



NATIONAL ALUMINIUM COMPANY LIMITED

(A Govt. of India Enterprise)

Nalco Bhawan, Bhubaneswar - 751 061, India

GLOBAL TENDER NOTICE

No. - NBC/MM/SX 1990/PT/07

Date: 17.1.2009

Sealed Tenders in two parts are invited for supply of one no. **High Speed Slitting Machine** for Rolled Product Unit of our Smelter Plant at Angul (Orissa), India, from bonafide indigenous as well as overseas manufacturers/suppliers or their accredited Agents. For further details and downloading Tender Documents please log on to www.nalcoindia.com & www.tenders.gov.in .

DY. GENERAL MANAGER (MATERIALS)

GLOBAL TENDER FOR PROCUREMENT OF ONE NO. HIGH SPEED SLITTING MACHINE FOR ROLLED PRODUCT UNIT OF SMELTER PLANT OF NATIONAL ALUMINIUM COMPANY LTD., INDIA

INSTRUCTIONS TO BIDDERS

1. Bids are to be submitted in complete accordance with Technical Specifications (Annexure - I), Tender Documents Commercial (Imports), Tender Documents Commercial (Indigenous) & other Attachments.
2. The following documents are enclosed:
 - i) Annexure - I - Technical Specifications
 - ii) Annexure - II - Special Instruction to bidders
 - iii) Annexure - III - Tender Documents Commercial (Imports)
 - iv) Annexure - IV - Tender Documents Commercial (Indigenous)
 - v) Annexure - V - Addendum to Tender Documents (Commercial)
 - vi) Annexure - VI - Terms & Conditions for Supervision of Erection, Testing, Commissioning & Performance Testing
 - vii) Annexure - VII - Agreed Terms & Conditions (Imports)
 - viii) Annexure -VIII - Agreed Terms & Conditions (Indigenous)
 - ix) Annexure - IX - Price Schedule Format
 - x) Annexure - X - Proforma for Contract-cum-Performance Bank Guarantee
 - xi) Annexure - XI - Proforma for Earnest Money Deposit
 - xii) Annexure - XII - List of NALCO approved Banks & Bank Mandate Form
3. Bids are to be submitted in two parts in sealed envelopes as follows :

PART - I BID - Four sets of UNPRICED BID containing technical details, drawings, data sheets, catalogues/ literatures , Bank Guarantee for Earnest Money Deposit, Proof of credentials, past experience, financial standing, commercial details including Price Schedule but without Price figures. The envelope should be super scribed with **“PART - I BID FOR ONE NO. HIGH SPEED SLITTING MACHINE FOR ROLLED PRODUCT UNIT OF SMELTER PLANT, NIT NO. - NBC/MM/SX 1990/PT/07 DUE ON 28.2.2009”**.

PART - II BID - Two sets of Price Bids containing full details as above including Price figures. The envelop should be super scribed with **“PART - II BID FOR ONE NO. HIGH SPEED SLITTING MACHINE FOR ROLLED PRODUCT UNIT OF SMELTER PLANT, NIT NO. - NBC/MM/SX 1990/PT/07 DUE ON 28.2.2009”**.

The Part - I & Part - II Bids shall be identical in all respect, but Part - I Bid should not contain Price figures & in the Price Schedule “Quoted” should be indicated against items for which prices are quoted in the Price Bid. For the items not quoted or mentioned included / not applicable, in the Price Bid, ‘Not quoted, included or Not applicable’ is to be mentioned in the Part - I Bid .

4. The Part - I Bid must be accompanied by Earnest Money Deposit of **Rs. 7,50,000/- or equivalent USD/EURO** by way of Bank Guarantee (as per proforma enclosed) to be furnished from any of NALCO approved Banks as per the list enclosed. The issuing Bank should be advised to send a direct confirmation of issue of Bank Guarantee to NALCO.

The Bank Guarantee for Earnest Money Deposit shall remain un-discharged for such a period as may be specified for keeping the tender open. The EMD will not earn any interest. If the tenderer, after submitting tender, revokes the offer or modifies the terms & conditions thereof, in a manner not acceptable to the Purchaser, the Bank Guarantee for Earnest Money shall be liable to be forfeited / enforced.

Tender not accompanied by EMD BG will not be considered.

After finalization of the tender, the EMD BG of unsuccessful tenderers will be returned. The EMD of successful tenderer shall be returned after submission of Contract - cum - Performance Bank Guarantee.

5. Tender Documents can be purchased between **19.1.2009** to **27.2.2009** from any of our Offices at Bhubaneswar, New Delhi, Kolkata, Mumbai, Chennai & Bangalore within 9:30 AM to 1:00 PM by paying Tender fee of **Rs. 5,000/-** (Rupees Five Thousand Only) or equivalent USD/ EURO by way of Demand Draft/ Pay Order. The addresses of our offices are as follows:

BHUBANESWAR

NALCO BHAVAN,
P/1, NAYAPALLI,
BHUBANESWAR - 751 061,
ORISSA
PH: 91 - 674 - 2301 988 - 99
FAX: 91 - 674 - 2300 550/ 470/ 521/ 640

NEW DELHI

CORE - 4 (5TH FLOOR), SOUTH TOWER,
DISTRICT CENTRE, SCOPE MINAR,
LAXMI NAGAR,
NEW DELHI - 110 092
PH: 011 - 2201 0792 - 97 & 2201 0801
PH: 011 - 2201 0799 (RM)
FAX: 011 - 2201 0800/ 0790
EMAIL: rmsdel@satyam.net.in

KOLKATA

BINOY BHAVAN,
6TH FLOOR, 27 - B,
CAMAC STREET,
KOLKATA - 700 016
PH: 91 - 33 - 2247 7360/ 0115
FAX: 91 - 33 - 2247 8936/ 2281 0393
EMAIL: skpatra@satyam.net.in

MUMBAI

215, T.V.INDUSTRIAL ESTATE,
S.K.AHIRE MARG, WORLI,
MUMBAI - 400 025
PH: 91 - 22 - 2493 9288/ 9289
FAX : 91 - 22 - 2495 0500
EMAIL: nalcobom@bol.net.in

CHENNAI

3E, CENTURY PLAZA,
560, ANNA SALAI,
TEYNAMPET, CHENNAI - 600 018
PH: 91 - 44 - 2434 4162/ 9157

BANGALORE

RESHMA COMPLEX,
3RD FLOOR, 50 M.G. ROAD,
BANGALORE - 560 001
PH: 91 - 80 - 5587 298/ 086

FAX: 91 - 44 - 2434 3495
EMAIL: rmchn@satyam.net.in

FAX: 91 - 80 - 5586 151
EMAIL: mktblr@satyam.net.in

In case the Tender Document is downloaded from website, Tender fee is to be remitted by way of Demand Draft favoring "National Aluminium Company Ltd.", payable at Bhubaneswar, Orissa, India. The Demand Draft is to be enclosed with the Part - I - Un - priced Bid.

6. Bids complete in all respect should reach **our office** by **13.00 Hours on 28.2.2009**. **The PART - I Bids shall be opened at 15.30 Hours on the same day**. NALCO shall not be responsible for any postal delay. Late & delayed tenders will not be entertained.
7. Technical specifications should be strictly as per Annexure - I enclosed. Incase of any deviation, please furnish the same clause-wise, under the head "Technical Deviations".
8. The Questionnaire under the caption "Agreed Terms & Conditions (Import)" / "Agreed Terms & Conditions (Indigenous)" are to be filled in & submitted along with the Tender.
9. All materials shall be inspected and tested in presence of NALCO Representative or their authorised Representative (Third Party Inspection agency like M/s. Lloyds, Almi Conseil or equivalent) at vendor's works prior to dispatch.
10. NALCO reserves the right to make any changes in the terms and conditions of Purchase and to reject any or all the bids received including those received late, incomplete and telex/ fax bids, without assigning any reason(s) thereof.
11. In case of foreign vendors NALCO reserves the right to place order either on FOB basis or CFR basis. Hence, quoted Marine freight should be valid for a period of six months from the date of submission of offer. In case of acceptance of bid, Order will be placed on FOB basis. Subsequently, the Order may be converted to CFR basis.
12. Foreign vendors to quote prices in Single Foreign Currency only.
13. The tenders should be unambiguous and complete information should be furnished in the tender as per proforma given in the Agreed Terms and Conditions (Foreign). Incomplete/ambiguous offers will be rejected out right.
14. No correspondence, whatsoever until & unless called for by the buyer, shall be entertained after due date and time of receipt of tender and any uncalled for communication received later from the tenderers /agents will be ignored.
15. Direct bids only, without the intermediary of an Indian Agent will be considered from foreign vendors.
16. While mailing the bids, Foreign Bidders are required to submit their bids through their courier/ freight forwarding agents on free domicile shipment basis (where all the charges including customs duty are to be borne by the bidder) on free delivery to NALCO.

17. Parties submitting tender on behalf of foreign principals/ manufacturers must submit their tender along with authorisation from their respective principals/ manufacturers to represent them in India. Offers received without a proper authorisation will be rejected.
18. Purchaser reserves the right to allow purchase preference to Central Public Sector Undertakings/ Enterprises of India, as admissible under prevailing policy of Government of India.
19. Please confirm that you have not been banned or de-listed by any Government or Quasi Government agencies or PSUs of India. If you have been banned or de-listed by any Government or Quasi Government agencies or PSUs, then this fact must be clearly stated. If this declaration is not furnished, your bid shall be treated as **non - responsive and liable for rejection**.
20. The scope of work shall be as per **Annexure - I** of NIT. The Completion Period including Design, Engineering, Supply, Erection, Testing, Commissioning & PG Testing of one no. of **High Speed Slitting Machine** for Rolled Product Unit of Smelter Plant as per Specifications in Annexure - I shall be within **9 (Nine) months** from the date of Brief Order.

Completion period for Site Work (i.e. Erection, Testing, Commissioning, Performance Testing and handing over to NALCO) shall be **1 (One) month** and this one month shall be reckoned from one week after Site Mobilization. Two weeks notice period shall be given to you for Site mobilization.

21. The Un - priced Bid shall be opened in the presence of attending representative of Bidders, having authorization letter from their Competent Authority as per proforma enclosed. The Bidder's representative present shall sign a Bid opening statement evidencing their attendance. Bidders, whose bids are not opened for any reasons, will not be allowed to be present during bid opening. During opening, Bidder's names shall only be announced.
22. The date and time of the price bid opening shall be intimated later to the technically and commercially acceptable bidders. During Price Bid opening, Bidder's names, prices shall only be announced.
23. **Bidder's Qualifying Criteria:**
 - (i) The Bidder must have designed, supplied, installed & commissioned at least one packaged High Speed Slitting Machine suitable for Aluminium or Aluminium Alloy Flat product with coil width from 700 to 1650 mm and thickness of 0.3 to 4.0 mm & line Speed up to 300 Meter per minute or more on EPC turnkey basis during last five years.
 - (ii) Documentary evidence such as Completion Certificate, copy of the Purchase Order with detail scope of work, order value, line data sheet and other relevant documents must be furnished.
 - (iii) The principal bidder should be the Original Equipment Manufacturer (OEM) of the system.

The Bidder may be disqualified if they do not have adequate experience in supplying similar lines for Aluminium industries.

Annexure - I**Technical Specification for High Speed Slitting Machine****1.00 INTENT OF SPECIFICATION**

National Aluminium Company Limited (NALCO), a Government of India Undertaking is one of Asia's biggest Aluminium Smelter at Angul district of Orissa in the eastern part of India. The Plant is situated 150 kilometer from Bhubneswar, capital city of Orissa which is well connected by AIR/RAIL from any part of the world. The smelting operation is based on 180 KA conversion technologies and operating since more than two and half decades. The Smelter produces primarily Ingots, Wire Rods, Strips, Billets and flat products. Majority of our products are exported to different parts of the globe. The company produces and process are accredited by all major international quality standards.

Currently, the Rolled Product Unit of Smelter is producing high quality Aluminium Alloy Strip ranging thickness of the strip from 0.30 to 4.00 mm and maximum coil width of 1600 mm. Since most of our products are intended for overseas market, the Rolled Product Unit has intent of installing a world class Slitting Line for the following application.

- To do two, three and multi-slits without burr.
- To make coils of smaller ID like 200 mm, 300 mm etc.
- For enabling to see and catch wide range of surface imperfections.

The intent of this specification is to enable Tenderer/bidders to submit a detailed and comprehensive offer for the equipment / facility / services taking into account the entire technological / technical requirement specified in this specification.

2.0 SITE INFORMATION

All plant and equipment shall be designed to suit the climatic conditions prevailing in this area. The meteorological data pertaining to Angul site is furnished below:

Air Temperature

Dry bulb maximum	:	44.4°C
Dry bulb mean	:	32.5°C
Wet bulb mean	:	22.1°C
Wet bulb maximum	:	25.7°C
Wet bulb maximum	:	7.0°C
Mean minimum	:	25.1°C

Relative Humidity

Maximum	:	83 %
Minimum	:	29 %

Rain fall

Maximum rain in 24 hrs	:	257.3 mm
Mean annual	:	1329 mm
Maximum monthly	:	323.7 mm

Wind

Predominant wind direction	=	West
Wind Pressure	=	150 Kg/cm ² (max)

The tenderer shall take note of the above climatic condition at project site.

3.0 SCOPE OF WORK AND SERVICES

3.1 The scope of work of this specification shall cover the design, engineering, fabrication, manufacture, assembly, testing, shop painting, delivery to site, including packing & forwarding, transportation, unloading at site, storage under safe custody of the Slitting Line, together with all the auxiliaries and accessories, civil works, Erection, Testing, Commissioning as well as subsequent Performance Guarantee Tests, obtaining statutory approval on Lump Sum Turn Key (LSTK) basis.

3.2 The scope of the proposal shall be on the basis of a single Bidder's responsibility, completely covering all the equipment, material and services specified in the specification. However, Bidders may offer for one or more items, complete in all respect, wherever applicable, for consideration by Purchaser.

- Complete system design and layout
- Complete design of the equipment
- Complete manufacture including shop testing
- Providing engineering drawings, data operation and maintenance manuals to Purchaser
- Packing, storage, preservation and conservation of all equipments and materials at site
- Receipt, storage, preservation and conservation of all equipments and materials at site
- Pre-assembly, if any, Erection, Testing and Commissioning of the complete works / equipment
- Supervision of Erection, Testing & Commissioning (Optional)
- The entire machine shall be pre-piped and pre- cabled

- Complete Civil works at site including equipment foundation, construction of electrical control room, cable / hydraulic trenches, steel trenches covered with necessary trays, lugs, brackets, fixing arrangement, etc
- Supply of foundation bolts and packing plates
- Grouting of equipment foundation
- PG Test on completion of the commissioning
- Furnishing of 2 years normal Operation & Maintenance Spares
- Furnishing of As-built drawings
- Complete electrics of the system

3.3 In case of joint bidding / tender, the division of works between Foreign bidder and their Indian Associate shall be indicated, specially indicating the bidder who will assume complete responsibility.

4.0 BATTERY LIMITS

4.1 Water at a pressure of 2.0 - 2.5 kgf/cm² and temp. 32⁰ C (Max) will be provided by the purchaser within 100 meters from the battery limit of the plant. Return water shall be taken by the Purchaser to the available common header inside the plant. Erection, Testing and Commissioning of necessary pipelines including fittings and supporting arrangement are under the scope of supplier.

4.2 Air at a pressure of 5.0 bars shall be provided by the Purchaser within 100 meters from the battery limit of the plant from the common shop air pipe line.

4.3 Bidder shall indicate the pressure, temperature and quantity of supply of hot return water for planning of downstream facilities.

4.4 Power shall be provided till our L1 substation approximate distance from the machine is 200 mtrs. The bidder will make all arrangement for drawing power such as making of cable trenches, laying of cables and other facilities from our existing L1 sub-station.

