorized supervisor of the contractor should collect the job orders & permit for working at the Engineer In charge.
- ii. Authorized supervisor of the contractor shall ensure proper use of PPE's of the operating personnel.
- iii. Authorized supervisor of the contractor & the concerned Engineer In charge shall ensure proper work permit/ shutdown permit & isolation of the overhead line feeder.
- iv. Authorized supervisor of the contractor & the concerned Engineer In charge shall ensure discharge of the residual charges from the lines & constant earthing near the conductors during the course of work.

- v. Condition of the ropes, pulleys, chain pulley, tirfor, or other handling equipment's for the tensioned conductors, earth wires to be inspected for healthiness by competent persons on regular interval and before each use by authorized supervisors.
- vi. After completion of the work, the authorized supervisor shall ensure disconnection of the protective discharge earthing connections & isolation from workmen ..

c. Laying of cables & earth excavation:

- i. The authorized supervisor & Engineer In charge or his representative shall ensure that there are no buried & charged power or control cables beneath earth before initiating any under ground excavation work for cable trench or earth pit.
- ii. In case of charged cables in the proximity of the area where excavation is required, the same needs to be isolated.

4. PPEs inclusive of special PPEs (if any):

- 1. Safety helmets
- 2. Safety shoes
- 3. HT rubber hand gloves
- 4. Nose masks
- 5. Fluorescent jackets
- 6. Safety belts/ fall arrestor & accessories.

5. Supervisor/ Engineer Responsible for providing site supervision:

- a. Shri J Sabar, Sr Mgr. (Electrical)/, Engg/Mgr. In charge/ Contract coordinator for the outsourced service contract.
- b. Outsourced contractor's designated supervisors

ANNEXURE-1D

PRE-QUALIFYING CRITERIA – APPLICABLE**A) TECHNICAL**

Eligibility criteria	Documentary proof
<p>The bidder should have experience of having successfully completed “Similar work ” during the last seven years ending on last day of the month previous to the one in which the NITs are invited, should be either of the following:</p> <p>(i) Three similar completed works each (with above criteria) having executed value not less than Rs. 36,51,104.00 (Rupees Thirty Six Lakhs Fifty One Thousand One Hundred And Four Only)</p> <p style="text-align: center;">OR</p> <p>(ii) Two similar completed works each (with above criteria) having executed value not less than Rs. 45,63,880.00 (Rupees Forty Five Lakhs Sixty Three Thousand Eight Hundred and Eighty Only)</p> <p style="text-align: center;">OR</p> <p>(iii) One similar completed works each (with above criteria) having executed value not less than Rs. 73,02,207.00 (Rupees Seventy Three Lakhs Two Thousand Two Hundred And Seven Only)</p> <p>Evaluation Criteria: Cost of the completed works by the bidder shall be escalated @10% per annum (simple rate) to bring them at the current price level. (The cost of work completed within one year prior to original date of bid opening shall not be considered for any weightage. The weightage shall only be considered for work completed prior to one year of original date of bid opening on annual basis and no weightage shall be given for part of the year.)</p> <p>“Similar Work” means: Engineering, Supply, Erection, Testing and Commissioning of Overhead line project of 132 KV or above voltage level including conductor spans with three (03) or more numbers of lattice type structural towers, in a single work order.</p>	<p>The work experience should be of “Working directly” and possess relevant experience as per the details given under experience criteria. “Working directly” implies, working as a Contractor or Sub Contractor under above authorities who is the Principal Owner of the work.</p> <p>The bidder should submit Work order copies showing Order value, Scope of Work & Bill of quantity for assessment of Experience Criteria.</p> <p>Satisfactory Completion Certificate indicating the value of work executed & period of contract should be obtained from Principal Owner of the work for whom the work has been executed.</p> <p>In case of past experience criteria, the experience as a sub-contractor to a main agency in a project awarded by any principal / project authorities shall be considered subject to following:</p> <ol style="list-style-type: none"> Bidder to submit detailed work order / PO/ Agreement from the main agency. Completion certificate issued by main agency. Copy of completion certificate issued by the Principal / project authorities in favour of the main agency showing due completion of the package. <p>The Experience/ Completion certificate shall mandatorily bear the name and designation of the Issuing Authority in case the same is issued after 30.06.2022.</p>
<p>Other Technical conditions: The bidder must have valid HT/EHT electrical contractor license issued by Electrical Licensing board of Odisha, Govt. of Odisha at the time of submission of bid.</p> <p>The bidders with contractor license issued from other boards then Odisha shall furnish an undertaking that in the event of order, bidder shall obtain a HT project license for this work from ELBO, Govt. of Odisha, so as to ensure successful completion of the job.</p>	<p>Copy of the valid HT/EHT Electrical License issued by Electrical Licensing board of Odisha, Govt. of Odisha & Declaration (if applicable)</p>
<p>Partially completed work in progress (not abandoned) shall be considered and the part completion certificate submitted by the bidder should clearly indicate the value of work completed along with completed portion of the work (which should satisfy the similar work) and the performance / progress of the bidder should be satisfactory.</p>	

B) FINANCIAL

Eligibility criteria	Documentary proof.
<ol style="list-style-type: none"> The average annual turnover of the vendor for last three financial years should be minimum Rs. 27,38,328.00 (Rupees Twenty Seven lakhs Thirty Eight Thousand Three Hundred And Twenty Eight only). (Turn over shall be escalated @10% per annum (simple rate) to bring them at the current price level. The turnover of the latest previous year shall not be considered for any weightage). Net worth of the bidder during the latest financial year shall be positive as per audited balance sheet. 	<p>The bidders have to submit the copies of Audited Financial Statements, Profit & Loss accounts and Balance Sheet of the relevant years, in support of both the qualifying criteria along with the bid.</p> <p>(For bids received prior to 30th June of any year, the financial figure for the previous to previous year may also be considered for evaluation. Whereas for bids submitted after 30th June, the bidder may also submit financial statement for the previous year certified by Chartered Accountant/Auditor for consideration of their bid.)</p>

PRE-CONTRACT INTEGRITY PACT- Applicable

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on _____ day of the month of _____ 2025, between, on one hand, the National Aluminium Company Limited (NALCO), a company registered under the Companies Act 1956 and a Government of India Enterprise, having its Registered Office at NALCO Bhawan, P/1, Nayapalli, Bhubaneswar- 751013, Odisha, India (referred to as NALCO) acting through **Shri N Srinivasa Sudhakar, General Manager (T&C)** (hereinafter called the “BUYER”, which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s. _____ represented by Shri _____, Chief Executive Officer (hereinafter called the “BIDDER / Seller” which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BUYER proposes to procure **Rerouting of part section of 33 KV water intake line from tower no-58 to pump house 4- pole switch yard, NALCO Mines, Damanjodi.”** and the BIDDER/Seller is willing to offer/has offered the stores and WHEREAS the BIDDER is a private company / public company /Government undertaking/ partnership /registered export agency, constituted in accordance with the relevant law in the matter and the BUYER is a Company under the administrative control of the Ministry of Mines, Govt. of India.

NOW THEREFORE

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence / prejudiced dealings prior to during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will comment to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

Commitments of the BUYER

- 1.1 The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person or organisation or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

- 1.2 The BUYER will, during the pre-contract stage, treat all BIDDERS alike and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.
- 1.3 All the officials of the BUYER will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
2. In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the BUYER with full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

Commitments of BIDDERS

3. The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following :-
 - 3.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organisation or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
 - 3.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Government.
 - 3.3 BIDDERS shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
 - 3.4 BIDDERS shall disclose the payment to be made by them to agents / brokers or any other Intermediary, in connection with this bid / contract.
 - 3.5 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
 - 3.6 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

- 3.7 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 3.8 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.
- 3.9 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable fact.
- 3.10 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.11. If the Bidder or any employee of the Bidder or any person acting on the behalf of the Bidder, either directly or indirectly, is a relative of any of the officers of the Buyer, or alternatively, if any relative of an officer of the Buyer has financial interest/stake in the Bidder's firm, the same shall be disclosed by the Bidder at the time of filing of tender.
The term "relative" for this purpose would be as defined in Section 6 of the Companies Act 1956.
- 3.12. The Bidder shall not lend to or borrow any money from or enter into monetary dealings or transactions, directly or indirectly, with any employee of the Buyer.
- 3.13 Bidder(s)/ Contractor(s) who have signed the integrity pact shall not approach the courts while representing the matter to IEMs and shall wait for their decision in the matter.

4. **Previous Transgression**

- 4.1. The Bidder declares that no previous transgression occurred in the last three years immediately before signing of this integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could Justify Bidder's exclusion from the tender process.
- 4.2. The Bidder agrees that if it makes incorrect statement on this subject, Bidder can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5. **Sanctions for Violations:**

- 5.1. Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle of the BUYER to take all or any one of the following actions, wherever required: -
- (i) To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.

- (ii) The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit / Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason therefore.
- (iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
- (i) To recover all sums already paid by the BUYER, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
- (v) To en-cash the advance bank guarantee and performance bond / warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.
- (vi) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation / rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
- (vii) To debar the BIDDER from participating in future bidding processes of NALCO for a minimum period of five years, which may be further extended at the discretion of the BUYER.
- (viii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.
- (ix) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.
- (x) Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

5.2 The BUYER will be entitled to take all or any of the actions mentioned at para 5.1(i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal Code 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

5.3 The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the independent Monitor(s) appointed for the purposes of this Pact.

6. **Independent External Monitors (IEMs):**

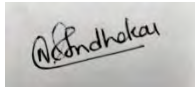
- 6.1 The BUYER has a panel of Independent External Monitors (hereinafter referred to as IEMs) for this Pact in consultation with the Central Vigilance Commission as mentioned in NALCO's NIT/NALCO's website (www.nalcoindia.com).
- 6.2 The task of the IEMs shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 6.3 The IEMs shall not be subject to instructions by representatives of the parties and perform their functions neutrally and independently.
- 6.4 Both the parties accept that the IEMs have the right to access all the documents relating to the project / procurement including minutes of meetings.
- 6.5 As soon as the IEM notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BUYER.
- 6.6 The BIDDER(s) accepts that the IEM has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the IEM, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The IEM shall be under contractual obligation to treat the information and documents of the BIDDER / Subcontractor(s) with confidentiality.
- 6.7 The BUYER will provide to the IEM sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the IEM the option to participate in such meetings.
- 6.8 The IEM will submit a written report to the designated Authority of BUYER / Secretary in the Department / within 8 to 10 weeks from the date of reference or intimation to him by the BUYER / BIDDER and should be occasion arise, submit proposals for correcting problematic situations.
- 6.9 Bidder may write to the IEM through E-mail (provided in the tender) for their grievances, if any, giving details of the tender reference, name of the tender issuing officer and Nalco's Unit for quick identification of the tender by the IEM.
7. **Facilitation of Investigation:**
In case of any allegation of violation of any provisions of this Pact or payment of commission, the IEMs shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.
8. **Law and Place of Jurisdiction:**
This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BUYER.
9. **Other Legal Actions:**
The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

10. **Validity:**

- 10.1 This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by CMD, NALCO.
- 10.2 Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.
11. If the bidder/ Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members
12. The parties hereby sign this Integrity Pact at _____ on _____.

For & on behalf of

For & on behalf of

BUYER

BIDDERName of the Officer: **N Srinivasa Sudhakar**Designation: **General Manager (T&C)**

Company: National Aluminium Company Ltd.

Official Seal

WitnessWitness1.  Malaya Sahoo Sahoo

1. _____

2.  Deo Kumar Azad

2. _____

Declaration by Bidder for Implementation of Integrity NOT APPLICABLE**Tender Ref: T&C/MINES/ELEC/C-1639**

I/We () commit to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of his bid or during any pre-contract or post-contract stage in order to secure the contract. I/ We further undertakes that

- Will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage to any official of the Buyer, connected directly or indirectly with the bidding process, evaluation, contracting and implementation of the Contract.
- will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- will commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable fact.
- will not instigate or cause to instigate any third person to commit any of the actions mentioned above.

Yours faithfully

(Authorized signatory of the Bidder)

Date:

ANNEXURE-AA

INSTRUCTIONS TO BIDDERS

- 1.0 SCOPE OF WORK:** The scope of work shall be as detailed in Annexure-IA. The work shall be carried out as per direction of Engineer-in-charge (EIC)/ Manager in-charge (MIC) subject to special condition of contract given in Annexure-IB.
- 2.0 SCHEDULE QUANTITY & RATES:**
- 2.1** *Refer Point No 1 of Salient points of the tender at P/4*
- 2.2** Bidders are required to submit digitally signed complete Tender documents **ONLINE only along with all Annexure and Appendices downloaded from the tendering portal** then filled-up, signed and stamped in each page Price bid in .xls and all other enclosures in .pdf format shall be uploaded.
- 2.3** Price bids must not contain any conditions stipulated by the bidders. Conditional price bids are liable for rejection.
- 2.4** Premium or discount over quoted rate / total amount mentioned separately anywhere in the offer other than in the specified cell of the excel format of the Price bid shall be ignored.
- 2.5** The overall Premium/ Discount, figure should be quoted up to two decimal digits only. Also for unit rates, rates can be quoted in Decimals. Decimal digits beyond two will be ignored for all purposes.
- 2.6** Bidders are requested to quote their best prices considering the fact that price negotiation, if required, may be held with the lowest tenderer only.
- 2.7** The tenderers must quote their most reasonable and workable rate. **The bidders must download the BOQ in excel format from the GeM portal (excel file is available in the GeM bid document) and quote the unit rate for all items of the BOQ in excel sheet, the unit rates to be quoted shall be exclusive of GST and submit the same in GeM Portal as PDF. In the portal the bidder should enter the total price for the contract in the designed price location, this price is inclusive of applicable GST and the value to be entered in GeM portal shall be taken from the total amount obtained in the excel sheet of BOQ, where the total price is automatically calculated by the Excel sheet inclusive of GST.** Overall total evaluated price for all items of schedule of quantities shall be the basis for determining the reasonableness of price and gradations of the tenders. In case the offered price of the tenderer(s) is found to be unworkable, based on the rate approved by NALCO, the tenderer(s) may be asked to justify their quoted rates within ten days of issuance of letter to that effect. The bidder must provide written clarification including detail price analysis of its bid price in relation to scope, schedule, allocation of risks and responsibilities, and any other requirements of the bid documents. However, if after evaluating the price analysis, Nalco determines that the bidder has substantially failed to demonstrate its capability to deliver the contract at the offered price, then Nalco may reject the bid/ proposal. Nalco also reserve the right to award the job without seeking clarification or receiving clarification from the bidder about the price reasonability. Non-acceptance of work order will be dealt as per the provisions of Bid Security.
- 3.0 QUANTITY VARIATION:**
- (i) *Refer Point No 2 of Salient points of the tender at P/4*
- (ii) **Lump sum / Turnkey Contracts:** In case of Turnkey / lump sum contract no adjustment in the contract value shall be made unless there is written instruction by the EIC to change the scope of contract due to addition / deletion of items. Adjustment to the contract value due to such addition / deletion shall be governed by the provisions of GCC.
- 4.0 CONTRACT PERIOD:** The Quality of work output and Time of completion is the essence of the Contract. The contract period for this work shall be as mentioned in **Sl no: 4** of Page-3 **from the effective start date** mentioned in the work order. Time period of completion of individual items may be decided jointly by EIC and contractor, which shall be adhered to by the successful bidder.

5.0 TENDER FEE: Refer Sl no 8 of Contract Details at P/3 (NOT APPLICABLE FOR THE TENDER)

- 5.1 An amount as stipulated on page no.4 of the tender document towards the tender fee shall be paid in the form RTGS/NEFT/ECS in favor of National Aluminium Company Limited, Damanjodi, paid through any NALCO's Approved Bank (list attached) payable at Damanjodi, with the tender. *However the Public Sectors, Government agencies, and firms registered with NSIC (for the service/work for which they are registered) or MSEs registered with DIC are exempted from submission of tender cost, subject to submission of attested (by gazetted officer) documentary evidence in support of the same along with the offer. MSEs registered with DIC who claims exemption of Tender fee through "Udyog Adhaar Memorandum (UAM)", must submit their "UAM" duly verified & certified by the concerned General Manager, DIC.* The tender cost should be paid separately and it shall not be clubbed with BID SECURITY. The tender fee is non refundable.
- 5.2 The Bidders shall have to upload the scan copy of ~~receipt for payment by electronic mode~~ towards the tender fee and a copy of the same ~~shall have to be submitted / deposited beforehand so as to reach the office of tender inviting authority before the bid submission date or extended bid submission date of the tender at the following address: T&C Dept, Panchpatmali Bauxite Mines, PO: Damanjodi, Dist- Koraput, Odisha-763008~~ clearly mentioning the Tender No. on the envelope. The envelope containing the tender fee instrument shall clearly mention: "Tender fee instrument against Tender No.: _____ Tender Submission Date: _____" along with name of the bidder. The details of tender fee deposit document submitted physically to the department and the scanned copies furnished at the time of ONLINE bid submission should be the same, otherwise the Tender will be liable for rejection. ~~In case the bidder is claiming exemption from payment of tender fee, the information along with attested (by gazetted officer) supporting documents for claiming the exemption must also be uploaded online along with the offer.~~
- 5.3 i) MSEs having UAM no. shall also submit supporting documents such as UAM certificate, CA certificate (certifying that the unit is a MSE having valid MSE certificate), details available from the website of Ministry of Corporate Affairs, etc to support their MSE status and the same shall be verified by NALCO. (ii) In case of any doubt or complaints, NALCO shall refer the matter to the General Managers of the District Industries Centre of the concerned districts to undertake enquiry and verify credentials of the MSE and submit confirmation to NALCO regarding their MSE status.

6.0 BID SECURITY : Refer Sl no 7 of Contract Details at P/3

- 6.1 The contractor shall deposit the bid security for an amount as stipulated at page no.3 of the tender document in the form of Bank Guarantee or through RTGS/NEFT/ECS in favor of National Aluminium Company Limited, paid from any of NALCO's Approved Banks (list attached) payable at Damanjodi, with the tender. The offers received without bid security will be liable for rejection. *However the Public Sectors, Government agencies, and firms registered with NSIC (for the service/work for which they are registered) or MSEs registered with DIC are exempted from submission of BID SECURITY, subject to submission of attested (by gazette Officer) documentary evidence in support of the same along with the offer. MSEs registered with DIC who claims exemption of BID SECURITY through "Udyog Adhaar Memorandum (UAM)", must submit their "UAM" duly verified & certified by the concerned General Manager, DIC.* Bid Security shall not carry any interest and will be refunded to all unsuccessful bidders after finalization of the contract but is liable to be forfeited in full or part, at Company's discretion, as per Clause No. 6.3 below. In case of technically rejected bidders of two part / three part bid, the BID SECURITY shall be returned to the bidder after rejection of their offer. BID SECURITY of successful bidder shall be returned after submission of Initial Security Deposit / Security Deposit. The BID SECURITY of the successful bidder if paid in form of RTGS/NEFT/ECS shall be adjusted towards initial security deposit. Bank mandate form in prescribed format, duly filled in & signed (Ref Annexure-V) is to be submitted by the bidder for refund of BID SECURITY through e-payment.
- *Bank Guarantee shall be accepted in the prescribed proforma for an amount of Rupee One lakh or more only. The BG submitted towards BID SECURITY shall remain valid for 09(Nine) months beyond validity period of offer.**

NOTE: The payment towards Tender fee and BID SECURITY as applicable shall be made as per the following Bank Details.

Sl No	Bank Details	
1	State Bank Of India	Damanjodi
2	IFSC CODE	SBIN0006908
3	Bank Account No	10838944125

- 6.2 The Bidders shall have to upload the scan copy of *receipt for payment by electronic mode or Bank Guarantee* towards the BID SECURITY and *the copy of receipt for payment by electronic mode or Original copy of Bank Guarantee shall have to be submitted / deposited beforehand so as to reach the office of tender inviting authority before the bid submission date or extended bid submission date of the tender at the following address: T&C Dept, Panchpatmali Bauxite Mines, PO: Damanjodi, Dist- Koraput, Odisha- 763008* clearly mentioning the Tender No. on the envelop. The details of BID SECURITY deposit document submitted physically to the department and the scanned copies furnished at the time of ONLINE bid submission should be the same, otherwise the Tender will be liable for rejection.
In case the bidder is claiming exemption from payment of BID SECURITY, the information along with attested (by gazetted officer) supporting documents for claiming the exemption must also be uploaded online along with the offer.
- 6.3 (a) No Bidder can withdraw his bid after the bid submission due date & time. Withdrawal of any bid after bid submission due date & time will lead to forfeiture of bid security in full **and the bidder shall be debarred as per the provisions of bid security.**
- (b) Once a withdrawal letter is received from any bidder, the offer will be treated as Withdrawn and no further claim / correspondence will be entertained in this regard.
- 7.0 **DEFECT LIABILITY PERIOD (DLP):** The DLP shall be governed by the detailed terms and conditions stipulated in clause 65 and 68 of GCC. Duration of DLP is mentioned at **Sl. No. 14** of Page 3. The defect liability period shall be reckoned from the date of completion of the contract period for supply and workmanship unless mentioned otherwise in Scope of Work / Special Condition of Contract.
- 8.0 **SECURITY DEPOSIT :**
- 8.1 A sum of 10% of the accepted value of the tender or actual value of the work done whichever is higher for contracts not exceeding Rs.1 Crore, 7.5 % for the value of contracts over Rs.1 crore up to Rs. 5 crores and 5% for the value of contracts over Rs.5 crores shall have to be deposited by the person/ persons (hereinafter called as contractor) as security deposit with the owner until the expiry of defect liability period.
- 8.2 This may be deposited initially at 2.5% of the value of the contract (referred as initial Security deposit) **within a period of 21 days from the date of issue of work order/ FOI/ LOA** and the balance will be recovered in installments through the deduction @ 10% of the gross value of the each running account bill for the contract value up to Rs.1 crore, 7.5 % for contract value between Rs. 1 crore to Rs.5 crores and 5% for contract value over Rs. 5 crores, till total security deposit is collected. No further deduction from the bills will be made on this account subject to clause 19.6 of GCC.
- 8.3 Alternatively the contractor may at his option deposit the full amount as mentioned at 8.1 above towards deposit within a period of 21 days from the date of issue of work order/ FOI/ LOA. This amount will have to be suitably enhanced to the tune of above percentage of the executed value.
- 8.4 **In case the successful bidder fails to submit the ISD /SD, with in a period of 21 days from the date of issue of work order/ FOI/ LOA , the ISD amount along with a simple interest @12% per annum as penalty, applicable from the date of issue of LOA/work order till the date of submission of ISD or submission of 1st RA bill, shall be recovered starting from 1st RA bill.**
- 8.5 The bid security deposited with the tender, by the successful bidder **if paid in the form of electronic mode** shall be adjusted towards Initial Security Deposit.
- 8.6 The security deposit will be released after successful completion of the defect liability period on certification of Manager-in-charge / Engineer-in-Charge.

- 8.7 In case the DLP is NIL, the Security Deposit will be released to the successful bidder within three months of the submission of full and final bill to the EIC.

9.0 PAYMENT TERM :

Providing copy of the Income Tax Return for each of the two previous Financial Years for which due date of filling of Income Tax Return has expired with self-certification is mandatory along with each GST Tax Invoice else suitable provisions of Income Tax Act will be applicable.

- 9.1.1 Payment shall be made as indicated in Special Conditions of Contract /against monthly bills duly approved and certified by the Engineer-in-charge. Such Certificate/ approval by the EIC and passing of the amount so payable shall be binding and conclusive subject to deduction as per contract, which is subject to Arithmetical correction if any.
- 9.1.2 Payment facility is available under INTERNET mode through company banker as well as in NEFT/ RTGS (National Electronic Fund Transfer / Real Time Gross Settlement) mode through designated branches. The contractor shall submit duly filled bank mandate form in duplicate with due authentication from their bankers to avail e-payment facility. All the payment shall be made only through e-mode. The prescribed form is enclosed in Annexure-V.
- 9.1.3 If the contract value is Rs.20, 000/- or less only one full and final bill will be admitted.
- 9.2 If full security deposit has been submitted or security deposit is not applicable as per contract terms, then the amount passed will be paid in full. Otherwise, 90%/92.5%/95% (based on contract value) of the amount passed will be paid and 10%/7.5%/5% (based on contract value) will be retained towards the balance security deposit, till full recovery of total security deposit.
- 9.3 The materials drawn if any by the party as “free issue materials” from Nalco shall be reconciled. The reconciliation statement of free issue items / materials should be submitted to the Engineer in-charge for certification. The final reconciliation statement should be submitted along with final bill for release of payment.
- 9.4 (i) The final bill shall be submitted by the contractor **within one month** of the completion of contract otherwise the contract may be closed ex-parte’ on the basis of the Engineer-in- Charge certificate of the measurement and the amount payable or recoverable as certified by the EIC taking all recoveries into account shall be final and binding on the contractor.
- (ii) Besides above, the contractor may be treated as dormant or non-responsive. This may affect contractor’s futures business with NALCO.
- 9.5 *The contractor is required to obtain clearance from HRD dept and submit the same along with RA bill to Manager-in-charge of the contract for processing for release of payment. For obtaining clearance from HRD dept, the Contractor shall ensure that all the contract workmen engaged by him shall follow Bio-metric Punching System for their daily Attendance. Wages & other applicable dues of the workmen shall be made by the contractor based on the attendance through Bio-metric Punching System. The amount due to the individual workmen should be credited to their respective bank account only, within the stipulated period as per statute. The copy of the payment sheet, bank statement and attendance sheet of individual contract workmen is to be submitted to the HRD department along with each RA bill for necessary verification, record and clearance of RA bill from HRD department to the Manager-in-charge for processing for release of Payment.*
- The final bill will only be released subject to clearance of all statutory dues including EPF of the contract workmen by way of bank transfer and obtaining a certificate to this effect from the contract labour cell of HRD dept.*
- 9.6 *Contractor employing contract labour for execution of the contract shall have to use NALCO's online portal for various activities like safety clearance, issue of gate pass, application for license in Form IV, issue of certificate from Principal Employer (NALCO) in form V for obtaining license from the Central Labour Department, preparation of monthly wage sheets, issue of wage slips, employment cards,*

preparation and filing of returns, maintenance of statutory registers etc. The contractors have to use the online portal for entering relevant data about themselves and the labour engaged by them.

- 1.7 **“The contractor may use NALCO’s online application eSaukarya (eMeasurement Book-{eMB} & eBill Application) for submitting measurement books & bills in respect of the jobs carried out by them. This application provides online processing of Measurement Book & Bill, tracking movement of bills, status of bill payment etc. to respective contractor. This application also provides alert and mail at important events /stages.**

In order to use the application, contractor must register in the application through the NALCO website (www.nalcoindia.com>Menu>Business>Material & Procurement>eBilling System)

10.0 TAXES & DUTIES :

- 10.1 The rates indicated in **Annexure-II**, are inclusive of **all taxes and duties (except GST)**. For claiming GST from NALCO, the clauses in the para 10.2 to 10.5 below will be applicable.
- 10.2 GST shall be payable extra at applicable rates subject to the fulfillment of following conditions:
1. Providing of GSTIN.
 2. Providing proof of payment of GST and correct uploading of invoice into GSTN.
 3. Compliance with other relevant GST provisions
 4. Payment of GST is subject to reflection of the party’s invoice in GSTR 2A/ Anx-2 (GST new return) of NALCO.
- 10.3 For claiming GST from NALCO, the contractor should submit the GST invoice as per the format Annexure-IV.
- 10.4 The contractor shall be fully & solely responsible to the statutory authorities for compliance of all the provisions of GST and other statutory provisions applicable to this work as a service provider.
- 10.5 NALCO reserves the right to recover from the service provider any penalty imposed on NALCO by the concerned statutory authorities due to non fulfillment of GST compliance by the service provider.
- 10.6 **The anti-profiteering provisions of GST Act mandate that any reduction in tax rates or benefits of input tax credits be passed on to the service recipient by way of commensurate reduction in prices. Vendors to take note and pass on such benefits to NALCO while quoting.**
- 10.7 **The bidder has to submit the anti-profiteering declaration format (Appendix V) duly signed and stamped with seal of the bidder at the time of submission of bid.**

Anti-Profiteering Clause (Sec 171 of CGST Act) Applicable for Indian Bidders)

- 10.7.1 If any new Tax/Taxes is introduced on sale of goods/service. Either in lieu of existing tax/taxes or as separate tax/taxes, then the overall incidence of tax/taxes on the Vendor on account of its inputs and outputs wherever less than the incidence of existing taxes, then the Vendor shall pass on to Owner, the benefits thereof by way of commensurate reduction in the basic price w.r.t. Input Tax benefit and reduction in Tax chargeable to Nalco w.r.t. Output Tax benefits in connection with goods and/or services provided.
- 10.7.2 If on the other hand, the incidence of tax/taxes is in excess of the incidence of existing tax/taxes, the Owner on submission of satisfactory proof, shall reimburse the Vendor the additional incidence of tax provided they are within the contractual completion date.
- 10.7.3 The Vendor has to provide a declaration along with the Tender that they will abide by the requirements under CI 171 of CGST Act, 2017.

10.8 DEDUCTION OF INCOME TAX:

- 10.8.1 Income Tax as applicable at the prevailing rate on the gross amount billed shall be deducted from the contractor’s bills.
- 10.8.2 Compliance to recent amendments to the provisions of Income Tax TDS/ TCS is applicable to vendors for supply of Services. Reference is invited to recent amendments in Finance Act 2021 sections 206AB & 206 CCA of Income Tax TDS /TCS. The newly introduced sections shall be effective from 01.07.2021.

In compliance to the said provisions, all payments to the vendor's w.e.f 1.7.2021 for supply of services shall be subject to TDS/ TCS as per the newly introduced sections under Income Tax Act.

The provision mandates different rate of TDS depending upon the Compliance as detailed below:

- i. It mandates submission of Income Tax Return (ITR) filed by the vendor for supply of Services for two immediate previous years for which the due date of filing the return has been expired.
- ii. It mandates updation of PAN (Permanent Account Number) of Income Tax of the vendor for supply of Services in the vendor master before processing of the Bill for payment.

With introduction of this section w.e.f 1.7.2021, the applicable TDS is 0.1% subject to compliance of (a) and (b) above. However in the event of non-compliance higher rate of TDS shall be applicable as furnished below:

- i. If PAN No is not available, then TDS @ 5% shall be applicable on the amount paid/ credited to the vendor for supply of services.
- ii. If Income tax Return is not submitted as mentioned at (a) above the applicable TDS shall be higher of twice of rate of relevant TDS section or 20 % (for services).

In view of the same,

- (i) All the vendors are required to submit their PAN No with Copy of PAN Card along with the bid.
- (ii) All the vendors are required to submit the copy of Annual Income Tax Return for previous Year 2018-19 and 2019-20 along with invoice for processing the bills up to 30.9.2021. Thereafter, IT Return for next previous year 2020-21 may be submitted if the statutory period for filling the return is expired which shall suffice the release of payment up to 31.07.2022.
- (iii) In the event of non-compliance to the above, the bill shall be processed (after waiting for seven days of Bill submission) with applicable higher TDS as mentioned above.

Providing a Copy of Income Tax Return for each of the Two previous Financial Years for which due date for filling of Income Tax Return has expired with self-certification is a mandatory requirement else suitable provisions of the Act will be applicable.

10.9 DEDUCTION OF CESS UNDER BUILDING & OTHER CONSTRUCTION WELFARE CESS Act.1996

For any building or other construction work which are covered under section 2 (I) (d) of the Building & Other Construction worker (RE & CS) Act. 1996 and the Building & Other Construction Welfare Cess Act. 1996, 1% Cess shall be deducted from the RA & Final bill gross amount payable till the completion of the job. In addition, contractors having 10 or more workers in their establishment have to register themselves with the registering Officer under the Building & Other Construction worker (RE & CS) Act. 1996.

11.0 DECLARATION OF RELATIVES WORKING IN NALCO:

The contractors must furnish certificate as mentioned in Appendix – I & II enclosed, disclosing in detail about their relative / relatives, working in the company. Suppression of this information in any form if detected at any stage will be disqualification and lead to rejection of the offer or termination of the contract as the case may be. The concerned party may be debarred from participation in future tenders.

12.0 MATERIALS; TOOLS & TACKLES; ENERGY/WATER REQUIREMENT:

- 12.1 The contractor shall have to make his own arrangement for supply and storage of his materials / consumables and general tools, tackles, welding sets, electrodes, chain pulley blocks, slings, gas welding/cutting sets, in connection with execution of work. No extra payment shall be applicable for such provisions. Wherever required consumables of approved quality like general purpose welding electrodes, cleaning agents, Oxygen, D.A., etc to execute the contract shall be in Contractor's scope and

contractor has to arrange for these materials at their own cost unless mentioned otherwise in the tender documents attached herewith.

12.2 FREE ISSUE MATERIALS(FIM) / CONSUMABLES / FACILITIES FROM NALCO :

- (a) The contractor will do transportation of FIM from point of issue to work site.
- (b) Electrical energy and Water for the work to be executed inside plant / township, if required, will be supplied by Nalco from any suitable point. The contractor shall have to make arrangements, at his own cost, for tapping and using the power/water so required as per advice of EIC.
For availing Electrical energy, the contractor shall have to provide, at his own cost, a MCB (Miniature Circuit Breaker) at the point of power supply by Nalco. The MCB shall have to be of a suitable capacity as decided by Nalco's electrical authorities for the concerned area and shall have to be replaced, as and when warranted, on the grounds of changed power requirements or the MCB having been defective and/or damaged.
- (c) Issue of cement and steel as Free Issue shall be governed by clauses 52 to 54 of GCC unless mentioned otherwise in the scope of work / special conditions / BOQ or elsewhere in this tender document subject to the followings:
 - (i) For issue of materials within Mines, the contractor shall submit only indemnity bond for the entire value of materials issued to them free of cost as per clause 53 (ix) of GCC.
 - (ii) For value of actual material issued on phased manner for outside Mines, the contractor shall furnish Bank Guarantee equivalent to 20% of the value of material actually issued and indemnity bond for 80% value of materials being issued to the contractor.
 - (iii) For materials taken out side Mines to the vendor's shop, Bank Guarantee equivalent 100% of the value of the materials will be submitted by the vender before taking out the materials.
 - (iv) The Indemnity bond and the Bank Guarantee (from Nalco's approved bankers) shall remain valid till the material account is totally settled. The Indemnity Bond and BG shall be submitted in the format approved by NALCO.

13.0 SUPERVISION:

- (i) The contractor shall have to work as per direction of the Engineer-in-charge, and shall report to him daily regarding day-to-day progress. The contractor shall give full access to the Engineer-in-charge/ authorized representative of Nalco to inspect day-to-day work executed by the contractor. Besides the contractor shall have to engage his own supervisor to ensure proper workmanship and good quality work, which is a part of the scope of work.
- (ii) If required under prevailing statute, the supervision should be carried out by person holding valid licenses issued by appropriate statutory body.

14.0 EXECUTION OF AGREEMENT:

The contractor shall have to execute an agreement (in case order value is more than Rs.1,00,000/-) on non-judicial stamp paper of Rs.50/- purchased in the name of the Contractor **from any registered stamp vendor under the jurisdiction of the Orissa High Court**, in the specific format of NALCO. The agreement should be executed in the office of T&C Department-I/c, NALCO, Damanjodi within **10 days** of receipt of Work order or before starting the execution of the work, whichever is earlier.

14.1 **PRE CONTRACT INTEGRITY PACT: Refer Sl no 21 of Contract Details at P/3**

Bidders are required to unconditionally accept the "Integrity Pact (IP)" (executed on plain paper), as per format attached separately at Annexure-IE, which has been pre-signed by the Employer, and upload

the same duly signed on all pages by the Bidder's Authorized Signatory before stipulated Project Proposal submission time. Bidder and its Subsidiary (ies) and/or Holding Company and/or Subsidiary (ies) of its Holding Company / Consortium members shall individually sign Integrity Pact (IP) and the same shall be uploaded before stipulated Project Proposal submission time. Bidder's failure to comply with the aforesaid requirement regarding submission of Integrity Pact (IP) is liable for rejection of Project Proposal as being non-responsive.

In case of joint venture/ consortium bidding (*Not applicable for this tender*), selected bidder being a Consortium, in addition to above, after incorporation of Joint Venture Company, Integrity Pact shall be signed by the Joint Venture Company along with Project Agreement.

14.2 **INDEPENDENT EXTERNAL MONITOR (IEM):**

In respect of the Tender, the Independent External Monitors (IEMs) would be monitoring the Bidding Process and execution of Project Agreement to oversee implementation and effectiveness of the Integrity Pact Program.

The following Independent External Monitor(s) (IEMs) have been appointed by NALCO, in terms of Integrity Pact (IP) which forms part of the NALCO Tenders/Contracts.

As per NIT Documents, Salient Points

IEM is authorized to examine /consider all references made to it under this tender. The bidder(s), in case of any dispute(s) / complaint(s) pertaining to this package may raise the issue either with the designated 'Nodal Officer' in NALCO or directly with the IEMs at above Address.

- i. The Independent External Monitors (IEMs) have the right to access without restriction to all Project documentations of the NALCO including that provided by the Bidder. The Bidder will also grant the Monitor, upon its request and demonstration of a valid interest, unrestricted and unconditional access to its Project Documentations. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder / Subsidiary (ies) and/or Holding Company and/or Subsidiary (ies) of its Holding Company / Consortium members/Sub Contractors with confidentiality.
- ii. Tender Inviting Authority is the Nodal Officer for necessary coordination in this regard.
- iii. If the Employer has terminated the Contract pursuant to provisions of Integrity Pact (IP), NALCO shall encash the Contract Performance Bank Guarantee/Performance Guarantees, in accordance with provisions of Integrity Pact.
 - The bid security shall be valid for nine months beyond validity period of offer. In case of security deposit, same should be valid till the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the OWNER, including warranty period.

14.3 **SECURITY TERMS:**

The contractor shall use all the documents, drawings, data & information of proprietary in nature, received from NALCO, solely for the purpose of performing and carrying out the obligations on their part under this contract. He shall not disclose the same to any other person except to the extent required in the performance of the work and shall maintain the utmost secrecy. Contractor and NALCO shall bind their employees, who are involved in engineering of the project by a suitable secrecy contract. The documents, drawings, data and information received from NALCO shall not be used by contractor for any other purpose and will also keep them confidential. All data, documents and information provided by Contractor during the course of execution of the work will be treated as confidential by NALCO and will not be released to any third party, without specific written permission of Contractor.

Breach of Secrecy: In case of breach of secrecy by the Contractor, Nalco will have right to terminate contract, Performance Security and claim damages from the party

15.0 GATE PASS & SECURITY: The contractor shall have to arrange valid gate passes for the labor/ workers engaged by him in order to enter into the Mines premises if the work is to be executed inside Mines.

15.1 TIME OF WORK: The Mines working timings are as follows:

NAME OF THE SHIFT	DURATION	FROM	TO
"A" SHIFT		06.00 AM	02.00 PM
"B" SHIFT		02.00 PM	10.00 PM
"C" SHIFT		10.00 PM	06.00 AM
GENERAL SHIFT		08.30 AM	05.00 PM

16.0 OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM :

16.1 SAFETY:

The contractor shall have to take necessary safety arrangements / precautions for the workmen engaged by him and shall be responsible for any First Aid/ Emergency treatment for his labors/workmen. In addition, the contractor shall have to abide by all fire & safety regulations of the owner. The contractor has to execute the works after taking necessary instruction & clearance from the safety officer, available at Mines.

16.2 All lifting/handling tools & tackles should be load-tested as required by law. Mobile equipment such as Truck, Tractors, Tippers, Dumpers etc. shall have valid fitness certificate with due insurance required as per law.

16.3 PERSONAL PROTECTIVE EQUIPMENTS (PPEs):

The contractor shall have to provide **all necessary PERSONAL PROTECTIVE EQUIPMENTS (PPEs)** like *Safety Shoes, Gum Boots, Helmets, Safety Goggles and Nose Masks* etc. and any others as applicable to the workmen engaged by them as per the requirement. Safety aprons, fluorescent jackets and Masks should also be provided to all workmen engaged in wherever necessary. The contractor should ensure use of the above by his workmen during the contract period. In case the contractor fails to provide PPEs as per requirement, at the time of starting the job, they will not be allowed to carry out the assigned job.

- I) The contractor should be aware that the workers engaged by him shall not be allowed to enter into the Mines at the NALCO Mines gate unless they wear the safety helmet and safety shoe. The contractor shall take all necessary steps/actions so that his workmen enter into the NALCO plant premises with safety helmet and safety shoe.
- II) The OHSMS Policy is enclosed. The contractor has to ensure attendance in a training programme for all his contract workers conducted by safety department and obtain a certificate before putting the workers to work front.
- III) The contractor has to adhere to "NALCO's safety code for contractors" while executing the work.
- IV) In case the contractor shows negligence in adherence to the above conditions and results in causing loss to the company properties or causing obstruction for normal movement inside the plant, NALCO may take suitable action as deemed fit and NALCO may sever the business relation with the party.

16.4 Medical Checkup: Contractors will have to submit medical certificate from a Govt. Hospital or registered medical practitioner in the prescribed format for the workmen engaged by him along with application for gate pass and for annual renewal. No gate pass will be issued / renewed unless the medical certificate is enclosed along with the application.

16.5 The Engineer in-charge executing the contract upon his satisfaction that the Contractor is not performing as per the safety requirements may direct stoppage of work. The contractor shall not proceed with the work until he has complied with such directions to the satisfaction of concerned Engineer in-charge.

- 16.6 The contractor shall be fully responsible for accidents caused due to him or his agents workmen's negligence or carelessness in regard to the observance of the safety requirements and shall be liable to pay compensations for injuries.
- 16.7 Without prejudice to the right conferred by the Clause 16.5 above for stoppage of work the contractor shall be liable for penalty as per the provisions stipulated at CI No. 34.0.
- 16.8 Whenever work at height is involved, contractor must obtain working at height permit from concerned Dept. for the persons required to work at height.
- 16.9 The Engineer in-charge executing the contract will assess the penalty amount having regarded to all the circumstances, in particular the nature and the gravity of the violation & will issue a show-cause notice specifying therein the proposed penalty. Considering the cause shown by the Contractor, if any the Engineer in-charge executing the contract shall pass final orders which shall then be final and binding on the contractor. The penalty amount shall be recoverable from any bill and / or EMD / SD of the Contractor without any further reference to him.

17.0 ENVIRONMENTAL REQUIREMENTS:

- 17.1 The contractor shall be responsible to promote awareness on the Environmental requirements among the workmen engaged by them for the subject job and ensure adherence to sound environmental practices.
- 17.2 The contractor shall remove all the waste/debris generated during the work on each occasion & dispose off to a place identified by Engineer-in-charge. The thorough up keeping of the work spot before the contractor leaves the work spot is essential. In case the contractor fails to comply with the above, the owner may get the up keeping done & recover the expenses with overheads from the contractor.
- 17.3 The contractor has to ensure efficient use of natural resources like water, fuel oil and lubricants.
- 17.4 In case the contractors are quoting for oil, grease, chemicals and toxic substances or these substances form a part of materials quoted they should ensure proper storage, handling, packing and shifting of materials to our site properly so that the same should not pollute the environment.
- 17.5 The contractor should ensure that materials/ equipment quoted is manufactured/ supplied through Eco friendly process/ system.
- 17.6 The contractor should ensure proper awareness of workers working in their factory/ plant to maintain for a green and clean environment inside/ outside their plant.
- 17.7 It will be the responsibility of the contractor to use Eco friendly packing materials.

18.0 STATUTORY PROVISIONS :

- 1) The contractor shall abide by various statutory provisions to the satisfaction of Central/State Government Authorities. The contractor has to comply with provisions made in various statutes such as The Contract Labor (Regulation & Abolition) Act 1970, the payment of Bonus Act 1965. The Employees compensation Act 1923, The Employees Provident Fund & Misc. provisions Act 1952, The Payment of wages Act 1936, The Minimum wages Act 1948, The Industrial Disputes Act 1947, The Mines Act 1952. In case of failure of the contractor to comply with any statutory provisions, NALCO as principal employer, shall have the right to withhold the bills and/or security deposit of the contractor and/or take such action as it may be deemed fit.
- 2) The Engineer-in-charge/Section-in-charge shall ensure that the following statutory requirements are being complied by the contractor. The bidder to take note for necessary compliance.
 - 1) Before executing the job, the contractor has to submit Police Verification Report from the Local Police Station, Voter/Aadhaar Card for imparting Mines Vocational Training. After completion of the MVT. It must be required to cover all the workmen under Employees Insurance Scheme and then photo gate pass shall be issued in favour of contract workmen.

- 2) If the contractor intend to engage 20 or more workmen on the said job then he/they must take labour license from the Asst. Labour Commissioner (Central), Bhubaneswar. In such case, the contractor has to apply in Form-IV to the Principal Employer to obtain Form-V as per the CL(R&A) Act, 1970.
- 3) The workmen engaged on the job will be paid Minimum wages as circulated by Nalco from time to time. All the payments shall be made through Bank Account only before 7th of the Month.
- 4) The contractor has to issue Wage slip well in advance & ensure that the wage payment sheet is duly signed by the concerned workmen & the representative of the Principal Employer, after that the payments shall be made only through Bank Account of the individual workman.
- 5) The Provident Fund contribution shall be deducted and deposited in the Individual PF Code allotted to the contractor and ensure timely submission of reports/returns to the Appropriate Authority.
- 6) Holiday wages as declared by Nalco shall be paid month wise, if occurred during the month.
- 7) Minimum Bonus @ 8.33% shall be paid to the workmen on the wage limit i.e.Rs.7,000/- or the Minimum wage for the scheduled employment as fixed by the appropriate Government, whichever is higher before Puja or within one month of the completion of the contract as per the Payment of Bonus Act, 1965 revised.
- 8) After completion of the contract, Leave salary, Retrenchment Benefit, bonus are required to be paid within 48 hours to the workmen.
- 9) All the workmen shall be provided Employment Card (within 03 days of commencement of duty) & Wages slip every month before disbursement of Wages as per the Contract Labour (R&A) Act, 1970.
- 10) Statutory records/registers are required to be maintained under different labour laws by the Contractor and to be shown to the appropriate authority on demand.
- 11) The contractor should also provide Personnel Protective Equipment to all their workers engaged on the job.
- 12) The contractor has to insure their workers under the Payment of Gratuity Act, 1972 for payment in the event of death.
- 13) The contractor has to ensure the compliance under the Motor Transport Workers Act,1961
- 3) The contractor should not engage persons, male or female below 18 years of age and above 60 years of age for the execution of the work awarded to him.
- 4) In case of electrical contracts, the tenderer should have possessed valid electrical contractor's license of MV/HV/EHV as the case may be, issued by licensing authority of government of Odisha, a copy of which shall be enclosed along with the offer.

19.0 DOCUMENTS TO BE SUBMITTED BY BIDDER:

- 1) *Tender documents duly signed* and stamped with seal of bidder
- 2) EMD receipt
- 3) Annexure III duly filled up signed and stamped with seal of bidder
- 4) Annexure V duly filled up signed and stamped with seal of bidder
- 5) Annexure VI duly filled up signed and stamped with seal of bidder
- 6) Annexure VII duly filled up signed and stamped with seal of bidder
- 7) Annexure IV duly filled up signed and stamped with seal of bidder
- 8) Appendix I duly filled up signed and stamped with seal of bidder
- 9) Appendix II duly filled up signed and stamped with seal of bidder
- 10) Appendix III duly filled up signed and stamped with seal of bidder
- 11) Appendix IV duly filled up signed and stamped with seal of bidder
- 12) Appendix V duly filled up signed and stamped with seal of bidder
- 13) Pre-contract Integrity Pact/ ~~declaration on implementation of integrity duly filled up signed and stamped with seal of bidder~~
- 14) Declaration of % of Local content along with the place of value addition **on Letter head**

- 15) Format for Declaration towards Compliance of Order (Public Procurement No.1, 2 & 3) dtd 23 Jul 2020 & 24 Jul 2020 on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017

The bidder should also submit duly attested (attested by Gazetted Officer) / notarized copies of the following documents along with the bid:

- 1) MSME Certificate if applicable
- 2) PAN Card of the bidder. (For proprietorship firms PAN should be in the name of the sole proprietor and for other firms/ companies PAN must be in the name of the respective firm/ company).
- 3) PAN Based GSTIN of the bidder
- 4) Proof of Possession of independent EPF code. The tenderer shall possess independent P.F. "Account Code" from the concerned Regional Provident Fund Commissioner. A copy of evidence in this respect may be furnished as & when required.
- 5) Proprietorship Deed/ Partnership Deed/ Article & Memorandum of Association of the Bidder
- 6) Power of Attorney of signatory of the bid, if the signatory of the bid is other than the proprietor
- 7) Profit and Loss accounts and Balance sheets for the last three financial years as per PQC

The bidder should also submit notarized copies of the following documents along with the bid:

- 1) Appendix VII duly filled up signed and stamped with seal of bidder and notarised.

Non-submission of the above documents shall lead to rejection of bid. No correspondence/documents shall be entertained after scheduled tender submission date and tender opening regarding submission of shortfall documents.

20.0 PAYMENT OF WAGES TO ENGAGED LABOUR AT SITE:

20.1 WAGES OF THE CONTRACT LABOR :

- A) The payment of minimum wages to the contractor labors shall be as per the rates notified by the central government, as per the minimum wages act – 1948 and as adopted/circulated by the Nalco management from time to time.
- B) The classified workers in different categories will be as per the notification issued by the central government fixing the minimum wages for above scheduled appointment. Where the minimum wages notified by the government of Odisha is higher than the rates notified by the central government, the government of Odisha rates should apply to concerned scheduled employment as long as the same remains higher than the central government rates.

Therefore, the contractor must quote their rates considering the following conditions applicable

The rate of minimum wages for different categories of laborers' as per the LO rate are indicated in Salient Points of the tender at P/5.

- C) Besides the minimum wages payable as mentioned above, the contractor is required to pay an additional element as applicable per day as a part of wages per day. It would qualify for all statutory payments.
- D) In addition to minimum wages, an amount as applicable shall be payable to each contract labourer towards canteen subsidy and this will be paid by the contractor concerned which will qualify for deduction of provident fund and other statutory deductions as applicable.
- E) Also contractor shall pay to his workmen medical benefit & special compensatory allowance **as applicable** per day of actual work.

The daily wages to be paid shall include the following components –Basic wages, VDA, contribution to provident fund, additional element, canteen subsidy, medical benefit, special compensatory allowance, bonus, leave salary, safety appliances, holiday/ PH/NH wages and retrenchment benefit as applicable to NALCO Mines.

- F) The minimum wage as notified by the chief labour commissioner (central) has a variable component as special allowance which is linked to average AICPI for industrial workers, which keeps on changing every six months.

The contractor has to absorb all such variations due to increase in minimum wage in their quoted price, and no claim whatsoever on this account shall be entertained in case labour price variation clause is not applicable to the contract.

20.2 a) Price variation clause (PVC) towards changes in labour charge for this contract (Refer SI no 16a of Contract Details at P/3)

b) In case labour charge variation Clause is applicable for this contract as per SI. No. 16a of Page-3, the following shall be applicable:

1. In case of increase in minimum wages of the workers, the differential wages and associated components will be reimbursed based on actual payment to labourers excluding OT amount claimed.
2. The reimbursement of escalated amount under this provision will be based on documentary evidence of payment of the claimed amount to the bank account of the workmen.

20.3 In case the contractor fails to pay wages to the workmen employed by him for the subject work, NALCO will make the payment and recover the same from the contractor's bill along with 10% service charge for the amount paid.

20.4 The contractor failing to make payment of labor wages as per applicable Law, may be debarred / banned for conducting future business with NALCO.

21.0 RECOVERY TOWARDS COMPENSATION FOR DELAY:

Quality and time (contract period) is the essence of the contract. In the event of failure of the contractor to perform as per the contract in the stipulated period, penalty is leviable @ 1% of contract value for every week of delay subjected to maximum of 10% of work order value and/or as specified in the special conditions of contract. Decision of engineer-in-charge in this regard is final and binding. Clause no.24 of GCC is applicable for the above

This is a genuine pre-estimate of the loss/damage which will be suffered on account of delay/breach on the part of the contractor and said amount will be payable on demand without there being any proof of the actual loss or damages caused by such delay/breach. GST as applicable shall also be recovered.

22.0 ARBITRATION: The clause No.87 of General Conditions of contract shall be applicable incase of any dispute or difference whatsoever, which may arise at any point of time. Subject to all other provisions contained in clause 87 of GCC, the provisions of the Arbitration and Conciliation Act, 1996 or any statutory modification or re-enactment thereof and the rule made there under, and for the time being in force shall apply to the arbitration proceeding under this clause.

23.0 TERMINATION OF CONTRACT:

- a. If the performance of the successful bidder is found unsatisfactory during the period of contract, the contract will be terminated with short notice of 15 days and the same shall be carried out by any other of the successful bidder / agency at the risk & cost of the contractor. Other penal actions such as forfeiture of BID SECURITY and Security Deposit and debarring the contractor for participating in future tenders of NALCO may also be taken.
- b. If the Government of India or any Statutory Authority/empowered to do so, decides/directs to terminate the Contract, the contract shall be terminated without any notice and for that contractor shall not be entitled to any claim such as extra claim, loss, loss of profit etc. against NALCO. The settlement of the dues of contractor shall be done on the basis of execution of actual work in accordance with the terms & conditions of contract.
- c. Short Closure of Contract: NALCO reserves the right to short close the contract by serving 15 days' notice to the contractor, when either of the contract value is executed or the assigned BOQ quantity is exhausted. The decision of NALCO in this regard shall be final & binding on the contractor.

24.0 GENERAL INFORMATION:

- 24.1** Before submission of the bid the bidders are requested to read the bid document carefully make themselves fully conversant with the GCC, Special Conditions of Contract, and Conditions of bidding, Specific conditions, technical Specifications and bid drawings if any. **The bidder should visit site and get familiarized with the site conditions** so that, no ambiguity may arise in these respect subsequent to submission of the bids.
- 24.2** NALCO's General Conditions of Contract (GCC) & Special Conditions of Contract if any shall form part of this contract. The tenderer is advised to go through them before quoting the rates. It will be taken for granted by NALCO that tenderer has seen and gone through the terms and conditions and shall abide by those.
- 24.3** Wherever transport of material is applicable, the contractor has to ensure that goods carried during transportation do not exceed permitted laden weight as certified by registering authority for the respective vehicles.
- 24.4** Wherever applicable Bank Guarantee are to be submitted in Nalco's prescribed format only from NALCO's approved Banker.
- 24.5 (i)** In case there are more than one L-1 bidders, the concerned bidders may be called to offer maximum possible discount on their quoted rates in sealed envelope in order to decide the L-1 bidder.
- (ii)** In case of tie of price bids, the following criteria shall prevail in the given order. (after application of clause (i) above).
- Bidder having highest average turnover during last three financial years shall be preferred.
 - The existing contractor/latest contractor executing the same contract satisfactorily shall be preferred.
- Note: Average Annual Turnover shall be decided on the basis of audited profit and loss accounts submitted by the bidder for the last three financial years.**
- (iii)** In case of tie for L2 or other positions and L1 price matching is to be sought for splitting of the job as per NIT condition, then L2, L3 etc positions shall be determined by applying criteria at Sl. No. (ii) above."
- 24.6** The bidder is required to give the names of other firms / agencies / partnership firm / wholly owned or partly owned subsidiary etc. where they are having financial / professional stakes and also give a certificate if any such firm / agency are participating in the subject tender.
- 24.7** Bidders are requested to quote their best prices considering the fact that price negotiation if required may be held with lowest bidder only.

25.0 MODE OF SUBMISSION, RECEIPT AND OPENING OF TENDER:

- 25.1** All covering letters & information are to be included in the offer.
- 25.2** The tender duly digitally signed should be uploaded online in web site of the tendering portal. The Bidders are advised to fill up the prescribed *Formats* available in the tender document as Annexures and Appendices as per requirement with no deviations to the specific requirements, terms & conditions and upload the complete set of tender document duly signed on the bottom of each page along with a forwarding letter addressed to the HOD(T&C), Nalco Damanjodi for uploading in the Online Tendering Portal.
- 25.3** **In case deviation is unavoidable, bidders are instructed to give all deviations in the enclosed deviation statement sheet only (Annexure-VII).** Please be informed that only deviation statement will be evaluated and considered.

- 25.4** Deviation(s) listed at any other place shall not be considered at all and shall not be binding on NALCO. The tender shall be evaluated based on the deviation statement and no claim whatsoever shall be entertained irrespective of bidder has accepted this particular clause or not.
- 25.5** Financial implications of the agreed deviation as per assessment of NALCO will be loaded on the price quoted by the bidder. Deviation not accepted by NALCO will have to be withdrawn by the bidder otherwise such bids may be disqualified/rejected.
- 25.6** Tenders **are to be uploaded in the tendering portal web site** on or before time & date specified at **Sl. No. 9** of Page-3 of tender document. The PART-I bids in case of two part tendering and Single part bid in case of LTE tendering shall be opened at the time & date specified **Sl. No. 10** of Page-3 of tender document.
- 25.7** In the event of the office remaining closed on the Bid opening date, tenders will be opened on the next working day as per the convenience of the concerned officials.
- 25.8** The validity period of the offers submitted by the bidders shall be as indicated at Sl. No. 11 at page-3 from the end date of submission of Tender. However, NALCO reserves the right to defer the date of tender opening in case the response is considered to be inadequate or due to any other reasons. In such event, the bidders shall have to visit the site tendering portal to see the next tender submission & opening dates. In such case, validity period of the offer shall be reckoned from the extended last date of tender submission. Any Addendum/ Corrigendum to the tender shall only be uploaded in the tendering portal web site and separate information shall not be sent to the bidders by NALCO.
- 25.9** The price bids of technically qualified bidders shall only be opened ON LINE.
- 25.10** All the supporting documents uploaded with the offer should be attested by a Gazetted Officer or Notary Public and are required to be signed on each page by the bidder or by their authorized representative.
- 25.11** The tenderer shall ensure submission of complete information / documents in the first instant itself. Nalco reserves the right to evaluate the offer based on the details furnished by the bidders on the scheduled date of tender submission without seeking any subsequent additional information. If at all shortfall documents are sought from the bidders, bidders are required to submit shortfall documents only pertaining to the technical credentials already submitted in the first instant, any fresh work experience credentials (e.g. Work orders/ work completion certificates) will not be considered for evaluation of the bids.
- As per Manual for Procurement of Works 2019 Ministry of Finance Department of Expenditure 5.4.5 Normally no post bid clarification at the initiative of bidder shall be entertained. The shortfall information /documents if any may be sought only in case of historical documents which pre- existed at the time of tender opening and which have not undergone change since then. So far as the submission of documents is concerned after submission of the tender, Nalco may ask and consider, only related shortfall documents. For example, if the bidder has submitted a contract without its completion / performance certificate / annual turnover, the certificate can be asked for and considered. However, no new contract will be asked further so as to qualify the bidder. No post-bid clarification at the initiative of the bidder shall be entertained. Hence bidders are required to take due care to upload all relevant work credentials available with them in order to avoid rejection.
- 25.12** In case a bidder has been debarred/ blacklisted/suspended in any unit of NALCO from participating in tenders for Work/Service Contract, his offer will not be considered during the period of blacklisting/suspension/debarment, as the case may be.
- 25.13** Previous and Present Performance of contractors at NALCO sites shall be considered while evaluating their offers. In case of poor performance, the offer from such bidders shall not be evaluated.

- 25.14** Bidders shall submit the details about engagement of Agents/ Middlemen/ Intermediary/ Consultants / Service Providers and payments proposed to be made to them by the bidder as a part of the present bid.
- 25.15** In case any specific adverse report is received against any bidder during enquiry about the statement made/ credential submitted along with the offer document in respect of capabilities, performance and criminal background of the bidder, the offer submitted by such bidder shall be rejected.
- 25.16** Bidder shall provide information regarding the past & current litigation, debarring/ expelling of the bidder or abandonment of work by the bidder in any Unit of NALCO etc.
- 25.17** Litigation History- a) The bidder is required to give the names of other firms / agencies / partnership firm / wholly owned or partly owned subsidiary etc. where they are having financial / professional stakes and also give a certificate if any such firm / agency is participating in the subject tender.
- a) Bidder may note that any pending criminal case involving moral turpitude, fraud, theft & unlawful activities or conviction by court of law or indictment/ adverse order by regulatory authority against the person, company, Directors of the Company or sister concern of the Company, partner of the firm etc. would constitute disqualification for participating for tender.
 - b) The bidder or its proprietor /partner(s)/director(s) of the firm should not have been convicted by court of law for an offence involving moral turpitude in relation to the business dealing during past seven years for acceptance of the offer.
 - c) Litigation history for criminal backgrounds to be provided by the bidder. The bidder shall give an affidavit to this effect. The affidavit must be affirmed before the competent judiciary authority or duly notarized by Notary.
- 25.18** The bidder or its Proprietor/Partner(s)/Director(s) of the firm should not have been convicted by a court of Law for an offence involving moral turpitude in relation to business dealings during the past seven years for acceptance of the offer. The bidder shall give an affidavit to this effect. The affidavit must be affirmed before the competent judicial authority or duly notarized by the Notary. Besides, bidder should furnish litigation history of their firm or group firm (if claiming fulfillment of PQC on group entity terms). The litigation history shall include:
- (i) Arbitration cases pending.
 - (ii) Disputed incomplete works.
 - (iii) Pending civil cases against the firm or its Proprietor/Partner(s)/Director(s) involving moral turpitude in relation to business dealings
 - (iv) Pending criminal cases against the firm or its Proprietor/Partner(s)/Director(s) involving moral turpitude in relation to business dealings.
 - (v) Punishments awarded under civil cases or criminal cases involving moral turpitude in relation to business dealings
- 26.1** **EVALUATION OF BIDS:** The price bids of the techno-commercially qualified bids in case of two part bid system & bids in case of single part bidding shall be evaluated to arrive at the lowest (L-1) bidder as indicated at clause no: 24.5 above.
- 26.2** Loading of Amount for the agreed deviation shall be done on the Price Bids.
- 26.3** **Concurrent commitment:** - The bidder has to submit complete list of concurrent commitments on all jobs under execution by them, which will be taken into account to assess the spare capacity available with the bidder. If the annualized concurrent commitments of the bidder plus annualized estimated value of the work (for single agency)/annualized estimated maximum percentage of work in split case under consideration (for multiple agency) exceeds FOUR times the average annual financial turnover during the last three financial years of the bidder, then the bid of such a bidder shall not be considered for further evaluation.
- Concurrent commitment of the bidder shall be evaluated as on the last day of the Month previous to bid date, based on the confirmation/declaration of the bidders that they have disclosed all works being

executed by them. Bidders shall exclude all stalled project for which there is no progress in last one year giving reason for no progress in considering above cut-off date. In case any adverse report/complaint are received against bidder and on enquiry found correct, offer shall be rejected and bidder shall be liable for appropriate legal action.

Suppression of fact /data regard to jobs under execution will be considered as gross violation and rejection of bid including penal action such as banning/ blacklisting, as deemed fit- The bidder must confirm that they have disclosed all the works being executed by them in the offer, as per Appendix-III)- [Refer SI no 5 of Salient Points of the tender at P/4.](#)

- 26.3 NALCO reserves the right to use in-house data / information for evaluation of bids if felt necessary.
- 26.4 In case of discrepancies, the original tender document uploaded by T & C Department, Mines shall be treated as authentic & binding for all purposes.
- 26.5 **REVERSE AUCTION:** The guidelines for the same shall be as per the applicable guidelines of tendering portal- [Refer SI no 6 of Salient Points of the tender at P/4](#)
- 26.6 Evaluation of bids shall be done in compliance with Govt. Guidelines on Preference to Make In India (as per GOI ORDER NO. P-45021/2/2017-PP(BE-II), Dtd: 16.09.2020) as given in Appendix- IX. In this regard party should upload duly filled up and signed declaration provided in Appendix –IX.
- 26.7 Evaluation of bids shall also comply with Govt. Guidelines on Restriction on Countries sharing a land border with India (as per Public order on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 and ORDER NO: F.No.6/18/2019-PPD DATED 23/07/2020 & 24/07/2020) as given in Appendix-X. In this regard party should upload duly filled up and signed declaration as Appendix-X.
- 26.8 Bid Evaluation shall comply with Govt. Guidelines on Preference to MSEs (GOI Micro and Small Enterprises (MSEs) Order, 2012 and Amendment dated 9th November, 2018), as applicable.

27.0 **ACCEPTANCE OF TENDER:**

- 27.1 Vendors may note that, any pending case or conviction by a Court of Law or indictment /adverse order by regulatory authority against the person, company or against any sister concern which relates to a criminal offence would constitute disqualification”.
- 27.2 *The concurrent commitments of bidder on various jobs under execution by the bidder will be taken into account to access the spare capacity available with the bidder. Bidders are required to fill Appendix-III for calculation at our end. Suppression of fact and figures will liable to cancellation of bid and penal action as per rule- [Refer SI no 5 of Salient Points of the tender at P/4.](#)*
- 27.3 *A bidder may seek clarification regarding the bidding document provisions, bidding process and / or rejection of his bid. NALCO / Consultant shall respond to such queries within a reasonable time.*
- 27.4 NALCO reserves the right to award the work in parts between two or more agencies if considered expedient. The quoted rates shall hold good for such an eventuality. Reference is also invited to clause 9 of General conditions of contract.
- 27.5 Bidders may note that, Letter / Fax of Acceptance or work order/ AOC issued to them is based on acceptance of their offer by NALCO and shall be binding on them. Bidder should return a copy of the same duly signed by the authorized representative as a token of acceptance of the letter of Acceptance / Fax of intent / work order within seven days failing which it will be deemed to have been accepted by the bidder.

28.0 **OTHER TERMS & CONDITIONS:**

- 28.1 If found suitable, Preference for engagement of labors under NALCO’s contractors establishment may be given to the land affected persons.
- 28.2 The contractor has to dismantle the structure constructed by him for the purpose of office-cum-store on completion of the contract as per the provision of GCC clause no.2.4.2. If the same is not dismantled

within two months of completion of contract he will not be issued any tender paper or will not be allowed to participate in any tender including with-holding of final bill besides initiation of other contractual/legal action as deemed fit against the contractor.

- 28.3 The contract shall be subject to the provisions of GCC save those provisions of GCC, which are superseded by the above clauses under instruction to Bidders.
- 28.4 ***The bidder should indicate valid e-mail ID under Annexure-III (DECLARATION BY THE BIDDER) enclosed.***
- 28.5 **As per Govt. of India directive, it is mandatory for contractors providing goods & services to central Govt. organizations to be registered in GeM (i.e. Govt. e-market place, www.gem.gov.in) and obtain a unique GeM registration Id at the time of placement of order/acceptance of contract. Contractor to ensure immediate compliance in this regard.**
- 28.6 If conflicts between documents, comprising the contract arise, the following shall prevail in the order as below;
- FOI/LOA/WO including any agreed variation.
 - Schedule of rates/Bill of Quantity
 - Technical specifications
 - Drawings
 - Special Conditions of Contract
 - Instruction to Bidders
 - General Condition of Contract (www.nalcoindia.com – Tenders – Downloads – Policies & documents – Sl. No. 7) (GCC copy may be downloaded from NALCO website as stated above)
 - Relevant Indian Standards (Relevant Indian Standards may be downloaded from concerned website)
- 28.7 If any alteration or modification to the tender document is done by the bidder, the offer shall be ignored.
- 28.8 If any bidder is having any unauthorized structure / occupation inside Nalco Mines, their offer may not be considered for evaluation and shall be liable for rejection.

29.A CONDITIONS FOR DEBARRING / OF BUSINESS WITH A CONTRACTOR/ TENDERER:

NALCO reserves the right to debar a tenderer/contractor from participating in future tenders of NALCO or banning of business with NALCO, as deemed fit, along with forfeiture of BID SECURITY & SD under the following (but not limited to) conditions:

- 29.A1 **Withdrawal of offer** after the last day & time of tender submission and within the offer validity period.
- 29.A2 **Failure to mobilize for the work** - The contractor does not mobilize and start work on the scheduled date or within reasonable period.
- 29.A3 **Failure to adhere to the time schedule of work** - Time schedule indicated by executing engineers will be compiled every week and default in adhering to schedule will have to be reported to HOD for necessary action. Depending on the Mines requirements HOD may initiate debarring proposal.
- 29.A4 **Failure to maintain required quality of work** - If the quality rating is less than 50% at any instance, subsequent fortnightly rating will be done and if the same is less than 50%, it will be construed as a failure.
- 29.A5 **Failure to make labour payment** on time at least twice in a contract.
- 29.A6 **In case of any serious offence committed by the party: e.g. - sabotage, fraud, theft of company property etc. any time during execution of work, debarring process starts immediately.**

29.B BLACKLISTING/BANNING/SUSPENSION/DELISTING OF BUSINESS/HOLIDAY LIST

- 29.B.1 **Blacklisting:** Blacklisting of any agency/ firm/ contractor working with the Company may be resorted to in following cases:

- (i) If the Proprietor or Partner or Director of the Firm is convicted by a Court of Law, following prosecution under the normal process of Law for an offence involving moral turpitude in relations to business dealings;
- (ii) If security considerations including the question of loyalty to the State warrant as per recommendations of Ministry of Home Affairs.
- (iii) If there is justification for believing that the Proprietor or Partner or Director (or Employee) of the Firm has been guilty of malpractices such as bribery, corruption, cheating, fraud, substitution of bid or theft or any other illegal activities while carrying out the work etc.
- (iv) If the Firm refuses/fails to return the Company's dues without adequate cause;
- (v) If the Firm is blacklisted by any Department of the Central Government/ State Government.
- (vi) If the Firm is a confirmed evader of Central / State taxes/duties for which NALCO has received notice from the concerned department of Central / State Govt.
- (vii) Misbehavior/ threatening of departmental supervisory staff during work execution.
- (viii) Constant non-achievement of milestones on insufficient and imaginary grounds and non-adherence to quality specifications despite being pointed out.
- (ix) Persistent & intentional violation of important conditions of contract.
- (x) Submission of false/ fabricated/ forged documents for consideration of a bid.
- (xi) If declared bankrupt or insolvent.

29.B.2 Banning: In case where the conduct of the firm is not serious enough to merit blacklisting but removing the name from the registered vendors of NALCO is justified in the interest of the company, the firm/company shall be banned from doing business with NALCO for a period up to 3 years but not less than one year. The reasons for banning are listed below. This list is illustrative only and not exhaustive

- (i) Offence except criminal, such as moral turpitude, fraud, theft, unlawful activities within the premises of the company (Plant or Township) by the contractor or their workmen.
- (ii) Submission of false declaration / documents in the offer.
- (iii) Misconduct / misbehavior of the contractor or any of the workers engaged by them.
- (iv) Non-compliance of environment, safety and health requirements including use of proper PPEs.
- (v) Any failure to execute the contract satisfactorily
- (vi) Defaults such as failing in disbursements of wages of the workmen/contract labourers in time at least twice in a contract period

29.C Delisting from Vendor List against all Contracts:

29.C.1 Party's performance is being evaluated half yearly through online assessment system by the respective Managers-in-Charges for the works being executed at site / at party's premises.

29.C.2 Half-yearly assessment ratings are reviewed and the contractors are reminded for improvement in next assessment period if their performance rating is poor.

29.C.3 If two consecutive Six-monthly assessments of a contract are Very poor in a single evaluation / Safety & Environmental requirements compliance is not O.K. / SA 8000:2008 Compliance is not OK, then the concerned Vendor will be delisted for one year for that particular job subject to approval by Competent Authority of NALCO and the vendor will be intimated through a letter.

29.C.4 The delisted Vendor may be re-enlisted upon the request of the Vendor on completion of the delistment period and subsequent approval by Competent Authority of NALCO.

29.C.5 If any vendor is Black-listed / Banned by any units of NALCO, the Vendor will also be delisted.

29.C.6 In case the performance of the vendor is found to be unsatisfactory by the Manager-in-charge, the vendor may not be considered in future tender for similar jobs.

- 29.D Holiday List:** In case the bidder does not participate in three consecutive bids, the bidder will be put under holiday list for a period of one year.
- 29.E Suspension of Business:** Temporary Suspension of business may be ordered without any notice, where full enquiry into the allegation is pending and may entail the blacklisting of the firm/ party/ contractor, if the allegation is proved.

NALCO will issue show-cause notice giving 15 days' time to the contractor to respond to the same in cases of debarring/ blacklisting/ banning/ suspension of business with the party.

- 29.F** If any varying of conflicting situation arises in any of the document forming part of the Contract, NALCO's decision with regard to intention/interpretation of the document and the decision shall be final and binding on the parties.

30.0 MARKING OF ATTENDANCE/ JOB ALLOCATION.

- 30.1 The contractor shall have to maintain an attendance register as provided in the CL(R&A) Act and mark attendance of workmen under his establishment for every day at the beginning of the shift.
- 30.2 The daily attendance of persons employed by contractors is to be recorded in form " D & E " of the Mines Rules by contractor/supervisor which needs to be countersigned by Engineer In Charge of contract as a statutory record.
- 30.3 The contractor or his authorized representative has to make regular interaction with the Engineer In Charge for day to day execution of contract. The contractors' workmen are to report every day to the contractors, Engineer/supervisor, who will assign the job and maintain allocation chart for the record, with the following details.