5.0 TECHNOLOGICAL

5.1 GENERAL

Material	:	Aluminium and it's alloys in grade (1xxx, 3xxx, 5xxx and 8xxx)
UTS	:	10 to 35 Kg/mm ²
Yield Stress	:	30 Kg/mm ² Maximum
Shear Stress	:	25 kg/mm ² Maximum

Entry Coil Characteristics

Width	:	700 to 1650 mm
Coil thickness	:	0.3 mm to 4.0 mm
Coil Weight	:	10 T max. along with spool weight
Internal Diameter	:	600 to 610 mm with spool. Provision will be there to handle coils with 500 to 508 mm ID also
OD	:	1800 mm maximum

Spool

Spool Length	:	2000 mm
Spool Weight	:	1000 Kg (approx)
ID	:	600 mm
OD	:	660 mm

Exit Coil requirement

Coil weight	:	(i) 10 T on 600 mm ID (ii) 6 T on 400 mm & 500 mm ID (iii) 4T on 300 mm ID (iv) 3T on 200 mm ID
Coil Width	:	100 mm to 1650 mm
Coil ID	:	200 mm, 300 mm, 500 mm and 600 mm interchangeable
Maximum number of cuts	:	(i) 2 cut to 3.0 mm to 4.0 mm (Edge trimming only) (ii) 3 cuts at 2.0 mm (iii) 5 cuts at 1.2 mm (iv) 9 cuts at 0.3 mm

Process

Line speed	:	300 meters per minute (maximum)
Line Thread speed	:	15 meters per minute (maximum variable)
Jog speed	:	Programmable
Strip feeder	:	Automatic
Trimmed width	:	50 mm maximum

Trimming /Slitting accuracy	:	within 0.5 mm
Minimum slit width	:	30 mm when the coil is brought back for second slitting
Entry Tension	:	To define
Exit Tension	:	To define

5.2 **Technical description of Equipment (Indicative) - Entry Section**

Entry Coil storage for Two coils

Fabricated with Steel and fitted with wooden / Polyurethane pads facing on the supporting faces. These pads shall be replaceable.

Pit type entry coil car

The coil car shall be designed to receive coils up to maximum weight of 10 T from storage saddle, raise it to proper elevation and load them on the pay off reel mandrel. The coil car is to be provided with tilting arrangement for the Elevator/cradle to remove the spool on the spool storage rack having the capacity to store 03 no. spools at a time.

Construction:-

V shaped cradle for safe coil storage
 Lifting hydraulic cylinder with guides
 Flexible hydraulic / electrical cable drags chain (steel)
 Rails for movement of car
 Retracting type ground guide way cover protection at both sides of car

Vertical Stroke	=	To define
Car traveling length	=	To define
Coil lifting speed	=	To define
Car Traveling speed	=	To define
Car drive motor power	=	To define

De-coiler Unit

Consist of dual stub overhung type mandrel un-coiler with hold down rolls mounted on sliding base.

Expansion range	=	To define
Lateral adjustment	=	To define
Type of Brake	=	Electrical regenerative braking system to provide the correct amount of back tension on the strip as the coil diameter changes. A parking brake to be provided separately after sensing zero position.

The un-coiler to be provided with stall tension so that if due to any reason the machine stops the tension must hold on.

Hold-Down Roll (Snubber roll)

Snubber roll shall be used for assist in feeding / peeling of strip. The roll shall be cantilever mounted from supporting frame. The roll shall be hydraulic driven, manufactured out of non-marking material and shall have a groove for easy steel strap removal.

Diameter of snubber roll	=	To define
Width of snubber roll	=	To define
Unwind coil centering motion	=	To define
Speed control Drive motor power	=	To define

Outboard support / bearing (only for overhung type)

A fabricated steel, retractable outboard bearing will be supplied to provide stiffness and stable condition to the mandrel. The unit shall be retracted by hydraulic cylinder during coil change

Auto Edge Guide System

Complete system with strip position sensing detector (photocell type). Signal processors to control strip position by moving un-coiler.

Guiding accuracy shall be approximately 1 mm

Coil Peeler System

Hydraulic cylinder operated peeler table shall be provided. The hydraulic cylinder will position the table vertically and horizontally for engaging maximum and minimum coil diameter.

Entry Pinch Roll with side guide

Pinch roll unit shall be provided to pull the strip from un-coiler against back tension provided by electrical regenerative system.

These Carbon steel roll shall be covered fully with polyurethane of hardness degree of 90+/- 5 shores.

Pinch roll diameter	=	To define
---------------------	---	-----------

Bridle roll / Three roll flatter

These carbon / alloy steel rolls shall be provided for removing coil set of the lead end strip to ease the threading of the strip up to the re-coiler. The top roll will move up and down with the help of hydraulic cylinder.

The bottom roll shall be below the pass line to avoid the contact with the sheet while the coil is running.

Diameter of roll = To define

Strip side roller guides

Fabricated in carbon steel, holding on it chock roller guides and the deflecting roll.

- Roller guide holders adjustment device to provide axial motion required for symmetric guide rollers positioning in reference to axis of Line.
- Drive system, operated by means of hydraulic motor for symmetric opening and closing motion in reference to axis of the line.

Strip Crop shear

Hydraulic operated cut down type entry crop shear to be provided for getting square head or cutting off any defective or damaged or over gauge lead end of the band strip.

- Manual control of shearing gap by micrometric hand wheel operated device equipped with index scale.
- Shall be able to cut over gauge material up to 5 mm
- A remotely control scrap bin car and diverter table to be provided in front of crop shear to divert the off gauge cut material to scrap bin.

Shearing capacity = To define

Stroke of blade holder = To define

After the crop shear there should be a pinch roll to take the material up to the slitter head

Slitter Head

The slitter head shall be double eccentric type design.

A spare slitter head with complete tooling quoted as optional shall be provided with drive to check the quality of cuts before installed in position.

Slitter shaft shall be equipped with a double eccentric adjustment device to ensure a constant slitting depth on the processing strip and minimum variation in knives clearance. The system shall be motor driven with screen visualization on control panel.

Party will offer a proper locking system for slitter tooling and base, so that during running the setting is not disturbed.

Both slitter heads will be complete with one full length of slitter tooling and spare tooling are to be quoted extra.

An anti - flutter device shall be provided before the slitter head.

Diameter of shaft for tooling	=	To define
Parallelism and eccentricity of slitter arbor	=	To define
Trimming and slitting accuracy	=	To define
Blades diameter	=	To define
Shaft width	=	To define
Slitter drive power	=	To define

There should be coupling / decoupling mechanism for the slitter head to operate the line in pull through or drive assisted mode.

Blades and Spacers

Parallelism	=	To define
Diameter Accuracy	=	To define

De-burring Unit / rolls

A set of de-burring rolls will be provided to press and eliminate cutting burrs. However it should be possible to run the line without engaging de-burring rolls.

Scrap Baler

A scrap baler machine shall be provided as a safe and efficient scrap removal system, winding up in compact rolls of a maximum width of trim at high speeds and throwing then away to scrap disposal once finished. The system will include hydraulic bale extraction system.

Scrap roll width	=	To define
Scrap roll diameter (max)	=	To define
Trim width Capacity	=	To define
Motor Power	=	To define

Party to specify the type of drive for the scrap balls motor.

Alternately party may offer scrap chopper (silent type) covering entire range of thickness with efficient scrap removal.

Strip feeder

The line must include the auto threading system to pull the slit materials over the loop pit.

Entry and Exit loop pit tables

The entry and exit loop pit tables complete with separators shall be provided.

Pinch Roll

A pinch roll unit shall be provided to divert the slit strips to the re-coiler through tensioning unit. The upper pinch roll shall be provided with threading drive and upon

threading of the lead end up to re-coiler the upper pinch roll shall be lifted up and shall be off the line run.

Exit side shear

The hydraulic operated type exit crop shear to be provided for getting square head or slitting the coil in two parts.

- Manual control of shearing gap by micrometric hand wheel operated device equipped with index scale.
- Shall be able to cut over gauge material up to 10%,

Shearing capacity = To define
Stroke of blade holder = To define

Tensioning Device

Drag pad tensioning device is not acceptable. The party will quote for any other mode of tensioning device which will give desire tension values without marking the strip.

Party will explain how much tension will be generated with the tensioning device offered by them considering the oily surface of the sheet.

The production of multi slit material is the essence of this line. Party to ensure that right from production of 2 slits material and beyond , the slit will wind on the re-coiler with straight buildup without overlap.

Deflector Roll

A deflector roll of bigger diameter shall be provided after the exit shear.

Diameter of the roll = To define

Threading Table

Telescopic re-coiler threading table shall be provided in the central portion of the width of the coil to help bend and direct the lead end of the coil to the gripper segment of the re-coiler.

Overhang type interchangeable mandrels (re-coiler) with outboard support and over arm separator

The rewinding system shall be designed to achieve evenly wound coils within uniform tension and allowing additional roll strapping and easy ejection of slits coils. Main arbor shall be designed with coupling for easy changeover from one mandrel to another. Provision should be there so that coil car does not damage the mandrel. The changeover time for mandrel is to be indicated.

Electrical system is to be provided for giving proper pull against the tensioning system.

Top tilting arm operated by hydraulic cylinder and equipped with shaft fitted with splitting discs. Position of arm is controlled and related with rolls diameter and with diameter of mandrel fitted at recoiling operation. The shaft fitted with splitting discs is interchangeable.

Hydraulically operated coil ejector plate system shall be provided.

Following set of interchangeable mandrel shall be provided :

200 mm	-	Hydraulic operated
300 mm	-	Hydraulic operated
400 mm	-	Hydraulic operated
500 mm	-	Hydraulic operated
600 mm	-	Hydraulic operated

All mandrel shall be interchangeable on the main shaft or re-coiler. Price of each mandrel is to be quoted separately.

- Expansion range of each mandrel to be defined.
- Max. winding tension to be defined
- Changeover time from one mandrel to another shall be defined
- The speed achievable for different mandrel diameter to be mentioned

Party to ensure that how the gripper will not mark the strip specially soft and light gauge.

Provision shall be there to inspect both top and bottom surface.

The rewinding of coil shall be under-winding.

A separate parking brake will be provided for re-coiler mandrel

Coil removal car station

Slit coil removal station, from re-coiling drum to stripping capstan. There shall be provision of hydraulic operated over arm separator cum hold down roll to hold the slit coils firmly on the coil car during coils being transferred / taken away from re-coiler area for storage.

Construction:-

V shaped cradle for safe coil storage

Lifting hydraulic cylinder with guides

Flexible hydraulic / electrical cable-drag chain (steel)

Rails for movement of car

Retracting type ground guide-way cover protection at both sides of car

Vertical Stroke	=	To define
Car traveling length	=	To define
Coil lifting speed	=	To define
Car Traveling speed	=	To define
Car drive motor power	=	To define

Storage device

A four arm configuration Turnstile capstan shall be provided for storing the balance coils which once strapped will be pushed off, when required with hydraulic operator pusher

It will have the provision for storing coils of 200 mm , 300 mm , 400 mm , 500 mm and 600 mm ID.

The capacity shall be as follows:

- (i) 10 T on 600 mm ID
- (ii) 6 T on 400 mm & 500 mm ID
- (iii) 4T on 300 mm ID
- (iv) 3T on 200 mm ID

Coil Width : 100 mm to 1650 mm

The party to submit a table showing the maximum line speed achievable for different diameter of re-coiler mandrel.

Mode of operation

Line must run in following mode:

- (i) Pull through mode (without slitter drive)
- (ii) Drive assist / Slitter assist
- (iii) Loop mode

Bidder's to recommend modes of operation with respect to thickness and width.

Optional items

Following optional items shall be quoted along with the machine:

- (i) A spare slitter head
- (ii) Once set of complete slitter tooling
- (iii) Coil weight system on the exit side

Hydraulic System

The scope of supply shall include all hydraulic and pneumatic components required to make operative the complete Slitting line.

Power pack unit shall consist of:

- Pumps (working and standby)
- Cleaning door
- Optical level scale index
- Max and min level with a electric detector signal
- Inlet oil filter equipped with optic – electric control system
- Water cooling system

- Hydraulic control panels next pressure required devices, outlet check valves and inlet plug valves
- Solenoid valves equipped LED indicator (Hirshman Make)

Power pack flow	=	To define
Normal pressure	=	To define
Maximum pressure	=	To define
Motor power	=	To define
Tank capacity	=	To define

Pneumatic system

The scope of supply shall include all the pneumatic components required to make the Slitting line operational.

It shall include inlet air filters with automatic draining and optic control index.

Electric and Electronic components

- a) All drives and Lines controls shall be located in closed control panels and boxes with air cooling system and protection grade IP 23 for control of:

D.C. motors
 A.C. motors
 Elec. Sensors
 Photocells
 Tachometric dynamos
 Linear and circular Pneumatic solenoid valves
 Hydraulic and Pneumatic solenoid valves , etc.

- b) All control equipments for D.C. motor is of converter or thyristors type and composed by:

Key panel for data parameters
 Alphanumeric display for alarms
 Unit tension control of unwind
 Coil inertia compensation
 Acceleration and deceleration control

5.3 ELECTRICS

5.3.1 Scope of work

The bidder's scope of work shall generally include design, manufacture, test of works, Supply, storage and handling at site, erection, obtaining statutory approval, testing, commissioning and handing over the installation to Purchaser in ready to switch on condition for complete electrical system of the Slitting Line for Rolling Plant in Nalco, Angul, Orissa.

The scope shall in general include but not limited to the following :

- a) Control Panel for Slitting Line which shall be located inside ECR room.

- b) One complete electrics, inter connecting cables & cable laying/ installation accessories like cable racks, trays, conduits, clamps, glands, lugs etc. including earthing of complete electrical equipment/field devices within the battery limit shall be in bidder's scope. The cable racks & trays inside ECR cum S/S building as well as up to the nearest shop column at crane girder level will be provided by the bidder.
- c) Complete power & control cables within the battery limits. Local load break switches near motor.
- d) All field mounted devices and control equipments.
- e) Local push button stations near motors with ammeter.
- f) Termination of earthing ring of slitting line installation to the Purchaser's earthing ring shall be under Tenderer's scope. Purchaser's main earthing ring shall be available within 10 to 15 m of the installations of Tenderer.
- g) For the installation work at site the contractor shall be fully responsible for the supply of requisite tools and tackles, welding sets, pipe bending machines, cable crimping tools, gauges etc.
- h) On completion of installation but before energization of the electrical system, all installations shall be physically checked and properly tested. These checks and tests shall be conducted by the contractor under the supervision of the purchaser. Any defects observed during such checks and tests shall be rectified by the contractor free of cost within the contract completion period. It will be responsibility of contractor to get the drawing and installation approved from the Electrical Inspector, CEA, Kolkata/New Delhi, Insurance Agencies and other statutory authorities. The challan / initial inspection fees shall be reimbursed to successful Tenderer on production of documentary evidence.
- i) All clamps, brackets, bolts, nuts screws markers cable identification tags, lugs, glands and other hardware necessary for erection work shall be included in the Tenders scope of work.

5.3.2 **General**

The electrical equipment shall conform to the specification of electrical equipment as given in the following section.

Any item not specifically mentioned in the specification but considered necessary for the complete installation and efficient operation of the Slitting Line shall be included in the Tenderer's scope of work. Details of such equipment shall be clearly stated in the offer.

Any exclusions/ deviations from the specification shall be spelt out clearly clause wise.

The Tenderer shall quote separately for supply and erection & commissioning.

Tenderer shall quote separately for the recommended spares required for two years Operation & Maintenance.

List of such spares shall be indicated in the technical part of the offer.

5.3.3 **Ambient conditions**

All electrical equipments shall be designed for maximum ambient temperature of 50°C, maximum relative humidity of 100% at 35 deg. C and dusty atmosphere.

5.3.4 **Power supply system**

All equipments shall be manufactured, tested and erected as per latest Indian Standard and Indian Electricity Rules and shall comply CEA regulation.

5.3.5 **Technical Specification of Electrical equipment**

AC Motors

- Motors shall comply with IS:325-1978
- The electrical motors shall be class F insulated and vacuum impregnated for tropical service.
- Degree of protection IP-54
- Shall be for DOL starting
- Each machine shall have a robust terminal box suitable for connection of copper cables.
- Terminal Box to have earthing stud inside.
- All AC gear motors shall be horizontal mounting, gear box foot mounted, motor flange coupled to gear box with roller bearing of the end with Class B insulation, 200% starting torque and suitable for 25 starts/hour.
- Starting current not to exceed 6 times of the rated full load current.
- Capable of starting and run up with minimum 85% rated voltage at its terminal.
- Two separate earthing terminals on opposite side of motor body are to be provided.
- All solenoid valves shall be rated for 24 volt DC+/-10%.