JOB ALLOCATION REGISTER

Sl	Name of job	Area	Target date of job completion

- 30.4 At the end of the day, the contractor/supervisor shall report back with the status of job which needs to be certified by Nalco representative.
- 30.5 Nalco Engineer-In-Charge or his authorized representative has the authority to supervise and advise suitable actions which is to be carried out by the contractor/his supervisor and workmen.
- 30.6 Use of PPE by the workmen of the contractor has to be ensured on daily basis to ensure safe working.
- 30.7 Use of Online Contract Labour Management System (CLMS):**

An online Contract Labour Management System (CLMS) has been launched across NALCO w.e.f. 01.07.2017. As per the portal architecture, every contractor employing contract labour in NALCO shall have to use this online portal for various activities like safety clearance, issue of gate pass, application for license in Form II, issue of certificate from Principal Employer (NALCO) in Form III for obtaining license from the Central Labour Department, preparation of monthly wage sheets, issue of wage slips, employment cards, preparation and filing of returns, maintenance of statutory registers etc. The contractors have to use the CLMS for entering relevant data about themselves and the labour engaged by them for getting the benefits of the system. Since the package has been developed as per the mandate given by the Management and is being closely monitored by the Ministry of Mines as an item on the DASHBOARD, use of the system is mandatory for the contractor.

31.0 DEPLOYMENT OF PERSONS IN MINES:

- 31.1 Before deploying any persons on the job, it should be ensured by the contractor that all such persons deployed possesses a valid Training Certificate in Form-A [(Rule 28(1)] & Rule 16 of Mines Vocational Training Rules 1996.

- 31.2 In case the persons do not possess any valid training certificate as stated above, they are to be given Induction Training as per First Schedule of Mines Vocational Training Rules, 1966 before starting work. They are also to be given on the job training for 6 days.
- 31.3 Name of all the persons employed in the Mines by the contractor should be entered in "B" Register.
- 31.4 If 20 or more than 20 labours are engaged for the job then the contractor has to obtain a license under contract labour (R&A) Act. from the Assistant Labour Commissioner, (Central) Bhubaneswar, Orissa before starting of the work.
- 31.5 As per Rule 29B of Mines Rules'1955 all the workmen to be deployed under this contract are to be medically examined and report of the fitness is to be submitted to the Engineer In Charge before commencement of the work.
- 32.0 SAFETY APPLIANCES:**
- 32.1 **Safety Shoes:** The contractor is required to supply DGMS approved Safety Shoes to all its workmen and supervisors free of cost at a frequency not exceeding once in six months.
- 32.2 **Safety Helmet:** The contractor is required to supply DGMS approved safety helmets to all its workmen and supervisors free of cost, at least once during the period of the contract.
- 32.3 **Special Safety appliances:** The contractor is required to supply all the special safety appliances (like safety belt, safety net, apron, welding screen etc.) as would be detailed under the SOP for the work.
- 32.4 **Responsibility to ensure the use of safety appliances:**
- The contractor shall be responsible to ensure that no one is deployed in the work without wearing safety appliances as required to safely execute the work.
 - The Engineer -in-charge of the contract shall be responsible to ensure that no one is allowed to work under the contract unless otherwise he wears the Safety appliances as required for the work.
- 33.0 RECORDS TO BE MAINTAINED AS REGARD TO DEPLOYMENT OF WORKMEN UNDER THIS CONTRACT.**
- On the receipt of LOI/work order, the contractor should open up individual bound paged book (Register) to keep the records of various aspects of deployment of workmen in the prescribed formats, as detailed under (A) & (B).
- (A) **Records to be maintained as per the provisions made in the Central Rules, under the Contract Labour (Regulation & Abolition) Act [1970].**
- Register of workmen employed by contractor in Form XIII (See Rule 75).
 - Muster Roll in Form XVI [See Rule 78(1)(a)(i)].
 - Register of wages in Form XVII [See Rule 78(1)(a)(i).
 - 4. Register of Overtime in Form XXIII [See Rule 78(1)(a)(iii)].**
 - Register of Fines in Form XXI [See Rule 78(1)(a)(ii)].
 - Register of deduction for damage or loss in Form XX [See Rule 78(1)(a)(ii)].
 - Issue of Employment Card in Form No.XIV (See Rule 76).
 - Wage slips to be issued every month before wage payment in Form No.XIX [See Rule 78(1)(b)].
 - Register of advance in Form No.XXII [See Rule 78(1)(a)(ii)].
- (B) **Records to be maintained as per the provision made in Mine Rule, 1955 under Mines Act, 1952.**
- 'B' Register entry in respect of all Workmen, Supervisor & Contractor.
 - Attendance register/off D (Face work) & E (others)
 - G- Register of Leave
 - 4. H- Register of leave wages.**
 - I- Register of overtime.
 - Compensatory off.
- 34.0 PENALTY FOR NON-COMPLIANCE OF SAFETY LAWS OF MINES ACT:**
- If a contractor is found non-compliant with any safety laws under the statues and systems related to safety, the concerned contractor shall be directed by the Engineer-in-charge of the contract through a letter to comply with the said requirement immediately.

- (ii) If the same contractor is found contravening any safety laws again, a penalty as stated below shall be imposed by the Engineer-in-charge of the contract on the contractor and the same shall be deducted from his RA bill of the contract for month in which the non-compliance was recorded.

The penalty amount shall be as stated below:-

Sl No	Contract Value	Penalty Amount
i.	Contract value up to Rs.10,00,000/-	Rs.10,000/- (Rupees Ten Thousand)
ii	Contract value from Rs.10,00,001/- upto Rs.50,00,000/-	Rs.12,500/- (Rupees Twelve Thousand Five Hundred)
iii	Contract value from Rs.50,00,001/- upto Rs.1,00,00,000/-	Rs.14,000/- (Rupees Fourteen Thousand)
iv	Contract value above Rs.1,00,00,000/-	Rs.15,000/- (Rupees Fifteen Thousand)

- (iii) If the contractor shall be contravening the safety aspects again & again, the above penalty shall be imposed on repeated basis for each time the contraventions has been made. However, after imposition of penalty for 03 (Three) times, the contract shall be cancelled with the approval of Competent Authority.

35.0 **CONTRACTORS RESPONSIBILITIES FOR SAFETY**

- 35.1 The contractor shall prepare the written Safety Operating Procedure (SOP) for the work to be carried out, including an assessment of risk, wherever possible for the safe working of the individual workman engaged by him and the methods to deal with situation which may happen consequence of any accident/incident.
- 35.2 The contractor shall provide a copy of the SOP to the person designated by the mine owner who shall supervise the contractors work.
- 35.3 The contractor shall keep an up to date sop and provide a copy of any changes made subsequently to the designated person by the mine owner.
- 35.4 The contractor shall ensure that all work is carried out in accordance with the statute and sop and for the purpose he may deploy adequate qualified and competent personnel for the purpose of carrying out the job in a safe manner.
- 35.5 The contractor shall work strictly as per the scope of the work order ensuring applicable safety practices as per the standard.
- 35.6 The contractor shall ensure that all sub-contractors hired by him comply with the same requirement as the contractor himself and shall be liable for ensuring compliance of all safety provisions applicable to him and the sub contractor.
- 35.7 All persons deployed by the contractor for working in a mine must undergo vocational training, initial medical examination and PME. They should be issued cards stating the name of the contractor and the work and its validity period, indicating status of TV & IME.
- 35.8 Every person deployed by the contractor in a mine must wear safety gadgets to be provided by the contractor. If contractor is unable to provide, owner/agent/mine manager shall provide the same and recover the cost from the contractor.
- 35.9 The contractor shall submit to DGMS, the returns indicating- name of his firm, registration number, name and address of person heading the firm, nature of work, type of deployment of work persons, number of work persons deployed, how many work persons hold VT certificate, how many work persons undergone IME, PME and type of medical coverage given to the work persons. The return shall be submitted quarterly (by every 10th of April, July, October & January) for contracts of more than one year. However, for contracts of less than a year, returns shall be submitted monthly.
- 35.10 The contractor shall have to take all safety precaution for his workman working during any hour of the day and will be responsible for any first aid/emergency treatments for his employees. The contractor shall abide by all fire and safety regulation of the owner. Safety PPE like safety shoes, helmets, gum boots and masks etc. Shall be provided by the contractor to all workmen working under him. The

contractor shall ensure the use of the above by his workmen during the contract period. The occupational health & safety policy is enclosed. You have to undergo half a day training programme for all your contract workers before applying for safety guidelines.

36.0 COMPLIANCE ON QMS/EMS/OHSMS/SA

- 36.1 The contractor shall ensure that all his men and activities comply with the QMS/EMS/OHSMS/SA requirements as per respective standards, follow respective Policies and Objectives and Targets etc. set by the Panchpatmali Bauxite Mine, Nalco. For details of Policies Annexure: VIII may please be referred which is enclosed herewith
- 36.2 The Engineer-in-charge shall monitor/review the compliance of above requirements by the party as per respective standards periodically and intimate any deviation to the party for compliance.
- 36.3 During the course of contract activities/jobs, different scraps generated are to be segregated and to be disposed off in earmarked locations/ are to be disposed off in designated bins or as directed by Engr-in-charge.

37.0 CONTRACT CLOSURE:

- 37.1 Completion of work assigned through the contract within contractual period is both a contractual obligation and legal obligation on both the parties to the contract i.e. Contractor and Nalco.
- 37.2 It will be the responsibility of the Contractor to close the contract timely.

ANNEXURE - III

:DECLARATION BY THE BIDDER:

I _____ representing the bidder, do declare on behalf of the firm as hereunder:

* That, I am the PROPRIETOR of the bidder firm. I undertake to submit proof of ownership as and when demanded by NALCO.

OR

* That I am the authorized signatory to the tender documents holding valid Power of Attorney. Certified copy of the valid power of Attorney is enclosed with offer.

NOTE: * Strike out whichever is not applicable.

1. That, we do not have any FINANCIAL/PROFESSIONAL stake in any of the other bidders participating in this tender;
2. That, this firm has not been blacklisted/debarred/banned in any unit of NALCO/Other PSUs / GOVTs of India/states.
3. That, we have never been prosecuted by any statutory authority.
4. That, any change in the constitution of the firm shall be made with prior clearance from Nalco.
5. That, we have studied all the clauses/sub-clauses terms and conditions of the tender documents and our offer fully comply with the requirements spelt out in the tender documents.
6. We undertake to abide by and comply with all the safety and environmental regulations in force during the execution of work.
7. We undertake to abide by and comply with all the applicable provisions of laws governing contract workers engaged by you for this work.
8. The appendix I & II regarding relatives working in NALCO are filled up and enclosed.
9. That we have quoted the rates in figures as well as words.
10. We undertake that we do not have any unauthorized structure / construction inside Nalco Township or Plant. We also undertake to remove any / all such structures, if detected by Nalco later on in compliance of GCC terms and conditions.
11. We declare that all supporting documents of the offer submitted are attested by a gazetted officer / Notary.
12. **" I/we declare that I/we have not been convicted / or any case has been initiated against me / us by a Court of Law or indictment / adverse order by a regulatory authority against me / us, or my / our company or against any sister concern of mine / ours which relates to a criminal offence."**

I further declare that all above statements are true and if found otherwise any time during pre-ordering/post ordering stage of the contract, action as deemed fit by NALCO including 'rejection of my offer' and 'debaring/blacklisting' may be taken against me/my firm / my company and shall be binding on me/firm / my company represented by me.

(Signature and official seal of the Proprietor / Authorized Person)

Date :

Name of the signatory.....

Postal address of the firm.....

.....

PF NO : **TIN NO :**

PAN NO.: **PAN based GSTIN Reg. No.:**

Landline Phone No..... **Mobile**.....

Fax No.....

Email Address :

TAX INVOICE*[See Rule 46 of the Central Goods and Services Tax Rules, 2017]***Details of Supplier**

Name
Address

GSTIN/Unique ID

ORIGINAL FOR RECIPIENT
DUPLICATE FOR TRANSPORTER
TRIPLICATE FOR SUPPLIER

Date :
Inv serial No. :

Details of Recipient (Billed to)

Name
Address

State
State Code
GSTIN/Unique ID

Place of supply:
Name of State:

Details of Consignee (Shipped to)

Name
Address of delivery

State
State Code
GSTIN/Unique ID

Sr. No.	Description of Goods / Services	HSN Code / SAC	Qty.	Unit	Rate (per item)	Total	Discount	Taxable Value	CGST		SGST /UTGST		IGST		CESS	
									Rate	Amt	Rate	Amt	Rate	Amt	Rate	Amt
	Freight															
	Insurance															
	Packing and Forwarding Charges															
	Total															
	Total Invoice Value (In figure)															
	Total Invoice Value (In Words)															
	Amount of Tax subject to Reverse Charges															

E. & O. E

Electronic Reference Number

Designation / Status

Name of the Signatory

Note:

*Signature***Note:**

1. In case of Supply of service, the tax invoice shall be as follows: "ORIGINAL FOR RECIPIENT", "DUPLICATE FOR SUPPLIER".
2. The tax invoice can be signed with digital signature also.
3. In case of unregistered recipient where the value of the taxable supply is less than INR 50,000/-, name and address of the recipient and the address of delivery, along with the name of the State and its code shall be recorded in the invoice if he requests for the same.
4. Where an invoice is required to be issued under section 31(3)(f) of the CGST Act, a registered person may issue a consolidated invoice at the end of a month for supplies covered under section 9(4), the aggregate value of such supplies exceeds rupees five thousand in a day from any or all the suppliers.
5. The information in red colour indicates the changes as per Notification No. 10/2017 - Central Tax dated 28th June, 2017 as compared to rules finalised by the GST Council on 18.05.2017
6. The information in green colour indicates the words removed as per Notification No. 10/2017 - Central Tax dated 28th June, 2017 as compared to rules finalised by the GST Council on 18.05.2017

ANNEXURE-V

INTERNET BANKING / R.T.G.S. BANKING MANDATE FORM
(To be submitted in Duplicate)

To
National Aluminium Company Limited,
M&R complex,
Damanjodi-763008

Dear Sir,

SUB: AUTHORISATION FOR RELEASE OF PAYMENT DUE FROM NALCO, M&R COMPLEX THROUGH INTERNET BANKING (SBI) OR THROUGH R.T.G.S. BANKING.

Refer Order No..... date..... and/ or Tender/ Enquiry/ Letter

No..... date.....

(Please fill in the information in LETTERS. Please TICK wherever it is applicable)

1. Name of the Party.....

2. Address of the Party

.....City.....Pin Code

E-Mail Id:.....

--	--	--	--	--	--	--	--	--	--

3.Particulars of Bank:

Bank Name					Branch Name										
Branch Place					Branch City										
Pin Code					Branch Code.										
MICR No.															
(9 Digits code number appearing on the MICR Band of the cheque supplied by the Bank. Please attach Xerox copy of a cheque of your bank for ensuring accuracy of the bank name and code number)															
Account Type	Savings				Current				Cash Credit						
Account No. (as appearing in the Cheque Book)															
R.T.G.S. IFSC Code.															

4. Date from which the mandate should be effective: Dt. / /20.....

I/we hereby declare that the particulars given above are correct and complete. If any transaction is delayed or not effected for reasons of incomplete or incorrect information, i shall not hold m/s national aluminium company limited responsible. I also undertake to advise any change in the particulars of my account to facilitate updating of records for purpose of credit of amount through RBI ECS/ RBI EFT/SBI net.

Place:

Signature of the party/ Authorized Signatory.

Date:

 Certified that particulars furnished above are correct as per our records.

Bank's Stamp:

Date:

(Signature of the Authorized Official from the Bank)

Undertaking Letter on Downloaded tender documents

We here by confirm that, we have downloaded the complete set of tender documents along with the set of enclosures hosted in tendering portal website. We confirm that the bid document has not been edited or modified by us. In case, it is observed by NALCO that the bid document has been edited or modified, we agree for the rejection of the bid by NALCO besides any action as deemed fit by NALCO.

Company Name _____

Name _____

Signature _____ Date _____

Postal Address _____

Email ID _____

Phone _____ FAX _____

Signature of Authorized Person With seal

ANNEXURE-VII**EXCEPTION / DEVIATION STATEMENT TO THE TENDER TERMS & CONDITIONS**

In case of no deviation please write 'No Deviation' in the space below:

In case of single part bidding no deviation is acceptable.

Sl. No	Reference of Tender Document			Subject	Deviation / Exception
	Page No.	Clause No.	Para No.		



QUALITY POLICY

Quality will form the core of our business philosophy. Meeting the needs and expectations of the customer and consistently improving our systems and work ethos will be our chosen path in achieving excellence in business and fulfilling our social obligations.

GUIDING PRINCIPLES

- To ensure a healthy return on investment by maximizing Operational efficiency, Capacity utilization and Productivity.
- To continually improve and redesign Systems, Processes and Practices in order to ensure error prevention and improve response time.
- To adopt Internal Customer focus as a means to external customer satisfaction.
- To treat Human Resource as the key to Quality excellence and ensure development, involvement and satisfaction of employees.
- To ensure high quality of inputs through proactive interaction with suppliers.
- To meet obligations towards the society as a responsible corporate citizen.
- To provide value for money to all stake holders.
- To follow ethical business philosophy at all times.

COMMITMENT

We dedicate ourselves to the Quality Policy and Objectives of the company in letter and spirit and commit to continuously strive for their fulfillment

SD/-
Chairman-cum-Managing Director

Continued...



ENVIRONMENT POLICY

In recognition of the interest of the society in securing sustainable industrial growth, compatible with a wholesome environment, NALCO affirms that it assigns high importance to promotion and maintenance of a pollution-free environment in all its activities.

Objectives: -

- To use non-polluting and environment-friendly technology
- To monitor regularly air, water, land, noise & other environmental parameters.
- To constantly improve upon the standards of pollution control and provide a leadership in environment management.
- To develop employees awareness on environmental responsibilities and encourage adherence to sound environmental practices.
- To work closely with Government and local authorities to prevent or minimize adverse consequences of the industrial activities on the environment.
- To comply with all applicable laws governing environment protection through appropriate mechanisms.
- To actively participate in social, welfare and environmental development activities of the locality around its units.

Commitment:-

We dedicate ourselves to ensure a green and wholesome environment in all areas of our operations for sustainable industrial growth and to set standards in environmental management.

Bhubaneswar

SD/-
Chairman-cum-Managing Director

Continued...



OCCUPATIONAL HEALTH & SAFETY POLICY

NALCO is committed to maintaining a Safe, Healthy and Sustainable work environment in all its operations. This shall be achieved by:

- Focusing on prevention of Accidents and Occupational Health issues.
- Complying with all legal requirements & other requirements related to Safety and Occupational Health of persons, and establishing clearly defined goals & procedures to achieve the same.
- Ensuring Safety & Health of all employees and contract workers in its premises, including those involved in transportation, cleaning and other such activities.
- Conducting Periodic Safety Audits, Environment Audits, Health Check-ups and Risk Assessment by both internal and external qualified persons.
- Considering aspects related to Safety and Health of personnel as well as environmental issues at the time of procurement of equipment and selection of technologies.
- Ensuring health of persons in the peripheral locations, likely to be affected by our operations.
- Periodically monitoring and reviewing safety & occupational health issues at relevant levels, including the highest levels.
- Communicating Safety Hazards and health related issues to all concerned through suitable means, including training.
- Consulting and ensuring participation of workmen or their representatives in Policy implementation, identification of potential issues and formulation of measures to address the same.
- Considering Health & Safety performance of individuals at different levels during their career advancement, as per Nalco's policy
- Establishing and maintaining suitable set-up with competent persons to monitor and bring to the notice of the management any issues related to unsafe conditions & practices.
- Striving for continual improvements, exceeding statutory compliance levels, wherever feasible.

Bhubaneswar

SD/-
Chairman-cum-Managing Director



SOCIAL ACCOUNTABILITY POLICY (SA 8000)

We at NALCO are committed to provide a socially accountable work environment to all employees and uphold ethical business practices by respecting employees' rights to ensure a decent Workplace.

We shall achieve these by adopting a companywide culture, which will help to promote:

- a) Involvement of all employees in sustenance of SA 8000:2014 Standard;
- b) Conforming to all requirements of SA 8000:2014 Standard;
- c) Complying with National laws, other applicable laws and other requirements to which the organization subscribes;
- d) Continual improvement initiatives in all social aspects;
- e) Learning and training opportunities to all employees.

This policy is communicated and understood within the organization.

Date: 04.03.2020

SD/-

Chairman-cum-Managing Director

SA 8000 Requirements

- The organization shall not engage in or support any form of child labour
- The organization shall refrain any form of forced labour
- The organization shall provide to all its employees the necessary health and safety benefits as per the statutory and regulatory authorities
- The organization shall respect the right of worker to organize themselves and bargain collectively
- The organization shall not allow or support any form of discrimination among its worker and shall not engage in or tolerate any form of corporal punishment.
- The organization shall follow the statutory requirements described for normal working hours, remuneration and social benefits.

HOD (H&A)

We hereby declare that we confirm to abide by the requirements of SA 8000 clauses mentioned above.

ANNEXURE –X**This Proforma is to be used by Bidder for Bank Guarantee For Bid Security/EMD****PROFORMA FOR BANK GUARANTEE FOR BID SECURITY/EMD**

(To be executed on non-judicial stamped paper of appropriate value)

B. G. No. _____

Date: _____

1. WHEREAS M/s National Aluminium Company Limited (A Government of India Enterprise), having its Unit/Office at(UNIT/OFFICE ADDRESS ISSUING THE TENDER) (hereinafter called "The Company" which expression shall unless repugnant to the subject or context includes its legal representatives, successors and assigns) has issued Tender paper vide its Tender No..... dt.....for(hereinafter called "the said tender") to M/s.(hereinafter called the said Tenderer(s)" which expression shall unless repugnant to the subject or context includes their legal representatives, successors and assigns and as per terms and conditions of the said tender, the tenderer shall submit a Bank Guarantee for `(Rupeesonly) towards bid security in lieu of cash.
2. WEBank having its branch office atdo hereby undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Company stating that in the opinion of the company which is final and binding, the amount claimed is due because of any withdrawal of the tender or any material alteration to the tender after the opening of the tender by way of any loss or damage caused to or would be caused or suffered by the Company by reason of any breach by the said tenderers(s) of any of the terms and conditions contained in the said tender or failure to accept the Letter of Intent Agreement or that the amount covered under this Guarantee is forfeited. Any such demand made on the Bank by the Company shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding ` (Rupees.....only).
3. We undertake to pay to the Company any money so demanded notwithstanding any dispute or entree raised by the tenderer(s) in any suit or proceeding pending before any office, court or tribunal relating thereto our liability under this present guarantee being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under. Our liability to pay is not dependent or conditional on the Company proceeding against the tenderer.
4. The guarantee herein contained shall not be determined or affected or suspended by the liquidation or winding up, dissolution or change of constitution or insolvency of the said tenderer(s) but shall in all respect and for all purposes be binding and operative until payment of all money due or liabilities under the said contract(s)/ Order(s) are fulfilled.

5. WEBank Ltd. further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the finalization of the said tender and that it shall continue to be enforceable till the said tender is finally decided and order placed on the successful tenderer(s) and or till all the dues of the company under or by virtue of the said tender have been fully paid and its claims satisfied or discharged or till a duly authorized officer of the company certifies that the terms and conditions of the said tender have been fully and properly carried out by the said tenderer(s) and accordingly discharges the guarantee.
6. That the Company will have full liberty without reference to us and without affecting this guarantee to postpone for any time or from time to time. The exercise of any of the power of the Company under the tender.
7. Notwithstanding anything contained herein before, our liability shall not exceed `.....(Rupees.....only) and shall remain in force till.....Unless a demand or claim under this Guarantee is made on us within three months from the date of expiry, we shall be discharged from all the liabilities under this guarantee.
8. We.....Bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Company in writing. We further undertake to keep this Guarantee renewed from time to time on the request of Tenderer(s).
9. We Bank further agree that this Guarantee shall be invocable at our place of business at (Bank name), , (Branch Name and address of the Branch), Bhubaneswar, Odisha 751__ __ .

Date.....

.....Bank

Corporate Seal of the Bank

By its constitutional Attorney

Signature of duly Authorized person

On behalf of the Bank With seal & signature code

Details of Persons Issuing the BG:

Name-----

Address for Correspondence: -----

Telephone & Fax No.

E-mail:

Note: BGs to be furnished from any of the approved banks of NALCO.

APPENDIX – I

NATIONAL ALUMINIUM COMPANY LIMITED.
Mines Division

**INSTRUCTION FOR BIDDERS: FILLING UP OF FOLLOWING APPENDICES IS MUST, WITHOUT WHICH THE
OFFER IS LIABLE FOR REJECTION.**

The tenderer shall carefully study the list of directors of NALCO from the website mentioned below given below and state “Yes” or “No” to questions given below:

<https://nalcoindia.com/company/nalco-leadership/board-of-directors/>

Sl. No	Description	Write “Yes” or “No”
1.	Whether the tenderer is a relative of any of the directors of NALCO?	
2.	If the tenderer is a firm, any of NALCO Directors or any of their relatives is a partner in the tender’s firm?	
3.	If the tenderer is a Company Registered under Company’s Act 1956, whether any of NALCO’s Directors is Director of the Company?	

Note: If Yes to any of the above questions, please give the name of NALCO’s Director and relationship of the tender / partner / member / Director as the case may be.

Sl. No.	Name	Relationship

APPENDIX – II

**Important : Suppression of information shall be viewed seriously and action deemed fit would be taken including termination of the contract.
(Strike out which is not applicable)**

1. I/We hereby declare that none of my/our relative is an employee of NALCO.
2. I/We hereby declare the following are the employee/s of NALCO is/are my/our relative/s.

Sl.No.	Name of the employee/ P.No. / Designation/Place of Posting.	Relationship with the employee.
1		
2		
3		
4		

(PLEASE ATTACH EXTRA SHEET, IF REQUIRED)

Appendix - IIIDETAILS OF PRESENT COMMITMENTS OF THE TENDERER

As on the last date of previous month in which the tender opening is due
APPLICABLE FOR THIS CONTRACT

I/We _____, age _____ years, son of _____ do hereby solemnly affirm and declare as follows for on behalf of Firm _____.

Sl No	Full postal Address of client & Name of Officer-in-Charge with telex/ Telephone NO.	Description of work	Value of contract	Date of commencement of work	Scheduled Completion period	Completion in % as on date	Expected date of completion	Amount of Balance work during the period of Next 12 Months from the date of declaration	Remarks
1	2	3	4	5	6	7	8	9	10

It is certified that the above particulars furnished are true and correct. If any information given is found to be misleading at a later date NALCO will have the authority to take necessary action as per provision of the contract and as per laid down procedure of the Company. It is further certified that all the works under execution at NALCO and outside NALCO have been indicated in the above format.

Signature of the bidder _____

Name of the Bidder _____

Company Seal _____

PROPOSED SITE ORGANISATION**NAME OF TENDERER:**

Tenderer is to indicate here the site organization, he proposes to set up for execution of the work.

It is understood that this will be augmented from time to time depending on the requirements for timely completion of the work as directed by the Engineer-in-Charge.

Tenderer is also to furnish the bio-data of the Resident Engineer & key personnel to be deployed at site.

Format:- (To be submitted with BID)

ANTI-PROFITEERING DECLARATION FORMAT
To whomsoever it may concern

I, Mr. _____, Proprietor/ _____
 Other authorised signatories) of M/s. _____, hereby solemnly and
 sincerely declare that, while giving this quotation to NALCO against Tender No.
 _____ Dt. _____, me /my firm/mycompany has abided by all Tax Laws and Rules
 including but not limited to Section 171 of the Central Goods and Services Tax Act, 2017.

I hereby solemnly and sincerely declare that, me/my firm/my company, will continue to abide by the said
 laws, including but not limited to Section 171 of the Central Goods and Services Tax Act, 2017, as
 applicable from time to time during the life of the tender and during execution of any order placed with
 reference to the said tender.

I further declare that, me/my firm/my company, in furtherance and in compliance to the said section, will
 make commensurate reduction in the basic prices w.r.t. Input Tax benefits and reduction in Tax charged
 to 'Nalco' w.r.t. Output Tax benefits in connection with goods and/or services provided.

I further declare that the foregoing is true and correct and the same is a legal obligation and failure
 to fulfil if could result in penalties under the law.

Date: _____

Place: _____ To be signed by the authorized person under the firm's seal.

Format:- (To be submitted at the time of release of Final Due)

ANTI-PROFITEERING DECLARATION FORMAT
To whomsoever it may concern

I Shri/Mr. ----- Proprietor/manager service(similar salutation for other authorized signatories) of M/s----- hereby sincerely declare that I have abided with all the laws and rules as applicable on me /my firm/my company from time to time ,in my dealing with M/s National Aluminum Company Ltd (NALCO) including but not limited to section 171 of central goods an service tax Act, (CGST Act) 2017 .

In furtherance and compliance of the said section, I declare that I have made commensurate benefit of reduction in rate of tax or benefit of input tax credit in the purchase order/work order/Contract No..... Dt.....has been passed on to NALCO.

I declare that foregoing is true and correct and the same is a legal obligation and failure to fulfill it could result in penalties under the Tax law.

Date:

Place:

Signature with seal/stamp.

APPENDIX – VII

LITIGATION HISTORY TO BE SUBMITTED ON NON-JUDICIAL STAMP PAPER**BEFORE THE NOTARY PUBLIC
A F F I D A V I T**

Iaged about years, S/O:, At-....., PO-....., Dist-....., Pin-....., State:, Designation: of M/s. have not been convicted by a court of Law for an offence involving moral turpitude in relation to business dealings during the past seven years for acceptance of the offer. I do hereby solemnly affirm and state as follows:

**INFORMATION REGARDING CURRENT LITIGATION, DEBARRING EXPELLING OF BIDDER
OR ABANDONMENT OF WORK BY THE BIDDER**

1.	(a)	Is the bidder currently involved in any litigation relating to the works.	Yes/No
	(b)	If yes, give details:	
2.	(a)	Has the bidder or any of its constituent partners been debarred/expelled by any agency in India during the last 5 years.	Yes/No
	(b)	If yes, give details:	
3.	(a)	Has the bidder or any of its constituent partners failed to perform on any contract work in India during the last 5 years.	Yes/No
	(b)	If yes, give details:	
4.	(a)	Arbitration cases pending.	Yes/No
	(b)	If yes, give details:	
5.	(a)	Disputed incomplete works.	Yes/No
	(b)	If yes, give details:	
6.	(a)	Pending civil cases against the firm or its Proprietor/Partner(s)/Director(s) involving moral turpitude in relation to business dealings.	Yes/No
	(b)	If yes, give details:	
7.	(a)	Pending criminal cases against the firm or its Proprietor/Partner(s)/Director(s) involving moral turpitude in relation to business dealings.	Yes/No
	(b)	If yes, give details:	
8.	(a)	Punishments awarded under civil cases or criminal cases involving moral turpitude in relation to business dealings	Yes/No
	(b)	If yes, give details:	

Note:

If any information in this schedule is found to be incorrect or concealed, qualification application will be summarily be rejected.

Signature of the bidder

Date :

Return No. _____

Date: _____

To

The Director General of Mines Safety,
Govt. of India,
At: Eastern Railway,
Dhanbad- 826001 (Jharkhand)

Sub: Monthly/Quarterly Return in respect of -----(Name of
work) for the month/quarter -----of M/s -----

Dear Sir,

Enclosed please find herewith the details of the work persons (Contractual workers) **engaged at Panchpatmali Bauxite Mines, M/s NALCO, Damanjodi, Dist: Koraput (Orissa)**, in relation to work on the subject cited above for the month/ quarter ending----- as per Cl.No.2.2(i)(II) of the relevant recommendations of **10th conference on safety in mines**.

This is for your kind information and record please.

Thanking you Sir.

Yours faithfully.

(Signature of the contractor/his authorized representative)

(Seal)

Place:

Date:

C.C:

1. Director of Mines Safety
Plot No. L1, Nayapalli
P.O. RRL Campus
Bhubaneswar- 751013 (ORISSA)
2. Mine Manager
Panchpatmali Bauxite Mine
M/s NALCO
p.o: Damanjodi, Dist. Koraput (ORISSA)
3. Mgr In-charge of respective work.

Monthly/ Quarterly report of contractual work persons engaged at Panchpatmali Bauxite Mine, M/s NALCO, Damanjodi, Orissa for the month/ quarter ending _____

(As per clause No.2.2 (i) (ii) of 10th conference on safety in Mines)

- 01. Name of the firm:
- 02. Registration number:
- 03. Name & address of persons heading the firm:
- 04. Nature of work:
- 05. Type of deployment of work persons:
- 06. Number of work persons deployed:
- 07. Number of work persons hold VT certificate:
- 08. Number of work persons undergone IME
- 09. Type of medical coverage given to the work persons:

(Signature of the contractor/his authorized representative)

(Seal)

NB: To be submitted quarterly (by 10th of April, July, October & January every year) for contracts of more than one year and monthly for contracts of less than one year.

APPENDIX - IXPREFERENCE TO MAKE IN INDIA

ORDER NO. P-45021/2/2017-PP(BE-II), DTD: 16.09.2020

- 1.0 The bidders are requested to go through the GoI Order No: P-45021/2/2017-PP(BE-II), DTD: 16.09.2020 for the purpose of Purchase Preference on the basis of Local Content and submit the Declaration by the Bidder accordingly.
- 2.0 For the purpose of this order dtd. 16.09.2020:-
- 2.1 Local content means the **amount of value added in India** which shall, unless otherwise prescribed by the nodal ministry, **be the total value of the item procured** (excluding net domestic indirect taxes) **minus the value of imported content in the item** (including all customs duties) **as a proportion of the total value, in percent.**
- 2.2 Class I local supplier means a supplier or service provider whose goods, services or works offered for procurement has local content equal to or more than 50%, as defined at cl. 2.1 above.
- 2.3 Class II local supplier means a supplier or service provider whose goods, services or works offered for procurement has local content equal to or more than 20% but less than 50%, as defined at cl. 2.1 above.
- 2.4 Non-local supplier means a supplier or service provider whose goods, services or works offered for procurement has local content less than 20%, as defined at cl. 2.1 above.
- 2.5 **'Margin of purchase preference'** means the maximum extent to which the price quoted by a "Class-I Local supplier" may be above the L1 for the purpose of purchase preference. The margin of purchase preference shall be 20% against the tender.
- 3.0 Subject to the provisions of the above order and to any specific instructions issued by the Nodal Ministry or in pursuance of this order, purchase preference shall be given to 'Class-I Local supplier' in procurement undertaken by procurement entities in the manner specified here under:-

CASE-I (FOR DIVISIBLE QUANTITY): All the provisions of the order No.P-45021/2/2017-PP(BE-II) dtd. 16.09.2020 shall be applicable for this tender towards purchase preference.

However, in case of participation by MSE & ancillary units, the tender quantity reserved for MSE & ancillary units as per purchase preference policy of NALCO for MSEs as mentioned in the tender document shall take precedence over the purchase preference against the above mentioned order (to be mentioned, if applicable).

- 4.1 In the procurement of goods or works which are divisible in nature, the 'Class-I Local Supplier' shall get purchase preference over 'Class-II local supplier' as per the following procedure:
 - a) Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract of full quantity will be awarded to L1.
 - b) If L1 bid is not a 'Class I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class I Local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to Class-I local supplier's quoted price falling within the margin of purchase preference and contract for that quantity shall be awarded to such 'Class-I Local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I Local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I Local supplier', within the margin of purchase preference shall be invited to match the L1 price for the remaining quantity and so on and the contract shall be awarded accordingly. In case some quantity is still left uncovered on 'Class-I Local supplier, then such balance quantity may also be ordered on the L1 bidder.
- 4.2 'Class-II local supplier' will not get purchase preference in any procurement undertaken by procuring entities.

CASE-II (FOR NON-DIVISIBLE QUANTITY): All the provisions of the order No. P-45021/2/2017-PP(BE-II) dtd. 16.09.2020 shall be applicable for this tender towards purchase preference.

- 4.3 In the procurement of goods or works which are not divisible in nature, the 'Class-I Local Supplier'

shall get purchase preference over 'Class-II local supplier' as per the following procedure:

- a) Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.
 - b) If L1 bid is not a 'Class I local supplier', the lowest bidder among the 'Class I Local supplier' will be invited to match the L1 price subject to Class-I local supplier's quoted price falling within the margin of purchase preference and contract shall be awarded to such 'Class-I Local supplier' subject to matching the L1 price.
 - c) In case such lowest eligible 'Class-I Local supplier' fails to match the L1 price, 'Class-I Local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I Local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.
- 4.4 'Class-II local supplier' will not get purchase preference in any procurement undertaken by procuring entities.