DC Motors

- All DC motors shall be shunt wound separately excited totally enclosed with forced cooling. The motor armature and field circuit shall be suitable for power supply from static power source with pulsation factor not less than 5%.
- Motor should be Class F insulated with temperature rise as per relevant Indian standards and shall be suitable for connection by Copper cables. DC motors shall be with enclosure class IP-44. Flexible copper cables conforming to IEC-

228, class - 5 shall be used for connection between MCC/DC drives/AC drives and motors.

- All adjustable voltage electric drives shall be supplied from unit type thyristor converters. (Overload capabilities of thyristor converters shall match with motor overload).
- Unit type thyristor converters shall be free standing, sheet metal cubicles complete with interconnecting bus bars, cables etc. and mounted side by side to form unit type construction.
- The thyristors converters shall be 3 phase bridge connected and fully controlled digital converters and shall comprise of the following equipment:
 - Incoming circuit breaker.
 - Line choke for harmonic filter
 - Thyristor converters including pulse control system, pulse generator, measuring, signaling protection and cooling system.
 - Smoothing choke and DC contactor or circuit breaker.
 - Thyristor transformer shall be of air-cooled type and shall be provided with two taps $2\frac{1}{2}\%$ above and below rated voltage. They shall be supplied at 415V AC, 3 Phase 50 Hz.
- The thyristor ripple voltage shall be limited to 3%. The rating of the thyristors shall suit the motor capabilities. Peak repetitive voltage rating shall not be less than 2.5 times the rated peak AC line to line voltage at the bridge. The thyristors shall be rated to withstand surge current due to bolted fault without damage and maintain the capability to suppress the currents to the bolted fault. dv/dt rating of thyristors shall be 200V/microsecond minimum and di/dt rating shall be 100A/microsecond minimum.
- Current limiting fuses shall be used in series with the thyristor rated as per device I^2t in each leg. Air core reactors shall be used in each leg to limit the rate of rise of current during commutation. Voltage snubbers shall be connected across each thyristor for protection.
- The thyristor shall also include gate pulse transformers, current transformers to monitor all three phases feeding the bridge circuit, line to line AC filters, line to ground AC filters and out DC filter.
- The thyristor converter shall be supplied with excitation and control modules comprising sealed relays, plug in type logic circuits, printed circuit cards, test card, control power, disconnecting switch. The system control module shall be built up of replaceable stabilizing unit, current control amplifier, speed control amplifier, technology cards as required.
- All necessary indications for faults and metering shall be provided. Indicating lights for all conditions which will cause the converter to shutdown automatically

shall be mounted on the front of the unit. A voltmeter, an ammeter, indications for fan fault, field fault, overload, over current Ac breaker tripping, suppression, etc. shall be provided.

- Converter shall also be supplied complete with DC circuit breaker or contactor on +ve and isolator on -ve in motor thyristor loop.

Control and regulation for DC drives

- All adjustable voltage DC drive shall be provided with closed loop high gain fast response regulation system. They shall be of modular plug in type construction and supplied in standard blocks. They shall be mounted in close type free standing sheet metal panels.
- The coiler drive shall be adjustable voltage controlled with maintenance of constant tension during each winding operation. The strip tension shall be controlled by armature current while the field regulator will act on the field to maintain motor speed to suit coil diameter. EMF regulators shall be provided to act in conjunction with the speed regulators for the control of motor field. The combination of these regulators shall act in such a way that the motor will always operate at the highest voltage and strongest field within its rating to attain the set speed and tension.

Control panel boards/MCC/Switch boards as per IEC 947

- The control panel shall be of press steel construction free standing fully compartmentalized type provided with hinged door of concealed hinges and shall be totally enclosed dust and vermin proof. The control panel shall comprise of totally enclosed bus chamber with control equipment including terminal blocks neatly wired with properly numbered wires. Continuous earth bus bars external apparatus shall provide for remote control and protection of electrical installations.
- Main incoming isolating device shall be so located on the panel that it can be operated without opening the door.
- Panel boards with isolating switches, contactors, controls, protective relays etc. shall be supplied completely wired. Protective device for adequate protection of machines shall also be provided.
- All control equipments shall be located that they are easily accessible for maintenance.
- All controls external to the unit shall be brought to readily accessible terminal block. At least 20% spare terminals shall be provided in the terminal block.
- Each unit and component shall be clearly labeled in accordance with the relevant wiring diagram and control scheme.
- The panel boards shall be such that external cables can be brought in from the bottom. Suitable knockout plates shall be provided accordingly.

- The bus-bar shall be fabricated out of electrolytic copper and rigidly supported within the chamber by suitable insulator and spacer and shall be suitable to withstand short circuit conditions. All connections between the switches and bus-bar shall be secured by suitable clamps.
- The control voltage shall be 24V AC or 24V DC depending on the applications. The control voltage shall be obtained through suitably rated transformer or transformer rectifier units respectively. The control transformer shall be provided with $\pm 5\%$ and $\pm 10\%$ tapings on the primary side.

Contactors, relays and isolators. as per IEC947

- All contactors, relays and isolators shall be of preferred make.
- The rating of the contactor shall be about 25% higher than the rated current of the motors.
- Bimetal over-load relays shall be adjustable and manual reset type and shall permit step less setting. Ambient temperature compensated with single phase preventor.
- Relays shall be electromagnetic type and coils shall be rated as per the designed control voltage. The relays are required for snap action use in automation and their operation shall be instantaneous.
- All auxiliary contacts and relays shall be adequate to make, carry and break the current in their respective circuits and shall be suitable for use in AC circuits up to 500V.
- All fuses shall be of HRC type / Thyristor grade as applicable.
- The power and control circuit of a particular drive shall be inter-locked. Control circuit shall be protected by HRC fuses.
- Rotary switches shall be cam operated type, compact and of robust design with high breaking capacity and long life. They shall be rated for 500V, 50Hz and not less than 15A rating depending on application, suitable for AC 23 duty.
- Push buttons shall be suitable for operation in auxiliary circuits up to 240V AC 50Hz or 250V DC. Push button unit shall have Green button for start and Red button for stop. Start and Stop shall be marked above the button. Emergency stop buttons shall be of lock in type and Red color with mushroom head.
- The indicating 24 V DC lamps shall be suitable for operation in 240 V AC circuit, LED type color of the lamp shall be Red for 'ON' Green for 'OFF' and Amber for TRIP & control supply healthy shall be white.
- Limit switch shall be of shunt type and shall be fully protected against dust, oil etc. they shall be snapaction type. After being tripped they shall automatically reset themselves within a reasonable distance of travel in the opposite direction.

- All instruments and meters shall be connected from the rear. The full load current rating corresponding to the circuit condition shall be marked with red line and shall be placed as close as possible to the bus-bar.
- Cabling shall be done with PVC insulated; PVC sheathed, armored /unarmored cables, 1100V grade cables as per IS-1554-1988 (part-1 &2). Minimum and maximum size of copper cables used for interconnecting of power circuit shall be of 6mm² minimum and 185mm² maximum respectively as per application.
- Wiring for control circuit shall be done generally by 1.5mm² copper except for connection of brakes, solenoids, ammeters, DC motor field circuit and for heat resistant cables for which minimum shall be 2.5mm² copper. All cables shall be provided with identification mark as per circuit diagram. 20% spare cores to be provided in control units.

EARTHING

- Earthing of motors and all other electrical equipment/devices shall be in Tenderer's scope. Tenderer shall connect equipment earthing network to the plant main earthing ring.
- All electrical apparatus and machinery not intended to be live shall have two distinct and separate earth connections as per IS: 3043-1987.
- The size of earthing conductor to be used are as follows:

Motors above 55 KW	:	40 x 6 mm G.I. strip
Motors above 18.5 KW	:	25 x 4 mm G.I. strip up to 55KW
Motors up to 18.5KW	:	16 sq. mm stranded G.I wire
Push button station	:	6 sq. mm stranded G.I wire limit switches
- Earthing of electronic equipments shall be done with a separate earthing ring with single core PVC insulated & sheathed copper cables. The earthing ring shall be connected to separate earth pits. The nos. of earth pit shall be decided by the contractor as per the requirement with prior approval of Purchaser.

6.0 DATA/ DRAWINGS TO BE FURNISHED WITH THE TENDER

- 6.1** The Tenderer shall submit the offer with the following drawings/ schematic diagram and documents with the offer.
- 6.2** Brief description of process and plant offered.
- 6.3** Layout of equipment along with electrical control room.
- 6.4** G.A drawings showing plan, elevation and sectional views of all the plant & equipment, piping etc.
- 6.5** Technological flow diagram and specification of equipment.
- 6.6** Single line diagram of Control Panel etc. indicating make & rating of components.

- 6.7 List of drives indicating name, type, KW, voltage, rpm, frame size, enclosure class, insulation class etc.
- 6.8 Material specification, service consumption figures, electrical load etc. with their characteristics and performance wherever applicable.
- 6.9 Process & instrumentation diagram indicating each field & panel mounted instruments using ISA symbols. Suitable tag nos. shall be given against each instrumentation equipment for easy identification.
- 6.10 Relevant catalogues of each instrumentation equipment.
- 6.11 List of references of similar Slitting line supplied elsewhere with technical details
- 6.12 List of bought out items with their make and specifications.
- 6.13 Capacity calculation of the Slitting line based on the production programs giving the details of the time elements, cutting speeds, idle time, over all efficiency etc.
- 6.14 Total connected load and peak load in Amps and size of incoming power supply cables.
- 6.15 Sources of procurement, approximate life and tonnage between regrinding of shear and side trimmer blade.
- 6.16 Slitting (cutting) diagram showing the number of cuts that can be made for strips thickness from 0.3mm to 4mm for the designed speeds.
- 6.17 Detailed material list giving details of specifications, names of manufacturers, quality etc. of critical bought out components like cutters, slitter arbor, pinch roll etc.
- 6.18 Data for industrial quality compressed air & water such as quantity, pressure and temperature.
- 6.19 Power supply single line diagram.
- 6.20 A brief write-up giving description of control regulation and safety interlocks.
- 6.21 List of commissioning spares, 2 years maintenance spares, special tools & tackles.
- 6.22 List of deviations from TS.
- 6.23 List of exclusion from TS
- 7.0 **LIST OF DRAWINGS AND DOCUMENTS REQUIRED FROM SUCCESSFUL TENDERER**
- 7.1 The followings design data, calculations and drawings shall be submitted by the bidder.
 - Layout of plant, equipment & piping.

- General arrangement drawings showing plan, elevation & cross sections of the plant & equipment with all relevant dimensions, equipment design data, weight etc.
- Material of construction of plant & equipment.
- Dimensioned assembly drawings of drives & other equipment with their weights, material specification etc.
- Scheme & general arrangement drawings for service piping showing plan, elevation and cross sections with specification, legend and weights.
- O.G.A drawings of panels, disks etc.
- Electrical equipment layout, cable layout and cable supporting structure layout, plan and section.
- External cable connection diagrams.
- Earthing layout drawings with bill of materials & specifications.
- Cable schedule indicating route type, size & length of power & control cables within battery limit.
- Schedule of complete electrical equipment /devices and bill of materials of cables, installation accessories & earthing materials.
- Foundation assignment drawing, showing details with load data of equipment, showing requirement of cable trenches, conduits, cable entry to motors, field devices etc.
- Operation and maintenance manuals for instruments & equipments.
- Complete set up as-built drawings & documents with reproducible.

7.2 Although the above drawings / documents shall be approved by the purchaser, the tenderer shall be wholly responsible for correctness and completeness of the drawings and specified performance of the equipment being supplied.

7.3 Besides the above drawings for approval, the tenderer shall also submit all other relevant drawings & documents to purchaser/ consultant for scrutiny. The list of such drawings will be indicated drawing the approval stage.

7.4 Four (04) copies each of all final drawings/ documents approved by the purchaser and all detailed drawings containing full information such as tolerance, heat treatment, material specification details of wearing parts etc . along with cloth / linen tracings shall be submitted by the bidder.

7.5 Four (4) copies of operation and maintenance manuals with relevant drawings and catalogues shall be supplied to the purchaser prior to commissioning of the equipment.

8.0 **OBLIGATIONS OF SUCCESSFUL TENDERER**

8.1 **Supply of Equipment and Services**

- The bidder shall design, manufacture, supply, erection and commission all equipment, structures, systems and facilities, etc., specified under chapter 3.0 - **SCOPE OF WORK & SERVICES**. Any equipment, fittings, supplies of material which may not be specifically mentioned in this tendering specifications or drawings but which are usual or necessary for successful completion of the work and for smooth functioning of the equipment / unit shall be provided by the bidder
- Any changes or difficulties which might be encountered during the execution of work, i.e. design, manufacture, supply, delivery, transport, erection and commissioning or any other problem due to local working condition, which are not anticipated / included in the tender document shall fall under full obligation of the bidder. No claim on account of any antiquity in any respect will be entertained after the acceptance of tender by the bidder.
- The bidder shall exercise all reasonable skill. Care and diligence in the discharge of the services agreed to be performed.
- The bidder shall carry out the services in conformity with generally accepted norms and sound standards of engineering. Bidder shall be responsible for the technical soundness of the services rendered.
- Purchaser shall have the right to approach the bidder for any changes, modifications, deletions or additions to Tender's scope of work and the tender shall carry out such changes etc. If any of such work is beyond the scope as envisaged under chapter 3.0 - **Scope of work & Services** / Contractor shall carry out the same on additional fee and terms and conditions on mutually agreed basis.
- In the absence of timely performance of work/ services by the bidder, purchaser reserves the right to engage any other contractor for completion of the work / services at the risk the cost of the contractor.
- The contractor shall ensure the correctness and completeness of all drawings / data/ information supplied to purchaser.
- The bidder shall supply with the unit, adequate quantity of commissioning spares that may be required for commissioning of the unit up to satisfactory completion of the Performance Guarantee Tests.
- For Erection, Testing & Commissioning the contractor shall depute necessary erection specialists to advise and supervise the Erection work to ensure that it is carried out in accordance with the standards required by the contractor. The contractor shall be responsible for satisfactory Erection, Testing and Commissioning of the unit and shall take full responsibility for the equipment and materials supplied by him.

- The contractor shall be responsible for the integrated commissioning of the equipment supplied by him including commissioning and demonstration of performance guarantee test.
- Commissioning of equipment shall be done in a systemized manner and in accordance with the commissioning instructions issued by the designer/manufacturer.

8.2 Supply of drawings/data/documents

Drawings/data/documents to be submitted by the successful tenderer shall be in following categories.

8.2.1 Drawings/data/documents for approval

Following drawings/data/documents for approval shall be submitted by the successful tenderer in 5 copies within 4 weeks of issuing the letter of intent. The purchaser/consultant will send 2 copies to the contractor after marking their comments/changes desired for incorporation. The contractor shall resubmit, if necessary 5 copies of the data/documents/drawings incorporating changes suggested by the purchaser/consultant:

- (i) General arrangement and layout drawings including necessary cross sections for all technological equipment and auxiliary equipment.
- (ii) Schematic arrangement drawings for lubrication, hydraulic and pneumatic systems with detailed part list and specifications of all major system components.
- (iii) PERT network for entire job including drawing submission, execution etc.
- (iv) Final information regarding total water and compressed air requirement and other necessary details as mentioned in 04.
- (v) Design limit of each item of services facilities with co-ordinates in three axes, diameter of pipeline at limit of design, method of connection of pipeline at the limit of design and detailed dimensions of matching flange or flanges joints.

8.2.2 Drawings/data/documents for electrics for approval

For electrics following drawings shall be submitted:-

- (i) OGA/Facia drawings indicating dimensions of thyristor and regulation panel, MCC, Motors, Local control boxes, push button station with complete dimensions and weight.
- (ii) Foundation details of above equipments showing requirement of cable, trenches, conduits, cable entries to motors, field devices, etc.
- (iii) Schedule of complete electrical equipment/devices with specification.
- (iv) Layout drawings showing location of all electrical equipments.

- (v) Automation system
 - (a) Automation configuration diagram
 - (b) List & details of hardware
 - (c) List of process I/O signals, list of displays, list of functional keys.
- (vi) Cable and cable supporting structure layout plan and sections.
- (vii) Earthing layout plan with bill of material
- (viii) Cable schedule indicating cable no., point of origin, point of termination, type, size and length of cable (for record/reference)
- (ix) Single line diagram, power, control and regulations schemes and annunciation diagrams.
- (x) Terminal wiring and external cable connection diagrams (for record/ reference)
- (xi) Instruction manuals and drawings on erection, operation and maintenance (for record/reference)
- (xii) Test certificates and catalogues of all equipments (for record/reference)

8.2.3 **Drawings/data/documents for engineering**

Following drawings/data/documents to be submitted by the successful tenderer in 5 copies within 2 months of issuing the letter of intent

- (i) For civil engineering works following drawings/data/documents are to be furnished:
 - (a) For civil engineering work following drawings/ plan and references.
 - (b) Profiles of foundation with dimensions and levels and cross-sections at various places, required for preparation of detailed civil construction drawings.
 - (c) Layout of channels and other embedded constructions such as electrical conduits, water, grease, lubrication etc.
 - (d) Load data drawings giving vertical load, horizontal load, moments, torsional loads, etc. coming on the foundations of equipment indicating clearly their points of application and other related parameter if any. Dynamic/impact factors required to be considered shall be specifically mentioned.
 - (e) Arrangements and details of anchor plates and inserts to be embedded in the foundations along with loading for which they are meant for.
 - (f) Location and schedule of anchor bolts with fixing details.

- (g) Details of border ledges and hand rails along with their location and fixing details.
- (h) Details of walkways, gratings, safety cover plates, etc. along with their location and supporting details.
- (i) Indication of various tolerances wherever they are critical.
- (j) Maximum allowable settlement of individual foundation and differential settlement between the foundations.
- (k) Maximum allowable tolerances in levels and line for bolts and other inserts.
- (l) Any other tolerances that the supplier may like to specify Indication of area/places requiring special considerations/treatments.
- (ii) For electrics following drawings/data/documents are to be furnished:
 - (a) Electrical power demand
 - (b) Overall dimensions and mounting details, along with cable entry details to panels, desks and other equipment.
 - (c) Equipment load data and bolt hole locations.
 - (d) Volume of work indicating detailed list of equipment and weights for all equipment under the scope of supply.
 - (e) Necessary instructions for storage and conservation of equipment.
 - (f) Detailed schedules of specialists/experts for rendering technical services.

8.2.4 **Drawings/data/documents for operation and maintenance**

Following drawings/data/documents shall be furnished by the tenderer for operation and maintenance purpose. These shall be submitted in 5 sets along with one set of reproducible drawings. These shall be supplied 3 months before the last consignment of all deliveries under the scope.

- (i) All final drawings mentioned under 8.2.2
- (ii) Assembly, sub-assembly and sectional drawings as well as detailed drawings of components of all mechanical and electrical equipment. These shall be suitably cross referred to other drawings and shall be sufficiently replacements from any competent manufacturer in India/abroad.

These drawings shall pertain to the actual equipment manufactured and supplied.

- (iii) The contractor shall supply manufacturing drawings for all spare parts and wearing parts. The information furnished in the drawings shall include complete specifications including grades of finish, heat treatment, tolerances etc.
- (iv) Bill of materials along with the drawings to which they pertain. These shall include listing of materials being supplied along with description and reference drawing numbers.
- (v) Drawings and documents for assembly/erection

These shall include description and drawings to illustrate methods of assembly/dismantling checking and recording proper assembly of the unit, balancing, checking and calibration as may be necessary as well as erection drawings showing all details and particulars required for erection and installation of the plant.

- (vi) Drawing for interconnecting pipe work for water, compressed air. Lubrication systems, hydraulic systems, cooling system etc. these drawings shall show interconnecting supply and return pipe network from design limit/pumping equipment and point of usage on equipment in plan and elevation and will indicate the bore, class of pipe, working pressure, routing, location of valves and all other associated equipment connected to the pipe work. The drawings shall include recommendations for any special supports, suspensions or anchorage of pipes.
- (vii) Spare parts list giving the complete list of all parts required as Commissioning Spares which shall be supplied along with the equipment. In addition, the contractor shall supply spare parts list giving complete list of replaceable parts for two years normal operation. The fast wearing and insurance spares shall be clearly identified in this list. The spare parts list shall be supplied in neat bound volumes.
- (viii) Operation, safety and maintenance manuals in neat bound volumes covering all details necessary to ensure proper procedures and sequence of operations. Maintenance manuals shall cover all phases of preventive and repair maintenance and shall include lubrication charts showing every point requiring lubrication, grade of lubricant, schedule of lubrications and where applicable the amount and grade of oil or grease necessary for refill after drawings.
- (ix) Detailed specifications for all consumables, lubricating oils and grease, hydraulic oils, etc. required for operation of the unit to enable purchaser to procure the same.
- (x) At the completion of work the contractor shall supply drawings incorporating all changes made during the execution of the work including those made at site during erection, assembly and startup.
- (xi) Test certificates, commissioning reports and catalogues for all the equipment.

9.0 **LIST OF PREFERRED MAKES**

The plant, equipment and materials to be supplied shall be of reputed make. The tenderer shall submit along with the tender the list of makes for all bought out items for consideration and approval by the Purchaser.

(i)	AC MOTOR	-	SIEMENS/ABB/General Electrical
(ii)	SWITCHES & FUSES	-	SIEMENS/Emerson Electric/ ALSTOM/ ROCKWELL
(iii)	CABLES	-	LAPP KABEL/HELVI KABEL
(iv)	CONTACTOR, O/L	-	SIEMENS /ROCKWELL /SCHNEIDER ELECTRICAL /GE/Sprecher & Schuh / Telemecanique
(v)	PUSH BUTTON	-	SIEMENS
(vi)	INDICATING LAMPS	-	SIEMENS
(vii)	SELECTOR SWITCHES	-	SIEMENS/ROCKWELL/ SCHNEIDER /
	CONTROL SWITCHES	-	GE /SPRECHER & SCHUH
(viii)	MCB	-	-----DO-----
(ix)	TIMERS	-	-----DO-----
(x)	TERMINALS	-	PHOENIX CONTACT
(xi)	PLC and Automation System for logic and Reference generation	-	Siemens/ ABB / Telemecanique Rockwell

10.0 **INSPECTION & TESTING OF PLANT & EQUIPMENT**

10.1 **General**

10.1.1 Inspection & testing of plant & equipment shall be carried out by purchaser at the works of successful tenderer (Contractor/ Sub-contractor) during manufacturing and on final product to ensure conformity of the same with the acceptable criteria of technical specifications, approved drawings authenticated manufacturing drawings and reference national /international standards.

10.1.2 This specification for inspection of plant & equipment is in addition to provisions laid-down in Special Instructions to tenderer's

10.2 **Quality System Requirements**

Tenderer must recognize the importance of quality and follow defined quality program in all manufacturing and quality control activities of the product. Bidder must define and implement the tasks and controls that will provide needed assurance in case

manufacturing of product is sub- contracted partly or fully and/or for the procured components of the product. All bought-out equipment or component shall be procured from preferred list of vendors enclosed with this tendering specification or furnished to contractor by the project authority.

Purchaser reserve the right to verify the quality program and entire product characteristics to assure the intended and specified quality of the product.

10.3 Quality Assurance Plan (QAP)

- 10.3.1 The bidder shall furnish Quality Assurance Plan (QAP) for respective equipment after completion of detailed engineering and finalization of billing schedule/equipment identification number for purchaser's approval. .
- 10.3.2 The bidder shall indicate procurement source and furnish to purchaser during discussions on QAP, copies of Purchase Order (P.O.), Sub-Purchase Order (Sub-P.O.), Technical Specifications (T.S), approved GA drawings/date sheets & detailed manufacturing drawings, as backup reference materials for scrutiny & finalization of QAP.
- 10.3.3 Four Sets of QAP shall be prepared & furnished to purchaser by Bidder for structural & mechanical equipment, electrical equipment.
- 10.3.4 Inspection and test requirements shall be decided with due consideration of factors like safety, duty cycle, operating conditions, equipment life, environmental conditions, place of installation and statutory regulations, as applicable, for a particular equipment.
- 10.3.5 Detailed QAP shall be prepared by the bidder in consultation with Sub-contractors/Manufacturers to avoid any complication later.
- 10.3.6 The bidder shall clearly indicate in QAP, the followings through use of codes in the appropriate columns:
- Range of inspection & tests to be done by Manufacturers and cross checked by the bidder during manufacture of equipment from raw materials to finishing stage.
 - Suggestive check/hold points for Purchaser Inspection and witnessing of tests during the manufacturing and final product inspection.
 - Details of test certificates, internal inspection reports and calibration certificates to be furnished by bidder/ Manufacturers to Purchaser.
 - Inspection documents to be furnished by tenderer/Manufacturers to Purchaser for reference during inspection.
- 10.3.7 Sampling method for lot inspection of similar bulk items, if any, shall be indicated in QAP with linkage to applicable standard.
- 10.3.8 While submitting the QAP, the bidder shall indicate the acceptance criteria regarding check parameters of each equipment. Acceptance criteria shall have reference of documents viz. P.O., Sub-P.O., T.S., Approved drawings and manufacturing drawings.

Wherever the acceptance criterion is not available in above documents, same shall be specified with tractability to national/ international specifications.

10.4 Tests, Test Certificates and Documents

10.4.1 For each of the items being manufactured, following test certificates and documents, as applicable for each of the equipment, in requisite copies including original shall be submitted to purchaser. All test certificates must be endorsed by the Manufacturer and Bidder with linkage to project, Purchase order and acceptance criteria.

- (i) Manufacturer's material and performance/ relevant test certificates for all bought-out items.
- (ii) Non - Destructive test reports as per respective code.
- (iii) Static/dynamic balancing certificate for rotating components/machines.
- (iv) Pressure test certificates.
- (v) Performance test certificates for all characteristics.
- (vi) Routine/type/ calibration/ acceptance/special test certificates for electrical items.
- (vii) Certificates from competent authority for the items coming under statutory regulations.

10.4.2 The physical and chemical test certificates of material are not available, the contractor / Sub - contractor shall arrange to have specimens and test samples of the materials, tested in his own laboratory at his cost and submit the copies of results in requisite numbers to purchaser for scrutiny and approval. Number of test samples against each heat/cast /lot or batch of materials shall be as per relevant Indian or International standards.

11.0 ERECTION AND INSTALLATION OF PLANT & EQUIPMENT

- Before starting the erection the contractor shall undertake thorough inspection of all the new items/units to ensure that no damage has occurred during storage and transportation.
- All assemblies and sub-assemblies of the equipment, wherever applicable, shall be dismantled. The bearings, gears and other components shall be thoroughly cleaned and lubricated before reassembly.
- Proper alignment, leveling and fixing/ fastening shall be ensured. Complete erection shall be carried out in accordance with approved drawings and erection manuals of respective sub-suppliers.
- All tools, tackles, hoists, electrodes, accessories and skilled/unskilled workers for erection and testing shall be arranged by the contractor.
- The working conditions, practices and all applicable statutory/safety requirements shall be duly taken care of by the contractor. The work shall be carried out in such a way that other agencies working in adjoining areas and normal operation of the plant are not affected.

- After erection all temporary structures, storage sheds etc. constructed for execution of the job shall be dismantled and the area shall be left clear from mucks & debris etc.

12.0 GUARANTEE & WARRANTY

12.1 General

- The equipment shall be guaranteed against poor quality of material, bad workmanship, etc. for a period of 12 months from the date of commissioning or 18 months from the date of receipt of last component at site whichever is earlier. Any such component found defective during normal operation and maintenance of the equipment (other than by way of equipment abuse) the tenderer shall replace/rectify such defects immediately at free of cost without affecting the production.
- The auxiliary systems such as hydraulic systems shall also be guaranteed for delivering the rated out put.
- All necessary measuring & testing instruments required for the tests shall be provided by the tenderer.

12.2 No-load test, load test and performance guarantee test

12.2.1 No-load test

- On completion of erection of the line, its electrics and auxiliary systems, the contractor will be required to conduct no-load test of the equipment. Under the no-load test, the equipment, system and other auxiliaries including electrics will be required to be operated both independently as well as in an integrated manner in presence of purchaser's representatives. The purpose of no-load test shall be
 - (i) To ensure that all supplies are complete.
 - (ii) All equipment have been erected properly.
 - (iii) The equipment works satisfactorily under no-load condition
 - (iv) All process interlocks and controls operate satisfactorily under no-load condition.
- On completion of no-load test, the contractor will be issued a Provisional Acceptance Certificate (PAC). Any major equipment defect attributable to the contractor that may arise during the no-load test shall be rectified by the contractor before Provisional Acceptance Certificate is issued to him. However, issue of Provisional Acceptance Certificate does not absolve the contractor from his ultimate contract obligations.

12.2.2 On successful completion of no-load test, the line will be tested on load. The procedure for load testing will be mutually agreed between the purchase and the contractor after PAC has been issued by the purchaser to the contractor. The purpose of the load test will be as follows:

- a) Tuning of the line
- b) To determine that the line is capable of performing as per design parameters
- c) Commercial production in the line can be undertaken.
- d) Performance of all equipment, controls, interlocks etc. are reliable and consistent.

The duration of the test will be decided mutually between purchaser and successful tenderer. The performance of the equipment should show consistency during the test period.

During load test, if the stipulated results are not achieved, the load test will either be repeated again or extended on mutual agreement.

On successful completion of the load test, the purchaser will issue an acceptance certificate (AC) for the line. Issue of this certificate will enable the purchaser to use the equipment for commercial production.

Issue of the acceptance certificate does not absolve the contractor from his ultimate contractual obligations.

12.2.3 Performance Guarantee Test and issue of Final Acceptance Certificate (FAC)

The contractor will be required to conduct performance guarantee test within 3 months of issue of acceptance certificate for the line and to show that the equipment is capable of achieving the performance parameters specified.

Under the performance guarantee test, the contractor shall ensure the workmanship, material and demonstration of satisfactory performance of the line for:

- (i) Hourly rates of production
- (ii) Tolerances of the finished products.
- (iii) Cutting burr as %age of thickness.
- (iv) Accuracy of Buildup:
 - Layer to layer
 - Overall deviation from full buildup

Hourly rates of production

Immediately on completion of erection, commissioning and proper tuning of the equipment. The contractor will demonstrate through actual cutting of the specified coils into required length, the capacity of the line in respect of output, speed, cutting capacity, width tolerance, camber etc.

Tenderer shall propose schedules for dividing the coils into desired length performance guarantee for various sizes of strips.

The hourly output shall be based on effective operating time including all related operations such as coil changing, threading, dividing the coils into specified length, acceleration and deceleration, etc.

In case the contractor fails to demonstrate the performance of the line with respect to hourly output for products and for the tolerances of the finished sheets the contractor will rectify the shortcomings and the operation will be repeated to demonstrate the stated performance.

12.2.4 Penalty for non-fulfillments of performance

In the event the contractor is unable to demonstrate the performance of the line with respect to hourly rates and tolerances specified, the purchaser shall have the right to impose penalty for various shortfalls of hourly rates as well as for tolerances.

13.0 AS BUILT DRAWINGS

- 13.1** The bidder shall furnish one reproducible and four prints each of all as – built drawings with documents to Purchaser and two print each of all as – built drawings and documents to Consultant, for future reference and records , during the commissioning of the plant prior to start-up of Performance Guarantee Test.

14.0 PROJECT SCHEDULE

- | | |
|---|----------------------------|
| <ul style="list-style-type: none"> - Civil assignment with load date together with foundation outline drawing to the Purchaser - Submission of General arrangement drawing schemes Detailed drawings and documents etc. to the Purchaser Manufacturing / fabrication of the plant and equipment - Supply of bought out items - Delivery of complete equipment & structural at site. - Start of erection of the slitting line machine at site. - Testing & Commissioning of the plant & auxiliaries. | <p><u>WEEKS</u></p> |
|---|----------------------------|

The Tenderer shall also furnish with the tender a PERT network indicating detailed activity with project schedule for the total contractual deliver / period starting from the date of Letter of Intent up to commissioning and handing over the plant for trial run and subsequent performance Guarantee test for final acceptance of plant& Equipment etc.