5.0 Verification of local content.

- 5.1 The 'Class-I local supplier' / 'Class II-local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier' / 'Class II-local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made. **Declaration to be given in the format attached/enclosed below.**
- 5.2 In case of procurement for a value in excess of Rs. 10 crores, the 'Class-I local supplier' / 'Class II- local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of the companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
- 5.3 Decisions on complaints relating to implementation of this order shall be taken by the competent authority which is empowered to look into procurement-related complaints relating to the procuring entity.

6.0 Only "Class-I local suppliers and Class-II local suppliers", as defined under the order, shall be eligible for participation against this tender. The offers of 'Non-Local Suppliers' shall not be considered for evaluation against this tender.

=====XXXX=====

(Declaration by the bidder on their letter head)

To, HOD (T&C),
M/s. National Aluminium Company Limited,
Mines
Dist.-Koraput, Odisha-763008

Sub: Declaration of % of Local content along with the place of value addition. (Ref. No: Gol order No: P-45021/2017-PP (BE-II), Dated: 16.09.2020)

Tender Ref. No: **T&C/MINES/ELEC/C-1639**

Dear Sir,

We, M/s. _____ having its office at

(address) hereby confirm that the offered product has _____ %

of the local content.

Following is/are the location(s) at which local value addition is made:

Yours sincerely,

Signature

Name:

Designation:

Contact No.:

It should be noted by bidder that, apart from the declaration submitted by bidder regarding % of local content vide Appendix IX of the NIT, the bidder should also update their MII status on GeM Portal while submitting their bid or creating catalogue.

If there is mismatch in MII declaration submitted by bidder as per Appendix-IX and status of MII as evaluated by GeM then MII status as evaluated by GeM will be treated as final and accordingly tender will be processed.

Compliance of Public order on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 and ORDER NO:F.No.6/18/2019-PPD DATED 23/07/2020 & 24/07/2020

DEFINITIONS

1. GOI vide Order (Public Procurement No.1, 2 & 3) dated 23 Jul 2020 & 24 Jul 2020 has imposed Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 on bidders from a country which shares a land border with India.
2. "Bidder" for the purpose of this Order (Public Procurement No.1, 2 & 3) (including the term 'tenderer', 'consultant' 'vendor' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process
3. "Bidder from a country which shares a land border with India" for the purpose of this Order (Public Procurement No.1, 2 & 3) means
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose beneficial owner is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

Note: "Beneficial owner" for the purpose of above paragraph (3) will be as under:

- i. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person(s), has a controlling ownership interest or who exercises control through other means.

Explanation

- a) "Controlling ownership interest" means ownership of, or entitlement to, more than twenty-five per cent of shares or capital or profits of the company;
- b) "Control" shall include the right to appoint the majority of the directors or to control the management or policy decisions, including by virtue of their shareholding or management rights or shareholder's agreements or voting agreements;
- ii. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
- iii. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical

person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;

- iv. Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
- v. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- vi. "Agent" for the purpose of this Order (Public Procurement No.1, 2 & 3) dtd 23 Jul 2020 & 24 Jul 2020 is a person employed to do any act for another, or to represent another in dealings with third persons.

Rule: Following shall be complied by the Bidders of the said countries while submitting bids.

- A) Any bidder from a country who shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). However, Order will not apply to bidders from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects. Lists of countries to which lines of credit have been extended or in which development projects are undertaken are given in the website of the Ministry of External Affairs. This order shall also not apply to procurement by Indian missions and by offices of government agencies / undertakings located outside India.
- B) **The Bidder shall have to submit declaration / certificate as per the attached Format towards compliance of Public Order on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017. B)**
- C) For works contracts, including Turnkey contracts, the successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. The definition of "Contractor from a country which shares a land border with India" shall be as in paragraph (3) above.

Format for Declaration towards Compliance of Order (Public Procurement No.1, 2 & 3) dtd 23 Jul 2020 & 24 Jul 2020 on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 .

This declaration must form part of all tenders & it contains general information and serves as a declaration form for all bidders. (Before completing this declaration, bidders must study the General Conditions, Definitions, Govt Directives applicable in respect of Public Procurement No.1, 2 & 3) dtd 23 Jul 2020 & 24 Jul 2020 on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 & prescribed tender conditions).

DECLARATION BY AUTHORISED SIGNATORY OF THE FIRM

I, the undersigned , (full names), do hereby declare, in my capacity as of M/s(name of bidder entity), that:

- 1) The facts contained herein are within my own personal knowledge.
- 2) I have read the Order (Public Procurement No.1, 2 & 3) dtd 23 Jul 2020 & 24 Jul 2020 on the subject of Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 regarding restrictions on procurement from a bidder of a country which shares a land border with India and comply to all the provisions of the Order.
- 3) I certify that M/s(name of bidder entity) is not from such a country / ~~is from such a country~~ (**strike out whichever is not applicable**), has been registered with the Competent Authority. I hereby certify that this SUPPLIER fulfils all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority is attached].
- 4) I understand that the submission of incorrect data and / or if certificate / declaration given by M/s(name of bidder entity) is found to be false, this would be a ground for immediate termination and further legal action in accordance with law as per Clause 12 of the Public Order on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017

AUTHORISED SIGNATURE:

DATE: _____

Seal / Stamp of Bidder

LIST OF NALCO APPROVED BANKS**LIST OF PSU BANKS:**

SI No	Name of the Bank	SI No	Name of the Bank
1	Bank of Baroda	10	Oriental Bank of Commerce
2	Bank of India	11	Punjab and Sindh Bank
3	Bank of Maharashtra	12	Punjab National Bank
4	Canara Bank	13	State Bank of India
5	Central Bank of India	14	Syndicate Bank
6	Corporation Bank	15	UCO Bank
7	Dena Bank	16	Union Bank of India
8	IDBI Bank	17	Vijaya Bank
9	Indian Bank		

LIST OF PRIVATE BANKS:

SI No	Name of the Bank	SI No	Name of the Bank
1	HDFC Bank Ltd.	9	The South Indian Bank Ltd.
2	ICICI Bank Ltd.	10	The Karur Vysya Bank Ltd.
3	AXIS Bank Ltd.	11	The Karnataka Bank Ltd.
4	Kodak Mahindra Bank Ltd.	12	IDFC Bank
5	YES Bank	13	RBL Bank
6	Indus Ind Bank Ltd.	14	The Lakshmi Vilas Bank Ltd.
7	The Federal Bank Ltd.	15	Tamilnad Mercantile Bank Ltd.
8	The Jammu & Kashmir Bank Ltd.	16	City Union Bank Ltd.

LIST OF FOREIGN BANKS:

SI No	Name of the Bank	BIC	SI No	Name of the Bank	BIC
1	Abu Dhabi Commercial Bank Limited	ADCB AE AA	19	KEB Hana Bank	KOEX KR SE
2	Australia & New Zealand Banking Group Limited	ANZB AU 3M	20	Krung Thai Bank Public Company Ltd.	KRTH TH BK
3	Bank of America NA	BOFA US 3N	21	Mashreqbank PSC	BOML AE AD
4	Bank of Baharain and Kuwait B.S.C.	BBKU BH BM	22	Mizuho Bank Ltd.	MHCB JP JT
5	Bank of Ceylon	BCEY LK LX	23	National Australia Bank Ltd.	NATA AU 33
6	Barclays Bank PLC	BARC GB 22	24	Sberbank	SABR RU MM
7	BNP Paribas	BNPA FR PP	25	Shinhan Bank	SHBK KR SE
8	Citibank N.A.	CITI US 33	26	Societe Generale	SOGE FR PP
9	Commonwealth Bank of Australia	CTBA AU 2S	27	Sonali Bank Ltd.	BSON BD DH
10	Credit Agricole Corporate & Investment Bank	BSUI FR PP	28	Standard Chartered Bank	SCBL GB 2L
11	Credit Suisse AG	CRES CH ZZ	29	Sumitomo Mitsui Banking Corporation	SMBC JP JT
12	DBS Bank Ltd.	DBSS SG SG	30	The Bank of Nova Scotia	NOSC CA TT
13	Deutsche Bank AG	DEUT DE FF	31	The Bank of Tokyo-Mitsubishi UFJ Ltd.	BOTK JP JT
14	Doha Bank	DOHB QA QA	32	The Hongkong and Shanghai Banking Corp. Ltd.	HSBC HK HH
15	FirstRand Bank Ltd.	FIRN ZA JJ	33	The Royal bank Of Scotland PLC	RBOS GB 2L
16	Industrial Bank of Korea	IBKO KR SE	34	United Overseas Bank Ltd.	UOVB SG SG
17	Industrial & Commercial Bank of China Limited	ICBK CN BJ	35	Westpac banking Corporation	WPAC AU 2F
18	JP Morgan Chase Bank	CHAS US 33	36	Woori Bank	HVBK KR SE

PRICE TO BE QUOTED BY THE BIDDER IN GEM PORTAL

The bidder has to quote the lumpsum price for the contract in the field provided for entering the price in the GeM portal.

The price to be quoted is inclusive of applicable GST for the job, i.e **18%** in this tender.

The price to be quoted in the GeM portal is to be the same as the final value obtained in the BoQ format enclosed in the tender in GeM bid document.

The bidder has to upload the BOQ format in PDF in the GeM portal at the location of financial break up.

PROCEDURE TO FILL UP THE BOQ FOR THE TENDER

- The BOQ for the tender is a part of the GeM bid Document.
- To view the BOQ, download the GeM Bid Document by clicking the bid no of the tender in which participation is to done.
- In the GeM bid document, Search for Excel Upload Required, there the BOQ is attached.
- Download the BOQ.
- Fill the column Unit rate (**excluding GST**) for all the items.
- The price inclusive of GST is automatically calculated by the excel work sheet.
- At the end of the BOQ, total amount of the contract / BOQ including GST @ 18% is visible. This price is to be quoted in the GeM portal at the relevant field.

- Convert the duly filled in BOQ to PDF format and upload in the location earmarked for **financial break up**.

The bidder has to submit the PDF copy of the BOQ format of the tender without prices in the location for Certificates requested in ATC along with other documents as sought in the tender. Non submission of the unpriced PDF copy of the BOQ in the offer shall lead to summary rejection of the offer.

SAMPLE GEM BID DOCUMENT IS ENCLOSED BELOW

SAMPLE GEM BID DOCUMENT FOR REFERENCE



Bid Number/बोली क्रमांक (बिड संख्या):
GEM/2023/B/-----
 Dated/दिनांक :

Bid Document/ बिड दस्तावेज़

Bid Details/बिड विवरण	
Bid End Date/Time/बिड बंद होने की तारीख/समय	
Bid Opening Date/Time/बिड खुलने की तारीख/समय	
Bid Offer Validity (From End Date)/बिड पेशकश वैधता (बंद होने की तारीख से)	(
Ministry/State Name/मंत्रालय/राज्य का नाम	Ministry Of Mines
Department Name/विभाग का नाम	Materials
Organisation Name/संगठन का नाम	National Aluminium Company Limited, Bhubaneswar
Office Name/कार्यालय का नाम	Mines Division,damanjodi,koraput
Item Category/मद केटगरी	Custom Bid for Services -
Contract Period/अनुबंध अवधि	
MSE Exemption for Years of Experience and Turnover/ अनुभव के वर्षों से एमएसई छूट	No
Startup Exemption for Years of Experience and Turnover/ अनुभव के वर्षों से स्टार्टअप छूट	No
Document required from seller/विक्रेता से मांगे गए दस्तावेज़	Certificate (Requested in ATC),Additional Doc 1 (Requested in ATC) *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
Bid to RA enabled/बिड से रिवर्स नीलामी सक्रिय किया	No
Type of Bid/बिड का प्रकार	
Time allowed for Technical Clarifications during technical evaluation/तकनीकी मूल्यांकन के दौरान तकनीकी स्पष्टीकरण हेतु अनुमत समय	3 Days
Evaluation Method/मूल्यांकन पद्धति	Total value wise evaluation
Financial Document Indicating Price Breakup Required/मूल्य दर्शाने वाला वित्तीय दस्तावेज़ ब्रेकअप आवश्यक है	Yes

EMD Detail/ईएमडी विवरण

Advisory Bank/एडवाइजरी बैंक	State Bank of India
EMD Amount/ईएमडी राशि	

ePBG Detail/ईपीबीजी विवरण

Required/आवश्यकता	No
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(a). EMD EXEMPTION: The bidder seeking EMD exemption, must submit the valid supporting document for the relevant category as per GeM GTC with the bid. Under MSE category, only manufacturers for goods and Service Providers for Services are eligible for exemption from EMD. Traders are excluded from the purview of this Policy./जेम की शर्तों के अनुसार ईएमडी छूट के इच्छुक बिडर को संबंधित केटेगरी के लिए बिड के साथ वैध समर्थित दस्तावेज प्रस्तुत करने हैं। एमएसई केटेगरी के अंतर्गत केवल वस्तुओं के लिए विनिर्माता तथा सेवाओं के लिए सेवा प्रदाता ईएमडी से छूट के पात्र हैं। व्यापारियों को इस नीति के दायरे से बाहर रखा गया है।

(b). EMD & Performance security should be in favour of Beneficiary, wherever it is applicable./ईएमडी और संपादन जमानत राशि, जहां यह लागू होती है, लाभार्थी के पक्ष में होनी चाहिए।

Beneficiary/लाभार्थी :

National Aluminium Company Limited
Mines Division,damanjodi,koraput, Materials, National Aluminium Company Limited, Bhubaneswar, Ministry of Mines
(National Aluminium Company Limited)

Splitting/विभाजन

Bid splitting not applied/बोली विभाजन लागू नहीं किया गया.

MII Compliance/एमआईआई अनुपालन

MII Compliance/एमआईआई अनुपालन	Yes
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MSE Purchase Preference/एमएसई खरीद वरीयता

MSE Purchase Preference/एमएसई खरीद वरीयता	
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Details of the Competent Authority for MSE

Name of Competent Authority	
Designation of Competent Authority	
Office / Department / Division of Competent Authority	NALCO MINES
CA Approval Number	
Competent Authority Approval Date	
Brief Description of the Approval Granted by Competent Authority	

Competent Authority Approval for not opting Micro and Small Enterprises Preference : **Document Reference**

1. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

Excel Upload Required/एक्सेल में अपलोड किए जाने की आवश्यकता :

BOQ for

12345678. XLSX

Additional Qualification/Data Required/अतिरिक्त योग्यता /आवश्यक डेटा

Scope of Work:

Service Level Agreement (SLA):

Payment Terms:

GEM Availability Report (GAR):

**Custom Bid For Services -
Mines (1)**

: NALCO

Technical Specifications/तकनीकी विशिष्टियाँ

Specification	Values
Core	
Description /Nomenclature of Service Proposed for procurement using custom bid functionality	.
Regulatory/ Statutory Compliance of Service	YES
Compliance of Service to SOW, STC, SLA etc	YES
Addon(s)/एडऑन	

Additional Specification Documents/अतिरिक्त विशिष्टि दस्तावेज़

Consignees/Reporting Officer/प्रेषिती/रिपोर्टिंग अधिकारी

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	The quantity of procurement "1" indicates Project based or Lumpsum based hiring.	Additional Requirement/अतिरिक्त आवश्यकता
1		763008,PANCHAPATTAMALI BAUXITE MINES.DAMANJODI,KORAPUT,763008	1	N/A

Buyer Added Bid Specific Terms and Conditions/क्रेता द्वारा जोड़ी गई बिड की विशेष शर्तें

1. Generic

OPTION CLAUSE: The buyer can increase or decrease the contract quantity or contract duration up to 25 percent at the time of issue of the contract. However, once the contract is issued, contract quantity or contract duration can only be increased up to 25 percent. Bidders are bound to accept the revised quantity or duration

2. Buyer Added Bid Specific ATC

Buyer Added text based ATC clauses

Note:

- 1) The bidder has to quote the unit rates in the blue colored cells up to two decimals only. Unit rate shall be excluding GST.
- 2) After filing up the BOQ, the value obtained in the TOTAL AMOUNT INCLUDING GST Shall be quoted as the price for the contract in GeM portal.
- 3) The bidder has to convert this EXCEL sheet to PDF and upload the same in GeM portal at the Financial breakup location.

3. Certificates

Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.

Disclaimer/अस्वीकरण

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. Any clause(s) incorporated by the Buyer regarding following shall be treated as null and void and would not be considered as part of bid:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum

issued by DPIIT in this regard.

2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process.
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.


This Bid is governed by the [General Terms and Conditions/सामान्य नियम और शर्तें](#), conditions stipulated in Bid and [Service Level Agreement](#) specific to this Service as provided in the Marketplace. However in case if any condition specified in General Terms and Conditions/सामान्य नियम और शर्तें is contradicted by the conditions stipulated in Service Level Agreement, then it will over ride the conditions in the General Terms and Conditions.

In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws./जेम की सामान्य शर्तों के खंड 26 के संदर्भ में भारत के साथ भूमि सीमा साझा करने वाले देश के बिडर से खरीद पर प्रतिबंध के संबंध में भारत के साथ भूमि सीमा साझा करने वाले देश का कोई भी बिडर इस निविदा में बिड देने के लिए तभी पात्र होगा जब वह बिड देने वाला सक्षम प्राधिकारी के पास पंजीकृत हो। बिड में भाग लेते समय बिडर को इसका अनुपालन करना होगा और कोई भी गलत घोषणा किए जाने व इसका अनुपालन न करने पर अनुबंध को तत्काल समाप्त करने और कानून के अनुसार आगे की कानूनी कार्रवाई का आधार होगा।

---Thank You/धन्यवाद---

Name of Work: Rerouting of part section of 33 KV water intake line from tower no- 58 to pump house 4- pole switch yard, NALCO Mines, Damanjodi.							
Tender No T&C/MINES/ELEC/C-1639							
BILL OF QUANTITIES							
Name of the bidder							
APPLICABLE GST FOR THE TENDER IS 18%							
Sl. No.	Item Description	Unit	Quantity	Unit Rate Excl GST in Rs	Amount Excl GST in Rs	Unit Rate incl 18% GST in Rs	Amount incl 18% GST in Rs
1	2	3	4	5	6	7	8
1	Supply of following complete tower including tower stubs, tower stub setting templates, U-Bolts hangers & related foundation accessories, stub setting templates, complete in all respect as per SOW Annex-1A Sec III cl. no. 4, 5 (i) 02 set of PC type tower (60 degree angle) with + 6 meter extension or as per site engineering requirement.	MT	17.5		0.00	0	0.00
2	Supply of all tower miscellaneous accessories including danger notice plate ,number plate, phase plate circuit plate, anti climbing device with barbed wire, bird guard, foundation bolts, required nos. of GI nut and bolt,step bolts,punching of bolts complete in all respect as per SOW Annex-1A Sec III cl. no. 4, 5 .	Set	2		0.00	0	0.00
3	Supply of AAAC Dog conductor including conductor accessories, armour rod ,vibration damper ,end clamp with cone complete in all respect as per Annx. 1A Sec III cl. 8	Mtr.	1000		0.00	0	0.00
4	Supply of 7x3.15 mm G.I Earth wire and accessories , armour rod ,vibration damper ens clamp etc complete in all respect as per Annx. 1A Sec III cl. 8.5	Mtr.	350		0.00	0	0.00
5	Supply of 120 KN anti fog disc insulators with all double tension hardwares suitable for terminating AAAC dog conductor as per Annx. 1A Sec III cl. 6	set	13		0.00	0	0.00
6	Supply of 120 KN anti fog disc insulators with all single tension hardwares suitable for terminating AAAC dog conductor as per Annx. 1A Sec III cl. 6	set	7		0.00	0	0.00
7	Supply of new DP structure or 152x152 mmx 13 mtr long RS joist/rail pole including supply of channels and angles stay set clamps, nut and bolts etc. as per SOW Annex-1A Sec III cl. no. 8.7 & 10.	set	9		0.00	0	0.00
8	Supply of earthed cradle guard wire as per SOW Annex-1A Sec III cl. no. 8.8.	Meter	800		0.00	0	0.00
9	Supply of earthing material like earth rod,ground enhancement material ,GI Flat as per Anx-1A SEC IV	each	18		0.00	0	0.00
10	Supply of 3 pole, 1250amp., 33 KV gang operated, pole mounted air insulated Off load isolator with both electrical and mechanical interlock as per approved drawings certified by E-I-C and as per Annex-1A Sec III cl. no. 8.9.	set	1		0.00	0	0.00
11	Supply of Porcelain type station class lightning arrester with Ur. 33 KV, 10 KA, 65 KA LD class 4 including connectors, surge counter, insulated base & support, earth bus as per approved drawings certified by E-I-C as per Annex-1A Sec III cl. no. 8.10	Set	3		0.00	0	0.00
12	Detail survey including taking of level profileplotting,tower spotting ,marking of tower location at site (detail as per SOW Annex-1A Sec III cl. no. 3.1.A & 3.1.B) & submission of all drawings, designs	LS	1		0.00	0	0.00
13	Erection of 60 degree angle PC type tower ,setting of tower stubs,including installation of + 6 mtr extension, stub setting templets,erection of super structurers of tower,hoisting and fixing of U-Bolts hangers and string insulator assemblies , fixing of danger notice plate ,number plate ,phase plate circuit plate,anti climbing device with barbed wire,bird guard,supply of required GI nut and bolt,step bolts,punching of bolts and carrying of all other associated works above ground complete in all respect as per SOW Annex-1A Sec III cl. no. 4, 5 & 10.	MT	17.5		0.00	0	0.00

14	Excavation of all kinds of hard rock & soil using mechanized & manual means (blasting prohibited) & including back filling as per SOW Annex-1A Sec III cl. no. 10..	Cubic meter	311		0.00	0	0.00
15	Foundation:Concrete(RCC),GRADE- M25 -providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for RCC work as per Annx. 1A Sec III cl. 5.6 & 10 including pumping of concrete to site of laying INCLUDING the cost of centering,shuttering,finishing and reinforcement including admixture as per IS-9103 to accelerate,retard setting of concrete,improve workability without impairing strength & durability.Including supply of TOR steel cement aggregates, fine sand etc.	Cubic meter	60		0.00	0	0.00
16	Foundation:Concrete (PCC):Providing & laying of PCC(Plain Cement Concrete)in all depths below and upto ground level in foundations fillings,non-suspended floors as per Annx. 1A Sec III cl. 5.6 & 10 including tamping & curing etc. INCLUDING the cost of centering and shuttering.Including supply of	Cubic meter	8		0.00	0	0.00
17	Erection of AAC Dog conductor including Laying,stringing, tensioning, clamping, jointing,jumpering, fixing of armour rod ,vibration damper and termination complete in all respect as per Annx. 1A Sec III cl. 8 & 10	Mtr.	1000		0.00	0	0.00
18	Erection of 7x3.15 mm G.I Earth wire including Laying, stringing ,tensioning,clamping, jointing, jumpering, fixing of armour rod ,vibration damper and termination complete in all respect as per Annx. 1A Sec III cl. 8.5 & 10	Mtr.	800		0.00	0	0.00
19	Erection , hoisting and fixing of 120 KN anti fog disc insulators with all double tension hardware suitable for terminating AAC dog conductor as per Annx. 1A Sec III cl. 6 & 10	set	13		0.00	0	0.00
20	Hoisting and fixing of 120 KN anti fog disc insulators with all single tension hardware suitable for terminating AAC dog conductor as per Annx. 1A Sec III cl. 6 & 10.	set	7		0.00	0	0.00
21	Transportation to site, Erection of new DP structure or 152x152 mmx 13 mtr long RS joist/rail pole including excavation of pole pit of size 900x900x 2000 mm in all kind of soil,base padding of 200 mm thick with 1:2:4 cement concrete before erection of the pole.The pole be erected in truly vertical position , grouting of foundation with 1:2:4 cement concrete by using 20 mm machined stone chips ,fabrication of cross arms and bracings ,painting of one coat primer ,two coat aluminium paint including supply of paints and pating materials ,stay set , clamps ,all other material like bolts and nuts under scope of the vendor as per SOW Annex-1A Sec III cl. no. 8.7 & 10.	set	9		0.00	0	0.00
22	Making & fixing of earthed cradle guard wire as per provision of rules of CEA regulation no. 72 as per SOW Annex-1A Sec III cl. no. 8.8.	Sq. Mtr.	360		0.00	0	0.00
23	Making of earthing system including pits & earth conductors for towers, end terminating structure & cradle guard as per Anx-1A SEC IV	Set	18		0.00	0	0.00
24	Installation,testing and commissioning of 3 pole, 1250amp., 33 KV gang operated, pole mounted air insulated Off load isolator with both electrical and mechanical interlock, mechanical interlock between earth switch and AB switch, mechanical interlock between two AB switch in such a way that when one in closed condition the other one should not be closed, operating rod,locking arrangement with locks,arcing horns ,including clamps and connectors,providing and fixing of MS channel supports,including all labour and materials, as per approved drawings certified by E-I-C as per Annex-1A Sec III cl. no. 8.9.	set	1		0.00	0	0.00
25	Installation, testing and commissioning of Porcelain type station class lightning arrestor with Ur. 33 KV, 20 KA, 65 KA LD class 4 including connectors, surge counter, insulated base & support, earth bus providing and fixing of MS channel supports,including all labour and materials, as per approved drawings certified by E-I-C as per Annex-1A Sec III cl. no. 8.10 (1 set comprise of LA with counter, insulator, base, earth strips)	Set	4		0.00	0	0.00
26	Dismantling of 02 nos DP pole structures and 1 TP rail structures of 33KV transmission line along with all other materials including conductor ,insulators hardware etc and proper stacking thereof with shifting to scrap yard/store as per direction of MIC.	Lumpsum	1		0.00	0	0.00
27	Supply and laying of 40mm size gravel in one layer of 100/150 mm thick including dressing of soil surface and laying the aggregate in uniform layer and density, including all labour and material, as per directions of Engineer-in-Charge.	Cubic meter	6		0.00	0	0.00

28	Supplying,fabricating and fixing of G.I wire mesh fencing with 5mm dia wirefactory welded G.Isquare wiremesh , conforming to IS:2721 fixed to 50x50x6 mm M.S angle support above ground level at 1.8 mtr height including supply of wire mesh ,stretcher bars, staples, painting etc.Supply of all items including wire mesh, structural steel supports, cement, sand, aggregate etc is under the scope of the vendor.	Sq. Mtr.	58		0.00	0	0.00
29	Submission of all As Built drawings, designs, type & routine test certificates of all equipment & systems supplied & erected in Auto Cad & 03 sets of hard copy and including liasoning for approval from DGMS as per details in Appendix-E	Lumpsum	1		0.00	0	0.00
TOTAL AMOUNT INCLUDING GST (THIS VALUE TO BE QUOTED IN THE GEM PORTAL) 							0.00

- Note : 1)** The bidder has to quote the unit rates in the blue coloured cells upto two decimels only. Unit rate shall be excluding GST
- 2)** After filing up the BOQ, the value obtained in the TOTAL AMOUNT INCLUDING GST Shall be quoted as the price for the contract in GeM portal
- 3)** The bidder has convert this EXCEL sheet to PDF and upload the same in GeM portal at the Financial breakup location
- 4)** The name of the bidder is to be filled up in the cell earmarked for the same in green colour



GENERAL CONDITIONS OF CONTRACT

**NATIONAL ALUMINIUM COMPANY LIMITED
NALCO BHAWAN, P-1 NAYAPALLI,
BHUBANESWAR – 751 013**

Web site: www.nalcoindia.com

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SECTION – 1

DEFINITIONS AND INTERPRETATION

1. DEFINITION & INTERPRETATION:

1.1 Definition:

In the contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them except where the context otherwise requires.

- 1.1.1 The ‘Owner’ shall mean the National Aluminium Company Limited (NALCO), a Company incorporated under the Companies Act, 1956 having its registered office at IDCO Tower, 8th Floor, Janapath, Bhubaneswar –751007 or any other place as modified subsequently and shall include its Chairman-cum-Managing Director or other Administrative Officers authorised to deal with these presents are concerned on his behalf posted in the any of the Offices of NALCO and shall also include Owner’s successors and assignees.

The Chairman-cum-Managing Director has nominated the following persons as the representative of the ‘Owner’ for the purpose of all contractual matters.

Smelter	-	General Manager (Smelter)	} Projects
CPP	-	General Manager (CPP)	
Mines	-	General Manager (Mines)	
Alumina	-	General Manager (Alumina)	

- 1.1.2 The ‘Tender’ shall mean the tender submitted by the tenderer for acceptance by the Owner.
- 1.1.3. The ‘Chairman-cum-Managing Director’ shall mean the Chairman-cum-Managing Director of National Aluminium Co. Ltd., or his successors in office as designated by the Owner.
- 1.1.4. The ‘Project Head’ shall mean General Manager/ Deputy General Manager of the Project of National Aluminium Company Ltd., or his successor in office or his authorised representative.
- 1.1.5. The ‘Contractor’ shall mean the person or persons, firm or company whose tender has been accepted by owner and includes the contractor’s legal representatives, his successors and permitted assigns.
- 1.1.6. The ‘Sub-contractor’ shall mean any person or firm or company (other than the contractor to whom any part of the work has been entrusted by the contractor, with the written consent of the owner or his representative and the legal representatives, successors and permitted assignee of such person, firm or company.

- 1.1.7. The ‘Engineer-in-Charge’ shall mean the person nominated by the Owner from time to time and shall include those who are expressly authorised by the Owner to act for and on his behalf for all function pertaining to operation of this contract. All functions pertaining to the operation of contract means all acts necessary for execution of the contract coordinating between the different agencies and final closing of the contract.
- 1.1.8. The ‘Works’ shall mean and include all works to be executed in accordance with the contract or part thereof as the case may and shall include all extras, addition, altered or substituted works as required for the purpose of the contract or as may be required to be executed by the owner/ engineer-in-charge.
- 1.1.9. The ‘Contract’ shall mean the agreement between the Owner and the contractor for the execution of the works including therein all documents such as the invitation to tender, instructions to Tenders, General Conditions of Contract, Special Conditions of Contract, Job Specifications, General Requirements, Time Schedule of Completion of Job, Drawings, Letter of Intent awarding the work, Agreed variations, if any etc.
- 1.1.10. The ‘Contract Document’ shall mean collectively the tender documents, designs, drawings specifications, agreed variations, if any and other documents constituting the tender and acceptance thereof.
- 1.1.11. ‘Constitutional Plant’ shall mean all appliances or things of whatsoever nature required in or about the execution, completion or maintenance of the works or temporary works (as hereinafter defined) but does not include materials or other things intended to form of forming part of the permanent work.
- 1.1.12. ‘Temporary Works’ shall mean all temporary works of every kind required in or about the execution, completion or maintenance of the works.
- 1.1.13. ‘Specifications’ shall mean all directions, various technical specification, provisions, and requirements, attached to the contract, which pertain to the method and manner of performing the work or works to the quantities and qualities of the work or works and the materials to be furnished under the contract for the work or works as may be amplified or modified by the Owner or the Engineer-in-charge during the performance of Contract in order to provide the unforeseen conditions or in the best interests of the work or works. It shall also include the latest edition including all addenda/ corrigenda or relevant Indian Standard Specifications and other relevant codes.
- 1.1.14. ‘Plans’ shall mean all maps, sketches, and layouts as are incorporated in the contract in order to define broadly the scope and specifications of the work or works, and all reproductions thereof.

- 1.1.15. 'Drawings' shall include maps, plans and tracings or prints thereof with any modifications approved in writing by the Engineer-in-Charge and such other drawings as may, from time to time, be furnished or approved in writing by the Engineer-in-charge.
- 1.1.16. 'Foreign consultant' shall mean a person, agency or firm including their successors and assigns, who are nonresidents of India and are responsible for supply of process Technology for expansion plant based on review of existing plant including material flow, energy balance, additional facilities and improvement on the basis of the recent experience.
- 1.1.17. 'Indian Consultant' shall mean a person, agency or firm including their successors and assign who are responsible for detailed engineering and construction management of the project.
- 1.1.18. 'Project manager' shall mean the authorised representative of the consultant posted at site. He shall be responsible for supervision of the work by the contractors as well as coordinate with different agencies within the organisation or otherwise.
- 1.1.19. 'Site' shall mean the lands and other places on, under in or through which the permanent works are to be carried out and any other lands or places provided by the owner for the purpose of the contract.
- 1.1.20. 'Notice in writing or written Notice' shall mean a notice in written, typed or printed characters sent (unless delivered personally or other wise proved to have been received) by registered post to the last known private or business address or registered office of the addressee and shall be deemed to have been received in the ordinary course of post it would have been delivered.
- 1.1.21. The 'Completion Certificate' shall mean the certificate to be issued by the owner or his representative when the works have been completed to his satisfaction.
- 1.1.22. The 'Final Certificate' in relation to the work shall mean the certificate regarding the satisfactory compliance of the various provisions of the contract to be issued by the owner or his representative after the period of liability is over.
- 1.1.23. 'Approved' shall mean approved in writing including subsequent written conformation of previous verbal approval and 'Approval' means approved in writing including as aforesaid.
- 1.1.24. The 'Period of Liability' in relation to a work means the specified period from the date of issue of completion certificate up to the date of issue of final certificate which the contractor stands responsible for rectifying all defects that may appear in the works.

- 1.1.25. The ‘Appointing Authority’ for the purpose of arbitration shall be the Chairman and managing Director or any other person so designated by him.
- 1.1.26. The ‘Alteration Variation Order’ means an order given in writing by the Engineer-in-Charge/ owner to effect additions to or deletions from or alteration in the works.
- 1.1.27. ‘Letter of Intent’ shall mean an intimation by a letter to tenderer that the tender has been accepted in accordance with the provisions contained in the letter.
- 1.1.28. ‘Days’ means a day of 24 hours from mid night irrespective of the number of hours worked in that day.
- 1.1.29. ‘Working Day’ mean any day which is not declared to be holiday or rest day by the Owner.
- 1.1.30. ‘Week’ means a period of any consecutive seven days.
- 1.1.31. ‘Metric System’: All technical documents regarding the construction of works are given in the metric system and all work in the project should be carried out accordingly to the metric system. All documents concerning the work shall also be maintained in the metric system.
- 1.1.32. ‘Value of Contract’ shall mean the sum accepted or the sum calculated in accordance with the prices accepted in tender and / or the contract rates as payable to the contractor for the entire execution and full completion of the work.
- 1.1.33. ‘Headings and Marginal Notes’ in these contract documents are given solely for facility of reference and are not part of the contract documents and are not to be taken into account in the interpretation of the provisions of the contract.
- 1.1.34. ‘Language for Drawings & Instruction’: All the drawings, titles, notes, instruction, dimensions etc. shall be in English Language.
- 1.1.35. ‘Singular and Plural’: The singular shall include the plural and vice versa wherever the context so requires.

SECTION - II

2. FACILITIES TO CONTRACTOR

2.1 Location of Sites and Access by Road:

2.1.1 Locations of Sites:

The general information about Mines Alumina, Aluminium Smelter and Captive power Plants furnished below is of indicative nature only and shall not be considered as binding in any way on the Owner and shall not govern either the scope of work or the nature of the respective rights and the obligations of the parties to such contract.

(a) Alumina Plant and Mines:

Alumina plant is on south-western side of the Panchpatmali hill near Damanjodi village in Koraput District, Orissa State. The site is situated at 12 Km from the national highway No. 43 off Semiliguda village. The Alumina Plant Site has the form of saddle between groups of low hills. The location of Red Mud Pond is in the natural basis of hills situated at a distance of 2 Km from the western side of the plant. The Bauxite mine is located at 14 Km away from the Alumina Plant Site.

(b) Smelter Plant:

Aluminium Smelter is on the Southern side of National Highway No. 42, with its approximate latitude and longitude as 20°51'N and 85°10'E respectively. The area, at a higher elevation in comparison with adjacent land, is not subjected to either normal or flash foods. The prevalent directions of wind are from North-West and West.

(c) Captive Power Plant:

Captive Power Plant is located at Angul, District Angul, Orissa on the south of Talcher Thermal Power Station of Orissa State Electricity Board the main plant site is about 3 Km on the north of the junction of the National Highway Nos. 42 and 23, between the villages Balaram Prasad Patna and Gotamara. The access roads to the main plant site may be taken from either of the highways.

2.1.2. Access by Road:

Contractor, if necessary, shall build other temporary access roads to the actual site of construction for his own work at his own cost. The Contractor shall be required to permit the use of the roads so constructed by him for vehicles of any other parties who may be engaged on the project site. The Contractor shall also facilitate the construction of the permanent roads should the construction thereof start while he is engaged on this work. He shall make due allowance in his tender for any inconvenience he anticipates on such account.

Non-availability of access roads, railway siding and railway wagons for the use of contractor shall in no case condone any delay in the execution of works not be the cause for any claim for compensation against the Owner.

2.2 Water Supply:

2.2.1. Unless other wise provided in the Contract, the Contractor shall be responsible for the arrangements to obtain supply of water necessary for the works, his labour colony, his workshops, his offices etc. All pumping installations, pipe network and distribution system will have to be carried out by the Contractor at his own cost.

2.2.2. The Owner may agree to supply water to the Contractor for use in the Owner's works on specified terms and conditions as shall be determined by the Owner, which shall be binding on the Contractors. The tenderer is however required to exercise his option to receive such water supply from Owner's main at the time of submission of his tender.

2.2.3. When the water is supplied by the Owner, the Owner's main will be within 500 metres form the site of work. The Contractor shall provide at his own cost, all necessary ferrules, pipes, fitting, couplings and tanks and temporary works required and he shall maintain all such works in satisfactory condition. The Contractor shall remove all such works and shall re-instate and make good any work disturbed, to the satisfaction of the Engineer-in-Charge.

2.2.4. In the event of the Contractor's drawing water from the Owner's main/ source, he shall not claim any compensation for interruption or failure of Owner's water supply caused due to any reasons beyond the control of the owner.

2.2.5. The water so supplied by the Owner shall be free of cost for the Constructional work only.

2.3. Power Supply:

2.3.1 Subject to availability, Owner will supply power at 400/440 V at only one point at the nearest substation, from where the contractor will make his own arrangement for temporary distribution. The point of supply will not be more than 500 Metres away from the Contractor's premises. All the works will be done as per IEA regulations and passed by the Engineer-in-Charge. The temporary line will be removed forthwith after the completion of work or if there is any hindrance caused to the other works due to the alignment of these lines, the contractor will re-route or remove the temporary lines at his own cost. The Contractor at his cost will also provide suitable electric metres, fuses, switches, etc. for purposes of payment to the Owner which should be in the custody and control of the Owner. The cost of power supply shall be payable to the owner every month. Rs. 1/- per kWh for power, which will be deducted from the running bills. The owner shall not, however, guarantee the supply of electricity and no compensation for any failure or short supply of electricity will be entertained and this does not relieve the contractor of his

responsibility for timely completion of this works as stipulated in the contract.

- 2.3.2 It shall be the responsibility of the contractor to provide and maintain the complete installation of the load side of the supply with due regard to safety requirement at site. All cabling, equipment, installations etc. shall comply in all respects with the latest statutory requirements and safety provisions i.e. as per and the Central/ State Electricity Acts and Rules etc. The Contractor will ensure that his equipment and Electrical wiring etc. are installed modified, maintained by a licensed Electrician/ Supervisor. A test certificate is to be produced to the Engineer-in-Charge for his approval, before power is made available.
- 2.3.3 At all times, IEA regulations shall be followed failing which the Owner has a right to disconnect the power supply without any reference to the contractor. No claim shall be entertained for such disconnection by the Engineer-in-Charge. Power supply will be reconnected only after production of fresh certificate from authorised electrical supervisors.
- 2.3.4 The Owner is not liable for any loss or damage to the Contractor's equipment as a result of variation in voltage or frequency or interruption in power supply or other loss to the Contractor arising there from.
- 2.3.5 The Contractor shall ensure that the Electrical equipment installed by him are such that average power factor does not fall below 0.90 at his premises. In case power factor falls below 0.90 in any month, he will reimburse to the Owner at the penal rate determined by the Owner for all units consumed during the month.
- 2.3.6 The Power supply required for Contractor's colony near the plant site will be determined by the Owner and shall as per state Electricity Board's Rules and other Statutory provisions applicable for such installations from time to time. In case of power supply to Contractor's colony, the power will be made available at a single point and the Contractor shall make his own arrangement at his own cost for distribution to the occupants of the colony as per Electricity Rules & Acts. The site area and colony shall be sufficiently illuminated to avoid accidents.
- 2.3.7 The Contractor will have to provide and install his own light and power meters, which will be governed as per Central/ State Government Electricity Rules. The meters shall be sealed by the Owner.
- 2.3.8 In case of damage to any of the Owner's equipment on account of fault, intentional or unintentional on the part of the Contractor the Owner reserves the right to recover the cost of such damage from the contractor's bill. Cost of HRC Fuses replaced at the Owner's terminals due to any fault

in the Contractor's installation shall be to contractor's account at the rates decided by the Engineer-in-Charge.

- 2.3.9 Only motors upto 3 HP will be allowed to be started direct on line. For motors above 3 HP and up to 100 HP a suitable starting devices approved by the Engineer-in-Charge shall be provided by the Contractor For Motor s above 100 HP slipping induction motors will suitable starting devices as approved by the Engineer-in-Charge shall be provided by the Contractor.
- 2.3.10 The Contractor shall ensure at his cost that all electric lines and equipment and all installations are approved by the State Electricity Inspector before power can be supplied by the Owner.
- 2.3.11 The total requirement of power shall be indicated by the tenderer along with his tender.

2.4. Land for Contractor's Filed Office, Godown and Workshop :

- 2.4.1. The Owner will at his discretion and convenience and for the duration of the execution of the work may provide the land for construction of Contractor's field office, godown, workshops and assembly yard required for the execution of the contract nearer to the site.

The Contractor shall at his cost construct all these temporary buildings structures and provide suitable water supply and sanitary arrangement as approved by the Engineer-in-Charge and other inspectorates.

- 2.4.2. On completion of the works undertaken by the Contractor, he shall remove all temporary works erected by him and have the site cleared as directed by Engineer-in-Charge. If the Contractor fails to comply with these requirements, the Engineer-in-Charge has the right to remove any structure, such surplus, rubbish materials and depose off the same as he deems fit and get the site cleared and the contractor shall forthwith pay the amount of all expenses so incurred and shall have no claim in respect of any such surplus materials disposed as aforesaid. The Owner reserves the right to ask the Contractor at any time during the pendancy of the contract, to vacate the land by giving 7 (seven) days notice on security reasons or on national interest or otherwise. A token rent of Rs. 100/- (Rupees One hundred only) per hectare or part thereof per annum or part thereof shall be charged for the land so made available.

Land provided shall be solely on licence basis which is terminable by at any time without notice or without assigning any reasons. In the event of any such termination or the termination of the contract/completion thereof, the contractor shall forthwith vacate the premises.

2.5. Land for Residential Accommodation:

Land for residential accommodation for staff and labour may be made available at the discretion of the Engineer-in-Charge and rent for the same will be as decided by the Engineer-in-Charge according to location and the area occupied by the Contractor.

SECTION - III

GENERAL INSTRUCTIONS TO TENDERERS

3. SUBMISSION OF TENDER:

3.1. The documents issued to the tenderers shall be as follows:

- (i) One complete set of tender documents as per index sheet and drawings marked 'ORIGINAL' (To be submitted along-with the quotation).
- (ii) One complete set of tender documents as per index sheet marked 'TENDERER'S COPY' (To be retained by the tenderer for reference).

3.1.1. The tender documents shall be in 2 parts viz. Technical Bid and Price Bid. Technical and Price Bid should be put in separate sealed cover and marked with the tender reference and name of the work. In addition, a note on the Price Bid "Quotation do not open" is to be superscribed. Both the sealed covers are to be put in a single sealed cover. The name of the work the tender reference and date of opening are to be superscribed on this sealed envelope also.

The technical Bid shall be opened in the first instance. Clarifications, confirmations, if any, shall be obtained with regard to technical specifications. After technical specifications are firmed up, if a tenderer revises his price bid, he is required to submit justification in support of the revision made. The price bid shall be opened thereafter.

3.2. If Addenda/ Corrigenda are issued to this tender document, they must be signed, submitted along-with the tender documents. The tenderer should write clearly the revised quantities in schedule of Rates of Tender Document and should price the work based on revised quantities when amendments on quantities are issued in addenda.

3.3. Tenderers are advised to submit quotations based strictly on the terms and conditions and specifications contained in the tender documents and not stipulate any deviations. Should it however become unavoidable, deviations should be stipulated in the prescribed proforma only, contained in the proposal form. Owner reserves the right to evaluate the quotations containing deviations having financial implications, by adding the cost for such deviations are determined by Owner.

3.4. Tenders should be submitted in double sealed envelope with the name of work superscribed thereon and with the note "QUOTATION DO NOT OPEN" written prominently. The full name, postal address and telegraphic address of the tenderer shall be written on the bottom left hand corner of the sealed cover.

4.0. DOCUMENTS:

4.1.1 Bidders shall submit with his bids the particular/ documents as envisaged from Appendix (i) to (x) along with tentative construction net work/ Bar chart for completion of work taking into account various intermediate completion milestones/ component milestones and the overall completion of work under the contract.

4.1.2. Details to be submitted along with tender:

The tenders, as submitted will consist of the following:

The technical Bid and Price Bid shall be submitted as stated in para 3.1.1 Documents to be attached with price bid.

- (i) Complete set of the tender document (marked ORIGINAL) as issued duly filled in by the tenderer as prescribed in different clauses of the tender document, signed and date affixed.

Documents to be attached with Technical Bid.

- (ii) Earnest money in the manner specified in Clause 6 hereof.
- (iii) The following proposal forms in FIVE copies
 - (a) Details of works of similar nature and magnitude carried out during last 5 years as per the Appendix – 1(A)
 - (b) Concurrent commitments of the tenderer as per the Appendix – 1(B).
 - (c) Details of equipments, tools and tackles proposed to be deployed for this work as per the Appendix – (II).
 - (d) Details of manpower proposed to be deployed for this work as per the Appendix – (III), indicating the qualification.
 - (e) Site organisation chart showing number of qualified engineers and supervisors etc. indicating their bio-data as per the Appendix – (IV), indicating the qualification.
 - (f) List of proposed sub-contractors to be deployed as per the Appendix – (V).
 - (g) Progress Billing as per the Appendix – (VI).
 - (h) Information about tenderers as per the Appendix – (VII).
 - (i) List of enclosures as per the Appendix – (VIII).
 - a) Power of attorney
 - b) Income tax & Sales tax clearance certificate.
 - c) Solvency certificate from nationalised Bank
 - d) Documents showing annual turnover.
 - (j) Exception and deviation which tenderer may desire to stipulate as per Appendix – (IX).

4.2 All pages to be initialled:

All signatures in tender documents shall be dated, as well as the pages of all sections of tender documents shall be initialled at the lower right hand corner or signed wherever required in the tender papers by the tenderer or by a person holding power of attorney authorising him to sign on behalf of the tenderer before submission of tender.

4.3. Rates to be in Figures and Words:

The tenderer shall quote in English, in figures and in words for the rates and amount tendered by him in the Schedule of Rates forming part of the documents, in such a way that interpolation is not possible. The amount of each item shall be worked out and entered and requisite total given of all items. The tendered amount for the work shall be entered in the tender and duly signed by the tenderer.

If some discrepancies are found between the rates given in works and figures or the amount shown in the tender, the following procedure shall be followed:-

- a) When there is difference between the rates in figures and words, the rate which corresponds to the amount worked out by the tenderer shall be taken as correct.
- b) When the rate quoted by the tenderer in figures and words tally but the amount is incorrect, the rate quoted by the tenderer shall be taken as correct.
- c) When it is not possible to ascertain the correct rate by either of above methods the rate quoted in words shall be taken as correct.

4.4. Corrections and Erasures:

All corrections and alterations in the entries of tender papers shall be signed in full by the tenderer with date. No erasures or over writings are permissible.

4.5. Signature of Tenderer:

- 4.5.1. The tender shall contain the name, residence and place of business of person or persons making the tender and shall be signed by the tenderer with his usual signature. Partnership firms shall furnish the full names of the partners in the tender. It should be signed in the partnership's name by all the partners or by duly authorised representative followed by the name and designation of the person signing. Tender by a corporation shall be signed by an authorised representative and a power of attorney on the behalf shall accompany the tender. A copy of constitution of the firm with names of all partners shall be furnished.
- 4.5.2. When the tenderer signs a tender in a language other than English, the total amount tendered should in addition be written in the same language. The signature should be attested by at least one witness.

4.6 Witness: Witness and sureties shall be persons of status and property. Their name occupation and address shall be stated below their signature.

5. TRANSFER OF TENDER DOCUMENTS:

Transfer of tender document purchased by one intending tenderer to another is not permissible.

6. EARNEST MONEY:

6.1. The tenderer must pay earnest money as given in the Letter/ Notice Inviting Tenders. Tenders not accompanied with earnest money deposit will be rejected. The earnest money can be paid in cash or by crossed demand draft or fixed deposit or Bank Guarantee from any Nationalised/ Scheduled Bank or Insurance Guarantee in the prescribed proforma as indicated in the tender document in favour of National Aluminium Company Ltd.

6.2. The Bank Guarantee so furnished by the tenderer shall be only in the proforma prescribed by the Owner and valid for six months from the date of opening of the tender. No interest shall be paid by the Owner on the Earnest Money deposited by the tenderer.

7. **VALIDITY:** Tender submitted by tenderers shall remain valid for acceptance for a period of four months from the date of opening of the tender. The tenderers shall not be entitled during the said period of four months, without the consent in writing of the Owner, to revoke or cancel his tender or to vary the tender given or any term thereof. In case of tenderer revoking or canceling his tender or varying any terms in regard thereof without the consent of a Owner in writing, the earnest money paid by him along-with the tender shall be forfeited.

8. ADDENDA/ CORRIGENDA:

8.1. Addenda/ Corrigenda to the tender documents may be issued prior to the date of opening of the tenders to clarify documents or to reflect modification in the design or contract terms.

8.2. The Addenda/ Corrigenda will be issued in duplicate to each person or organisation to whom a set of tender documents has been issued. Each recipient should acknowledge the receipt of the same and attach one copy of the addenda/ corrigenda along-with his offer. All addenda/ corrigenda issued shall become part of Tender Documents.

9. RIGHT OF OWNER TO ACCEPT OR REJECT TENDER:

9.1. The right to accept the tender will rest with the Owner. The Owner further does not bind himself to accept the lowest tender and reserves the authority to reject any or all the tenders received without assigning any reason whatsoever. The whole work may be split up between two or more contractors or accepted in part (not entirely) if considered expedient. The quoted rates would hold good for such eventualities. Tenders in which any of the particulars and prescribed information are missing or incomplete in any respect and / or the prescribed conditions are not

fulfilled are liable to be rejected. The decision for the owner in respect of the above shall be final and binding on the contractor.

9.2. Canvassing in connection with tenders is strictly prohibited. The submitted tenders of the tenderers who resort to canvassing are liable to rejection. Tenders containing uncalled remarks or any additional conditions are liable to be rejected.

10. THE SCHEDULE:

10.1. The work shall be executed strictly as per the Time Schedule given in Appendix –1. The period of construction given in time Schedule includes the time required for mobilisation as well as testing, rectification if any, re-testing and completion in all respects to entire satisfaction of the Engineer-in-Charge.

10.2. A joint programme of execution of the work will be prepared by the Engineer-in-Charge and contractor based on priority requirement of this project. This programme will take into account the time of completion mentioned in 19.1 above and the time allowed for the priority works by the Engineer-in-Charge.

10.3. Monthly/ weekly construction programme will be drawn up by the Engineer-in-Charge jointly with the Contractor, based on availability of work fronts and the joint construction programme as per 10.2 above. The contractor shall scrupulously adhere to these targets/ programs by deploying adequate personnel construction tools and tackles and he shall also supply himself materials of his scope of supply in good time to achieve the targets/ programmes. In all matters concerning the extents of targets set out in the weekly and monthly programmes and the degree of achievement, the decision of the Engineer-in-Charge will be final and binding on the contractor.

10.4. CONSTRUCTION SCHEDULE AND PRESENTATION:

The construction schedule shall be in the form of network of PERT CHART/ CPM or other suitable presentation for the programme of the work indicating therein the different components item of works and time required for completion of each components item wise/ month wise season wise so as to complete the work in all respects within the stipulated period. Before award of the work the contractor is also required to make the presentation to satisfy owner of their proposal for construction schedule in the form of BAR CHART and organizational resources, equipments, machinaries, manpower to be deployed for timely completion of the project.

11. TENDERER'S RESPONSIBILITY:

The intending tenderers shall be deemed to have visited the site and familiarised themselves thoroughly with the site conditions before submitting the tender. Non-familiarity with the site conditions will not be considered a reason either for extra claims or for not carrying out the works in strict conformity with the drawings and specifications.

12. RETIRED GOVERNMENT OR COMPANY OFFICERS:

No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering department of the State/ Central Government or of the owner is allowed to work as a contractor for a period of two years after his retirement from Government service or from the employment of the Owner without the previous permission of the Owner. The contract if awarded, is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person, who had not obtained permission of the owner as aforesaid before submission of tender or engagement in the contractor's service as the case may be.

13. SIGNING OF THE CONTRACT:

The successful tenderer shall be required to execute an agreement with the Owner in the proforma attached with tender document within 10 days of the receipt by him of the notification of acceptance of the tender. In the event of failure on the part of the successful tenderer to sign the agreement within the above stipulated period, the earnest money or his initial security deposit will be forfeited and the acceptance of the tender shall be considered as cancelled. No bills shall be payable unless the agreement is executed.

14. FIELD MANagements AND CONTROLLING AUTHORITY:

14.1 The field management will be responsibility of the Project Manager posted at site by the consultant and nominated by the owner. The Project manager shall work in accordance with the directions given to him from time to time by the project head.

14.2. The Engineer-in-Charge shall only co-ordinate with the other agencies engaged to work at site, to ensure minimum disruption of work carried out by different agencies. It shall be the responsibility of the contractor to plan and execute the works strictly in accordance with site instructions and avoid hindrance to the works being executed by other agencies. The instructions of the Engineer-in-Charge shall be binding on the contractor.

15. NOTE TO SCHEDULE OF RATES:

15.1. The schedule of rates should be read in conjunction with all the other sections of the tender.

15.2. The tenderer shall be deemed to have studied the drawings, specifications and details of work to be done within time schedule and to have acquainted himself of the conditions prevailing at site.

15.3. Rates must be filled in the original tender document. If quoted in separate typed sheets, no variation in time description or specification shall be accepted. Any exceptions taken by the tenderer to the schedule of rates shall be brought out in the terms and conditions of offer.

15.4. The quantities shown against the various items are only approximate. Any increase or decrease in the quantities shall not form the basis of alternation of the rates quoted and accepted.

15.5. The owner reserves the right to interpolate the rates for such items of work falling between similar items of lower and higher magnitude.

SECTION - IV GENERAL OBLIGATIONS

16. INTERPRETATION OF CONTRACT DOCUMENTS:

- 16.1. Complete documents forming the contract are to be taken as mutually explanatory. Should there be any discrepancy, inconsistency, error or omission in the contracts or any of them the matter may be referred to Engineer-in-Charge who shall give decisions and Issue to the contractor instructions directing in what manner the work is to be carried out. The decision of Engineer-in-Charge shall be final and conclusive and the contractor shall carry out work in accordance with this decision.
- 16.2. Works shown in the drawing but not mentioned in the specification or described in specification but not shown in the drawings shall nevertheless be deemed to be included in the same manner as if they had been specifically shown upon the drawings as well as described in the specifications.
- 16.3. Unless otherwise stated specifically, the 'singular' shall also mean 'plural' and vice versa wherever the context so requires words implying 'persons' shall include relevant 'corporate companies or registered association' or 'body of individuals' or 'firm of partnership' as case may be.

17. SPECIAL CONDITIONS OF CONTRACT:

- 17.1. Special Conditions of Contract shall be read in conjunction with the General Condition of Contract Specifications of work, drawing and any other documents forming part of this contract wherever the context so requires.
- 17.2. Notwithstanding the sub-divisions of the documents into the separate sections and volumes each part shall be deemed to be supplementary to complementary of every other part and shall be read with and into the contract so far as it may be practicable to do so.
- 17.3. In case of any discrepancy between various sections of the contract, the following order of preference shall be observed.
 - (1) Schedule of quantities
 - (2) Technical specifications
 - (3) Special Conditions of Contract
 - (4) General Conditions of Contract
- 17.4. Wherever it is mentioned in the specifications that the Contractor shall perform certain work or provide certain facilities it is understood that the Contractor shall do so at his cost.
- 17.5. The materials, design and workmanship shall satisfy the relevant Indian Standard, the job specifications contained herein and codes referred to.

Where the job specifications stipulate the requirements in addition to those contained in the standard codes and specification, these additional requirements shall also be satisfied.

18. Tenderer to Obtain his Own Information:

- 18.1. The tenderer shall for all purposes and whatsoever reason may be, deemed to have himself independently obtained all necessary information for the purpose of preparing his tender. The correctness of the details given in the Tender Document as guideline information to help the tenderer but to make-up the tender is not guaranteed.
- 18.2. The tenderer shall be deemed to have examined the tender documents, to have obtained his own information in all matters whatsoever that might influence carrying out of the works at the scheduled rates and satisfied himself to the sufficiency of his tender. Any error in description or quantity or omission therefrom shall not vitiate the contract or release the contractor from executing the work comprised in the contract according to drawings and specifications at the scheduled rates. He is deemed to know the scope, nature and magnitude of the works, the requirements of materials and labour involved etc. and as what works he has to complete in accordance with the contract document whatever be the defects, omissions or errors that may be found in the Contract Document. The contractor shall be deemed to have visited site and surroundings areas, to have satisfied himself to the nature of all existing structures, and also as to the nature and the conditions of available facilities like Railways, roadways, bridges culverts, means of transport and communications like by land, water or air and possible interruptions thereto the access to and egress from site and to have made enquiries, examined satisfied himself of the sites for obtaining sand, stones, bricks and other materials, the sites for disposal of surplus materials, the available accommodation like depots, buildings as may be necessary for executing and completing the works, to have made local independent enquiries as to the sub-soil water and variations thereof, storms, prevailing winds and climatic conditions and all other similar matters affecting the works. He is deemed to have acquainted himself his liability for payment of Government Taxes, Customs Duties and other charges.
- 18.3. Any neglect or failure on the part of the tenderer in obtaining necessary and reliable information or issues stated at 18.2 or any other matters affecting the contract shall not relieve him from any risks or liabilities or the entire responsibility for completion of the works at the scheduled rates and time in strict accordance with the contract documents.
- 18.4. Any change in layout due to site conditions or technological requirement shall be binding on the contractor and no extra claim on this account shall be entertained.

18.5. No verbal agreement or inference from conversation with any officer or employee of the Owner either before, during or after the execution of the contract agreement shall in any way affect or modify and of the terms or obligations herein contained.

19. Security Deposit:

19.1. A sum of 10% of the accepted value of the tender or actual value of the work done whichever is higher for contracts not exceeding Rs. 1 Crore, 7 1/2 % for the value of contracts over Rs. 1 up to Rs. 5 crores and 5% for the value of contracts over Rs. 5 crores shall have to be deposited by the person/ persons (hereinafter called as contractor) as security deposit with the owner until the expiry of defect liability period.

19.2. This may be deposited initially at 2 1/2% of the value of the contract (referred as initial Security deposit) within 20 days of receipt by him of the notification of acceptance of tender and the balance will be recovered in installments through the deduction @ 10% of the gross value of the each running account bill for the contract upto Rs. 1 crore, 7 1/2 % for contract between Rs. 1 to Rs.5 crores and 5% for contract over Rs. 5 crores, till total security deposit is collected. No further deduction from the bills will be made on this account subject to clause 19.6 below.

19.3. Alternatively the contractor may at his option to deposit the full amount percentage as mentioned 19.1 above towards deposit within 10 days of issue of notification accepting his tender. This amount will have to be suitably enhanced to the tune of above percentage of the executed value.

19.4. The earnest money deposited with the tender shall be adjusted towards security deposit.

19.5. Contractor can furnish the initial or total security deposit amount (a) in Demand Draft or (b) through a Bank Guarantee from any Scheduled bank in the prescribed proforma.

19.6. If contractor /sub-contractor or their employees damages, breaks, deface or destroy the property belonging to the owner or other during the execution of the contract, the same shall be made good by the contractor at his own expense and in default thereof; the Engineer-in-Charge may cause the same to be made good by other agencies and recover expenses from the contractor (for which the certificate of Engineer-in-Charge shall be final).

19.7. All compensation or other sums of money payable by the contractor to the Owner or recoveries to be made under terms of this contract may be deducted from or paid by the sale of a sufficient part of his security deposit or from any sums which may be due or may become due to the contractor by the Owner on any account whatsoever. In the event of his security being reduced by reasons of any such deduction or sale, the contractor shall within ten days

thereafter make good in cash, bank drafts, any sum or sums which may have fallen short or Security deposit amount or any part thereof. No interest shall be payable by the Owner for sum deposited as security deposit.

- 19.8. The security deposit will be refunded after the expiry of the period of liability as stipulated in the contract.

20. Forfeiture of Security Deposit:

Whenever any claim against the Contractor for the payment of a sum of money arises out of or under the contract, the Owner shall be entitled to recover such sum by appropriating in part or whole the security deposit of the contractor, and to sell any Government securities, etc. forming whole or part of such security deposit. In the event of security being insufficient or if no security has been taken from the contractor, then the balance or the total sum recoverable as the case may be, shall be deducted from any sum then due or which at any time thereafter may become due to the contractor. The contractor shall pay to the Owner on demand any balance remaining due.

In the event of any breach by the contractor or any loss or damage occasioned to the owner which in the opinion of the owner has arisen, the decision whereof shall be final and binding on the contractor or in the event of the termination of the contract for any such breach, the security deposit is liable to be forfeited. The decision of forfeiture by the Owner shall be final and binding on the contractor.

21. Time of performance:

The work covered by this contract shall be commenced within twenty one days after the issue of the letter of acceptance of tender and be completed in stages on or before the dates as mentioned in the time schedule of completion of works. The contractor should bear in mind that time is the essence of the contract, unless such time be extended pursuant to the provision of clause No.22 Request for Revision of Construction time after tenders are opened will not receive consideration. The above period of twenty one days is included within the overall completion schedule, not over and above the completion time.

22. Extension of Time.

- 22.0. The application for extension of time is to be given to project head through the engineer –in-charge and the project head may authorise extension of time after considering the due merits.

Whenever extension of time is granted by the project head, the same shall be on the existing terms and conditions of the contract and without any additional financial liability to the Owner. The contractor in any case shall have no claim whatsoever for any type of compensation on account of any delay attributable to any one.

23. Force Majeure:

- 23.1 Any delays in or failure of the performance of either parties thereto shall not constitute default hereunder or give rise to any claims for damages, if any, to the extent such delays or failure of performance caused by occurrences such as acts of God or the public enemy, expropriation or confiscation of facilities by Government authority, compliance with any order or request of any Governmental authorities, acts or war rebellion, sabotage, fire, floods, explosions riots or illegal strikes, provided always that such occurrences result in impossibility of performances of the contract.
- 23.2 Only events of Force Majeure which impedes the execution of the contract at the time of its occurrence shall be taken into cognizance.

24. Compensation For Delay:

- 24.1. Time is essence of the contract. In case the contractor fails to complete the work within the stipulated period, he shall be liable to pay to the Owner as compensation, an amount equal to 1% of the value of contract per week of the delay subject to a maximum of 10% of the value of the contract. This is a genuine pre-estimate of the loss/ damage which will be suffered on account of delay /breach on the part of the contractor and he agrees to pay the said amount on demand without going in for any proof of the actual loss or damages caused by such delay/ breach.
- 24.2. To ensure good progress during execution of work, the contractor shall be bound in all case in which the time allowed for any work exceeds by one month to complete one-fifth of the work before one-fourth of the time allowed under the contractor has elapsed, three-eighth of the work before the half of such time has elapsed and three-fourth of the work before three-fourth of such time has elapsed. In the event of the contractor failing to comply with this condition, he shall be liable to pay as compensation for delay an amount as stipulated above. The compensation for delay so paid shall not relieve the contractor from his obligations to complete the work or from any other obligations and liabilities under this contract.

25. Failure by the Contractor to Comply with the Provisions of the Contract:

- 25.1. If the contractor refuses or fails to execute the work or any separate part thereof with such diligence as will ensure its completion within the time specified in the contract or extension thereof or fails to perform any of his obligation under the Contract or in any manner commits a breach of any of the provisions of the contract it shall be open to the Owner at its option by written notice to the Contractor to: -
- (a) **Determine the Contract:** In which event the Contract shall stand terminated and shall cease to be in force and effect on and from the date appointed by the Owner on that behalf, whereupon the contractor shall stop forth with any of the contractor's work then in progress, except such work as the Owner may, in writing, requires to be done to safeguard any property or work, or

installations from damage, and the owner, for its part, may take over the work remaining unfinished by the Contractor and complete the same through fresh contractor or by other means, at the risk and cost of the Contractor, and any of his sureties if any, shall be liable to the owner for any excess cost occasioned by such work having to be so taken over and completed by the Owner over and above the cost at the rates specified in the schedule of quantities and rates.

- (b) **Without determining the Contract:** To take over the work of the contractor or any part thereof and complete the same through a fresh contractor or by other means at the risk and cost of the Contractor. The contractor and any of his sureties are liable to the Owner for any excess cost over and above the cost at the rates specified in the schedule of quantities/ rates, occasioned by such works having been taken over and completed by the Owner. Besides, the contractor shall also be liable for any compensation accruing under clause 24.
- (c) In other cases, the decision of the Owner is binding on the contractor.

25.2. In such events of clause 25.1 (a) or (b) above

- (a) The whole or part of the security deposit furnished by the Contractor is liable to be forfeited without prejudice to the right of the Owner to recover from the contractor the excess cost referred to in the sub-clause aforesaid, the Owner shall also have the right of taking possession and utilizing in completing the works or any part thereof, such of materials, equipment and plants available at work site belonging to the contractor as may be necessary and the Contractor shall not be entitled for any compensation for use or damage to such materials, equipment and plant.
- (b) The amount that may have become due to the Contractor on account of work already executed by him shall not be payable to him until after the expiry of six (6) calendar months reckoned from the date of termination of contract or from the taking over of the work or part thereof by the Owner as the case may be, during which period the responsibility for faulty materials or workmanship in respect of such work shall under the contract, rest exclusively with the contractor. This amount shall be subject to deduction of any amounts due from the Contractor to the Owner under the terms of the contract authorised or required to be reserved or retained by the Owner.

25.3. Before determining the contract as per clause 25.1 (a) or (b) provided in the judgement of the Owner, the default or defaults committed by the Contractor is/are curable and can be cured by the Contract if an opportunity given to him, then the Owner may issue notice in writing calling the Contractor to cure the default within such time specified in the notice.

25.4. The Owner shall also have the right to proceed or take action as per 25.1 (a) or Clause 25.1(b) above, in the event that the contractor becomes bankrupt, insolvent, compounds with his creditors, assigns the contract in favour of his

creditors or any other person or persons or being a company or a corporation goes into liquidation, provided that in the said events it shall not be necessary for the Owner to give any prior notice to the contractor.

- 25.5. Termination of the Contract as provided for in sub-Clause 25.1 (a) above shall not prejudice or affect their rights of the Owner which may have accrued upto the date of such termination.

26. Contractor Remains Liable to Pay Compensation if Action Not Taken Under Clause 25.

In any case in which any of the powers conferred upon the owner by clause 25 hereof shall have become exercisable and the same had not been exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any further case of default by the contractor for which by any clause or clauses hereof he is declared liable to pay compensation amount to the whole of his security deposit and the liability of the contractor for past and future compensation shall remain unaffected. In the event of the Owner putting in force the powers vested in him under the proceeding clause no. 25 he may if he do so desires, take possession of all or any tools and plants, materials and stores in or upon the works of the site thereof belonging to the contractor or procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in account at the contract rates or in case of these not being applicable at current market rates to be certified by the Engineer-in-Charge whose certificate thereof shall be final, otherwise the Engineer-in-Charge may give notice in writing to the contractor or his clerk of the works, foremen or other authorised agent, requiring him to remove such tools, plant, materials or stores from the premises (within a time to be specified in such notice), and in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expenses or sell them by auction or private sale on account of the contract and at his risk in all respects without any further notice as to the date, time or place of sale and the certificate of the Engineer-in-Charge as to the expense of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

27. No Compensation For Alteration in or Restriction of Work:

At any time from the commencement of the work if the Owner decides for whatsoever reason, not to carryout the whole work or part thereof as specified in the tender, then owner shall give notice in writing of the fact to the contractor, who shall have no claim to any payment or compensation on whatsoever account (profit or advantage which he might have derived by executing the work in full) neither shall he have any claim for compensation by reason of any alterations having been made from the original specifications, drawings, designs and instructions which may involve any curtailment of the work as originally contemplated.

28. Change in Constitution:

When the contractor is a partnership firm the prior approval in writing from the Owner shall be obtained before any changes are made in the constitution of the firm, where the contractor is an individual or a Hindu undivided family business concern. Such approval as aforesaid shall, like wise be obtained before such contractor enters into any agreement with other parties, where under the reconstituted firm would have the right to carry out the work hereby undertaken by the contractor. In either case if prior approval is not obtained. The contractor shall be deemed to have been allotted in contravention of Clause - 34 hereof and the action and consequence shall ensure as provided in that clause.

29. Termination of Contract For Death:

If the Contractor is an individual or a proprietary concern and the individual or the proprietor dies or if the contractor is a partnership concern and one of the partners dies then, unless the Owner is satisfied that the legal representative of the individual or the proprietary concern or the surviving partners are capable of carrying out and completing contract, he (the Owner) is entitled to cancel the contract for the uncompleted part without being in any way liable for any compensation payment to the estate of the diseased contractor and/or to the surviving partners of the contractor's firm on account of the cancellation of contract. The decision of the Owner in such assessment shall be final and binding on the parties. In the event of such cancellation, the Owner shall not hold the estate of the diseased contractor and / or the surviving partners of the contractor's firm liable for any damages for non-completion of contract.

30. Members of the Owner Not individually Liable:

No Director or official or employee of the Owner shall in any way be personally bound or liable for the acts or obligations of the Owner under the contract or answerable for any default or omission in the observance or performance of the acts, matters or things which are herein contained.

31. Owner Not Bound by Personal Representation:

The Contractor shall not be entitled to any increase on the scheduled rates or any other rights or claims whatsoever by reason of any representation, explanation, statement or alleged understanding promise or guarantees given or to have been given to him by any person.

32. Contractors Office at Site:

The Contractor shall provide and maintain an office at the site for the accommodation of his agent and staff and such office shall be open at all reasonable hours to receive instructions, notices or other communications. The contractor at all time shall maintain a site instruction book and compliance of these shall be communicated to the Engineer –in-Charge from time to time and the whole document to be preserved and handed over after completion of works.

33. Contractor's Sub-ordinate Staff and their conduct :

- 33.1. The contractor on award of the work shall name and depute a qualified engineer having sufficient experience in carrying out work of similar nature to whom the equipment, materials if any, shall be issued and instruction for works given. The contractor shall also provide to the satisfaction of the Engineer-in-charge sufficient and qualified staff to supervise the execution of the works, competent sub-agents, foremen and leading hands including those specially qualified by previous experience to supervise the types works comprised in the contract in such manner as will ensure the best quality and expeditious working. At any time of in the opinion of the Engineer-in-Charge any additional, qualified experienced staff is considered necessary, they shall be employed by the contractor without additional charge. The contractor shall ensure to the satisfaction of the Engineer-in-Charge that sub-contractors, if any, shall provide competent and efficient supervision over the work entrusted to them.
- 33.2. If any of the contractor's sub-contractor's, agents, sub-agents, assistants, foremen or any employee in the opinion of Engineer-in-Charge be guilty of any misconduct or be incompetent or insufficiently qualified or negligent in the performance of their duties or that in the opinion of the Owner Engineer-in-Charge, undesirable for administrative or any other reasons, for such or person (s) to be employed on the works, then at the directions of Engineer-in-Charge the Contractor shall at once remove such person (s) from employment with the works without the written permission of the Engineer –in-Charge. Vacancy so created shall be immediately filled at the expenses of the contractor by a qualified and competent substitute. Should the contractor be requested to repatriate any person removed from the works he shall do so and shall bear all costs in connection therewith.
- 33.3. The contractor shall be responsible for the proper behaviour of all the staff, foremen, workmen and others, shall exercise proper degree of control over them and in particular without prejudice to the said generality the contractor shall be bound to prohibit/ prevent any employees from trespassing or acting in any way detrimental or prejudicial to the interest of the community or the properties or the occupiers of land or properties in the neighborhood. In the event of such trespassing, the contractor shall be responsible for all consequent claims or actions for damages or injury or any other grounds whatsoever. The decision of the Engineer-in-Charge upon any matter arising under this clause shall be final.
- 33.4. If and when required by the Owner, all contractor's personnel entering upon the owner's premises shall be properly identified by badges of a type acceptable to the owner which must be worn at all times on Owner's premises.

33.5. It is made clear that no relationship of employer and employee is created between the owner and the contractor labourer and no claim for employment of any such labourer shall be tenable or entertained.