Annexure - II**Special Instructions to Bidders**

- 1.0** Single party executing the project from concept to completion on turnkey basis covering all aspects of the project is required for successful implementation of the project. The bidders shall examine the specification and fully satisfy himself regarding workability of the scheme and take full responsibility for smooth operation of plant. Technology, System, process, equipments and components selected for this Turnkey Project shall be based on latest & proven and technology acclaimed Nationally and Internationally.
- 2.0** A separate quotation covering detailed list of Recommended Spares (electrical and mechanical) for two (2) years of trouble free Operation & Maintenance of Slitting Line shall be included along with the offer. However, cost will be furnished separately.
- 3.0** Bidders participating in this tender shall furnish a reference list of Slitting lines supplied during last 10 years specifically for Aluminium Strip Processing Industry. Bidders shall also arrange visit of NALCO personnel to observe performance of lines supplied by them if desired by NALCO. Details of project completed with scope of work, value, period of completion, year of completion and other details shall be furnishing along with the tender documents.

The Bidder may be disqualified if they do not have adequate experience as mentioned at Cl. No. - 23.0 of **Instruction to Bidders**. The following information shall be furnished by the bidder along with their offer (Technical Bid cover).

- (i) Financial status of the firm enclosing balance sheet and profit and loss account for the past 3 years and certificate from the Company's Banker.
 - (ii) DATA of key personnel presently in the Rolls of the company and proposed site organization for carrying out the work including deployment of Engineers and Supervisors.
- 4.0** The bidder shall also quote for complete Erection, Testing & Commissioning of Slitting Line separately. Alternatively separate quotation only for Supervision of Erection, Testing & Commissioning shall be furnished, as optional.
- 5.0** The bidder / tenderer shall guarantee the capacity and performance of individual equipment / unit and of whole Slitting Line as a complete.
- 6.0** The following facilities shall be provided by the purchaser for supplier's erection and commissioning personnel at site:
- a) Providing space for storage of their equipment
 - b) Providing space for construction of stores and office
 - c) Providing power, water and air tapings each at one point.
 - d) Use of overhead crane in the factory building as and when available
- 7.0** The tender shall furnish complete item-wise break-up of weights of equipment along-with the corresponding prices under the following main heads:

- Item-wise mechanical equipment
- Auxiliary system including pipes, valves and fittings
- Electric motors
- Power and Control

8.0 Construction power and water shall be supplied at one single point subject to availability within a distance of 100 m from the contractor's construction / installation location, beyond which the contractor has to make his own arrangement to tap the power and water. The power shall be on chargeable basis as per the rates specified in Addendum to Tender Documents - Commercial.

9.0 COMPLETION SCHEDULE

The schedule for completion including Erection, Testing, Commissioning, PG Testing & handing over to NALCO of one no. of **High Speed Slitting Machine** for Rolled Product Unit of Smelter Plant complete in all respect shall be as specified in **Instruction to Bidders**.

10.0 INDIAN ASSOCIATE

The scope of work and services referred herein shall cover the entire scope of the proposal on LSTK (lump sum turn key) basis which includes supply and erection of items and equipment with civil works in complete, labor and services including successful completion of performance Guarantee Tests.

In case of joint bidding, the bidder shall indicate positively the division of work under the following heads:

- To be directly taken by the Bidders
- Envisaged to be undertaken by bidder's Indian sub-contractor with Bidders unit responsibility.
- To be excluded from the bidder's scope of responsibility.

Bidder is required to reveal the name of the Indian Associate and obtain approval of NALCO on the same. Necessary commercial data for evaluation of Indian Associate (as mentioned below) should be furnished. Bidder is also expected to be ready with name of alternative associate, in case proposed Indian Associate is not acceptable.

- Sales Tax Clearance Certificate in the proforma prescribed by Govt. of India.
- Document showing annual turnover for similar works for the past three years.
- Annual Report, certified profit and loss statement etc. for the last three years.
- Concurrent commitments giving details namely start date, value, expected date of completion, and contact person with Telephone No. etc.
- Solvency certificate from Nationalised / Scheduled Bank.

11.0 PRICE FORMAT

Please furnish the prices strictly as per the format enclosed. Prices should be submitted in duplicate sealed super scribed envelope along with un-priced copies as per NIT (Un-priced copy of price bid should also be enclosed with un-priced copies with prices blanked out but "Quoted/ Not Quoted" marked against respective clauses).

12.0 VALIDITY OF BIDS

The bid should be kept valid for acceptance for a period of 6 (six) months from the final due date for bid submission.

13.0 EVALUATION/ LOADING/ REJECTION CRITERIA

13.1 All evaluation shall be made on landed and erected on destination basis including design and engineering, supply of equipment, spares etc. and all other construction, installation, supervision and commissioning charges along with the taxes and duties for the same, as per scope of Technical Specifications. However, the recommended Two Years O&M spares shall not be considered for evaluation.

13.2 Supply prices shall be evaluated as follows:

(i) IMPORTED

- | | | | |
|----|-------------------|---|---------------------|
| 1. | FOB Price | : | As quoted |
| 2. | Add Ocean Freight | : | Firm freight quoted |

Note: In case firm freight not quoted by a vendor, loading shall be based on max. freight quoted by other vendor from that region and in case there is no other offer from that region, loading will be based on estimation by EIL/ NALCO.

- | | | | |
|-----|--|---|---|
| 3. | Sub-Total (CFR) | : | 1+2 |
| 4. | Marine Insurance | : | 0.25% of CFR |
| 5. | Sub-total (CIF) | : | 3+4 |
| 6. | Port Charges | : | 1% of 5 |
| 7. | Total including port charges | : | 5+6 |
| 8. | Custom duty | : | Merit rate of Custom duty shall be considered |
| 9. | CVD/E-cess | : | As applicable |
| 10. | Total with CD & CVD | : | 7+8+9 |
| 11. | E-Cess | : | @3% on (8+9) |
| 12. | Special CVD | : | @4% on (10+11) |
| 13. | Landed cost | : | 10+11+12 |
| 14. | Custom clearance, handling and transportation up to site | : | As quoted |
| 15. | Entry Tax | : | @ 2% on (13+14) |
| 16. | CENVAT Benefit | : | (-) (9+12) |
| 17. | Total Price | : | 13+14+15+16 |
| 18. | Technical loadings, if any | : | Not Applicable |
| 19. | Commercial loadings | : | On FOB Supply Price |
| 20. | Total Comparable Price | : | 17+18+19 |

Bids in FE shall be evaluated based on Bill selling exchange rate of SBI prevailing as on date of price bid opening.

(ii) **INDIGENOUS**

1.	FOT Despatch Point	:	As quoted
2.	Add ED & E-cess	:	As Applicable
3.	Add CST/ LST/ VAT	:	As Applicable
4.	Total Price	:	1+2+3
5.	Freight Charges	:	As quoted
6.	Total FOT Site	:	4+5
7.	Entry Tax	:	@ 2% on (6)
8.	Total Price	:	6+7
9.	Technical loadings, if any	:	Not Applicable
10.	Commercial loadings	:	On FOT Despatch price
11.	CENVAT Benefit		(-) 2
12.	VAT Benefit		(-) As applicable
13.	Total Comparable Price	:	8+9+10+11+12

13.3 Price loading on account of payments and other conditions required by various vendors will be based on following:-

(i) Payment terms:

Price loading on account of payment terms at variance with Bidding Document payment terms will be loaded @ 12% per annum for the relevant period.

(ii) Advance for supplies, if insisted by bidder (maximum 10%), shall be interest bearing. Rate of interest on advance will be 12%. Bank Guarantee for advance will be for the equivalent amount. No loading shall be done on account of advance payment as advance is interest bearing.

(iii) Price Variation:-

Terms offered by vendor price loading

(a)	Firm Price	:	No loading
(b)	In case of ceiling on Price Variation Clause	:	Loading by ceiling percentage offered
(c)	No ceiling on the formula	:	Offer may be rejected
(d)	No formula and no ceiling specified by vendor	:	- do -

(iv) Bidders shall quote firm freight charges up to destination by road transport for all cases. If a vendor does not quote freight charges then their offer will be loaded with maximum of the freight charges as quoted by the other bidders.

(v) Any differential in taxes and duties will be cost loaded on case-to-case basis. If a vendor states that taxes/duties are not applicable at present and will be charged as applicable at the time of delivery then no advantage will be given. Taxes & Duties against which Cenvat/ VAT benefits are available to Nalco will not be considered for evaluation.

- (vi) All the material is required to be transported by Bank-approved carriers, preferably having an office at the place of concerned unit.
- (vii) Cost loading in respect of utilities will be considered where guaranteed consumptions have been asked in Technical Specifications as per methodology defined in the Technical Specifications.

13.4 All cost loadings will be calculated on F.O.T. despatch point/ FOB prices.

14.0 REFERENCE LIST

The bidders are requested to submit a list of buyers to whom the same or similar type of equipment have been supplied by them and which are under operation. The detailed addresses of such buyer's office/works including Telephone, Fax Nos. and Contact Person and Order Reference are to be mentioned.

ANNEXURE - V**ADDENDUM TO TENDER DOCUMENTS (COMMERCIAL)****1.0 SCOPE**

Single party executing the project from concept to completion on turnkey basis covering all aspects of the project is required for successful implementation of the project.

The subject enquiry is being issued to main bidder with all the contractual responsibilities for the execution of entire work resting on the main bidder. Main bidder in turn may associate reputed Indian company for carrying out the works and supplies from India including site execution activities at the Project Site. However, Owner intends to enter into three separate contracts (if placed) as follows to rationalize tax liability as per legal provision of country and also for operational convenience.

- (a) Basic design, engineering, supply of imported equipments & materials including all necessary accessories, Mandatory & Commissioning Spares as well as Two years Operations and Maintenance Spares (by Main Bidder).

Erection, Performance Testing & Commissioning Supervision Service (Optional) to the stage of handing over and providing Training to Owner's O&M Personnel shall be by Main Bidder.

- (b) Detailed engineering, supply of equipments and materials from Indian sources (by associate Indian company appointed by main bidder) as well as Port Handling, Custom Clearance and Inland Transportation of Imported equipments from port to site shall be in the scope of Indian Associate. All detailed engineering shall be vetted and approved by the main bidder.

- (c) Unloading, storage, handling of both imported & indigenous materials at site, Erection, Performance Testing and Commissioning services will be in the scope of Indian Associate.

Notwithstanding the proposed divisibility of contracts, the overall responsibility of the scope of work / supply covered under the above separate contracts including project management up to successful Commissioning and handing over of plant / equipment / system to the Owner shall be with the main bidder. A separate agreement / MOU amongst the main bidder and Indian associate company may be signed before order finalization.

The main bidder (foreign) shall select suitable, experienced associate Indian company who will be responsible for detailed engineering and supply of goods from India.

The prospective associate Indian Company's credentials should be informed to the Owner for their acceptance.

The Contract-cum-Performance Bank Guarantee for 10% of Total Order Value for both foreign and Indian portions shall be furnished by the main bidder to the Owner. The main bidder will enter into necessary back-up agreement with his associate Indian company for the Indian portion of supply and services clearly outlining the scope of

responsibility and submit to the Owner for approval at an appropriate stage during bid evaluation / processing.

2.0 PAYMENT TERMS

For Imported Supply (including Design & Engineering):

- (i) 80% payment shall be made on prorated basis against shipping documents through irrevocable L/C.
- (ii) 10% payment shall be made after completion of installation & commissioning.
- (iii) 10% payment shall be made after final acceptance of equipment at site.

For Foreign Supervision (Optional) & Training:

100% payment shall be released after completion of work against invoice duly certified by Site - in - charge.

For Indigenous Supply:

- (i) 80% payment shall be made on prorated basis against dispatch documents through Bank.
- (ii) 10% payment shall be made after completion of installation & commissioning.
- (iii) 10% payment shall be made after final acceptance of equipment at site.

Inland Transportation

Charges for inland transportation shall be paid after the equipment is received at Site against invoices.

Services

100% pro-rata payment shall be made for services viz port clearance charges, port handling etc within 30 days from presentation of documents as per approved billing schedule.

Site Work

- (i) 90% against monthly progressive billing duly certified by Site In- charge.
- (ii) 10% within 30 days of final handing over of the equipment to Owner at site.

3.0 Following points must be taken care while submitting your bid:

- (a) Selection of associate Indian company is subject to approval of Owner.
- (b) Scope division between main bidder and associate Indian company shall be clearly defined in the bid.

- (c) No deviation to terms & conditions of the bid documents is allowed.
- (d) Non acceptance of following commercial clauses shall lead to rejection of bid:
 - (i) Bids that do not meet the qualification criteria as specified in the enquiry / bid documents shall be summarily rejected.
 - (ii) A bid with incomplete scope of work and / or which does not meet the technical specifications and requirements as specified in the enquiry documents shall be considered as non-responsive and rejected.
 - (iii) Prices must be furnished in accordance to the price schedule format enclosed and strictly based on the terms specified related to the bid prices in the instructions / conditions. Non compliance to this requirement shall make the bid liable for rejection.
 - (iv) Bidders are requested to note that exceptions / modifications taken by them to the following clauses of General Conditions of Contract may result in rejection of their bid :-
 - (a) Contract Performance Guarantee clause
 - (b) Completion Schedule
 - (c) Period of validity of bid
 - (d) Firm Prices
 - (e) Guarantee / Warranty
 - (f) Force Majeure
 - (g) Liquidated Damages for Delay in Completion
 - (h) Replacement of Defective parts and materials
 - (i) Arbitration

4.0 Bidder shall furnish firm marine freight and marine insurance charges. This is to be valid for a further period of six months from the last date of validity of their offer. This will enable NALCO to convert FOB contract to CIF contract after placement of order, if opted.

5.1 The intent of this specification is to supply, construction, fabrication, erection and commissioning services for execution of projects according to most modern and proven techniques and codes. The omission of specific reference to any method and equipment or material necessary for the proper and efficient services towards installation of the Plant shall not relieve the contractor of the responsibility of providing such services, facilities to complete the project or portion of project awarded to him. The quoted rate shall deem to be inclusive of all such contingencies.

5.2 It is essential that, vendors desirous of participating in the tender should visit and assess the site to have hands on requirement of the scope of work. The scope of work specified in this subject contract is also exclusive of above components. The contract, which is intended to be executed on LSTK basis, is inclusive of all materials/ supplies/ services / works. There is no free issue material involved in this contract. Supply of water, power and compressed air as specified in the battery limit shall be provided. Vendor has to extend connections and supply of the utility services from battery limit to the point of application/ usage.

- 5.3** It is not the intent to specify herein all details of materials. Any item related to this work not covered, but necessary to complete the system will be deemed to have been included in the scope of the work. Customization required for successful completion of the project during progressive execution of the contract has to be undertaken by the vendor and shall be deemed as a part of the scope of work.
- 5.4** Site testing wherever required shall be carried out for all items/ materials installed by the contractor or already installed to ensure proper installation and functioning in accordance with drawings, specifications and manufacturer's recommendations and instruction of the engineer/ site-in-charge.
- 5.5** During the course of erection, testing and commissioning work certain rework/ modification/ rectification/ repairs/ fabrication etc. may be necessary on account of existing system/ already commissioned and/ or units also on account of design changes and manufacturing incompatibilities and site operation/ maintenance requirements. Contractor shall carryout such rework/ modification/ rectification/ fabrication / repairs etc. promptly and expeditiously and the same shall be deemed to be part of the scope of work.
- 5.6** The work shall be executed in the running/ operating plant & in conjunction with numerous other operations at site. The bidder and his personnel shall co-operate with the existing operating setup and proceed in a manner that shall not affect the operation in anyway.
- 5.7** The contractor shall carry out he work in accordance with instructions/ drawings/ specification/ standard practices/ national and international norms.
- 5.8** Completion of work within the stipulated period is the essence of this contract.
- 5.9** Good quality and accurate workmanship for proper performance of equipment/ systems shall be guaranteed by the vendor on every stage of supplies and works.
- 5.10** Preservation of all components at all stages of pre-assembly/ erection/ testing and commissioning till completion of trial run of unit.
- 5.11** On completion of work all the temporary buildings, structures, pipelines, cable etc. shall be dismantled and leveled and the contractor at his cost shall remove debris as per instruction of Nalco. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the contractor.
- 5.12** The contractor shall deploy experienced Engineers, Supervisors and skilled workmen like High Pressure Welders (gas, TIG and arc) Carbon, alloy steel welders, Gas cutters, Electricians, Riggers, Serangs, rectors, carpenters, fitters etc. in addition to other skilled, semi-skilled and unskilled workmen required for all the works of handling and transportation from site storage to erection site, transportation, erection, testing and commissioning contemplated under this specification. Only fully trained and competent men with previous experience of the job shall be employed. They shall hold valid certificates wherever necessary.
- 5.13** The contractor's supervisory staff shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work, good workmanship and

aesthetic finish are essential part of this contract. The contractor shall be responsible to ensure that assembly and workmanship conform to the design/ specifications/ instruction and expected level of the client/ customer.