34. Sub-Letting Work:

34.1. No part of the contract nor any share or interest there in shall in any manner or degree be transferred, assigned or sublet by the contractor directly or indirectly to any person, firm or corporation whatsoever except as provided for in the succeeding sub-clauses without the consent in writing of the Owner.

34.2. Sub – Contracting of Works:

The Engineer-in-Charge may give written consent to sub-contract for the execution of any part of the works at the site, provided the contractor submits each individual sub-contract to the Engineer-in-Charge for approval of mode of operation and agency for the work. The contractor is advised not to enter into contract before the consent of Engineer-in-Charge.

34.3. List of sub-contracted works to be furnished:

At the commencement of each month, the contractor shall furnish to the Engineer-in-charge, a list of sub-contractors, persons or firms engaged by the contractor and worked at the site during the previous month with particulars like general nature of the sub-contract or works done by them.

34.4. Contractor's liability not Limited by Sub-Contractors:

Notwithstanding any sub-letting with such approval as aforesaid and notwithstanding that the Engineer-in-Charge shall have received copies of any sub-contracts, the contractors shall be and shall remain solely responsible for the quality and proper and expeditious execution of the works and the performance of all the conditions of the contract in all respects as if such sub-contract or sub-letting had not taken place, and as if such work had been done directly by the contractor.

34.5. Owner may terminate sub-contracts:

If any sub-contractor engaged upon the works at the site executes any work which in the opinion of the Engineer-in-Charge is not in accordance with the contract documents, the owner may by written notice to the contractor request him to terminate such sub-contract. The contractor upon the receipt of such notice shall terminate and dismiss the sub-contract and the sub-contractor. The owner shall have the right to remove such sub-contractor from the site if contractor fails to vacate the sub-contractor immediately.

34.6. No remedy for action taken under this clause:

For action taken by the owner under the clause shall not relieve the contractor of any of his liabilities under the contract or give rise to any right or compensation, extension of time or otherwise.

35. Power of Entry:

If the contractor shall not commence the work in the manner described in the contract documents or if he at any time in the opinion of the Engineer-in-Charge.

- (i) fail to carry on the works in conformity with the contract documents or
- (ii) fail to carry on the works in accordance with the contract schedule or
- (iii) substantially suspend work or the works for a period of fourteen days without authority from the Engineer-in-Charge or
- (iv) fail to carry on and execute the works to the satisfaction of Engineer-in-Charge or
- (v) fail to supply sufficient or suitable constructional plant, temporary works, labour materials or other things or
- (vi) Commit, suffer or permit any other breach of any of the provisions of the contract on his part to be performed or observed or persist in any of the above mentioned breaches of the contract for fourteen days, after notice in writing shall have been given to the contractor by the Engineer-in-Charge requiring such breach to be remedied or
- (vii) If the contractor abandons the works or
- (viii) If the contractor during the continuance of the contract shall become bankrupt, make any arrangement or composition with his creditors, or permit any execution to be levied or go into liquidation whether compulsory or voluntary not being merely a voluntary liquidation for the purpose of amalgamation or reconstruction then in any such case, the owner shall have the power to enter upon the works and take possession thereof and of the materials, temporary works, constructional plant, and stock thereon, and to revoke the contractor's licence to use the same, and to complete the works by his agents, other contractors, or workmen, or to relate the same upon any terms and to such other person, firm or corporation as the Owner in his absolute discretion may think proper to employ and for the purpose aforesaid to use or authorize the use of any materials, temporary works, constructional plant, and stock as aforesaid, without making payment or allowance to the contractor for the said materials other than such as may be certified in writing by the Engineer-in-Charge to be reasonable, and without making any payment or allowance to the contractor for the use of temporary said works, constructional plant and stock or being liable for any loss or damage thereto and if the Owner shall by reason or his taking possession of the work or of the works being completed by other contractor (due account being taken of any such extra work or works which may be omitted) than the amount of such excess as certified by the Engineer-in-Charge shall be deducted from any money which may be due for work done by the contractor under the contract and not paid for any deficiency shall forthwith be made good and paid to the Owner by the contractor and the Owner shall have power to sell in such manner and for such price as he may think fit all or any of the constructional plan, materials etc. constructed by or belonging to and

to recoup and retain the said deficiency or any part thereof out of the proceeds or the sale.

36. Contractor's Responsibility with other Agencies:

36.1 Without repugnance to any other condition, it shall be the responsibility of the contractor executing the work of civil construction to work in close cooperation and to coordinate in the works with the mechanical, electrical, air-conditioning and intercommunication contractors and other agencies or their authorised representatives, in providing the necessary grooves, recesses, cuts and opening etc. in wall, slabs beams and column etc. and making good the same to the desired finish as per specification, for the placement of electrical and intercommunication cables, conduits, air-conditioning inlets and outlets, grills and other equipment in the false ceiling and other partitions, the contractor before starting up the work shall in consultation, with the electrical, mechanical, inter-communication, air-conditioning contractors and other agencies prepare and put up a joint scheme, showing the necessary opening, grooves, recesses, cuts, the methods of fixing required for the works of the aforesaid, and the finishes therein, to the Engineer-in-Charge and get the approval. The contractor before finally submitting the scheme to the Engineer-in-Charge, shall have the written agreement of the other agencies. The Engineer-in-Charge, before communicating his approval to the scheme, with any required modifications shall get the final agreements of all the agencies, which shall be binding. No claim shall be entertained on account of the above.

36.2 The contractor shall conform in all respect with the provisions any statutory regulation, ordinance or bye-laws of any local or duly constituted authorities or public bodies which may be applicable from time to time to the works or any temporary works. The contractor shall keep the Owner indemnified against all penalties and liabilities of every kind, arising out of non-adherence to such statutes, ordinances, laws, rules, regulations, etc.

37. Other Agencies at Site:

The contractor shall have to execute the work in such place and condition where other agencies will also be engaged for other works such as site grading, filling and leveling, electrical and mechanical engineering works etc. No claim shall be entertained due to work being executed in the above circumstances.

38. Serving of Notices:

38.1. To the Contractor:

Any notice may be served on the contractor or his duly authorised representatives at the job site or by registered mail directly to the address furnished by the contractor. Proof of issue of such notice should be conclusive of the contractor having been duly informed of the contents.

38.2. To the Owner:

Any notice to be given to the Owner under the terms of the contract shall be served by sending the same by Registered mail to or delivering the same at the respective site offices of M/s. National Aluminium Co. Ltd. addressed to the head/ site in-charge.

38.3. Rights of various Interests:

- (i) The Owner reserves the right to distribute the work between more than one contractor. The contractor shall cooperate and afford the other contractors all reasonable opportunity for access to the works for the carriage and storage of materials and execution of their works.
- (ii) Wherever the work being done by any department of the Owner or by the contractor employed by the Owner as per the contingent upon work covered by this contract, the respective rights and various interests involved shall be determined by the Engineer-in-Charge to secure the completion of the various portions of the work in general harmony.

40. Patents, Royalties, Rent and Excavated Material:

- 40.1. The contractor, if licensed under any patent covering equipment, machinery, materials or compositions of matter to be used or supplied or methods and process to be practiced or employed in the performance of this contract, agrees to pay all royalties and licence fees which may be due with respect thereto. If any equipment, machinery, materials composition matters, to be used or supplied or methods and processes to be practiced or employed the performance of this contract, is covered by a patent under which the contractor is not licensed then the contractor before supplying or using the equipment, machinery, materials, composition, method or processes shall obtain such licenses and pay such royalties and license fees as may be necessary for performance of this contract. In the event the contractor fails to pay any royalty or obtain any such license, any suit for infringement of such patents which is brought against the contractor or the Owner as a result of such failure will be defended by the contractor at his Own expense and the contractor will pay damages and costs awarded in such suit. The contractor shall promptly notify the Owner if the contractor has acquired knowledge of any plant under which a suit for infringement could be reasonably brought because of the use by the owner of any equipment, machinery, materials, process, methods, to be supplied hereunder. The contractor agrees to and does hereby grant to Owner, together with the right to extent the same to any of the subsidiaries of the Owner as irrevocable, royalty-free licence to use in country, any invention made by the contractor or his employee in or as a result of the performance of the work under the contract.
- 40.2. All charges on account of royalty, tollage, rent octroi terminal or sales tax and/ or other duties or any other levy on materials obtained for the work or temporary work or part thereof (excluding materials provided by the Owner) shall be borne by the contractor.

- 40.3. The contractor shall not set or otherwise dispose of or remove except for the purpose of this contract, the sand stone, clay, ballast, earth, rock or other substances, or materials obtained from any excavation made for the purpose of the works or any building or produce upon the sited at the time of delivery of the possession thereof, but all such substances, materials buildings and produce shall be the property of the Owner provided that contractor may with the permission of the Engineer-in-Charge, use the same for the purpose of the works by payment of cost of the same at such a rate as may be determined by the Engineer-in-Charge.

The Owner shall indemnify and save harmless the contractor from any loss on account of claims against contractor for the contributory infringement of patent rights arising out and based upon the claim that the use by the Owner of the process included in the design prepared by the Owner and used in the operation of the plant infringes on patent right. With respect of any sub-contract entered into by the contractor pursuant to the provisions on the respect to any sub-contract entered into by the contractor pursuant to the provisions of the relevant clause thereof, the contractor shall obtain from the sub contractor an undertaking to provide the Owner with the same patent protection that contractor is required to provide under the provisions of this clause.

41. Liens:

- 41.1. If at any time there should be evidence or any lien, claim for which the Owner might have become liable, which is chargeable to the contractor, then the Owner may pay and discharge the same and deduct the amount so paid from any amount which may be or may become due and payable to the contractor, if any lien or claim remain unsettled after all payments are made, the contractor shall refund or pay to the Owner the cost such lien or claim including all payment and reasonable expenses. Owner reserves the right to the same.

41.2. Nothing Extra for Adverse Sub-Soil Conditions:

The nature of sub-soil of the work site varies widely horizontally and vertically. The KI and KII values also vary widely from place to place. In addition the water bearing seems are also conspicuous with the water table at a depth of 0.75 to 3.0 metres from ground level. A number of cohesive and non-cohesive strata are available particularly everywhere. The contractor shall have to make cuts and resort to pumping with due care to avoid collapsing of sides and occurrence of 'Piping'. The Contractor shall also be careful to avoid occurrence of excessive 'heaving' by avoiding keeping the excavation proposed to atmosphere for a longer period.

- 41.3. Slips and falls in excavation shall be cleared by the contractor at his own cost.

Excessive heaving shall have to cut and refill with lean concrete by the contractor at his own cost. The contractor shall have to adopt under-water work in case of occurrence of piping/ quick condition without any additional cost to the Owner.

The contractor will be paid for the earthwork as per the drawing. The slopes etc. as required for the safety of the work has to be provided as per the decision of the Engineer-in-Charge at his own cost. All types of dewatering including seepage, rain water entering. The earthwork in excavation or from any other source is to be done by the contractor at his own cost till the completion of foundation upto ground level including back filling.

41.3. No Compensation in case of change of Location of site :

Change of location of site do not invalidate the contract and tenderer have no claim for any compensation for such changes.

SECTION – V

PERFORMANCE OF WORK

42. Execution of Works:

All the work shall be executed in strict conformity with the provisions of the contract documents explanatory detailed drawings, specifications and instructions by the Engineer-in-Charge whether mentioned in the contract or not. The contractor shall be responsible for ensuring that works are executed in the most substantial, proper and workman like manner using the quality materials and labour, through out the job Completion in strict accordance with the specifications and to the entire satisfaction of the Engineer-in-Charge.

43. Coordination and inspection of Works:

The coordination and inspection of the day-to-day work under the contract shall be the responsibility of the Engineer-in-Charge or his authorised representative. A work order book will be maintained by the contractor for each sector in which the aforesaid written instructions will be entered. These will be signed by the contractor or his authorised representative by way of acknowledgement within 12 hours.

44. Works in Monsoon and Dewatering:

44.1 The execution of work may entail working in the monsoon also. The contractor must maintain a minimum labour force as may be required for the job. And plan execute the construction and erection according to the prescribed schedule. No extra will be considered for such work in monsoon.

44.2 During monsoon and other period, it shall be the responsibility of the contractor to keep the construction work site free from water at his own cost.

45. Work on Sundays and Holidays:

For carrying out works on Sundays and holidays, the contractor will to keep Engineer-in-Charge or his representative at least two days in advance and obtain permission in writing. The contractor shall observe all labour laws and other statutory rules and regulations in force. In case of any violation of such laws, rules and regulations, consequence if any, including the cost thereto shall be exclusively borne by the contractor and the Owner shall have no liability whatsoever on his account.

46. General Conditions of Construction and Erection Work:

46.1 The working time at the time of work is 48 hours per week. Overtime work is permitted in case of need and the owner will not compensate the same. Shift-working at 2 or 3 shifts per day will become necessary and the contractor should take this aspect into consideration for formulating his rates for quotation. No extra claims will be entertained by the Owner on this account.

- 46.2 The contractor must arrange for the placement of workers in such a way that the delayed completion of the work or any part thereof or for any reason whatsoever will not affect their proper employment. The Owner will not entertain any claim for old time payment whatsoever.
- 46.3 The contractor shall submit to the Engineer-in-Charge reports at regular intervals regarding the state and progress of work. The contract shall provide display boards showing progress and labour strength at work site, as directed by the Engineer-in-Charge.
- 46.4 The site of work will be released progressively in stages and no claim for any compensation or damages will be tenable for non-release of the entire site at a time.
- 47. Drawings to be supplied by Owner:**
- 47.1 The drawings attached with tender are only for the general guidance to the contractor to enable him to visualise the type of work contemplated. The contractor will be deemed to have studied the drawings and formed an idea about the total work involved.
- 47.2 In the Course the progress of work detailed working drawings on the basis of which actual execution of the work has to proceed, shall be furnished in stages. The contractor shall be deemed to have gone through the drawings supplied to him thoroughly and carefully, in conjunction will all other connected drawings and discrepancies if any, shall be brought to the notice of the Engineer-in-Charge, before actually carrying out the works.
- 47.3 Copies of all detailed working drawings relating to the works shall be kept at the contractor's office on the site and shall be made available to the Engineer-in-Charge at any time during the contract period. The drawings and other documents issued shall be returned to the Owner on completion of the works.
- 48. Drawings to be supplied by the Contractor:**
- 48.1 The drawings/data which are to be furnished by the contractor are enumerated in the special conditions of contract and shall be furnished within the specified time.
- 48.2 Where approval of drawings for manufacture/construction/fabrication has been specified it shall be contractor's responsibility to have these drawings prepared as per the directions of Engineer-in-Charge and get them approved before proceeding with manufacture/construction/fabrication works as the case may be. Any changes that may have become necessary in these drawings during the execution of the work shall have to be carried out by the contractor to the satisfaction of Engineer-in-Charge at no extra cost. All final approved drawings shall bear the certification stamp duly signed by both the contractor and the Engineer-in-Charge as indicated below.

“Certified true for
(Name of work)

Agreement No

Signed
(Contractor) (Engineer-in-Charge)

48.3 A period of 3 weeks from the date of receipt shall be required for approval of drawings by the Engineer-in-Charge.

48.4 As built drawing showing all Corrections, adjustments etc. shall be furnished by the Contractor in five copies and one transparent to record purposes to the owner.

49 Setting Out Works:

49.1 The Engineer-in-Charge shall furnish to the contractor with only the four corners of the work site that is plant boundary limits, and a level bench mark only. The contractor shall set out the works, provide an efficient staff for the purpose and shall be solely responsible for the accuracy of such setting out.

49.2 The contractor shall provide, fix and be responsible for the maintenance of all stacks, templates, level marks, profiles and other similar things and shall take all necessary precautions to prevent their removal or disturbance. He shall be responsible for their consequences arising of such removals, disturbances corrections thereon and for their efficient and timely reinstatement. The contractor shall also be responsible for the maintenance of all existing survey marks, boundary marks, distance marks and centre line marks, either existing or supplied and fixed by the contractor. The work shall be set out to the satisfaction of the Engineer-in-Charge. The approval thereon or jointing with the contractor by the Engineer-in-Charge in setting out the work, shall not relieve the contractor of any of his responsibilities.

49.3 Before beginning the work the contractor shall at his own cost, provide all necessary reference and level posts-pegs, bamboos, flags, ranging rods, strings, and other materials for proper layout of the work in accordance with the scheme for bearing marks acceptable to the Engineer-in-Charge. The centre, longitudinal, face and cross lines shall be marked by means of small masonry pillars. Each pillar shall have distinct mark at the centre to enable the theodolite to be set over it. No work shall be started until all these points are checked and approved by Engineer-in-Charge in writing, but such approval shall not relieve the contractor of any of his responsibilities. The contractor shall also provide all labour, materials and other facilities as necessary, for the proper checking or layout and inspection of the points during construction.

49.4 Pillars bearing geodetic marks located at the sites of units of works under construction should be protected and faced by the contractor.

49.5 On completion of work, the contractor must submit the geodetic documents according to which the work was carried out.

50. Responsibility for Level and Alignment:

50.1 The contractor shall be entirely and exclusively responsible for the horizontal and vertical alignment, the level and correctness of every part of the work shall rectify effectually any errors or imperfections therein. Such rectification shall be carried out by the contractor at his own cost, when instructions are issued to that effect by the Engineer-in-Charge.

50.2 Lighting, Watch & Ward:

The contractor shall in connection with works provide and maintain at his own cost all lightings, guards, fencing and watch and ward and the security of the entire work in progress including all the machineries, materials shall be the responsibility of the contractor till taken over by the owner by way of the written taking over certificate.

51. Materials to be Supplied by Contractor :

51.1 The contractor shall procure and provide the whole of the materials required for the construction including M.S. Rods, Cement and other building materials, tools, tackles, construction plant and equipment for the completion and maintenance of the work except the materials which will be issued by the Owner and shall make his own arrangement for procuring such materials and for the transport thereof. The owner may give necessary recommendation to the respective authorities, if so desired by the contractor, but assumes no further responsibility of any nature. The owner will insist on the procurement of materials which has the approval of Indian Standards Institution having ISI stamp and/or which are supplied by reputed suppliers borne on DGS & D list.

51.2 The contractor shall properly store all materials either issued to him or brought by him to the worksite to prevent damages due to rain, wind, direct exposure to sun etc. as also from theft, pilferage, etc. for proper and speedy execution of his works. The contractor shall maintain sufficient stocks of all materials required by him.

51.3 No material shall be despatched from the contractor's stores before obtaining the approval in writing of the Engineer-in-Charge.

51.4 All plants, tools and other materials brought by the contractor to the site must be declared at the time of bringing the same to the site.

52. Stores Supplied by the Owner:

52.1 If the specification of the work provides for the use of any material other than Steel & Cement of special description to be supplied from the Owner's stores or it is required that the contractor shall use certain stores to be provided by

the Engineer-in-Charge, such materials and stores, and price to be charged therefore as hereinafter mentioned being so far as practicable for the convenience of the contractor, but no so as in way to control the meaning or effect of the contract, the contract shall be bound to purchase and shall be supplied much materials and stores as are from time to time required to be used by him for the purpose of the contract only. The sums due from the contractor for the value of materials supplied by the Owner will be recovered from the Running Account Bill on the basis of actual consumption of materials (after taking into account any wastage allowance as may be provided for in the contract). The contractor should raise requisite copies of indents in a proforma as prescribed by the Engineer-in-Charge and no claim whatsoever will be entertained by the Engineer-in-Charge on this account. After completion of the works, the contractor is required to account as per relevant clauses in this document, for the full quantity of materials supplied to him.

52.2 The value of the stores/materials as may be supplied to the contractor by the Owner will be debited to the contractor's account at the rates shown in the schedule of materials and if they are not entered in the schedule, they will be debited at cost price, which for the purpose of the contract shall include the cost of carriage and all other expenses whatsoever such as normal storage supervision charges which shall have been incurred in obtaining the same at the Owner's stores. All materials so supplied to the contractor shall remain the absolute property of the Owner and shall not be removed on any account from the site of the work and shall be at all times open for inspection to the Engineer-in-Charge. Any such materials remaining unused at the time of the completion or termination of the contract shall be returned to the Owner's stores or at a place as directed by the Engineer-in-Charge in perfectly good condition at contractor's cost.

52.3 Steel & Cement:

52.3.1 If the specification of the work provides for the use of steel or cement such items of steel and cement to the extent required as per the specification of the works, shall be supplied at Owner's stores by the Owner for utilisation in the work on non-chargable basis from time to time depending upon the progress of the work. The tender rates shall be exclusive of the cost of steel and cement to be supplied as per the specification of the work, However, in case of flats and chequered plates the same have to be procured by the contractor at his own cost.

52.3.2 Such materials of steel and cement shall be issued only for permanent works and not for making other temporary works etc. Contractor shall bear all cost including lifting and loading carting from issue points to work site/contractor stores, custody and handling etc. and return of surplus serviceable/unserviceable materials to owner's store or other places to be designed by owner and no separate payment for such expenditure shall be made.

52.3.3 Items of steel as per specification of the work as mentioned above shall be supplied in the available length only. No claim on account of supply of non-standard length shall be entertained. Steel materials shall be issued on actual weight basis.

52.3.4 Cement as mentioned above will be supplied to the contractor a receive from the manufacturer/stockist. The theoretical weight of each bag of cement supplied will be considered as 50 Kg.

52.3.5 Scraps & Surplus Material:

The Contractor shall return all the surplus/unutilised as well as the scraps and wastages out of the materials supplied to him to the Owner's stores in a perfectly good condition at the contractor's cost. However, the following scraps allowances are permissible.

	<u>Unaccountable</u>	<u>Accountable</u>
(i) Cement	3%	Nil
(ii) Reinforcement Steel	½%	2.5%
(iii) Steel structural (Plates & Sections)	½%	4.5%
(iv) M.S. Plates for fabrication of Pipes	½%	As per cutting diagrams approved by Engineer-in-Charge before cutting and fabrication.

52.3.6 Return of unutilised/surplus materials and scrap/wastage:

In respect of any utilised/surplus quantities of cement and steel supplied by not accounted for and or returned by the contractor shall pay to the Owner amounts at the penal rate of twice the SAIL, Bhubaneswar Stock-yard rate of that particular section of steel and cement as the case may be as on the date of accountability. If the Contractor fails to return the scraps/wastage generated as per the above percentage, recovery of such scrap/wastage shall be made at the rate of Rs. 7000/- per tonne.

The charging of penal rate shall be without the prejudice to the other remedies or action available to the owner against the contractor including any criminal action.

52.3.7. Accounting for Materials:

Every month the Contractor shall submit a statement for all the materials supplied to him by the owner in the proforma prescribed by the Engineer-in-Charge.

52.3.8 On completion of the work, the Contractor shall submit material appropriation statement for the materials supplied to him by the Owner.

52.3.9 All materials supplied to the contractor shall remain the absolute property of the all times and title therein shall not pass to the contractor at any time. The possession of the materials in the hands of the contractor is only for the

purpose of incorporating the same in the Owner's work. The material supplied shall not be removed by the contractor on any account from the site of work and shall be at all times open for inspection by the Engineer-in-Charge or owners representative. The contractor shall not use the materials supplied to him for any purpose or work other than the work, which the said materials are supplied.

53. Conditions for issue of Materials:

- (i) Materials specified as to be issued by the Owner will be supplied to the contractor by the Owner from his stores. It shall be the responsibility of the contractor to take delivery of the materials and arrange for its loading, transport and unloading at the site work at his own cost. The material shall be issued during the working hours of his Stores and as per the rules of the Owner framed from time to time.
- (ii) The contractor shall bear all incidental charges for the storage and safe custody of materials at site after these have been issued to him.
- (iii) The contractor shall construct suitable godown at the site of work for storing the materials safe against damage by rain, dampness, fire, theft, etc. He shall also employ necessary watch and ward establishment for the purpose.
- (iv) Materials specified as to be issued by the Owner shall be issued in standard sizes as obtained from the manufacturers.
- (v) It shall be duty of the contractor to inspect the materials supplied to him at the time of taking delivery and satisfy himself that they are in good condition. After the materials have been delivered by the Owner, it shall be the responsibility of the contractor to keep them in good condition and if the materials are damaged or lost, at any time, they shall be repaired and/or replaced by him at his own cost according to the directions of the Engineer-in-Charge.
- (vi) The Owner shall not be liable for delay in supply or non-supply of any materials, which the Owner has undertaken to supply where such failure or delay is due to natural calamities, act of enemies, transport and procurement difficulties and any circumstances beyond the control of the Owner. In no case, the contractor shall be entitled to claim any compensation or loss suffered by him on his account.
- (vii) It shall be the responsibility of the contractor to arrange in time all materials required for the works other than those to be supplied by the Owner. If however in the opinion of the Engineer-in-Charge the execution of the work is likely to be delayed due to the contractor's inability to make arrangements for supply of materials which normally he has to arrange for, the Engineer-in-Charge shall have the right at his own discretion to issue such materials if available with the Owner or procure the materials from the market or elsewhere. The contractor will be bound to take such materials at the rates decided by the Engineer-in-Charge. This however, does not in anyway absolve the contractor from responsibility of making arrangement for the supply of such materials in part or in full, should such a situation occur nor shall this constitute a reason for the delay in the execution of the work.

- (viii) Non of the materials supplied to the contractor will be utilised by the contractor for manufacturing item which can be obtained as supplied from standard manufacturer in finished form unless approved by Engineer-in-Charge in writing.
- (ix) The contractor shall, if desired by the Engineer-in-Charge, be required to execute an indemnity bond in the prescribed form for safe custody, usage and accounting of all materials issued by the Owner.
- (x) The contractor shall furnish to Engineer-in-Charge sufficiently in advance a statement showing his requirements of the quantities of the materials to be supplied by the Owner and the time when the same will be required by him for the works, so as to enable the Engineer-in-Charge to make necessary arrangement for procurement and supply of material.
- (xi) Account of the materials to be issued by the Owner shall be maintained by the contractor indicating the daily receipt, consumption and balance in hand in a manner prescribed by the Enginner-in-Charge. All connected papers requisitions, issues returns etc. shall be always available for inspection in the contractor's office at site.
- (xii) The contractor should see that only the required quantities of materials are got issued. The contractor shall not be entitled to cartage and incidental charges for returning the surplus materials, if any, to the stores, place of issue or to the place as directed by the Engineer-in-Charge.
- (xiii) Materials/equipment supplied by Owner shall not be utilised for any other purpose (s) than issued for.
- (xiv) The owner may issue the material in phases at his discretion keeping in view the programmes of the work.
- (xv) In case of free issue of materials, the contractor shall submit an indemnity bond in the prescribed format for 80% (eighty) value of the materials and a bank guarantee for 20% (twenty) of the value of the materials. The indemnity bond and bank guarantee shall be valid till the material account is totally settled.

54. Return of Surplus:

Notwithstanding anything contained to the contrary in any or all the clauses of this contract where any materials for the execution of the contract are procured with the assistance of the Owner either by issue from Owner's stock or purchases made under orders, or permits or licences issued by government the contractor shall hold the said materials as trustee for the owner and use such materials economically and solely for the purpose of the contract and not dispose them off without the permission of the Owner and return, if required by the project head all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever on his being paid or credited such price as the Project head shall determine having due regard so the condition of the materials. The price allowed to the contractor however, shall not exceed the amount charged to him excluding the storage charges, if any. The decision of the project head shall be final and conclusive in such matter. In the event of breach of the aforesaid conditions, the contractor shall, in the terms of the licences, or permits and/ or

for criminal breach of trust, be liable to compensate the Owner at double rate or any higher, in the event of those materials at the time having higher rate or not being available in the market, then any other rate to be determined by the project head and his decision shall be final and conclusive.

55. Materials Obtained From Dismantling:

If the contractor in the course of execution of the work is called upon to dismantle any part for reasons other than those stipulated in clauses 57 and 65 hereunder, the materials obtained in the work of dismantling etc. will be considered as the Owner's property and will be disposed off to the best advantage of the Owner.

56. Articles of Value Found:

All gold silver and other materials of any descriptions, precious stones, coins, treasures, relics, antiques and other similar things which shall be found, in, under or upon the site, shall be property of the Owner and the contractor shall duly preserve the same to the satisfaction of the Engineer-in-Charge and shall from time to time delivery the same to such person or persons indicated by the Owner.

57. Inspection of Works:

57.1 The Engineer-in-Charge will have full power and authority to inspect the works in progress at any time wherever the premises/ workshops situated, of the Contractor, person, firm or corporation where works in connection with the contract may be or where materials are being or intended to be supplied.. The contractor shall afford or procure every facility and assistance to Engineer-in-Charge carry out such inspection. The contractor shall, at all time during the usual working hours and at all other times at which reasonable notice of the intention of the Engineer-in-Charge or his representative to visit the works shall have been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing be present for the purpose. Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

57.2 The contractor shall give not less than seven days notice in writing to the Engineer-in-Charge before covering up or otherwise placing beyond reach of inspection and measurement any work in order that the same may be inspected and measured. In the event of failure of above the same shall be uncovered and all facilities made available again at contractor's expense for carrying out such measurement or inspection.

57.3 The contractor is to provide at all times during the progress of the work and maintenance period proper means at access with ladders gangways etc. and the necessary attendance to move and adopt as directed for inspection or measurement of the works by the Engineer-in-Charge.

58. Assistance to the Engineer:

The Contractor shall make available to the Engineer-in-Charge free of cost all necessary instructions and assistance in checking of settling out of works and

in the checking of any works made by the contractor for the purpose of setting out and taking measurements of work.

59. Discrepancies between instructions:

Should any discrepancy arise between the various instructions furnished to the contractor or his agents or staff or if any doubt arises on the meaning or implementation of any such instructions or should there be any difference of opinion on the issues, the contractor shall refer the matter immediately in writing to the Engineer-in-Charge whose decisions thereon shall be final and conclusive. No claim on losses alleged to have been caused by such discrepancies between instructions, doubts or misunderstanding shall in any event be admissible.

60. Alterations in Specifications and Designs and Extra Works:

(a) The Project Head shall have power to make any alterations, in omission from additions to or substitutions, for the schedule of rates, the original specifications, drawings and instructions that may appear to him to be necessary or advisable during the progress of the work, and the contractor shall be bound to carry out such altered/ extra/ new items of work in accordance with any instructions which may be given to him in writing signed by the Project Head and such alterations, omissions, additions or substitutions shall not invalidate the contract and any altered, additional or substituted work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work. The time of completion of work may be extended for the part of the particular job at the discretion of the Project Head for any such alterations, additions, or substitutions of the work, as he may consider as just and reasonable. The rates for such additional, altered or substituted work under the clause shall be worked out in accordance with the following provisions:-

(b) If the rates for the additional, altered or substituted work are specified in the contract for the work, the contractor is bound to carry out the additional, altered or substituted work at the same rates as are specified in the contract.

(c) If the rates for the additional, altered or substituted work are not specifically provided in the contract for the work, the rates will be derived from rates for similar class of work as are specified in the contract for the work. The opinion of the Project head as to whether or not the rates can be reasonably so derived from the items in this contract will be final and binding on the contractor.

(d) If the rates for the additional, altered or substituted work can not be determined in the manner specified in sub-clause (a) & (b) above, then the contractor shall within 7 days of the date of receipt of order to carry out

the work, inform the Project Head of the rate which it is his intention to charge for such class of work, supported by analysis of the rate or rates claimed, and the project Head shall determine the rate or rates on the basis of the prevailing market rates of materials plus labour cost including equipment hire charge at schedule of hourly/ daily rates plus 15% to cover contractor's supervisions overhead and profit and pay to the contractor accordingly. The opinion of the Project Head to current market rates of the materials and the quantum of labour and equipment involved per unit of measurement will be final and binding on the contractor. The schedule of hourly/ daily rates shall be as enclosed.

61. Action Where no Specification is issued:

In case of any class of work for which there is no such specification supplied by the Owner as is mentioned in the tender document such work shall be carried out in accordance with the Indian Standard Specifications. If the Indian Standard Specifications do not cover the same, the work should be carried out as per standard Engineer in Practice subject to the approval of the Engineer-in-Charge.

62. Abnormal Rates:

The contractor is expected to quote the rate for each item after careful analysis of cost involved for the satisfactory performance and completion of item work considering all specifications and conditions of contract. This will avoid loss of profit or gain in case of curtailment or change in specification for any other item. In case the rate quoted by the tenderer for any item are usually high or unusually low it will be sufficient cause of the rejection of the tender unless the Owner is convinced about the reasonableness of the analysis for such rate furnished by the tenderer (on demand) after scrutiny.

63. Tests For Quality Works:

63.1 All materials and workmanship shall be of the respective kinds described in the contract documents and in accordance with the instructions of the Engineer-in-Charge and shall be subjected from time to time to such tests at contractor's cost as the Engineer-in-Charge may direct at the place of manufacture or fabrication or at the site or at all or any such places. The contractor shall provide assistance, instruments, machines, labour and materials as are required for examining, measuring and testing any workmanship as may be selected and required by the Engineer-in-Charge.

63.2 All the tests that will be necessary in connection with the execution of the work as decided by Engineer-in-Charge shall be carried out at the field testing laboratory of this Owner if available by paying the charges as decided by the Owner from time to time. In case of non-availability of testing facilities with the Owner, the required laboratory as directed by Engineer-in-Charge.

63.3 If any tests are required to be carried out in connection with the work or materials or workmanship not supplied by the contractor, such tests shall be

carried out by the contractor as per the instructions of Engineer-in-Charge and cost of such tests shall be reimbursed by the Owner.

64. Samples:

The contractor shall furnish to the Engineer-in-Charge for approval when request or if required by the specifications, adequate samples of all materials and finished to be used in the work. Such samples shall be submitted before the work is commenced and in sample time to permit tests and examinations thereof. All materials furnished and finishes applied in actual work shall be fully equal to the approved samples.

65. Liabilities for Defect, Imperfections etc. and Rectifications Thereof:

If it shall appear to the Engineer-in-Charge that any work has been executed with unsound, imperfect or unskilled workmanship, or with materials of any inferior description, or that any materials or articles provided by the contractor for the execution of work are unsound or of quality inferior to that contracted for, or otherwise not in accordance with the contract, the contractor shall on demand in writing from the Engineer-in-Charge or his authorised representative specifying the work, materials or articles complained of, notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith rectify or remove and reconstruct that work so specified and provide other proper and suitable materials or articles at his own charge and cost, and in the event of failure to do so within a period to be specified by the Engineer-in-Charge in his demand aforesaid, the Engineer-in-charge may on expiry of notice period rectify or remove, and re-execute the work or remove and replace with others, the materials or articles complained of as the case may be at the risk and expense in all respects of the contract. The decision of the Engineer-in-Charge as to any question arising under this clause shall be final and conclusive.

66. Suspension of Works:

- (i) Subject to the provision of sub para (ii) of this clause, the contractor shall if ordered in writing by the Engineer-in-Charge, or his representative, temporarily suspend the works or any part thereof such period and such time as so ordered and shall not, after receiving such written orders, proceed with the work therein, ordered to be suspended until he shall have received a written order to proceed therewith. The contractor shall not be entitled to claim compensation for any loss or damage sustained by him by reason of temporary suspension of the works aforesaid. An extension of time for completion, corresponding with the delay caused by any such suspension of the works as aforesaid will be granted to the contractor should he apply for the same provided that the suspension was not consequent to any default or failure on the part of the contractor.
- (ii) In case of suspension of entire work, ordered in writing by the Engineer-in-Charge, for a period of more than two months, the contractor shall have the option to terminate contract.

67. Possession Prior to Completion:

The Engineer-in-Charge shall have the right to take possession of or any completed or partially completed work or part of the work. Such possession or use shall not be deemed to be an acceptance of any work completed in accordance with the contract. If such prior possession or use by the Engineer-in-Charge delay the progress of work, equitable adjustment in the time of completion will be made and the contract agreement shall be deemed to be modified accordingly.

68 Twelve months Period of Liability from the Date of Issue of Completion Certificate:

68.1 The contractor shall guarantee the installation/work for a period of 12 months from the date of completion of work as certified by the Engineer-in-Charge which is indicated in the completion certificate. Any damage or defect that may arise though remained undiscovered at the time of issue of completion certificate, connected in any way with the equipment or materials supplied by him or in the workmanship shall be rectified or replaced by the contractor at his own expenses as deemed necessary by the Engineer-in-Charge or in default the Engineer-in-Charge may cause the same to be made good by other agency and deduct expenses (of which the certificate or Engineer-in-Charge shall be final) from any sums that may be then or at any time thereafter become due to the contractor or from his security deposit, or the proceeds of sale thereof or of a sufficient portion thereof.

68.2 If the contractor feels that any variation in work or in quality of materials or proportions would be beneficial or necessary to fulfil the guarantees called for, he shall bring this in writing to the notice of the Engineer-in-Charge.