- 5.14** If the contractor or his workmen or employees shall break, deface, injure or destroy any part of a building, road, kerb, fence, enclosure, water pipes, cables, drains, electric or telephone posts or wires or any other property or to any part of erected components etc. The contractor shall make the same good at his own expense or in default.
- 5.15** The work covered under this scope of work is of highly sophisticated nature requiring best quality/ proven workmanship engineering and construction management. It should also ensure successful and timely commercial operation of equipment installed. The contractor must have adequate quantity of precision tools, construction aids in possession. Contractor must also have adequate trained qualified and experienced supervisory staff and skilled personnel.
- 5.16** All the necessary certificates and licenses required to carry out this scope of work are to be arranged by the contractor then and there at no extra cost.
- 5.17** The contractor shall be responsible for taking all safety precautions during the construction and leaving the site safe at all times. When the work is temporarily suspended he shall protect all construction materials, equipments and facilities from causing damage to existing property and interfering with the operations of the station when it goes into service. The contractor shall comply with all applicable provisions of the safety regulations clean-up program and other precautionary measures, which shall be arranged by the contractor.
- 5.18** All electrical installation covered in contractor's scope is to be inspected/ approved by the Electrical Inspector/ Statutory Authority. Contractor is responsible for getting the Electrical Inspector's approval. For getting Electrical Inspector's approval, contractor shall co-ordinate with Electrical Contractor. Necessary Completion/ Test certificate for the Electrical equipments like DC systems, UPS etc covered in the contractor scope shall be arranged by the contractor.
- 5.19** It shall be the responsibility of the Contractor to arrange for required labour, brush and other consumables like cotton waste, cloth etc. for carrying out preservative painting. The quoted rates shall be inclusive of above work. The contractor shall effectively protect the finished work from action of weather and from damage or defacement and shall cover the finished parts, then and there for their protection.
- 5.20** Provision of all types of labor, Supervisors, Engineers, watch and ward as required, tools and tackles as required, consumables as required under various clauses of tender specification for handling transportation, erection, testing and commissioning.
- 5.21** Addendum to Tender Documents - Commercial shall be read in conjunction with Tender Documents - Commercial, Schedule of Rates, Specification of work, Drawings, and any other document forming part of this contract wherever the context so requires.
- 5.22** Notwithstanding the sub-divisions of the document into these separate sections and volumes, every part of each shall be deemed to be supplementary to and

complementary to every other part and shall be read with and into the contract so far as it may be practicable to do so.

- 5.23** Where any portion of Addendum to Tender Documents - Commercial is repugnant to or at variance with any provisions of Tender Documents - Commercial, then unless a different intention appears, the provision of Addendum to Tender Documents - Commercial shall be deemed to override the provision of the Tender Documents - Commercial only to the extent such repugnancies or variations in the Addendum to Tender Documents - Commercial are not possible of being reconciled with the provision of Tender Documents - Commercial.
- 5.24** The materials, design and workmanship shall satisfy the applicable standards, specifications contained herein and codes referred to. Where the Technical Specifications stipulate requirements in addition to those contained in the Standard Codes and Specifications, those additional requirements shall also be satisfied.
- 5.25** Wherever it is mentioned in the specifications that the contract shall perform certain work or provide certain facilities, it is understood that the contractor shall do so at his own cost and the contract price shall be deemed to have included cost of such performances and provisions, so mentioned.
- 5.26** Completion Time: The entire contract both supply & works shall be completed within maximum **Nine (9) months** from the date of placement of order. The placement of Brief Order shall be treated as zero date of the project.
- 5.27** The bidder shall furnish project completion schedule indicating major milestones along with the quotation.
- 5.28** The time schedule should be in the form of PERT network considering the date of Brief Order as zero date of the project.
- 5.29** The effective date of contract/ time of commencement shall be the date of Brief Order.
- 5.30** The successful tenderer shall submit a Master Network within three weeks from the date of issue of Brief Order. The master network will be the form of PERT/ CPM NETWORK prepared system wise containing major milestones in all phases of execution of contract. Each event / activity will also have earliest completion date, latest completion date and float in number of days/weeks. The final master net work as mutually agreed upon would form the basic document from which schedules for design, engineering, procurement, construction and commissioning will be arrived at. These schedules will be prepared discipline or system wise. The final master programme and progress reporting for the entire run of the contract. The frequency/ periodicity of programming and reporting will be mutually agreed upon. Progress reporting shall be done by the contractor on mutually agreed formats. Reports on such formats will be sent regularly to the Engineer-in-charge in reproducible with six copies of print as per frequency/ periodicity agreed upon from time to time.
- 5.31** The contractor shall arrange for weekly progress review meeting with the “Engineers” at site with actual progress during the week vis-à-vis scheduled program for achieving targets. The program for subsequent work shall be presented by contractor for

discussion. The contractor shall constantly update/ revise his work program to meet the overall requirements and suit the material availability.

- 5.32** The contractor shall have independent account codes from concerned Regional Provident Fund Commissioner for Provident fund and Independent account code from Regional Directors ESI for ESI. Fulfilling all statutory stipulations towards PF & ESI is mandatory for the bidders.
- 5.33** Before starting of work, the contractor shall obtain a license from the concerned authorities under the Contract Labor (Abolition and Regulation) Act 1970, and furnish copy of the same to the Owner.
- 5.34** Contractor shall observe all Codes specified in respective specification, all national and local laws, ordinances, rules and regulations and requirements pertaining to the work and shall be responsible to fulfill all such norms.
- 5.35** Contractor reserves the right to inspect all phases of the work, post a technically competent person to supervise the work at the work premises. Any instruction given to such a person by the Owner/ Engineer-in-charge shall be construed as having been given to the contractor.
- 5.36** Owner reserves the right to inspect all phase of contractor's operations to ensure conformity to the specifications. Authorized representative of Owner shall have free access to the work at all times. The presence or absence of an owner's representative does not relieve the contractor of the responsibility for quality control in all phases of the work. In the event that any of the work being done by the contractor is found by Owner's representatives to be unsatisfactory or not in accordance with the drawings, procedures and specifications, the contractor shall, upon the verbal notice of such discrepancy or deficiency, take immediate steps to revise the work in a manner to conform to the relevant drawings, procedures and specifications.
- 5.37** The contractor shall carry out required supervision and inspection as per Quality Assurance Plan and furnish all assistance required by the OWNER in carrying out inspection work during this phase. The owner will have engineers, inspectors or other authorized representative present who are to have free access to the work at all time. If an Owner's representative notifies the Contractor's authorized representative of any deficiency, or recommends action regarding compliance with the specifications, the contractor shall make every specification and approved drawings in the fullest degree consistent with best industry practice.
- 5.38** For all payment purposes, measurement will be based on the execution drawings. Wherever details are inadequate or not available in the execution drawings, physical measurements will be taken by the contractor in the presence of the representative of the Engineer-in-charge. In such cases, payment will be made on actual measurement.
- 5.39** The contractor shall without prejudice to his overall responsibility to execute and complete the works as per specifications and time schedule progressively deploy adequate qualified and experienced personnel together with skilled/unskilled manpower and augment the same as decided by Engineer-in-charge depending on the exigencies of work to suit the construction schedule without any additional cost to Owner. The works under this contract are to be carried out in areas declared as plant limits, adjacent/

adjoining to the existing operating plant. As such, Contractor is required to abide by all safety and security regulations of the Owner enforced from time to time.

- 5.40** The contractor has to apply for photo entry passes for his workers & staff in a prescribed proforma available with Owner for persons requiring entry in to plant premises as required. Identity card issued by the Security Section should always be carried/ displayed by the Contractor's employee or person while working inside the plant. Permits are to be obtained separately for use of vehicles/ trailers etc. at work site. The following requirements are to be met to obtain vehicle permit.
- 5.41** To bring materials/ equipment/ tools / tackles etc. to construction site, the contractor has to produce challan/ proper documents to the Owner's personnel at gate. The materials shall be checked thoroughly by the Owner's personnel at gate and recorded in their register before allowing any materials to the site. It is contractor's responsibility to see that the recorded entry No., date, signature of Owner's authorized representative with stamp are there on the challan/ supporting documents before taking any materials into work site. In addition to above, entry of the material will be permitted only during the stipulated working hour, and more so, if consignee is available to receive the said material.
- 5.42** The work shall be carried out inside the plant as per safety practice enforced by NALCO safety section and instruction of Engineer-in-charge issued from time to time. Many times it may happen that the working hours shall be drastically reduced or increased to meet certain safety requirements and the contractor shall meet these requirements without any claim for time and financial implications. To obtain work permit and to satisfy all conditions laid down therein shall be the responsibility of the contractor. No claim for idling of machinery, plant, manpower etc. for safety reasons or non-issuance of work permit by in-charge, safety section shall be considered. The contractor shall abide by all safety regulations of the plant and ensure that safety equipment or specific job kit as stipulated in the Factory Act/ Safety hand Book is issued to the employee during the execution of work, failing which all the works at site will be suspended.
- 5.43** NALCO being an ISO 14000 Company; the Contractor shall comply with all the provisions of ISO 14000 (EMS Criteria) for proper disposal of debris, unused oils, lubricants etc. in consultation with Engineer-in-charge. The contractor shall also abide by other stipulation of ISO 14000 as laid down by the said system. The contractor shall from time to time clear and remove all rubbish and constructions, equipment, unused materials, etc. resulting in the execution of the work. The disposal of rubbish will have to be done only in the areas earmarked by the Owner as per the direction of the Engineer-in-charge. All streets and driveways in the work area shall be kept cleaned up to the entire satisfaction of Engineer-in-charge. Before handing over of any work to Owner, the contractor in addition to other formalities to be observed as detailed in the documents shall clear the site to the entire satisfaction of Engineer-in-charge.
- 5.44** Construction shall be as per drawings/ specifications issued/ approved by Engineer-in-charge issued from time to time during the course of execution of work. The quoted rates shall be deemed to include cost of preparation and submission of fabrication drawings (if any) for review and approval of Engineer-in-charge. It is however, clearly agreed by the contractor that review and approval of the drawings by Engineer-in-charge shall not absolve the contractor of his responsibility to carry out the work as per specifications.

- 5.45** All inspection and test on bought out items if any shall be made as required by specifications forming part of this contract. Various stages of inspection and testing shall be identified after receipt of quality Assurance Program from the Contractor / Manufacturer.
- 5.46** Inspection calls shall be given for association of OWNER/ ENGINEER-IN-CHARGE as per mutually agreed program in prescribed Performa with 15 days margin, giving details of equipment and attaching relevant test certificates and internal inspection report of the contractor. All drawings, general arrangement and other contract drawings, specifications, catalogues etc. pertaining to equipment offered for inspection shall be approved by OWNER/ ENGINEER-IN-CHARGE and copies shall be made available to OWNER/ ENGINEER-IN-CHARGE before hand for undertaking inspection. The Contractor shall ensure full and free access to the inspection engineer of Owner/ Engineer-in-charge at the contractor or their sub-contractor's premises at any time during contract period to facilitate him to carry out inspection and testing assignments.
- 5.47** The contractor shall provide all instruments, tools, necessary testing and the inspection facilities to inspection engineer of OWNER/ ENGINEER-IN-CHARGE free of cost for carrying out inspection.
- 5.48** Where facilities for testing do not exist in the Contractor's laboratories, samples and test pieces shall be drawn by the Contractor in the presence of Inspection Engineer of OWNER / ENGINEER-IN-CHARGE and duly sealed by the letter and sent for tests in Government approved Test House or any other testing laboratories approved by the inspection Engineer at the Contractor's cost. The contractor shall comply with the instructions of the Inspection Engineer fully and with promptitude. The contractor shall ensure that the equipment/ assemblies / component of the plant and equipment required to be inspected are not assembled and dispatched before inspection.
- 5.49** The contractor shall ensure that the parts once rejected by the Inspection Engineer are not used in the manufacture of the plant and equipment. On satisfactory completion of final inspection and testing, all accepted plant and equipment shall be stamped suitably and inspection Certificate shall be issued in requisite copies for all accepted items. For stage Inspection and for rejected items, only inspection memo shall be issued indicating therein the details of observations and remarks. The contractor shall carry out the various tests as enumerated in the technical specifications of the Tender document and no separate payment shall be made unless otherwise specified. The nature of testing to be done, periodical intervals at which such testing are to be done, etc. as per the latest editions of relevant IS codes shall be determined by the Engineer-in-charge.
- 5.50** The work is subject to inspection at all times by the Engineer-in-charge. The contractor shall carry out all instructions given during inspection and shall ensure that the work is being carried out according to the technical specifications of this tender, the technical documents and the relevant codes of practice furnished to him during the performance of the work. The contractor shall provide for purposes of inspection access ladders, lighting and necessary inspection and tests will be recorded in the inspection reports, proforma of which will be approved by the Engineer-in-charge. These reports shall be part of the completion documents.
- 5.51** Inspection and acceptance of the works shall not relieve the contractor from any of his responsibilities under this contract.

- 5.52** After completion of all tests as per specification the whole work will be subject to a final inspection to ensure that job has been completed as per requirement. If any defects noticed in the work are attributable to contractor, these shall be attended by the contractor at his own cost as and when are brought to his notice by the Owner. The Owner shall have the right to have these defects rectified at the risk and cost of the contractor if he fails to attend to these defects immediately.
- 5.53** It shall be entirely the contractor's responsibility to provide, operate and maintain all necessary construction equipment, scaffoldings and safety gadgets, cranes and other lifting tackles, tools and appliances to perform the work in a workmanlike and efficient manner and complete all the jobs as per time schedule.
- 5.54** Bidder shall include in his offer the Quality Assurance Programme containing the over all quality management and procedures which is required to be adhered to during the execution of contract. After the award of the contract, detailed quality assurance program shall be prepared by the contractor for the execution of contract for various works, which will be mutually discussed and agreed to. The contractor shall establish document and maintain an effective quality assurance system. The Owner/ Consultant or their representative reserve the right to inspect / witness, review any or all stages of work at shop/ site as deemed necessary for quality assurance.
- 5.55** Drains, pipes, cables, overhead wires and similar services encountered in the course of the works shall be guarded from injury by the contractor at his own cost, so that they may continue in full and uninterrupted use to the satisfaction of the Owners thereof, or otherwise occupy any part of the site in a manner likely to hinder the operation of such services. Should any damage be done by the contractor to any mains, pipes, cables or lines (whether above or below ground etc.) whether or not shown on the drawings the contractor shall make good or bear the cost of making good the same without delay to the satisfaction of the Engineer-in-charge.
- 5.56** When applicable, the contractor shall engage a renowned Electrical Contractor for executing the electrical work and before arranging electrical contractor, the contractor shall take approval from the Engineer-in-charge for the same. Proper coordination with electrical agencies will be the civil contractor's responsibility. Where embedding of conduits in concrete slabs, walls etc. is involved, the contractor shall ensure that the work of civil and other works shall not be held due to non-completion of the part of electrical work. In case of any dispute the decision of the Engineer-in-charge shall be final and binding on the contractor. The application on behalf of the Owner for submission of Electrical Inspector along with the copies of required certificates complete in all respects shall be prepared by the contractor and submitted to Engineer-in-charge for onward transmission well ahead of time so that the actual commissioning of Electrical work is not delayed for want of inspection by the Inspector. The actual inspection of the work by the Electrical Inspector shall be arranged by the contractor and necessary coordination and liaison work in this respect shall be the responsibility of the contractor. However, any fee paid to the Electrical Inspector in this regard shall be reimbursed by the Owner on production of documentary evidence.
- 5.57** While selection of the technology, equipment, and process vendor has to ensure that, latest technology & engineering practice are followed and complied with emphasis of safety, statutory & regulatory requirements as specified in National & International standard.