68.3 Care of works:

From the commencement of completion of the work, the contractor shall take full responsibility for the care of all works including all temporary works and in case any damage, loss or injury shall happen to the work or to any part thereof or to any temporary works from any cause whatsoever, shall at his own cost repair and make good the same so that on completion the work shall be in good order and in conformity in every respects with the requirements of the contract and the Engineer-in-Charge's Instructions.

68.4 Defects Prior to Taking Over:

If at any time before the work is taken over, the Engineer-in-Charge shall:

- (a) Decide that any work done or materials used by the contractor or any sub-contractor is defective or not in accordance with the contract, or that the works or any portion thereof are defective, or do not fulfil the requirements of contract (all such matter, being hereinafter, called 'Defects' in this clause) and (b) as soon as reasonably practicable gives to the contractor notice in writing of the said decision specifying particulars of the defects claimed to exist or to have occurred then the contractor shall at his own expenses and with all speed make good the defects so specified.

In case contractor shall fail to do so, the Owner may take, at the cost of contractor, such steps as may in all circumstances be reasonable to make good such defects. The expenditure so incurred by the owner be recovered from the amount due to the contractor. The decision of the Engineer-in-Charge with regard to the amount to be recovered from the contractor will be final and binding on the contractor. As soon as the works have been completed in accordance with the contract (except minor respects that do not affect their use for the purpose for which they are intended and except for maintenance thereof provided in clause 68.1 of General Conditions of Contract) and have passed the tests on completion, the Engineer-in-Charge shall issue a certificate (hereinafter called completion certificate) in which he shall certify the date on which the works have been so completed and have passed the said tests and the Owner shall be deemed to have taken over the works on the date so certified. If the works have been divided into various groups in the contract, the Owner shall be entitled to take over any group or groups before the other or others.

68.5 Defect After Taking Over:

In order that the contractor could obtain a completion certificate he shall make good with all possible speed, any defect arising from the defective materials supplied by the contractor or that may have been noticed or developed, after the works or group of the works has been taken over, the period allowed, for carrying out such work will be normally one month. If any defect be not remedied within a reasonable time, the owner may proceed to do the work at contractor's Risk and expenses and deduct from the final bill such amount as may be decided by the Owner.

If by reason of any default on the part of the contractor a completion certificate has not been issued in respect of every portion of the works within one month after date fixed by the contract for the completion of the works, the Owner shall be at liberty to use the work or any portion thereof in respect of which a completion certificate has not been issued, provided that the works or the portion thereof so used as aforesaid shall be afforded reasonable opportunity for completion of these works for the issue of completion certificate.

68.6 Guarantee/Transfer of Guarantee:

For works like water-proofing, acid & alkali resisting materials, pre-construction soil treatment against termite or any other specialized works etc. the contractor shall invariably engage sub-contractors who are specialists in the field and firms of repute and such a sub-contractor shall furnish guarantees for their workmanship to the Owner, through the contractor. In case such a sub-contractor/firm is not prepared to furnish a guarantee to the owner, the contractor shall give that guarantee to the Owner directly.

SECTION – VI CERTIFICATE AND PAYMENT

69. SCHEDULE OF RATE AND PAYMENTS:

69.1 Contractor's Remuneration:

The price to be paid by the Owner to the contractor for the whole of the work done and for the performance of all the obligations undertaken by the contractor under the contract document shall be ascertained by the application of the respective schedule of rates (the inclusive nature of which is more particularly defined by way of application but not of limitation, with clause No. 69.2) and payment to be made accordingly to the work actually executed and approved by the Engineer-in-Charge. The sum so ascertained shall (exception only as and to the extent expressly provided here in) constitute the sole and inclusive of remuneration of the contractor under the contract and no further or other payment whatsoever shall be or become due or payable to the contractor under the contract.

69.2 Schedule of Rates to the Inclusive:

The prices/rates quoted by the contractor shall remain firm till the issue of final certificate and shall not be subject to escalation. Schedule of rates shall be deemed to include and cover all costs, expenses and liabilities of every description and all risks of every kind to be taken in executing, completion and handing over the work to the Owner by the contractor. The contractor shall be deemed to have known the nature, scope, magnitude and the extent of the works and materials required though the contract document may not fully and precisely furnish them. He shall make such provision in the schedule of rates as he may consider necessary to cover the cost of such items of work and materials as may be reasonable and necessary to complete the work. The opinion of the Engineer-in-Charge as to the items of work which are necessary and reasonable for completion of work shall be final and binding on the contractor although the same may not be shown on or described specifically in contract documents.

Generality of this present provision shall not be deemed to cut down or limited in any way because in certain cases it may and in other cases it may not expressly stated that the contractor shall do or perform a work or supply articles or perform with services at his own cost or without addition of payment or without extra charge or works to the same effect or that it may be stated or not stated that the same are included in and covered by the schedule of rates.

69.3 Schedule of rates to cover Constructional Plant, Materials. Labours etc.:

Without in any way limiting the provision of other subclauses the schedule of rates shall be deemed to include the cover the cost of all constructional plant, temporary works (except as provided for herein), pumps, materials, labour, insurance, fuel, stores, and appliances to be supplied by the contractor and all other matters in connection with each items in the schedule of quantities and

the execution of the works or any portion thereof finished complete in every respect and maintained as shown or described in the contract documents or as may be ordered in writing during the continuance of the contract.

69.4 Schedule of Rates to cover Royalties, Rents and Claims:

The schedule of rates shall be deemed to include and cover the cost of all royalties and fees for the articles, processes, protected by letters, patent or otherwise incorporated in or used in connection with the works, also all royalties, rents, and other payments in connection with obtaining materials of whatsoever kind for the works and shall include an indemnity to the owner which the contractor hereby gives against all actions, proceedings, claims, damages, costs and expenses arising from the incorporation in or use on the works of any such articles, processes or charges if levied on materials, equipment or machinery to be brought to site for use on work, shall be borne by the contractor.

69.5 Schedule of Rates to cover taxes and duties:

No exemption or reduction of custom duties, excise duties, sales tax, quay or any port duties, transport charges, stamp duties or Central or State Government or Local Body (or from any other body) or Municipal Taxes or duties, taxes or charges whatsoever will be granted or obtained and all expenses of which shall be deemed to be included in and covered by the schedule of rates. The contractor shall obtain and pay for all permits or other privileges necessary to complete the work.

69.6 Schedule of Rates to cover Risk of Delay:

The schedule of rates shall be deemed to include and cover the risk of all responsibilities of delay and interference with the contractor's conduct of work which occur from any cause including orders of the owner in the exercise of his powers and on account of extension of time granted due to various and for all other possible or probable causes of delay.

69.7 Schedule of Rates cannot be altered:

For work under unit rate basis no alteration will be allowed in the schedule of rates by reasons of works or any part of them being modified, altered, extended, diminished or omitted. The schedule of rates is of fully inclusive rates which have been fixed by the contractor and agreed to by the Owner and cannot be altered.

- 69.7.1 The schedule of rates to cover for working in operating plant. Contractor's rates shall be deemed to include taking into account that he has to work in operating plant and shall take sufficient care in moving the plants, equipments and materials from one place to another, so that they do not cause any damage to any person or to the property of the owner or to third party including overhead and underground cable/pipe lines. In the event of such damages including eventual loss of production and operation of the plant or services in any plant or establishment as estimated by the owner or ascertained or by the

third party shall be borne by the contractor. Since the work is to be executed for the expansion of the plant, the rate of the contractor shall also deem to include all interference/obstruction/interruption for which no compensation shall be paid to be contractor.

70. Procedure For Measurement/ Billing of Work in Progress:

70.1 All measurements shall be in metric system. All the works in progress will be jointly measured by the representative of the Engineer-in-Charge and the contractor's authorised agent progressively. Such measurements will be got recorded in the measurement book by the Engineer-in-Charge or his authorised representative and signed in token of acceptance by the contractor or his authorised representative.

For the purpose of taking joint measurement the contractor's representative shall be bound to be present whenever required by the Engineer-in-Charge. If, however, he absents for any reason whatsoever the measurements will be taken by the Engineer-in-Charge or his representative and this will be deemed to be correct and binding on the contractor.

70.2 Billing:

The contractor will submit a bill in approved proforma in accordance with the contract terms and the agreed billing schedules in quintuplicate to the Engineer-in-Charge giving abstract and detailed measurement for the various items executed during a month, before the expiry of the first week of the succeeding month. The Engineer-in-Charge shall take or cause to be taken the requisite measurements for the purpose of having the same verified and the claim as far as admissible, adjusted, if possible, before the expiry of 10 days from presentation of the bill.

70.2.1 The bill shall be submitted by the contractor in computerised formats approved by the owner. The bills along-with floppies containing measurement of work, particulars of materials, recoveries etc. have to be submitted to the owner.

70.2.2 For lump-sum contracts, the payment will be according to agreed billing schedule. No adjustment shall be allowed in lump-sum prices for any variations in the quantities, specifications etc. shall take or a cause to be taken the requisite measurement for the purposes of having the same verified and the claim as far as admissible, adjusted, if possible, before the expiry of 10 days from presentation of the bill.

70.3 Secured Advance on Materials:

In case of tenders for completed items of works, contractor may be allowed "Secured Advance" on the security of materials brought to site for execution of the contracted items of work to the extent of 75% of the value of materials which go into the completed works as assessed by the Engineer-in-Charge provided that the materials are of an imperishable nature and that formal

agreement is drawn up with the contractor under which the Owner secures a lien on the materials and is safe guarded against losses due to the contractor postponing the execution of the work or to the improper storage &/or misuse of the materials and against the expenses entitled for their proper watch and safe custody. Recoveries of advances so made would not be postponed until the whole of the work entrusted to the contractor is completed. They should be adjusted from his running account bills for work done as the materials are used, the necessary deductions being made whenever the items of work in which they are used and billed for.

70.4 Dispute in Mode of Measurement:

In case of any dispute as to the made of measurement not covered by the contract to be adopted for any item of work, mode of measurement as per latest Indian Standard Specifications shall be followed.

70.5 Rounding of Amounts:

In calculating the amount of each item due to the contractor in every certificate prepared for payment, sum of less than 50 paisa shall be omitted and the total amount on each certificates shall be rounded off to the nearest, i.e. sum of less than 0.50p shall be omitted and sums of 0.50p and more upto one rupee shall be reckoned as one rupee.

71. LUMPSUMS IN TENDER:

For the item in tender where it includes lumpsum in respect of parts of work, the contractor shall be entitled to payment in respect of the items at the same as are payable under this contract for such items, or if the part of the work in question is not, in the opinion of the Engineer-in-Charge capable of measurement, or determination, the Owner may at his discretion pay the lumpsum amount entered in the tender or a percentage thereof and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regards to any sum payable to him, under the provisions of this clause.

72. RUNNING ACCOUNT PAYMENTS TO BE REGARDED AS ADVANCE:

All Running Account Payment shall be regarded as Payments by way of advance against the final payment only and not as payment for work actually done and completed, and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or re-erected or be considered as an admission of the due Performance of the contract, or any part thereof, in this respect, or of the accruing of any claim by the contractor, nor shall it, conclude, determine or affect in any way the powers of the Owner under these conditions or any of them as to the final settlement and adjustments of the accounts or otherwise, or in any other way vary or affect the contract. The final bill shall be submitted by the contractor within one month from the sate of physical completion of the work, otherwise,

the Engineer-in-Charge's certificate of the measurement and of total amount payable for the work accordingly shall be final and binding on all parties.

73. NOTICE OF CLAIMS FOR ADDITIONAL PAYMENT:

Should the contractor consider that he is entitled to any extra payment or compensation or to make any claims whatsoever in respect of the works arising under the terms of this contract he shall forthwith give notice in writing to the Engineer-in-Charge that he claims extra payment within ten days from the ordering of any work or happening of any event upon which the contractor bases such claims and such notice shall contain full particulars of the nature of such claims with necessary particulars as above within the time above specified shall be an absolute waiver thereof. No omission by the Owner to reject any such claim and no delay in dealing therewith shall be waiver by the Owner of any right in respect thereof.

74. PAYMENT OF CONTRACTOR'S BILL:

No payment shall be made for works estimated to cost less than Rs. 10,000/- till the whole of the work shall have been completed and a certificate of completion given. But in case of works estimated to cost more than Rs. 10,000/- the contractor, on submitting the bill thereof be entitled to receive a monthly payment proportionate to the part thereof approved and passed by the Engineer-in-Charge, whose certificate of such approval and passing of the sum so payable be final and conclusive against the contractor. This payment will be made after making necessary deductions as stipulated elsewhere in the contract document for materials, security deposit etc. or any statutory recoveries.

Payment due to the contractor shall be made by the Owner, by Crossed Account Payee Cheque forwarding the same to registered office or the notified office of the contractor. In no case will owner be responsible if the Cheque is mislaid or misappropriated by un-authorized person/ persons. In all cases, the contractor shall present his bill duly pre-receipted on proper revenue stamp.

All payment shall be made in Indian Currency.

75. Receipt For Payment:

Receipt for payment made on account of work when executed by a firm, must be signed by a person holding due power of attorney in this respect on behalf of the contractor, except when the contractors are described in their tender as limited company in which case the receipts must be signed in the name of the company by one of its principal officers or by some other persons having authority to give effectual receipt for the company.

76. Completion Certificate:

76.1. Application for completion certificate:

When the contractor fulfils his obligation under clause 69.4 he shall be eligible to apply for completion certificate in respect of the work by submitting the completion documents along with such application for completion certificate.

The Owner or his representative shall normally issue to the contractor the completion certificate within one month after receiving an application therefor from the contractors after verifying from the completion documents and satisfying himself that the work has been completed in accordance with and as set out in the construction and erection drawings, and the contract documents.

The contractor, after obtaining the completion certificate, is eligible to present the final bill for the work executed by him under the terms of contract.

76.2. Completion Certificate:

Within one month of the completion of work in all respects, the contractor, shall be furnished with a certificate by the owner or his representative of such completion but no completion certificate shall be given not shall the work be deemed to have executed until all, scaffolding, surplus materials and rubbish is cleared off the site completely not until the work shall have been measured by the Engineer-in-Charge, whole measurement shall be binding and conclusive. The work will not be considered as complete and taken over by the owner, until all the temporary work, labour and staff colonies etc. constructed are removed and work site cleared to the satisfaction of the Engineer-in-Charge.

If the contractor shall fail to comply with the requirements of this clause on or before the date fixed for the completion of the work, the Engineer-in-Charge may at the expenses of contractor remove such scaffolding, surplus materials and rubbish and dispose off the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall forthwith pay the amount for all expenses so incurred and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

Completion Certificate shall be in 3 parts as follows:

- (1) Physical/ Mechanical Completion work.
- (2) Satisfactory completion of commissioning of equipment with load.
- (3) Satisfactory completion of guarantee.

The contractor shall clearly indicate the 3 dates separately.

76.3. Completion Documents:

For the purpose of Clause 76 the following documents will be deemed to form the completion documents:

- (i) The technical documents according to which the work was carried out.

- (ii) Three sets of construction drawings showing therein the modification and corrections made during the course of execution and signed by the Engineer-in-Charge.
- (iii) Completion Certificate for embedded and covered –up works.
- (iv) Certificate of final levels as set out for various works.
- (v) Certificate of tests performed for various works.
- (vi) Material appropriation statement to the materials issued by the owner for the works and list of surplus materials returned to the owner's store duly supported by necessary documents.
- (vii) Physical/ Mechanical Completion work.
- (viii) Satisfactory completion of commissioning of equipment with load.
- (ix) Satisfactory completion of guarantee.

The Contractor shall clearly indicate the 3 dates separately.

77. Final Decision And Final Certificate:

Upon the expiration of the period of liability and subject to the Engineer-in-Charge being satisfied that the works have been duly maintained by the contractor during monsoon or such period as herein provided in clause 68.1 and that the contractor has in all respect duly made up all subsidence and performed all his obligations under the contract, the Engineer-in-Charge shall (without prejudice to the right of the Owner to retain the provisions of relevant clause hereof) otherwise give a certificate, herein referred to as the final certificate, to the effect and the contractor shall not be considered to have fulfilled the whole of his obligations under the contract until Final Certificate shall have been given by the Engineer-in-Charge notwithstanding any previous entry upon the work and taking possession, working or using of the same or any part thereof by the Owner.

78. Certificate And Payments No Evidence of Completion:

Except the final certificate no other certificate or payment against a certificate or on general account shall be taken to be an admission by the Owner of the due performance of the contract of any part thereof or of occupancy or validity of any claim by the Contractor.

SECTION – VII

TAXES AND INSURANCE

79. TAXES, DUTIES, OCTROI ETC.

- 79.1. The Contractor shall defray all charges, such as rent, toll local taxes excise duty, other payments and compensations, if any, in connection with the procurement and handling of materials, fabrication and execution of works or any method or process connected with the works or Temporary works.

Sales Tax or any other tax on materials required for the works as also Tax on works contract shall be payable by the Contractor and the Owner will not entertain any claim whatsoever in this regard.

- 79.2. Notwithstanding anything contained elsewhere in the contract, the owner shall deduct at source from the payments due to the contractor, the taxes as required under Section -13-AA of the Orissa Sales Tax Act or as amended from time to time or under any other statute. The amounts so deducted shall be deposited by the Owner with the Sales Tax authorities as per Law. It is for the contractor to deal with the Sales Tax authorities directly in respect of any claim or refund relating to the above deductions and the owner shall not be liable or responsible for any claims or payments or reimbursement in this regard.

80. INSURANCE:

Contractor shall at his own expense carry and maintain insurance with reputed insurance companies to the satisfaction of the Owner as follows:

80.1 Employees State Insurance Act:

The contractor agrees to and does hereby accept full and exclusive liability for compliance with all obligations imposed by the Employees State Insurance Act., 1948, and the contractor further agrees to defend, indemnify and hold Owner harmless from any liability of penalty which may be imposed by the Central, State or Local authority by the reason of any asserted violation by contractor or Sub-contractor of the Employee's State Insurance Act, 1948 and also from all claims, suits or proceeding that may be brought against the Owner arising under, growing out of or by reasons of the work provided for by this contract whether brought by employees of the contractor, by third parties or by Central or State Government authority or any political sub-division thereof.

The contractor agrees to fill in with the Employees State Insurance Corporation, the Declaration Forms and all forms which may be required in respect of the contractor's or sub-contractor's employees, whose aggregate remuneration is Rs. 560.00 per month or less and who are employed in the work provided for or those covered by ESI from time to time under the Agreement. The contractor shall deduct and secure the agreement of the sub-contractor to deduct the employee's contribution as per the first schedule of the Employee's State Insurance Act from wages and affix the employee's

contribution cards at wages payments intervals. The contractor shall remit and secure the agreement of the sub-contractor to remit to the State Bank of India, Employees State Insurance Corporation Account, the employee's contribution as required by the Act. The contractor agrees to maintain all cards and records as required under the Act in respect of employees and payments and the contractor shall secure the agreement of the sub-contractor to maintain such records. Any expenses incurred for the contributions, making contributions or maintaining records shall be to the contractor's or sub-contractor's account.

The Owner shall retain such sum as may be necessary from the total contract value until the contractor shall furnish satisfactory proof that all contribution as required by the Employees State Insurance Act, 1984, have been paid. This will be pending on the contractor when the Employees State Insurance Act is extended to the place of work.

80.2 Workmen Compensation and Employees Liability Insurance:

Insurance shall be affected for all the contractor's employees engaged in the performance of this contract. If any of the work is subject, the contractor shall require the sub-contractor to provide workmen's compensation and employer's liability insurance for the latter's employees if such employees are not covered under the contractor insurance.

80.3 Any other insurance required under Law or Regulations or by Owner:

Contractor shall also carry and maintain any and all other insurance, which he may be required under any law or regulation from time to time. He shall also carry and maintain any other insurance, which may be required by the Owner.

80.4 Accident or Injury to workmen:

The owner shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workman or other person in the Employment of the contractor or any sub-contractor save and except and accident or injury resulting from any act or default of the Owner, his agents or servants and the contractor shall indemnify and keep indemnified the Owner against all such damages and compensation (save and except as aforesaid) and against all claims, demands, proceeding, costs, charges and expenses, whatsoever in respect or in relation thereto.

80.5 Transit Insurance:

In respect of all items to be transported by the Contractor to the site of work, the cost of transit insurance should be borne by the contractor and the quoted price shall be inclusive of this cost.

81 DAMAGE TO PROPERTY OR TO ANY PERSON OR ANY THIRD PARTY:

81.1 Contractor's rate shall deem to include taking into account that he has to work in operating plant and shall take sufficient care in moving the plants, equipment and materials from one place to another so that they do not cause

any damage to any person or to the property of the Owner or to a third party including over head and underground cables, pipelines. In the event of such damages including eventual loss of production and operation of the plants or services in any plant or establishment as estimated by the Owner or ascertained or by the third party shall be borne by the Contractor.

81.2 Contractor shall also be responsible for making good to the satisfaction of the Owner any loss or any damage to all structures and properties belonging to the Owner or being executed or procured or being procured by owner or by other agency within the premises of all the work or Owner. If such loss or damages is due to fault and or the negligence or willful acts or omission of the contractors, his employees, agents, representatives or sub-contractors.

81.3 The contractor shall indemnify and keep the owner harmless of all claims for damages to property other than owner's property arising under or by reason of this contract if such claims result from the fault and/ or negligence or willful acts or omission of the contractor, agents, representative or sub-contractor.

82 DEMURRAGE DUES:

The contractor shall pay demurrage charges incurred by the Owner because of the contractor's failure to load or unload any goods or materials within the time allowed by the Railway and/ or Transport Agency for such loading or unloading as charges incurred by the contractor within the permissible time as also charges due on consignments booked by or to him. In case the contractor fails to pay these charges, these charges shall be deducted from any sums, which may be due or become due to the contractor in terms of this contract and/ or any other contract.

SECTION – VIII LABOUR LAWS AND ARBITRATION

83 LABOURER LAWS:

Contractor shall comply with any and all laws, ordinances, regulations and decision of courts (which shall be deemed to be a part of this Agreement) concerning the health, sanitary arrangements, wages, welfare, safety and employment of any and all of his workers upon the Project or any portion thereof and shall exclusively bear the consequences of failure to comply therewith Contractor shall Indemnify and hold Engineer and Owner harmless from any claims, fines or penalties which may be made against Engineer or Owner as result of Contractor's failure to fulfil these obligations.

Without limiting the generality of the foregoing, Contractor shall fully comply with.

The contractor shall obtain clearance from the Labour Department regarding the compliance of the labour laws on 6 monthly basis and submit to the owner for record.

- (i) No labour below the age of 18 (eighteen) years shall be employed on the work.
- (ii) The contractor shall not pay less than what is provided under law to labourers engaged by him on the work.
- (iii) The contractor shall at his expense comply with all labour laws and keep the Owner indemnified in respect thereof .
- (iv) The contractor shall pay equal wages for men and women in accordance with applicable labour laws.
- (v) If the contractor is covered under the contractor labour (Regulation and Abolition) Act, he shall obtain a licence from licensing authority (i.e. office of the labour commissioner) by payment of necessary prescribed fee and the deposit, if any, before starting the work under the contract.
- (vi) The Contractor shall employ labour in sufficient numbers either directly or through sub-contractors to maintain the required rate of progress and of quality to ensure workmanship of the degree specified in the Contract and to satisfaction of the Engineer-in-Charge. The contractor shall not employ in connection with the works any person who has not completed his 18 (eighteen) years of age.
- (vii) The Contractor shall furnish to the Engineer-in-Charge the distribution return of the number and description, by trades of the work people

employed on the works. The Contractor shall also submit on the 4th and 19th of every month to the Engineer-in-Charge a true statement showing in respect of the second half of the preceding month and the first half of the current month (1) the accidents that occurred during the said fortnight showing the circumstance-under which they happened and the extent of damage and injury caused by them and (2) the number of female workers who have been allowed Maternity benefit as provided in the Maternity Benefit Act 1961 or Rules made thereunder and the amount paid to them.

- (viii) The contractor shall comply with the provisions of the payment of Wages Act 1936, Minimum Wages Act 1938, Employees Liability Act 1928, Workmen's Compensation Act, 1923, Industrial Dispute Act 1947, the Maternity Benefit Act 1961, Employees Provident Fund Act, 1952 and Contract Labour regulation and abolition Act 1937, Employment of Children Act 1938 or any modifications thereof or any other law relating thereto and rules made thereunder from time to time.
- (ix) The Engineer-in-Charge shall on a report having been made by an Inspecting Officer as defined in Contract Labour (Regulation and Abolition) Act 1970 have the power to deduct from the moneys due to the Contractor any sum required or estimated to be required for making good the loss suffered by a worker or Workers by reason of non-fulfillment of the Conditions of the Contractor for the benefit of workers, non-payment of wages or of deductions made from his or their wages which are not justified by the terms of the Contract or non-observance of the said regulations.
- (x) The Contractor shall indemnify the Owner against any payments to be made under and for the observance of the provisions of the aforesaid Acts without prejudice to his right to obtain indemnity from his sub-contractors. In the event of the contractor committing a default or breach of any of the provisions of the aforesaid Acts as amended from time to time, of furnishing any information or submitting or filling any Form/Register/Slip under the provisions of these Acts which is materially incorrect then on the report of the inspecting Officers the Contractor shall without prejudice to any other liability pay to the owner a sum not exceeding Rs. 50.00 as liquidated damages for every default, breach of furnishing, making submitting, filling materially incorrect statement as may be fixed by the Engineer-in-Charge and in the event of the contractor's default continuing in this respect the liquidated damages may be enhanced to Rs. 50.00 per day of default subject to a maximum of one percent of the estimated cost of the works put to tender. The Engineer-in-Charge shall deduct such amount from bills or security deposit of the Contractor and credit the same to the welfare fund constituted under these acts. The decision of the Engineer-in-Charge in this respect shall be final and binding.

84 Implementation Of Apprentices Act 1961:

The contractor shall comply with the provisions of the Apprentices Act 1961 and the Rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the Engineer-in-Charge may, at his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising of any violation by him of the provisions of the Act.

85 Contractor to Indemnify the Owner:

85.1 The contractor shall indemnify the Owner and every member, Officer and employee of the owner, also the Engineer-in-Charge and his staff against all actions, proceedings, claims, demands costs and expenses whatsoever arising out of or in connection with the matter referred to in clause 81 and elsewhere and all actions, proceedings, claims demands costs and expenses which may be made against the Owner for or in respect of or arising out of any failure by the contractor in the performance of his obligations under the contract. The Owner shall not be liable for or in respect of any demand or compensation payable by law in respect or in consequence of any accident or injury to any workman or other person in the employment of the contractor or his sub-contractor and contractor shall indemnify and keep indemnified the Owner against all such damage and compensation and against all claims, damages, proceedings, costs, charges and expenses whatsoever thereof or in relation thereto.

85.2 Payment of Claims and Damages:

Should the Owner have to pay any money in respect of such claims or demands as aforesaid the amount so paid and the cost incurred by the Owner shall be charged to and paid by the Contractor and the contractor shall not be at liberty to dispute or question the right of the Owner to make such payments notwithstanding the same may have been made without his consent or authority or in law or otherwise to the contrary.

85.3 In every case in which by virtue of the provisions of section 12, sub-section (i) of workmen's compensation Act, 1923 or other applicable provision of Workman Compensation act or any other act, the Owner is obliged to pay compensation to workman employed by the contractor in execution of the works, the Owner will recover from the contractor the amount of the compensation so paid, and without prejudice to the rights of Owner under section 12, sub-section (2) of the said act. Owner shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due to the contractor whether under this contract or otherwise. The Owner shall not be bound to contest any claim made under section 12 sub-section (I) of the said Act except on the written request of the contractor and upon his giving to the Owner full security for all costs for which the Owner might become liable in consequence of contesting such claims.

86. Health and Sanitary Arrangements For Workers:

86.1 In respect of all labour directly or indirectly employed in the works for the performance the contractor's part of this agreement, the contractor shall comply with or cause to be complied with all the rules and regulations of the local sanitary and other authorities or as framed by the Owner from time to time for the protection of health and sanitary arrangements for all workers.

86.2 The contractor shall provide in the labour colony all amenities such as Electricity, water and other sanitary and health arrangements. The Contractor shall also provide necessary surface transportation to the place of work and back to the colony for their personnel accommodated in the labour colony.

87. Arbitration:

All disputes or differences whatsoever which shall at any time arise between the parties hereto touching or concerning the works or the execution or maintenance thereof of the contract or the rights touching or concerning the works or the execution or maintenance thereof of this contract or the construction meaning operation or effect thereof or to the rights or liabilities of the parties or arising out of or in relation thereto whether during or after completion of the contract or whether before or after determination, fore closure or breach of the contract (other than those in respect of which the decision of any person is by the contract expressed to be final and binding shall after written notice by either party to the contract to the other of them and to the Appointing Authority hereinafter mentioned be referred for adjudication to a sole Arbitrator to be appointed as hereinafter provided.

For the purpose of appointing the sole Arbitrator referred to above, the Appointing Authority will send within thirty days of receipt of the notice, to the contractor a panel of three names of persons.

The contractor shall on receipt of the names as referred selected any one of the person names to be appointed as a sole Arbitrator and communicate his name to the Appointing Authority within thirty days of receipt of the names. The appointing Authority shall there upon without any delay appoint the said person as the sole Arbitrator. If the contractor fails to communicate such selection as provided above within the period specified, the Appointing Authority shall make the selection and appoint the selected person as the sole Arbitrator.

If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacate his office due to any reason whatsoever sole Arbitrators shall be appointed as aforesaid. The work under the contract shall, however continue during the arbitration proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issues notices to both the parties fixing the date of the first hearing.

The Arbitrator may, from time to time, with the consent of the parties, enlarge the time for making and publishing the award.

The Arbitrator shall give a separate award in respect of each dispute or difference and shall give a reasoned and speaking award/ awards.

The venue of arbitration shall be at Bhubaneswar. However, if the situation so warrants, it may, as and when required, be held at the place where the site of work is situated.

The fees, if any, of the Arbitrator shall, if required to be paid before the award is made and published be paid half and half by each of the parties. The costs of the reference and of the award including the fees, if any of the Arbitrator shall be in the discretion of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid may fix or settle the amount of costs to be so paid.

The award of the arbitrator shall be final and binding on both the parties.

Subject to aforesaid, the provisions of the Arbitration Act 1940 or any statutory modification or re-enactment thereof and the rules made thereunder, and for the time being in force shall apply to the arbitration proceeding under this clause.

For Public Sector Enterprises guidelines as per the circular of BPE No. 15/9/86-BPE (FIN) dated 30.03.89 as amended time to time will be followed.

88. Jurisdiction/ Governing Laws:

(a) Jurisdiction:

For all disputes arising of this contract, the jurisdiction shall be lie under the jurisdiction of direct courts in the respective areas in the State of ORISSA (India) only.

(b) Governing Laws:

The contract shall be governed by and constructed according to the laws in force in INDIA.

SECTION – IX SAFETY CODE

89. GENERAL:

Contractor shall adhere to safe construction practice and guard against hazardous and unsafe working conditions and shall comply with Owner's safety rules as set forth herein. Prior to start of construction, contractor will be furnished copies of Owner's 'Safety Code' for information and guidance, if it has been prepared.

90. SAFETY REGULATIONS:

90.1. In respect of all labour, directly or indirectly employed in the work for the performance of contractor's part of this agreement, the contractor shall at his own expense arrange for all the safety provisions as per (i) Safety codes of CPWD & Indian Standards Instructions (ii) The electricity Act, (iii) The Mines Act, and (iv) Regulations. Rules and orders made thereunder and such other acts as applicable.

90.2. The contractor shall observe and abide by all fire and safety regulations of the Owner. Before starting construction work, contractor shall consult Owner's Safety Engineer or Engineer-in-Charge and must make good to the satisfaction of the Owner any loss or damage due to fire to any portion of the work done under this contract or to any of the Owner's existing property.

91. First Aid and Industrial Injuries:

(i) Contractor shall maintain first aid facilities for his employees and those of his subcontractors.

(ii) Contractors shall make outside arrangements for ambulance service and for treatment of industrial injuries. Name of those providing these services shall be furnished to Owner prior to start of constructions and their telephone numbers shall be prominently posted in Contractor's field office.

(iii) All critical industrial injuries shall be reported promptly to owner, and a copy of Contractor's report covering each personal injury requiring the attention of a physical shall be furnished to the Owner.

92. General Rules:

Smoking within the Battery Areas, rank farm, or dock limits is strictly prohibited. Violators of the "No Smoking" rules shall be discharged immediately".

93. Contractor's Barricades:

(i) Contractor shall erect and maintain barricades required in connection with his operation to guard or protect.

- (a) Excavations.
 - (b) Hosting Areas.
 - (c) Areas adjudged hazardous by Contractor's or Owner's Inspectors.
 - (d) Owner's existing property subject to damage by Contractor's operation.
 - (e) Rail road unloading spots.
- (ii) Contractor's employees and those of his sub-contractors shall become acquainted with Owner's barricading practice and shall respect the provisions thereof.
 - (iii) Barricades and hazardous areas adjacent to but not located in normal routes of travel shall be marked by red flasher lanterns at nights.

94. Scaffolding:

- (i) Suitable scaffoldings should be provided for workmen for all works that cannot safely be done from the ground or from solid construction except such short period works as can be done safely from ladders. When a ladder is used a Mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1 in 4 (1 horizontal and 4 vertical).
- (ii) Scaffolding or staging more than 4 metres above the ground or floor swing on suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise retarded at least one metre high above the floor or platform of such scaffolding or staging and extending along with entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- (iii) Working platform, gangways and stairways should be so constructed that they should not sag unduly or unequally and if the height of the platform of gangway or the stairway is more than 4 metres above ground level or floor level, they should closely boarded, should have adequate width and should be suitable fastened as described in (ii) above.
- (iv) Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 metre.
- (v) Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 metres in length. The width between the side rails in run ladder shall in no case be less than 30 cm. For ladder upto and including 3 metres in length; for longer ladders this width should be

increase at least 15 mm for each additional metre of length. Uniform step spacing shall not exceed 30 cms. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or public. The contractor shall also provide all necessary fencing and lights to protect the workers and staff from accidents, and shall be bound to bear the expenses of defence of every suit, action or other proceedings of law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit or action or proceedings to any such person or which may with the consent of the contractor be paid to compromise any claim by any such person.

95. Excavation and Trenching:

All trenches 1.2 metres or more in depth, shall at all times be supplied with at least one ladder for each 50 M length or fraction thereof.

Ladder shall be extended from bottom of the trench to at least 1 metre above the surface of the ground. The sides of the trenches which are 1.5 metres in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger of sides to collapse. The excavated materials shall not be placed within 1.5 metres of the edge of the trench or half of the trench width whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or under-cutting shall be done.

96. General Safety:

- (i) Before any demolition work is commenced and also during the process of the demolition work.
 - (a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - (b) No electric cable or apparatus which is liable to be a source of danger shall remain electrically charged.
 - (c) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
- (ii) All necessary personal safety equipment as considered adequate by the Engineer-in-Charge, should be kept available for the use of the persons employed at the site and maintained condition suitable for immediate use and the contractor should take adequate steps to ensure proper use of equipment by persons concerned as outlined below:

- (a) Workers employed on mixing asphalt materials, cement and lime mortars shall be provided with protective footwear and protective gloves.
- (b) Those engaged in white washing and mixing or stacking of cements bags or any materials which are injurious to the eyes shall be provided with protective goggles.
- (c) Those engaged in welding and cutting works, shall be provided with protective face and eye –shields, hand gloves etc.
- (d) Stonebreakers shall be provided with protective goggle and protective clothing and seated at sufficiently safe intervals.
- (e) When workers are employed in sewers and manholes which are in use, the contractor shall ensure that the manhole cover are opened and are ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or board to prevent accident to the public.
- (f) The contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Wherever men above the age of 18 years are employed on the work of lead painting, the following precautions should be taken:
 - (1) No paint containing lead or lead products shall be used except in the form paste or readymade paint.
 - (2) Suitable facemasks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
 - (3) Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash them on cessation of work.
- (iii) When the work is done near any place where there is a risk of drowning all necessary safety equipment shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
- (iv) Use of hoisting machines and tackles including their attachments anchorage and supports shall conform to the following standard or conditions:
 - (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defect and shall be kept in good working order.
 - (b) Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength and free from patent defects.

- (c) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding which or give signals to the operator.
- (d) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or lowering or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be marked with the safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- (e) In case of department machines, the safe working load shall be notified by the Engineer-in-Charge. As regards contractor's machines, the contractor shall notify the safe working load of the machine to the Engineer-in-Charge, whenever he brings any machinery to site of work and get it verified by the Engineer-in-Charge.
- (v) Motors, gears, transmission lines, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safe-guards. Hoisting appliances should be provided with such means as to reduce to the minimum the accidental descent of the load, adequate precaution should be taken to reduce to the minimum the risk of any part or parts of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized, insulating mats, wearing apparel such as gloves sleeves and boots as may be necessary should be provided. The workers shall not wear any rings, watches and carry keys or other materials, which are good conductors or electricity.
- (vi) All scaffolding, ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffoldings, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of works.
- (vii) These safety provisions should be brought to the notice of all concerned by displaying on a notice board at a prominent place at the work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
- (viii) The ensure effective enforcement of the rules and regulations relating to safety precautions, the arrangements made by the contractor shall be open to inspection by the welfare officer Engineer-in-Charge or safety Engineer of the Administration or their representatives.
- (ix) Notwithstanding the above clauses there is nothing in these to exempt the contractor from the operations of any other Act or rules in force in the Republic of India. The works throughout, including any temporary works, shall be carried out in such a manner as not to interfere in any way whatsoever with the traffic on any roads or footpaths at the site or in vicinity thereto or any existing works whether the property of the Administrations or of a third party.

97. Care in handling Inflammable gas:

The Contractor has to ensure all precautionary measures and exercise utmost care in handling the inflammable gas cylinder/ inflammable liquids/ paints etc. as required under the law and/ or as advised by the fire authorities of the Owner.

98. Temporary Combustible Structures:

Temporary combustible structures will not be built near or around work site.

99. Precautions Against Fire:

The Contractor will have to provide Fire Extinguisher/ Fire Buckets and drums at work site as recommended by Engineer-in-Charge. They will have to ensure all precautionary measures and exercise utmost care in handling the inflammable gas cylinders/ inflammable liquid/ paints etc. as advised by Engineer-in-Charge. Temporary combustible structures will not be build near or around the work-site.

100. Explosives:

Explosives shall not be stored or used on the works or on the site by the contractor without the permission of the Engineer-in-Charge in writing and then only in the manner and to the extent to which such permission is given. When explosives are required for the works they shall be stored in a special magazine to be provided at the cost of the contractor in accordance with the Explosive Rules. The contractor shall obtain the necessary licence for the storage and the use of explosives and all operations in which or for which explosives are employed shall be at sole risk and responsibility of the contractor and the contractor shall indemnify the owner against any loss or damage resulting directly or indirectly therefrom.

101. Mines Act:

101.1 Safety Code: The contractor shall at his own expense arrange for the safety provisions as required by the Engineer-in-Charge in respect of all labour directly employed for performance of the works and shall provide all facilities in connection therewith. In case the Contractor fails to make arrangements and provides necessary facilities as aforesaid. The Engineer-in-Charge shall be entitled to do so and recover the costs thereof from the Contractor.

101.2 Failure to comply with Safety code or the provisions relating to report on accidents and to grant of maternity benefits to female worker shall make the Contractor liable to pay Company liquidated damages an amount not exceeding Rs. 50/- for each default or materially incorrect statement. The decision of the Engineer-in-Charge in such matters based on reports from the Inspecting Officer or from representatives of Engineer-in-Charge shall be final and binding and deductions for recovery of such liquidated damages may be made from any amount payable to the Contractor from all the provisions of the Mines Act 1952 or any statutory modification's or re-enactment thereof the time being in force and any Rules and Regulations made thereunder in respect of all the

persons employed by him under this contractor and shall indemnify the Owner from and against any claim under the Mines Act or the rules and regulations framed thereunder by or on behalf of and persons employed by him or otherwise.

102. Preservation of Peace:

The Contractor shall taken requisite precautions and use his best endeavors to prevent any riotous or unlawful behaviour by or amongst his workmen and other employed on the works and for the preservation of peace and protection of the inhabitants and Security of property in the neighborhood of the work. In the event of the Owner requiring the maintenance of a special Police force at or in the vicinity of the site during the tenure of works, the expenses thereof shall be borne by the Contractor and if paid by the Owner shall be recoverable from the Contractor.

103. Outbreak of Infectious Diseases:

The Contractor shall remove from his camp such labour and their families as refuse protective inoculation and vaccination when called upon to do so by the Engineer-in-Charge's Representative. Should Cholera, Plague or other infectious diseases break out the Contractor shall burn the huts, bedding clothes and other belonging of or used by the infected parties and promptly erect new huts on healthy sites as required by the Engineer-in-Charge failing which within the time specified in the Engineer's requisition, the work may be done by the Owner and the cost thereof recovered from the Contractor.

104. Treatment of Contractor's Staff in Company's Hospital:

The Contractor and his staff, other than labourers and their families requiring medical aid from the Owner's hospitals and dispensaries will be treated as private patients and charged accordingly. The contractor's labourers and their families will be granted from treatment in the Owner's hospitals and dispensaries where no other hospitals or dispensaries are available provided the contractor pays the cost of medicines dressing and money accordingly to the normal scale as also additional charges if any for special examination e.g. X- Ray etc.

105. Use of Intoxicants:

The sale of dent spirits or other intoxicating beverages upon the work in any of the buildings, encampments or tenements owned, occupied by or within the control of Contractor or any of his employee is forbidden and the contractor shall exercise his influence and authority to the utmost extent to secure strict compliance with this condition.

In addition to the above, the contractor shall abide by the safety code provision as per CPWD safety code and Indian Standard Code framed from time to time.

PROFORMA FOR BANK GUARANTEE FOR EARNEST MONEY DEPOSIT

(To be executed on non-judicial stamped paper of appropriate value)

B. G. No. _____

Date: _____

1. WHEREAS M/s National Aluminium Company Limited (A Government of India Enterprise), having its Corporate Office at NALCO BHAWAN, P-1 Nayapalli, Bhubaneswar (hereinafter called "The Company Owner" which expression shall unless repugnant to the subject or context includes its legal representatives, successors and assigns) has issued tender paper vide its Tender No.for
..... (hereinafter called "the said tender") to M/s.(hereinafter called the said Tenderer(s)" which expression shall unless repugnant to the subject or context includes their legal representatives, successors and assigns and as per terms and conditions of the said tender, the tenderer shall submit a Bank guarantee for Rs.(Rupeesonly) towards earnest money in lieu of cash.
2. WEBank having its branch office atdo hereby undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Company stating that in the opinion of the company which is final and binding, the amount claimed is due because of any withdrawal of the tender or any material alteration to the tender after the opening of the tender by way of any loss or damage caused to or would be caused or suffered by the Company by reason of any breach by the said tenderer(s) of any of the terms and conditions contained in the said tender or failure to accept the letter of Intent Agreement or that the amount covered under this Guarantee is forfeited. Any such demand made on the Bank by the owner shall be conclusive as regards the amount due and payable by the Bank under this guarantee, However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....(Rupees.....only).
3. We undertake to pay to the Company any money so demanded notwithstanding any dispute or disputes raised by the tenderer (s) in any suit or proceeding pending before any office, court or tribunal relating thereto our liability under this present guarantee being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder. Our liability to pay is not dependent or conditional on the owner proceeding against the tenderer.
4. The guarantee herein contained shall not be determined or affected or suspended by the liquidation or winding up, dissolution or change of constitution or insolvency of the said tenderer(s) but shall in all respect and for all purposes be binding and operative until payment of all money due or liabilities under the said contract(s)/ Order(s) are fulfilled.
5. WEBank Ltd. further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the finalisation of the said tender and that it shall continue to be enforceable till the said tender is

finally decided and order placed on the successful tenderer(s) and or till all the dues of the company under or by virtue of the said tender have been fully paid and its claims satisfied or discharged or till a duly authorised officer of the company certifies that the terms and conditions of the said tender have been fully and properly carried out by the said tenderer (s) and accordingly discharges the guarantee.

6. That the Owner Company will have full liberty without reference to us and without affecting this guarantee to postpone for any time or from time to time. The exercise of any of the power of the owner under the tender.
7. Notwithstanding anything contained herein before, our liability shall not exceed Rs.....(Rupees.....only) and shall remain in force till.....Unless a demand or claim under this Guarantee is made on us within three months from the date of expiry we shall be discharged from all the liabilities under this guarantee.
8. We.....Bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Company in writing. We further undertake to keep this Guarantee renewed from time to time on the request of Tenderer (s).

Date.....
Corporate Seal of the Bank

.....Bank
By its constitutional Attorney

Signature of duly
Authorised person
On behalf of the Bank
With seal & signature code

Note: BGs to be furnished from any of the banks listed earlier.

BANK GUARANTEE FOR SECURITY DEPOSIT

(To be executed on non-judicial stamped paper of appropriate value)

B. G. No. _____

Date: _____

1. In consideration of National Aluminium Company Limited (A Government of India Enterprise), having its office at _____(hereinafter called “ The Company Owner” which expression shall unless repugnant to the subject or context includes its legal representatives, successors and assigns) having agreed to exempt M/s.(Hereinafter called “the said Contractor (s)/ Seller(s)” which expression shall unless repugnant to the subject or context includes their legal representatives, successors and assigns) from the demand under the terms and conditions of Contract(s)/ Order(s) No. dt.of cash security deposit for the due fulfillment by the said contractor(s) seller(s) of the terms and conditions contained in the said Contract(s)/Order(s), on production of Bank Guarantee for Rs.(Rupees.....only).
2. WeBank having its branch office atdo hereby agree and undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Company stating that in the opinion of the company which is final and binding, the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Company by reason of any breach by the said Contractor(s)/seller(s) of any of the terms and conditions contained in the said contract(s) or ders(s) or by reasons of the said Contractor(s)/ Seller(s) failure to perform the said Contract(s)/ Order(s) including defect liability obligations or that the amount covered under this guarantee is forfeited. Any such demand made on the Bank by the owner shall be conclusive as regards the amount due and payable by the Bank under this guarantee, However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....(Rupees.....only).
3. We undertake to pay to the Company any money so demanded notwithstanding any dispute or disputes raised by the contractor (s)/ Seller(s) in any suit or proceeding pending before any office, court or tribunal relating thereto our liability under present guarantee being absolute and unequivocal. The payment so made by us under this bond shall be valid discharge of our liability for payment there under. Our liability to pay is not dependent or conditional on the owner proceeding against the Contractor(s)/ Seller(s).
4. The guarantee herein contained shall not be determined or affected or suspended by the liquidation or winding up, dissolution or change of constitution or insolvency of the said Contractor(s)/ Seller(s) but shall in all respect and for all purposes be binding and operative until payment of all money due or liabilities under the said contract(s)/ Order(s) are fulfilled.
5. WeBank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract(s)/ Order(s) and that it shall continue to be enforceable till all the dues of the company under or by virtue of the said Contract(s)/Order(s) have been fully paid and its claims satisfied or discharged or till a duly Authorised officer of the company certifies that the terms and conditions of the said Contract(s)/Order(s) have been fully

and properly carried out by the said contractor(s) and accordingly discharges the guarantee.

6. WeBank further agree with the Company that the company shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract(s)/ Order(s) or to extend the time of performance by the said Contractor(s) Seller(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the said Contractor(s)/ Seller(s) and to forbear or enforce any of the terms and conditions relating to the said Contract(s)/ Order(s) and we shall not be relieved from our liability by reason of any such variations, or extension being granted to the said Contractor (s)/ Seller(s) or for any forbearance, act or omissions on the part of the Company or any indulgence by the Company to the said Contractor(s)/ Seller(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have affect of so relieving us.
7. Notwithstanding anything contained herein before, our liability shall not exceed Rs.....(Rupees.....only) and shall remain in force till.....Unless a demand or claim under this Guarantee is made on us within three months from the date of expiry we shall be discharged form all the liabilities under this guarantee.
8. We.....Bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Company in writing. We further undertake to keep this Guarantee renewed from time to time at the request of Contractor(s)/ Sellers(s).

Date.....

.....Bank

Corporate Seal of the Bank

By its constitutional Attorney

Signature of duly
Authorised person
On behalf of the Bank
With seal & signature code

BGs to be furnished from any of the banks listed as per Annexure.

**PROFORMA FOR CONTRACT CUM PERFORMANCE GUARANTEE BY SELLER/
CONTRACTOR.**

(To be executed on non-judicial stamped paper of appropriate value)

B. G. No.....

Date.....

1. WHEREAS National Aluminium Company Limited (A Government of India Enterprise) having its office at(hereinafter referred to as “The Company/Owner” which expressions shall unless repugnant to the subject or context includes its legal representatives, successors and assigns) has entered into a contract with M/s. / has placed a purchase order on M/s.....(hereinafter referred to as “Contractor(s)/ Seller(s)” which expression shall unless repugnant to the subject or context includes their legal representatives, successors and assigns) foron the terms and conditions as set out inter alia, in the Company’s contract No./ P.O. No.dateand various documents forming part thereof hereinafter referred to as the “said contract” which expression include all amendments, modifications and/ or variations thereto and where as the Contractor(s)/ Seller(s) has agreed for due execution of the entire contract and guarantees its performance including any parts executed through any other agencies/ subcontractors.

AND WHEREAS one of the conditions of the “said contract” is that “contractor(s)/seller(s) shall furnish to the owner a Bank Guarantee from a bank for% (.....percent) of the total value of the “said contract” against due and faithful performance of the “said contract” including defect liability obligations” and the performance guarantee obligations of the contractor(s)/seller(s) for execution/ supplies made under the “said contract.”

2. WeBank having its branch office atdo hereby agree and undertake to pay the amount due and payable under this guarantee without any demur merely on a demand from the Company stating that in the opinion of the Company, which is final & binding, the amount claimed is due by reason of default made by the Contractor(s)/ Seller(s) in performing any of the terms & conditions of the said Contract including defect liability obligations, in fulfilling the performance guarantee obligation or loss or damage caused to or would be caused to or suffered by the Company by reason of any breach by the said Contractor (s)/ Seller(s) of any of the terms & conditions of the contract. Any such demand made on the Bank by the owner shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However our liability under this guarantee shall be restricted to Rs.(Rupees.....only).
3. We undertake to pay to the Company any money so demanded notwithstanding any dispute or disputes raised by the contractor(s)/ Seller(s) in any suit or proceeding pending before any office, court or tribunal relating thereto our liability under this present guarantee being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under. Our liability to pay is not dependent or conditional on the owner proceeding against the Contractor(s)/ Seller(s).

4. The guarantee herein contained shall not be determined or affected or suspended by the liquidation or winding up, dissolution or change of constitution or insolvency of the said Contractor(s)/ Seller(s) but shall in all respect and for all purposes be binding and operative until payment of all money due or liabilities under the said contract(s)/ Order(s) are fulfilled.
5. WeBank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract(s)/ Order(s) and that it shall continue to be enforceable till all the dues of the company under or by virtue of the said Contract(s)/Order(s) have been fully paid and its claims satisfied or discharged or till a duly authorised officer of the Company certifies that the terms and conditions of the said Contract(s)/Order(s) have been fully and properly carried out by the said contractor(s) and accordingly discharges the guarantee.
6. WeBank further agree with the Company that the company shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract(s)/ Order(s) or to extend the time of performance by the said Contractor(s) Seller(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the said Contractor(s)/ Seller(s) and to forbear or enforce any of the terms and conditions relating to the said Contract(s)/ Order(s) and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor (s)/ Seller(s) or for any forbearance, act or omission on the part of the Company or any indulgence by the Company to the said Contractor(s)/ Seller(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have affect of so relieving us.
7. Notwithstanding anything contained herein before, our liability shall not exceed Rs.....(Rupees.....only) and shall remain in force till.....Unless a demand or claim under this Guarantee is made on us within three months from the date of expiry we shall be discharged form all the liabilities under this guarantee.
8. We.....Bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Company in writing. We further undertake to keep this Guarantee renewed from time to time at the request of Contractor(s)/ Sellers(s).

Date.....

Corporate Seal of the Bank

.....Bank

By its constitutional Attorney

Signature of duly

Authorised person

On behalf of the Bank

With seal & signature code

BGs to be furnished from any of the banks listed as per Annexure.

BANK GUARANTEE FOR ADVANCE PAYMENT

(To be executed on non-judicial stamped paper of appropriate value)

B. G. No. _____

Date: _____

1. In consideration of National Aluminium Company Limited (A Government of India Enterprise), having its office at _____(hereinafter called “ The Company Owner” which expression shall unless repugnant to the subject or context includes its legal representatives, successors and assigns) having agreed to make an advance payment of Rs.....(Rupees.....only) to M/s. (hereinafter called “the said Contractor (s)/ Seller(s)” which expression shall unless repugnant to the subject or context includes their legal representatives, successors and assigns) from the demand, terms and conditions of Contract/Order dated.on production of a bank guarantee of equivalent amount.
2. WeBank having its branch office atdo hereby agree and undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Company stating that in the opinion of the Company which is final and binding, the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Company by reason of non-payment / adjustment of any part of the said advance or any dues to the company or any breach by the said Contractor(s)/seller(s) of any of the terms and conditions contained in the said contract(s) orders(s) or by reasons of the Contractor(s)/ Seller(s) failure to perform the said Contract(s)/ Order(s). Any such demand made on the Bank by the owner shall be conclusive as regards the amount due and payable by the Bank under this guarantee, However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....(Rupees.....only).
3. We undertake to pay to the Company any money so demanded notwithstanding any claim dispute or disputes raised by the contractor (s)/ Seller(s) in any suit or proceeding pending before any office, court or tribunal relating thereto our liability under this present guarantee being absolute and unequivocal. The payment so made by us under this bond shall be valid discharge of our liability for payment thereunder. Our liability to pay is not dependable or conditional on the owner proceeding against the Contractor(s)/ Seller(s).
4. The guarantee herein contained shall not be determined or affected or suspended by the liquidation or winding up, dissolution or change of constitution or insolvency of the said tenderer(s) but shall in all respect and for all purposes be binding and operative until payment of all money due or liabilities under the said tenderer(s) are fulfilled.
5. WeBank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the finalisation of the said tenderer(s) and that it shall continue to be enforceable till the said tender is finally decided and order placed on the successful tender and/or till all the dues of the company under or by virtue of the said tender have been fully paid and its claims satisfied or discharged or till a duly authorised officer of the Company certifies that the terms and conditions of the said Contractor(s)/ Order(s) have been fully and properly carried out by the said tenderer(s) and accordingly discharges the guarantee.

6. That the owner/Company will have fully liberty without reference to us and without affecting this guarantee to postpone for any time or from time to time the exercise of any of the power of the owner under the tender.
7. Notwithstanding anything contained herein before, our liability shall not exceed Rs.....(Rupees.....only) and shall remain in force till.....Unless a demand or claim under this Guarantee is made on us within three months from the date of expiry we shall be discharged form all the liabilities under this guarantee.
8. We.....Bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Company in writing. We further undertake to keep this Guarantee renewed from time to time on the request of the Contractor(s)/ Seller(s).

Date.....

.....Bank

Corporate Seal of the Bank

By its constitutional Attorney

Signature of duly
Authorised person
On behalf of the Bank
With seal & signature code

- i) BGs to be furnished from any of the banks listed as per Annexure.
- ii) Address of Corporate Office should be referred in case of Foreign BG.

LIST OF STANDARDISED BANKS

SCHEDULED PUBLIC SECTOR BANKS (INDIAN)

1. State Bank of India.
2. State Bank of Bikaner and Jaipur
3. State Bank of Hyderabad
4. State Bank of Indore.
5. State Bank of Mysore.
6. State Bank of Patialia.
7. State Bank of Saurashtra
8. State Bank of Travancore.
9. Allahabad Bank
10. Andhra Bank
11. Bank of Baroda.
12. Bank of India
13. Bank of Maharashtra
14. Canara Bank
15. Central Bank of India
16. Corporation Bank
17. Dena Bank
18. Indian Bank
19. Indian Oversea Bank
20. Oriental Bank of Commerce
21. Punjab National Bank
22. Punjab and Sid Bank
23. Syndicate Bank
24. Union Bank of India
25. *United Bank of India (Deleted)*
26. UCO Bank
27. Vijaya Bank.

LIST OF STANDARDIED BANKS

SCHEDULED PRIVATE SECTOR BANKS (INDIAN)

1. Vyasa Bank
 2. UTI Bank Ltd.
 3. SBI Commercial & International Bank Ltd.
 4. ICICI Banking Corporation Bank Ltd.
 5. HDFC Bank Ltd.
 6. IDBI Bank Ltd.
-

SCHEDULED FOREIGN BANKS

1. American Express Bank Ltd.
 2. ANZ Grindlays Bank Plc
 3. Bank of American NT & SA
 4. Bank of Tokyo Ltd.
 5. Banque Nationale de Paris
 6. Barclays Bank Plc
 7. Citi Bank N.A.
 8. Deutsche Bank A.G.
 9. Hongkong & Shanghai Banking Corporation.
 10. Standard Chartered Bank
 11. The Chase Manhattan Bank Ltd.
 12. Dresdner Bank AG.
-

**DETAILS OF WORKS OF SIMILAR NATURE & MAGNITUDE CARRIED OUT
DURING THE LAST 5 YEARS**

Sl. No.	Name of work done	Estimated cost	When started	When completed	Date of Completion As per contract.	Remarks
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- Note :** 1. In the remarks column, please state whether the works stated above are carried out by you in the name of the Firm in which the present Bid is submitted or any other names, if later, state relationship of the firm and also a copy of the Partnership Deed.
2. Please enclose the true copy of the certificate issued by the authorities, if any.

Signature of Bidder

Name of Work:

Name of Tenderer:

CONCURRENT COMMITMENTS OF THE TENDERER

Full Postal Address of Client & Name of Officer-in-Charge	Description of the work	Value of contract	Date of commencement of work	Scheduled Completion period	Percentage Completion as on date	Expected date of completion	Remarks if any

SIGNATURE OF BIDDER

NAME OF WORK:

NAME OF TENDERER:

DETAILS OF EQUIPMENTS, TOOLS TACKLES

Tenderer shall submit herein details of equipment, tools, tackles, etc required to perform the work and shall note in each case whether the same is (a) already owned by tenderer and available for use on this contract (b) anticipated to be hired by Contractor or (c) anticipated to be purchased by Contractor, in case of (a) anticipated (b) and (c) Location of hirer or supplier shall be stated.

Sl. No.	Description, Make Mode & Capacity	Year of Manufacture	Category (a) or (b) or (c) below	Location	Remarks
(1)	(2)	(3)	(4)	(5)	(6)

1. Contractor agrees to augment the above chart with additional number/ categories of equipment, if required to complete the work within the agreed time schedule of completion and directed by the Engineer-in-charge.
2. In case of hiring of equipment from other agencies, copies of the arrangements made with the hirer/ supplier shall have to be furnished.

(Signature of Bidder)

**DETAILS OF MINIMUM MANPOWER PROPOSED TO BE
DEPLOYED ON THIS WORK**

Sl. No.	Details of Manpower	No.	Remarks
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Note : Please furnish the above details in two categories – To be deployed by (I) Contractor and (ii) Sub- contractors.

Minimum manpower deployment shall be based broadly as above and will be modified as mutually agreed to suit the detailed construction programme jointly worked out; further if any additional man power is required for completion of work in time, the same shall be provided by you as directed by Engineer without any extra cost.

The manpower proposed to be deployed in the work needs to be given quarter wise separately for direct personnel of the contractor and the manpower proposed to be deployed through the sub-contractors.

(Signature of Bidder)

**ORGANISATION CHART SHOWING NO. OF QUALIFIED
ENGINEERS & SUPERVISORY PERSONNEL ETC.**

Sl. No.	Details of personnel to be deployed on this work	No.
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Note: Names and short resume of their experiences may also be given for key personnel.

The tentative chart of your site organisation as above furnished by you shall be subject to variation to suit the construction programme/ requirement and as directed by Owner/ Engineer.

(Signature of Bidder)

LIST OF PROPOSED SUB CONTRACTORS

Sl. No.	Name of sub-contractor	Description of work or trade	Amount (Rs.)
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-
- 1) Types of work executed by the sub-contractors.
 - 2) The particulars of clients where the sub-contractors did the works.
 - 3) Approximate value of the work carried by the sub-contractors in the last 3 years.

(Signature of Bidder)

PPROGRESS BILLINGS

(Bidder's anticipated progress billing month by month to be inserted here)

Tentative construction schedule indicating the expected dates of start of activity is to be given by the contractor. This schedule shall be updated within specified milestones from time to time depending upon the availability of fronts equipment and priorities fixed by Engineer. Contractor shall submit within 15 days of the date of letter of intent programme/ schedule for supply of items covering all phases of work including design, procurement, manufacture, assembly, fabrication, testing, transportation, erection, testing at site and commissioning matching the overall completion schedule.

The billing as well as all the connected documents shall be computerized.

(Signature of Bidder)

NAME OF WORK

NAME OF TENDERER :

INFORMATION ABOUT TENDERERS (FORM – H)

- 1.0. In case of Individual:
 - 1.1. Name of Business:
 - 1.2. Whether his business is registered:
 - 1.3. Date of Commencement of Business:
 - 1.4. Whether he pays Income Tax over Rs. 10,000/- per year:
- 2.0. In case of Partnership:
 - 2.1. Name of Partnership with qualification:
 - 2.2. Whether the Partnership is Registered:
 - 2.3. Date of Establishment of firm:
 - 2.4. If each of the partners of the firm pays Income Tax over Rs. 10,000/- a year and if not, who of them pays the same.
- 3.0. In case of Limited Liability Company or Company Limited by Guarantees:
 - 3.1. Amount of paid of capital:
 - 3.2. Name of Directors:
 - 3.3. Date of Registration of Company:
 - 3.4. Copies of the Balance Sheet of the Company of the last two years:

Copies of audited Profit & Loss Account and the Balance sheet shall be enclosed in case of Individuals, partnerships as well as limited companies for the last 3 years.

(Signature of Bidder)
Name & Address of the Bidder

NAME OF WORK:

NAME OF TENDERER:

LIST OF ENCLOSURES (FORM– I)

The tenderer is required to enclose the following documents as part of his tenderer.

1. Power of attorney of the signatory to the tender.
2. Income Tax/ Sales Tax Clearance Certificate in the proforma prescribed by the Govt. of India.
3. Documents showing annual turnover for similar works for the past two years such as annual report, profit and loss account etc.
4. Solvency Certificate by Nationalized Schedule Bank.

(Signature of Bidder)

** In absence of Income Tax Clearance Certificate tenderer may not be awarded the work tendered for as per Central Govt. Directives.

NAME OF WORK:

NAME OF TENDERER:

EXCEPTION AND DEVIATION (FORM – J)

As pointed out in the NIT/ LIT, tenderer may stipulate here exceptions and deviations to the tender conditions, if considered un-avoidable.

Sl. No.	Page No. of tenderer document	Sl. No. of tender document	Subject	Deviation
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(Signature of Bidder)

AMENDMENT TO GCC

Sl No	Clause No	Brief Description of Clause	Modification
01	2.3	Power Supply	<p>i) Clause No. 2.3.1 of General Condition of Contract stands modified to the following extent:</p> <p>The cost of construction power appearing in the 12th & 13th line as Rs 1.00 per kwh shall be read as Rs. 4.30 (Rupees four and thirty paise only) per kwh.</p> <p>ii) Clause No. 2.3.10 of General Condition of Contract stands modified to the following extent:</p> <p>The state Electricity Inspector appearing in the second line shall be read as 'Central Electricity Authority at Chennai'.</p>
02	2.4	Land for contractor's Field office, Godown and Workshop	<p>Clause No. 2.4 of General Condition of Contract modified to the following extent:</p> <p>"The owner shall provide land to the Contractor for their offices, godown and workshop."</p>
03	2.5	Land for Residential Accommodation	<p>Clause No. 2.5 of General Condition of Contract modified to the following extent:</p> <p>"The land for residential accommodation for staff and labour may be made available to Contractor outside plant boundary limit."</p>
04	22	Extension of time	<p>The word "any one" appearing in the end of the second para of Clause No. 22.0 shall be read as "OWNER".</p>
05	52.3.6	Return of unutilized/ surplus materials and scrap/ wastage	<p>i) The words "SAIL, Bhubaneswar stockyard rate" appearing in 3^d line of first para shall be replaced by "Landed cost."</p> <p>ii) The words "Rs. 7000.00 per tonne" appearing in last line of first para shall be replaced by "twice the landed cost of materials."</p>
06	53 (xv)	Conditions for issue of materials	<p>The contents of the sub-clause No. 53 (xv) shall stand deleted and replaced with the following:</p> <p>"For the free issue materials, the following norms shall be adopted:</p> <p>i) For issue of materials within plant boundary-wall limit, the Contractor shall submit only indemnity bond for the entire value of the materials issued to them free of cost as Clause 53 (ix) of GCC.</p>

Sl No	Clause No	Brief Description of Clause	Modification
			<p>ii) For the materials which are issued to out side plant boundary like township etc., the contractor shall furnish Bank Guarantee equivalent to 20% of value of materials and indemnity bond for the 80% value of the materials.</p> <p>iii) For materials taken out side Damanjodi/ Angul to the vendor's shop, 100% Bank Guarantee against value of the materials will be submitted by the vendor before taking of the materials.</p> <p>iv) The Indemnity Bond and the Bank Guarantee shall remain valid till the material account is totally settled. “</p>
07	60 (d)	Alterations in Specifications and Design and Extra Works	The words “including equipment hire charges at Schedule hourly/ daily rates” appearing in 7 th and 8 th line shall be replaced by the words “including equipment hire charges prevalent at site at the time of execution.”
08	60	Alterations in Specifications and Design and Extra Works	Add new sub-clause 60 (e) as follows: “the quoted prices/ rates indicated in Schedule of Rates shall remain firm for all variations in contract value within range of (+) 50% and (-) 25% for the entire duration of the contract. In case the actual contract value varies from the awarded contract value beyond the above mentioned limit then adjustment to contract value shall be made in accordance with procedure specified in proforma for adjustment for increase/ decrease in contract value enclosed as per Annexure.”
09	76.3 (ii)	Completion documents	<p>Clause No. 76 (ii) of General Condition of Contract shall be replaced by:</p> <p>“Six sets of construction drawings showing therein the modifications and corrections made during the course of execution of the work (As built drawing) duly approved by Engineer-in-charge and one set of reproducible on polyester film/ in Soft copy in CD.”</p>
10	80.1	Employees State Insurance Act	Delete the word “whose aggregate remuneration is Rs.560.00 per month or less and” appearing in the 3 ^d & 4 th line of the 2 nd para of this sub clause.

SI No	Clause No	Brief Description of Clause	Modification
11	New sub-clause	---	Add a new clause designated as Sub-clause 80.6 - Statutory Provisions after existing clause No. 80.5: “80.6- Statutory Provisions: The contractor shall comply with all relevant and applicable statutory provisions in respect of the workers engaged by him at his cost and above stipulations are only indicative and are not exhaustive.”
12	83 (viii)	Labour Laws	<p>Clause 83 (vii) of GCC shall be modified to following extent: Add the words <i>‘all relevant statutes at their own costs including’</i> between the words <i>“provisions of”</i> and <i>“the payment of Wages Act 1936”</i> appearing in the first line of this sub-clause.</p> <p>Provided further that:</p> <ol style="list-style-type: none"> The payment of minimum wages to contract labour shall be as per the rates notified by the Central Govt. as per Minimum Wage Act, 1948 and as adopted by the NALCO Management from time to time plus any additional element and statutory dues thereon. The minimum wage as notified by the Chief Labour Commissioner (Central) has a variable component as Special Allowance which is linked to average AICPI for Industrial workers, which keeps on changing every six months. The contractor has to absorb all such variations due to increase in Minimum wage in their quoted price, and no claim whatsoever on this account shall be entertained. Where the minimum wages notified by the concerned State Government are higher than the rates notified by Central Government, the State Government rates should apply in concerned <i>scheduled employment</i> as long as the same remains higher than the Central Government rates. The classification on workers in different categories will be as per the notification issued by the Central Government fixing the minimum wages for the above scheduled appointment.

Sl No	Clause No	Brief Description of Clause	Modification
13	New Clause	Jurisdiction/ Governing Law	<p>Add a new clause designated as sub-clause 88 (c) after existing clause No. 88 (b).</p> <p>All the works that will be carried out inside the factory premises shall attract the provisions of factory act for the contract labourers engaged therein.</p> <p>The contractor, before commencement of work will arrange medical examination at his cost and shall submit the certificate of fitness in respect of the workers in the prescribed form from the nearby District HQ hospital or any Govt. hospitals for his workers, who will be handling or working with hazardous substance.</p> <p>In respect of contracts having more than one year, the medical check up of such workers shall have to be repeated by the contractor on completion of every one year.</p>
14	79	Taxes & Duties, Octroi etc.	<p>Add a new clause designated as sub-clause 79.3 after existing sub-clause No. 79.2 as follows:</p> <p>The rates quoted by the tender will cover all the taxes, duties and levies as applicable on the date of bid/ revised bid (if any).</p> <ul style="list-style-type: none"> - In case of any imposition of new taxes by Govt. notification at a later date, same shall be reimbursed to the contractor against submission of authentic document towards payment of such taxes by them. - In case of revision of rate of Works Contract Tax by Govt. notification, same shall be reimbursed to the contractor against submission of documentary evidence towards payment of such extra amount by them.
15	74	Payment of Contractor's Bill	<p>Insert the following after the last para:</p> <p>“However, owner prefers to release the payment due to the contractor electronically. The e-payment facility is available under INTERNET mode through company banker as well as in EFT/RTGS mode through Reserve Bank of India, which is available only at designated centers. The contractor shall submit duly filled Bank Mandate form in duplicate with due authentication from their banker to avail e-payment facility. The prescribed mandate form is appended as Appendix to GCC.”</p>

(To be submitted in duplicate)

MANDATE FORM FOR ELECTRONIC PAYMENT THROUGH INTERNET & RBI

To
National Aluminium Company Limited,

Dear Sir,

Sub: Authorization for release of payment due from NALCO, ----- through
Electronic fund transfer(RBI-EFT)/Internet / RTGS.

Refer Order No.....dt.....and/or Tender/Enquiry/Letter No.....dt.....

(Please fill in the information in CAPITAL LETTERS. Please TICK wherever it is applicable)

1. Name of the Party :
2. Address of the party :.....
.....
.....
City :.....Pin Code:.....
E-mail Id:
Permanent Account Number :.....

3. Particulars of Bank:

Bank Name		Branch Name	
Branch Place		Branch City	
Pin Code		Branch Code	
MICR No			
(9 Digits code number appearing on the MICR Band of the cheque supplied by the Bank. Please attach Xerox copy of a cheque of your bank for ensuring accuracy of the bank name, branch name and code number)			
Account Type	Savings ف	Current ف	Cash Credit ف
Account Number(as appearing in the Cheque Book)			
RTGS / IFSC Code			

4. Date from which the mandate should be effective :

I hereby declare that the particulars given above are correct and complete. If any transaction is delayed or not effected for reasons of incomplete or incorrect information, I shall not hold National Aluminium Company Limited responsible. I also undertake to advise any change in the particulars of my account to facilitate updation of records for purpose of credit of amount through RBI EFT / Internet / RTGS.

Place:

Date:

Signature of the party/Authorized Signatory

Certified that particulars furnished above are correct as per our records.

Bank's Stamp:

Date:

(Signature of the Authorized Official from the Banks)

N.B. : RBI EFT / RTGS facilities Centre:

New Delhi, Chandigarh, Kanpur, Jaipur, Ahmedabad, Mumbai, Nagpur, Hyderabad, Bangalore, Chennai,
Trivandrum, Kolkata, Bhubaneswar, Guwahati, Patna.

N.B. : RTGS charges if any, is to be borne by the party.

(To be submitted in duplicate)

MANDATE FORM FOR ELECTRONIC PAYMENT THROUGH INTERNET

To
National Aluminium Company Limited,

.

Dear Sir,

Sub: Authorisation for release of payment due from NALCO, ----- through
Electronic fund transfer by Internet Mode .
Refer Order No.....dt.....and/or Tender/Enquiry/Letter No.....dt.....

(Please fill in the information in CAPITAL LETTERS. Please TICK wherever it is applicable)

1. Name of the Party :
2. Address of the party :.....
.....
.....
City :.....Pin Code:.....
E-mail Id:
Permanent Account Number :.....

3. Particulars of Bank:

Bank Name			Branch Name										
Branch Place			Branch City										
Pin Code			Branch Code										
Account Type	Savings ف		Current ف	Cash Credit ف									
Account Number(as appearing in the Cheque Book)													
Please attach Xerox copy of a cheque of your bank for ensuring accuracy of the bank name, branch name and code number .													

4. Date from which the mandate should be effective :

I hereby declare that the particulars given above are correct and complete. If any transaction is delayed or not effected for reasons of incomplete or incorrect information, I shall not hold National Aluminium Company Limited responsible. I also undertake to advise any change in the particulars of my account to facilitate updation of records for purpose of credit of amount through Internet.

Place:

Date:

Signature of the party/Authorized Signatory

Certified that particulars furnished above are correct as per our records.

Bank's Stamp:

Date:

(Signature of the Authorized Official from the Banks)