- 5.58** All design basis, calculations, drawings, layout & specifications etc. are to be ratified / verified by the vendor. If required, all documents are to be approved by Nalco prior to use.
- 5.59** Vendor to ensure full compatibility of the proposed system with the existing layout/ system & processes.
- 5.60** While preparing PDS/ selection of the equipments, protection, enclosures, safety devices, drives etc.; emphasis has to be laid down on existing site conditions and operational practices.
- 5.61** Since the project has to be constructed in the vicinity of operating plant, vendor executing the project has to cushion unavoidable delays on account of operational constraints in Construction/ Commissioning activities. Such assessments are to be assessed prior commencement of the project.
- 5.62** Appropriate provision of access points like walkways, staircase, ladders etc. for operational and maintenance convenience are to be suitably incorporated in the detailed engineering.
- 5.63** All rotating equipments shall have vibration limits as specified in IS: 1481:2000.
- 5.64** Drive motor selected for the system/ process shall be of energy efficient type.
- 5.65** All correspondence, submission of Bills, Data sheet, documents shall be marked to the designated project coordinator.
- 5.66** Compliance to statutory & regulatory requirements during Construction and Erection shall be the scope of EPCC contractor.
- 5.67** In the event of non-availability of data or information related to the project, consultant / EPCC Contractor has to collect actual data from site. Nalco will facilitate providing data depending upon the availability at our archive or site.
- 5.68** The vendor shall specify the manner for movement/ storage of construction material for the EPCC contractor so that normal operating plant is not affected.
- 5.69** Provision of customer support training has to be reflected while preparation of detailed engineering, training requirements such as schedule, program content and other relevant information has to be brought out as soon as the commissioning of the plant is over.
- 5.70** Unless and otherwise specified, equipment/ system design shall emphasize on energy saving practice and compatible to National and international standard.
- 5.71** Depending upon the requirement & magnitude of site fabrication/ construction works, suitable area/ space for carrying out site activities shall be given for temporary construction of 'Site Office cum Workshop cum Store' exclusively for the purpose of this contract. The required utilities like power & water shall be given to the vendor free of charges. The temporary construction, installation of power & auxiliary and other infrastructure used for this specific purpose shall comply with all applicable safety,

statutory & regulatory norms. If required, the site office of the vendor shall be inspected by Nalco's personnel to verify adequacy and provision made for successful execution of the contract. Subsequent to the completion of the job, vendor shall ensure that all temporary structure are demolished, grounds leveled, debris and other scraps removed or shifted to designated location.

5.72 The 'site Office cum Workshop cum Store' of the vendor shall comply with Nalco's standard operating practice. The 'Site Office cum Workshop cum Store' of the vendor shall also comply with ISO: 9001, ISO: 18001, ISO: 14001 & statutory guidelines of local, State & Central Government Authority.

5.73 All foundation, bolts, inserts & anchor parts required for the installation of plant & equipment shall be included in the tender. The tenderer shall note that these items have to be supplied well in advance so that the Civil Works can be taken up in time.

6.0 TAXES & DUTIES

6.1 It is to be noted that the Contractor shall be required to submit the documentary evidence(s) for Excise Duty paid and Countervailing Duty (CVD) by them to concerned authorities for Owner to claim CENVAT benefit.

6.2 Necessary Cenvatable documents such as Transporter's copy of Challan / Bill of Entry Triplicate Copy for availing Cenvat benefit to be given in NALCO's name indicating consignee as NALCO for availing Excise Duty / CVD, Copy of Registration with Central Excise Authority and Invoices under rule 57G of 57T for CVD and any other document required by the Owner shall be furnished by Contractor to enable Owner to claim CENVAT.

6.3 The classification of goods as per Central Excise Customs Tariffs should be correctly done to ensure that CENVAT benefits is not lost by the Owner on account of any error on the part of the Contractor. The Owner shall be at liberty to withhold the payment of cenvatable duties (viz. Central Excise Duties, Countervailing Duties of Customs etc.) If the requirements as specified in the clause are not fulfilled by the Contractor. The price of materials shall stand reduced accordingly.

6.4 The Contractor shall furnish the details of Excise Duty and CD/CVD component included his price for the purpose of cenvat benefit.
The amount of ED and CVD indicated as part of Quoted Price is for information only. Contractor is required to pay all taxes & duties nevertheless and must furnish Cenvatable documents for the amount of ED and CVD paid by him, subject to minimum of the amount of ED and CVD indicated by him in his bid.

7.0 INSURANCE

7.1 The Owner will arrange for insurance of equipment and material under the scope of the Contract as detailed in Tender Documents - Commercial.

In respect of equipment damaged in transit or during erection & commissioning, the contractor shall arrange for replacement/ repair expeditiously. The replacement cost payable by the owner shall be limited to the invoice cost of damaged equipment. The cost payable for repair shall be mutually settled.

7.2 Employees State Insurance Act

The Contractor agrees to and does hereby accept full and exclusive liability for the compliance with all obligations imposed by the Employee State Insurance Act 1948 and the Contractor further agrees to defend, indemnify and hold Owner harmless for any liability or penalty which may be imposed by the Central, State or Local authority by reasons of any asserted violation by Contractor or his Sub-contractor of the Employees' 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 Contractor, 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 Employee's State Insurance Corporation, the Declaration forms, and all forms which may be required in respect of the Contractor's or his Sub-contractor's employees, 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 his 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 Employees Contribution Card at wages payment intervals. The contractor shall remit and secure the agreement of his sub-contractor to remit the State Bank of India, Employee's State Insurance Corporation account the Employees 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 his sub-contractor to maintain such records. Any expenses incurred for the contributions; making contributions or maintaining records shall be to the Contractor's or his Sub-contractor's account.

Owner shall retain such sum as may be necessary from the total value of contract until the Contractor shall furnish satisfactory proof that all contributions as required by the Employees State Insurance Act, 1948 have been paid. This will be pending on the Contractor when the ESI Act is extended to the place of work.

7.3 Workmen's Compensation & Employer's Liability Insurance

Insurance shall be effected by Contractor for all their employees engaged in the performance of this Contract. If any of the work is sublet, the Contractor shall require his sub-contractor to provide workman's Compensation and employer's liability insurance for the later's employees if such employees are not covered under the Contractor's insurance.

7.4 Any other Insurance required under Law or Regulations or by Owner

Contractor shall also carry and maintain any and all other Insurance(s) which he may be required under any law or regulation from time to time without any extra cost to Owner. He shall also carry and maintain any other insurance which may be required by the Owner.

7.5 Accident or Injury to Workmen

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 his Sub-Contractor and the Contractor shall indemnify and keep indemnified the Owner against all such damages and compensation and against all claims, demands, proceedings, costs, charges and expenses, whatsoever in respect or in relation thereto.

8.0 CLAUSE 44.02: REGULATION OF LOCAL AUTHORITIES & STATUES (TENDER DOCUMENT COMMERCIAL – INDIGENOUS)

The following is to be read along with Clause 44.02:-

“The payment of minimum wages to Control Labour as per the rates as notified, from time to time, by the Central Government as per the Minimum Wages Act, 1948 for the workers in Construction and maintenance of roads or building operations in ‘C’ areas.

The classification of workers in different categories will be as per the notification issued by the Central government fixing the minimum wages for the above scheduled appointment. 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 scheduled employments as along as the same remains higher than the Central Government rates”.

9.0 CONSTRUCTION POWER

Construction power rate indicated in Tender Documents Commercial is modified as Rs. 4.30 per KWH in place of Rs. 1/- per KWH.

10.0 PRICE REDUCTION SCHEDULE

Liquidated Damages (LD) wherever mentioned in RFQ documents, is to be read as Price Reduction Schedule (PRS).

ANNEXURE - VI**TERMS AND CONDITIONS FOR SUPERVISION OF ERECTION, TESTING, COMMISSIONING & PERFORMANCE GUARANTEE TESTING AT SITE (OPTIONAL)**

Per diem/lump sum charges shall include:

- Lodging
- Boarding
- Transport
- All insurance including Third Party Insurance
- All health care/medical expenses
- All other incidental charges which are not covered above.

The charges as above shall be quoted inclusive of Indian Income tax as applicable. Indian Income Tax will be deducted from the bill amount & Tax Deducted at Source Certificate will be issued.

Per diem/ lump sum charges shall exclude To & Fro Economy class Air Fare for Foreign vendor's supervisory personnel. This shall be provided by Owner.

Seller shall be working at Owner's site along with agencies who will be engaged in similar other activities. For this purpose, the third party risk shall also be covered by seller at his cost.

Following site conditions shall apply:

- (i) Working hours at those prevailing site - normally 8 hours a day, Monday through Saturday.
- (ii) Vendor's supervisor personnel to observe/ abide by
 - Site working conditions and Safety codes.
 - All applicable Indian Laws at Site.
- (iii) Vendor will indicate number of persons to be deployed and tentative number of days for completion for inspection, performance testing and commissioning.

Selection of Foreign/ Indian supervisory personnel shall be left to Owner's choice.

Payment Terms shall be as per Addendum to GCC of Enquiry Documents.

ANNEXURE - VII**AGREED TERMS & CONDITIONS (IMPORT)****NALCO, SMELTER PLANT****IMPORTANT**

1. This questionnaire must be filled in against all Serial nos. & enclosed with the Un-priced offer. Non submission or submission of incomplete questionnaire may lead to rejection of the offer.
2. All commercial terms except the deviations to Tender Documents - Commercial (Import) and Addendum to Tender Documents (Commercial) must be given in this questionnaire itself and not elsewhere in the quotation. In case of contradiction, the terms given below shall prevail. The deviations to Tender Documents - Commercial (Import) and Addendum to Tender Documents (Commercial), if any, must be listed in a separate Annexure.

Sl. No.	Descriptions	Vendor's confirmation with details
1. (i)	Acceptance of Technical specifications and scope of supply as per attached Annexure - I.	
(ii)	In case of deviations, confirm that the same has been highlighted separately.	
2.	Confirm that data sheets/ technical questionnaire duly filled in are attached, wherever required in requisition.	
3.	Confirm Spare Parts list wherever required as per NIT, with item wise prices on FOB & C&F basis have been submitted for following:	
(a)	Mandatory Spares	
(b)	Commissioning & Start-up Spares	
(c)	Special Tools & Tackles	
(d)	Two Years O&M Spares	
4.	It is noted that deviations to terms & conditions shall lead to loading of prices or rejection of offer.	
5.	Indicate Manufacturer's Name and Address.	

Sl. No.	Descriptions	Vendor's confirmation with details
6.	Confirm you have quoted prices strictly in the price schedule format enclosed with NIT documents.	
7.	Indicate International Port of exit/ shipment.	
8.	Indicate Shipping weight (net and gross) including dimensions/ volume of consignments.	
9.	As soon as shipment/dispatch is made, the seller shall intimate Nalco's Underwriters the dispatch details at the address, to be intimated later .	
10.	Indicate the country of origin of goods offered.	
11.	Confirm that the quoted prices are in the currency of country of origin.	
12.	Confirm acceptance to delivery/ Completion period as mentioned in NIT documents.	
13.	Confirm utility requirement wherever applicable are given in offer.	
14.	Confirm customer references are given in offer.	
15.	Confirm complete technical literature/catalogue are being submitted along with offer.	
16.	Confirm acceptance of price reduction schedule/ liquidated damages for delay in deliveries specified in Tender Documents - Commercial (Import)/ Enquiry Documents.	
17.	Confirm acceptance of relevant terms of payment as per the NIT documents attached.	

Sl. No.	Description	Vendor's Confirmation with details
18.	Letter of Credit shall be opened through a Govt. of India Bank and hence need not be confirmed. However, if you still insist, confirmation charges shall be to your account.	
19.	All Bank charges and Stamp duties payable outside India in connection with payments to be made under this Purchase Order shall be borne by you. All bank charges and stamp duties payable in India shall be borne by the Purchaser.	
20.	All taxes, duties and levies of any kind payable up to FOB Port of Shipment shall be borne by you.	
21.	Prices quoted must exclude transit insurance charges from FOB Port of Shipment or by Air as the same shall be arranged by the Purchaser. All Transit Insurance charges for inland transit up to FOB Port of Shipment must be included by you in your prices.	
22.	Confirm that the quoted prices shall remain firm and fixed till complete execution of order.	
23.	Please indicate name and address of your Bankers.	
24.	All correspondence must be in ENGLISH language only.	
25.	Confirm that Contract cum Performance/ Performance Bank Guarantee wherever required will be furnished for value and terms & conditions as per document attached with NIT.	
26.	Confirm acceptance of Guarantee/ Warranty as per documents attached with NIT.	
27.	Confirm that quoted prices are inclusive of all inspection & testing charges as per NIT.	

Sl. No.	Description	Vendor's Confirmation with details
28.	Confirm that the itemised specific charges for 3 rd party inspection like Lloyd's or equivalent have been separately quoted in the priced bid.	
29.	Confirm that the quoted prices are valid for acceptance up to six months from the final due date of submission of Bid.	
30.	Confirm acceptance in toto of the terms and conditions of Tender Documents – Commercial (Import), Addendum to Tender Documents and other documents attached with the Enquiry.	
31.	Direct offer without the intermediary of an Indian Agent will only be considered. Please confirm that your offer does not include any Indian Agent/Agency Commission.	
32.	Confirm that in case of conflicting version of various terms & conditions at different places, Owner can choose any version.	
33.	Confirm that net worth of your company during the last financial year is positive.	
34.	Please note that you have not been banned or de-listed by any Government or Quasi Government agencies or PSU.	

Place:

Signature:

Date:

Name :

Designation :

Seal :

ANNEXURE - VIII**AGREED TERMS & CONDITIONS (INDIGENOUS)****NALCO SMELTER PLANT****IMPORTANT**

3. This questionnaire must be filled in against all Serial nos. & enclosed with the Un-priced offer. Non submission or submission of incomplete questionnaire may lead to rejection of the offer.
4. All commercial terms except the deviations to Tender Documents - Commercial (Indigenous) and Addendum to Tender Documents (Commercial) must be given in this questionnaire itself and not elsewhere in the quotation. In case of contradiction, the terms given below shall prevail. The deviations to Tender Documents - Commercial (Indigenous) and Addendum to Tender Documents (Commercial), if any must be listed in a separate Annexure.

Sl. No.	Descriptions	Vendor's confirmation with details
---------	--------------	------------------------------------

(A) TECHNICAL:

1. (i) Acceptance of Technical specifications and scope of supply as per attached **Annexure - I**.
- (ii) In case of deviations, confirm that the same has been highlighted separately.
2. Confirm that data sheets/ technical questionnaire duly filled in are attached, wherever required.
3. Confirm Spare parts list, wherever required with item wise prices have been submitted for following categories of Spares.
 - (a) Commissioning & Start-up Spares
 - (b) Special Tools & Tackles
 - (c) Mandatory Spares
 - (d) Spare Parts for Two Years Operation & Maintenance
4. It is noted that deviations to terms & conditions shall lead to loading of prices or rejection of offer.

Sl. No.	Descriptions	Vendor's confirmation with details
5.	Confirm that the quoted prices are based on FOR/ FOT Despatch point including packing & forwarding.	
(i)	If quoted on Ex- works basis, indicate P&F charges in terms of percentage.	
(ii).	Indicate despatching station.	
6.	Confirm you have quoted prices strictly in the price schedule format enclosed with NIT documents.	
7.	Indicate separately firm freight charges up to site (in percentage) by Road.	
8.	Confirm Transit insurance is excluded from the quoted prices. If inclusive, indicate rebate for excluding the same.	
9.	Indicate rate of Central Sales Tax/Orissa VAT payable extra.	
(i)	CST without concessional Form.	
(ii)	CST with concessional Form.	
(iii)	VAT without concessional form.	
(iv)	VAT with concessional Form.	
10(a)	Statutory increase in Excise Duty & Education cess beyond contractual delivery date shall be to vendor's account but any reduction up to actual date of despatch shall be to owner's account.	
(b)	Indicate present rate of Excise Duty & Education Cess applicable on the supplies (including Spares) and whether the same is included/ excluded from quoted prices.	
(c)	If there is any increase in ED & E-cess at the time of supplies for any reasons, other than statutory, including turnover, confirm the same will be borne by the vendor.	

Sl. No.	Descriptions	Vendor's confirmation with details
(d)	If ED & E-ces is presently not applicable, confirm whether the same will be borne by the vendor in case it becomes leviable later.	
(e)	In case (c) or (d) is not acceptable, advise maximum rate of ED & E-cess chargeable.	
11.	Entry tax on supplied items shall be paid by Nalco directly to Tax Authorities. However, any Entry tax applicable for items and consumables etc used for Erection/Commissioning shall be to Seller's account.	
12.	Confirm submission of following documents with offer:	
1)	Valid Excise Regn. Certificate.	
2)	Valid Sales Tax Regn. Certificate.	
3)	Valid Service Tax Regn. Certificate.	
4)	TIN (Tax Identification No.)	
13.	Confirm in case of delay on a/c of vendor, any new or additional taxes and duties imposed after contractual delivery shall be to vendor's account.	
14.	Confirm acceptance to delivery/ Completion period as mentioned in NIT documents.	
15.	Confirm acceptance of Price Reduction Schedule/ LD, as specified in Tender Documents - Commercial (Indigenous), for delay in deliveries.	
16.	Confirm acceptance of relevant terms of payment as per the NIT documents attached.	
17.	Confirm that the quoted prices are firm and fixed till complete execution.	
18.	Confirm that Contract cum Performance/ Performance Bank Guarantee wherever required will be furnished for value and terms & conditions as per document attached with NIT.	

Sl. No.	Descriptions	Vendor's confirmation with details
19.	Confirm that Bank Guarantee for equivalent amount of Free Issue Materials, wherever applicable, shall be furnished.	
20.	Confirm acceptance of Guarantee/ Warranty as per documents attached with NIT.	
21.	Confirm that quoted prices are inclusive of all Testing charges as required in the Enquiry.	
22(i)	All other Commercial terms & conditions shall be as per Tender Documents - Commercial (Indigenous), Addendum to Tender Documents and other documents attached with the Enquiry. Confirm.	
(ii)	In case of deviations, confirm clause wise comments have been specified in a separate Annexure.	
(iii)	All the terms & conditions have been indicated in this format including Annexure and has not been repeated elsewhere. It is noted that terms & conditions indicated elsewhere shall be ignored.	
23.	Confirm that all taxes, duties and levies of any kind payable by Seller up to the stage of handing over of the system to Owner shall be borne by you.	
24.	Import permit/ Licence, if required shall be the responsibility of the Seller and any expenditure towards the same shall be borne by you. Please confirm.	
25.	In case of any Imported supply to be quoted in INR by Indian Associate, confirm that all variations in Customs duty and Foreign Exchange till complete execution of the contract shall be to Seller's account.	

Sl. No.	Descriptions	Vendor's confirmation with details
26.	The vendor is required to state whether any of the Directors of vendor is a relative of any of the Directors of Owner or the vendor is a firm in which any Director of Owner or his relative is a partner or the vendor is a Private Company in which any of the Directors of Owner is a member or Director.	
27.	Confirm that the offer shall be valid up to 6 months from the bid due date/ extended bid due date.	
28.	Confirm that in case of conflicting version of various terms & conditions at different places, Owner can choose any version.	
29.	Confirm that net worth of your company during the last financial year is positive.	
30.	Please note that you have not been banned or de-listed by any Government or Quasi Government agencies or PSU.	

Place:

Signature:

Date:

Name :

Designation :

Seal :

Annexure - IX**PRICE SCHEDULE FORMAT**

ITEM: HIGH SPEED SLITTING MACHINE FOR ROLLED PRODUCT UNIT OF SMELTER PLANT.

OFFER NO:

BIDDER TO QUOTE IN EACH COLUMN FOR ONE NO. OF “HIGH SPEED SLITTING MACHINE”		FOR IMPORTED COMPONENTS, FOB PRICE, IN FOREIGN CURRENCY	FOR INDIGENOUS COMPONENTS, EX-WORKS PRICE, IN INDIAN RUPEES
1.0 SUPPLY OF MAIN EQUIPMENT			
1.1	Design, Engineering, Procurement Manufacture, Assembly, Painting, Inspection & Testing at Supplier's works, Packing & Forwarding, Loading at Seaport and Supply of Main Equipments on FOB Seaport of exit basis (for imported components) & on Ex works basis (for indigenous components) including Packing & forwarding for one no. of “HIGH SPEED SLITTING MACHINE”, as per detailed Technical specifications in Annexure - I.		
1.2	Supply of Commissioning & Start up spares (Itemized prices are to be submitted by the Bidder) on FOB Seaport of exit basis (for imported components) & on Ex works basis including Packing & forwarding (for indigenous components)		
1.3	Supply of Mandatory Spares (Itemized prices are to be submitted by the Bidder) on FOB Seaport of exit basis (for imported components) & on Ex works basis including Packing & forwarding (for indigenous components)		
1.4	Supply of Special Tools & Tackles (Itemized prices are to be submitted by the Bidder) on FOB Seaport of exit basis (for imported components) & on Ex works basis including Packing & forwarding (for indigenous components)		

1.5	Others if any (excluding Spare Parts for Two Years Operation & Maintenance, as detailed in Sl. No. - 3.0 below) to complete the Scope (Pl specify)		
1.6	Pre-shipment Inspection by Third Party Independent Inspection Agency like Lloyds or equivalent organization		
1.7	Charges for inspection by NALCO Representatives (Optional) in Foreign currency. (For inspection by NALCO Representatives, Inspector's to & fro charges, lodging, boarding, conveyance etc will be borne by NALCO)		
	SUB TOTAL (1.0)		
2.0	FREIGHT, INSURANCE, CLEARANCE ETC ON ITEMS UNDER SUB HEADING 1.0		
2.1	For Imported Items/ Components		
2.1.1	Ocean freight charges up to nearest Indian Port (Kolkata / Vizag) in containerized vessel, wherever applicable		
2.1.2	Marine Insurance (optional)		
2.1.3	Port handling & Customs clearing charges in INR (excluding Customs Duty & other statutory Port charges which will be paid directly by Nalco)		
2.1.4	Transportation charges by Road from Indian Port to Smelter Plant		
2.1.5	Total & Maximum Service Tax & E-cess on Transportation charges (Amount payable against Cenvatable invoices)		
2.1.6	Transit Insurance from Port to Smelter Plant (optional)		
	SUB- TOTAL (2.1)		
2.2	For Indigenous Items/ Components		
2.2.1	Total & maximum Excise Duty & E-cess on ED (Amount payable against Cenvatable Invoices)		
2.2.2	Total & maximum Central Sales Tax (Considering CST Declaration form to be furnished by NALCO, wherever applicable/ admissible)		

2.2.3	Total & Maximum Orissa VAT applicable. Orissa VAT shall be payable against VATable documents		
2.2.4	All other taxes & duties currently applicable (Please specify the nature of Tax/ Duty & its rate)		
2.2.5	Inland freight charges up to Smelter Plant		
2.2.6	Service Tax & E-cess on Freight charges		
2.2.7	Transit Insurance up to Smelter Plant (Optional)		
	SUB TOTAL (2.2)		
3.0	SUPPLY OF TWO YEARS O&M SPARES		
3.1	For Imported Items/ Components		
3.1.1	Supply on FOB Seaport of exit basis		
3.1.2	Ocean freight charges up to nearest Indian Port (Kolkata / Vizag) for shipment in Containers on Liner term basis (in Foreign Currency)		
3.1.3	Marine Insurance (optional)		
3.1.4	Port handling & Customs clearing charges in INR (excluding Customs Duty & other statutory Port charges which will be paid directly by Nalco)		
3.1.5	Transportation charges by Road from Indian Port to Smelter Plant		
3.1.6	Total & Maximum Service Tax & E-cess on Transportation charges (Amount payable against Cenvatable invoices)		
3.1.7	Transit Insurance from Port to Smelter Plant (optional)		
	SUB TOTAL (3.1)		
3.2	For Indigenous Items/ Components		
3.2.1	Supply on Ex-works basis including Packing & Forwarding charges		
3.2.2	Total & maximum Excise Duty & E-cess on ED (considering Excisable Items only against original Cenvatable documents)		

3.2.3	Total & maximum Central Sales tax (Considering CST Declaration form to be furnished by NALCO, wherever applicable/ admissible)		
3.2.4	Total & Maximum Orissa VAT applicable. Orissa VAT shall be payable against VATable documents		
3.2.5	All other taxes & duties currently applicable (Please specify the nature of Tax/ Duty & its rate)		
3.2.6	Inland freight charges up to Smelter Plant		
3.2.7	Total & Maximum Service tax & E-cess on freight charges (Amount payable against Cenvatable invoices)		
3.2.8	Transit Insurance up to Smelter Plant (Optional)		
	SUB TOTAL (3.2)		
4.0	UNLOADING, STORAGE, HANDLING & TRANSPORTATION OF EQUIPMENT/ MATERIALS AT SITE		
4.1	For Main Equipment under Sl. No. - 1.0 above		
4.2	For Recommended Spares for 2 Years O&M under Sl. No. - 3.0 above		
4.3	Total & Maximum Service Tax for 4.1		
4.4	Total & Maximum E-cess for 4.1		
4.5	Total & Maximum Service Tax for 4.2		
4.6	Total & Maximum E-cess for 4.2		
	SUB TOTAL (4.0)		
5.0	CONSTRUCTION, ERECTION, TESTING, COMMISSIONING AND PERFORMANCE GUARANTEE TESTS		
5.1	Civil & Structural Works as per NIT		
5.2	Erection - Mechanical		
5.3	Electrical and Instrumentation works		
5.4	Testing, commissioning and performance guarantee tests.		
5.5	All statutory/contingency insurance coverage e.g. third party liability, ESI, workmen compensation etc.		
5.6	Insurance coverage for storage erection & commissioning etc. (OPTIONAL)		

5.7	Orissa VAT on Works Contract (Works Contract Tax) as currently applicable		
5.8	Any other Indian taxes/ duties currently applicable		
5.9	Total & maximum Service Tax.		
5.10	Total & maximum E- cess on Service Tax.		
5.11	Others, if any.		
	SUB TOTAL (5.0)		
6.0	CHARGES FOR SUPERVISION OF ERECTION, TESTING, COMMISSIONING & PERFORMANCE TESTING (OPTIONAL) (PI indicate the following breakup for reference only)		
6.1	No of Supervisors		
6.2	Total No of Man Days		
6.3	Per diem Rate		
6.4	All other expenses relating to visit of supervisory personnel / experts including:		
6.4.1	Air Fare (No of To & Fro Air tickets and Class of Travel to be specified)		
6.4.2	Hotel Accommodation		
6.4.3	Local Transport		
6.4.4	Out of Pocket Expenses etc.		
6.5	Indian Income Tax as currently applicable & deductible at source based on double taxation avoidance agreement , if any on foreign supervision cost to be specified & included considering necessary Tax deduction at Source Certificate will be furnished .		
6.6	Total & Maximum Service Tax & E-cess		
	SUB TOTAL (6.0)		
7.0	CHARGES FOR ON - SITE TRAINING (PI indicate the following breakup for reference only)		
7.1	Per diem Rate		
7.2	Total No. of man days		

7.3	Indian Income Tax as currently applicable & deductible at source based on double taxation avoidance agreement , if any FOR On-site training to be specified & included considering necessary Tax deduction at Source Certificate will be furnished.		
7.4	Total & maximum Service Tax & E-cess.		
	SUB TOTAL (7.0)		
	GRAND TOTAL (SUM OF 1.0 TO 7.0)		

NOTES:

1. The above prices are for one no. of High Speed Slitting Machine for Rolled Product Unit of Smelter Plant.
2. Applicable Service Tax & E-cess on Service Tax will be paid at actuals subject to documentary evidence limited to the maximum amount quoted.
3. Entry Tax on supplies against Contract- A & B shall be paid by NALCO directly to Tax authorities.
4. The sum of quoted prices for relevant divisible package (s) shall be treated as the Contract price(s) for concerned package(s) on lump sum basis. The contract vis-a-vis payment operations shall be done, however, as per approved Billing schedules only.
5. The Contract (s) prices, as such, will remain firm & unchanged until complete execution excepting for statutory variations, if any on the rates of taxes & duties included in the Contract price (as per break ups specified in the Billing schedule) and also excepting for imposition of any fresh statutory levy/ tax.
6. In case of any imported supplies to be quoted in INR by the Indian bidder, the CIF component included for the imported items should also be mentioned separately with following break ups:
 - a) Items considered
 - b) Currency considered
 - c) Exchange parity rate & the base date
 - d) Customs duty including CVD & other surcharges, if any
 - e) Customs Tariff no(s) for respective items with rates considered.

ANNEXURE - X**PROFORMA OF CONTRACT CUM PERFORMANCE GUARANTEE BY
SELLER/CONTRACTOR**

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

B.G. No. -

Date:

WHEREAS National Aluminium Company Limited (A Government of India Enterprise), having its Office at Nalco Bhavan, P/1, Nayapalli, Bhubaneswar - 751 061, Orissa (hereinafter called "the Company/Owner") which expression 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) for on the terms and conditions as set out inter alia, in the company Contract No/P.O. No..... dt..... and various documents forming part thereof herein after referred to as the "said contract" which expression include all amendments, modification and/or variation thereto and where as the Contractor/Seller has agreed for due execution of the entire contract and guarantees its performance including any parts executed through any others agencies/sub-contractors.

AND WHEREAS one of the conditions of the "said contract" is that "contractor/seller 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 defects liability obligations and the performance guarantee obligations of the contractor/seller for execution/supplies made under the "said contract".

2. We Bank having its branch office at do 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 and conditions of the said Contract including defects 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 and 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)/Supplier(s) in any suit or proceeding pending before any office, court or Tribunal relating thereto, our liability under this present 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 respects 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. We Bank 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 discharge this guarantee.
6. We Bank 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 Contractor(s)/ Order(s) or to extend 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 Contractor(s)/Seller(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 effect 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 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 at the request of Contractor(s)/Seller(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

BG is to be furnished from any of Nalco approved banks, listed as per Annexure - XII.

ANNEXURE - XI**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 National Aluminium Company Limited (A Government of India Enterprise), having its Office at Nalco Bhavan, P/1, Nayapalli, Bhubaneswar - 751 061, Orissa (hereinafter referred as "The Owner/ 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. 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. (Rupees only) towards earnest money in lieu of cash.
2. We Bank having its branch office at do hereby undertake to pay the amounts 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 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 or would be caused or suffered by the Company by reason of any breach by the said tenderer(s) of any 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 there under. Our liability to pay is not dependant or conditional on the owner proceeding against the tenderer(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 respects and for all purposes be binding and operative until payment of all money due or liabilities under the said tender are fulfilled.
5. We Bank 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 liability 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 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 - BG is to be furnished from any of Nalco approved banks, listed as per Annexure - XII.

ANNEXURE - XII**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 Patiala.
7. State Bank of Saurashtra.
8. State Bank of Travancore.
9. Allahabad Bank
10. Andhra Bank
11. Bank of India
12. Bank of Maharashtra
13. Canara Bank
14. Central Bank of India
15. Corporation Bank
16. Dena Bank
17. Indian Bank
18. Indian Overseas Bank
19. Oriental Bank of Commerce
20. Punjab National Bank
21. Punjab and Sind Bank
22. Syndicate Bank
23. Union Bank of India
24. UCO Bank
25. Vijaya Bank
26. Bank of Baroda

(Twenty Six Banks)

LIST OF STANDARDISED BANKS**SCHEDULED PRIVATE SECTOR BANKS (INDIAN)**

1. Vysya Bank.
2. UTI Bank Ltd.
3. S.B.I. Commercial & International Bank Ltd.
4. ICICI Banking Corporation Bank Ltd.
5. HDFC Bank Ltd.
6. IDBI Bank Ltd.

(Six Banks)

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 and Shanghai Banking Corporation
10. Standard Chartered Bank
11. The Chase Manhattan Bank Ltd.
12. Dresdner Bank AG.

(Twelve Banks)

BANK MANDATE FORM**ELECTRONIC CLEARING SERVICES/ELECTRONIC FUND TRANSFER/ INTERNET BANKING MANDATE FORM**

To
National Aluminium Company Limited,
 NALCO Bhawan,
 Plot No. P/1, Nayapalli,
 Bhubaneswar-751-013.

Dear Sir,

Sub: Authorisation for release of payment due from NALCO, Corporate Office, Bhubaneswar through Electronic Clearing Services(RBI)/Electronic fund transfer(RBI/SBI)/Internet Banking(SBI) .
 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:

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	?	Current	?	Cash Credit	?		
Account Number(as appearing in the Cheque Book)									

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 ECS/RBI EFT/SBI NET.

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)