

URANIUM CORPORATION OF INDIA LIMITED
(CIN : U 12000 JH 1967 GOI 000806)
P.O. JADUGUDA MINES, JHARKHAND – 832102, INDIA

TENDER DOCUMENT – INDEX SHEET

REF: TENDER NO. PUR / 2 / 19 / 9144 / 613
ITEM: MAGNETIC DRUM SEPARATOR SYSTEM

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TENDER OPENING SCHEDULE

REF: TENDER NO	PUR / 2 / 19 / 9144 / 613
TENDER DATE	24.06.2014
ITEM	MAGNETIC DRUM SEPARATOR SYSTEM
SUBMISSION OF TENDER	ON OR BEFORE 11.08.2014 BY 12.30 P.M
TENDER OPENING ON	11.08.2014
AT	3.00 PM
VENUE	PURCHASE DEPARTMENT, UCIL, JADUGUDA

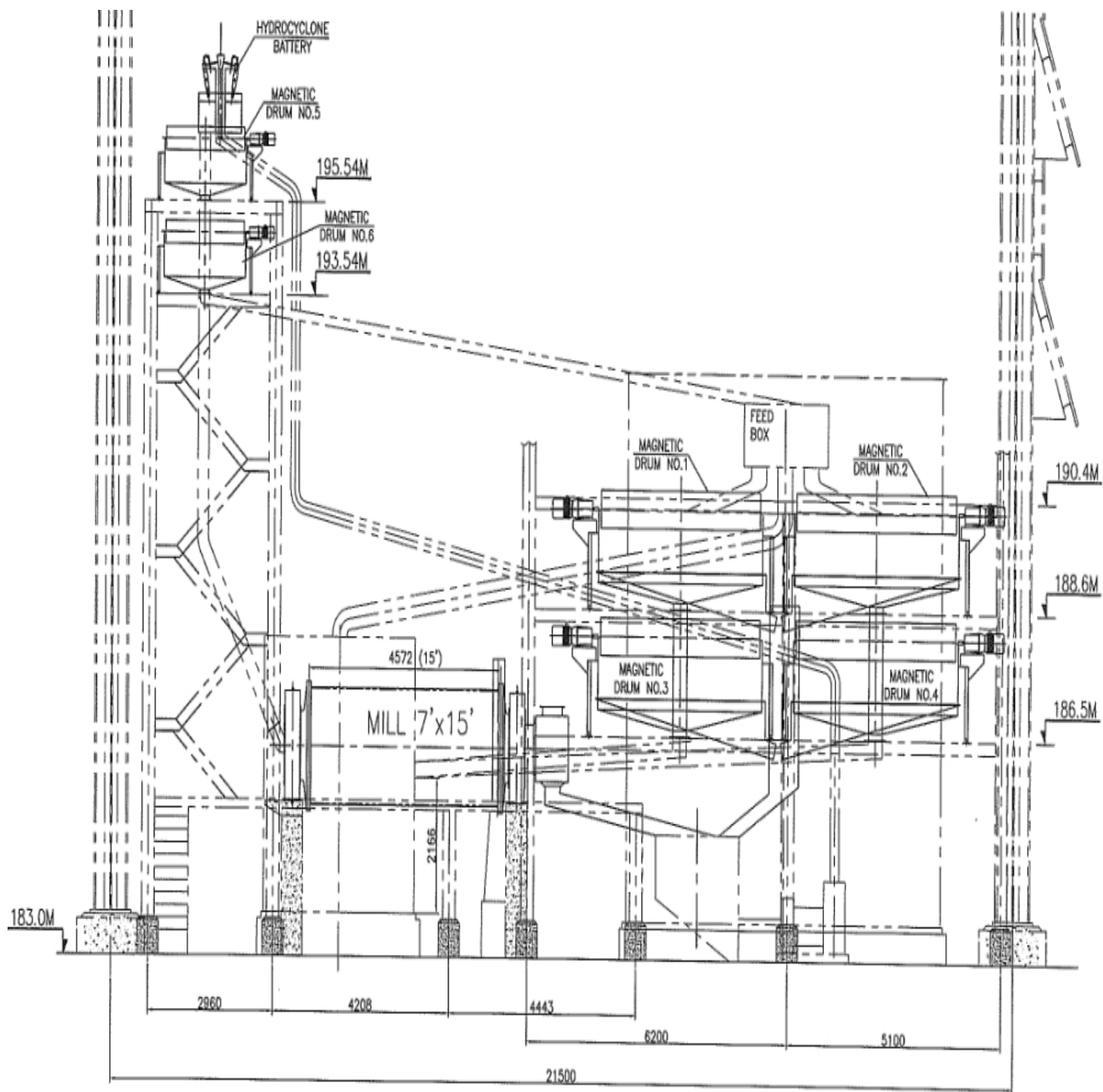
Introduction

Turamdih Mill and Mines is situated near Tata nagar railway station at the location of $86^{\circ} 16' E$ and $22^{\circ} 43' N$. Run of mine Ore from Turamdih Mines, Banduhurang and Mohuldih is crushed, ground and thickened in hydro-metallurgical processing equipments. The thickened Slurry is leached in acidic medium and filtered to recover the valuable from slurry. After recovery of liquor, the rejected solid which is in acidic condition is sent to neutralization tanks where lime slurry is added to neutralize it. The P^H remains in the range of 7-9.5 normally and in abnormal condition it is in the range of (4-6). This neutralized slurry contains 3.05 %- 4.3% Magnetite, Which has to be separated by means of physical characteristics i.e. Magnetism.

Process Description

After neutralization, the slurry flows into feed box through open launder by gravity. Feed box shall have three outlet ports with isolation valve. Out of three ports, 2 Nos. are meant to supply feed to magnetic separator and 3rd one is for bye- passing the Magnetic separator system when magnetite plant remains under shut down condition.

The wet magnetic separator system has 4 No. of magnetic drum of size 1219 mm diameter x 3810 mm wide and 2No.of magnetic drum of size 1219 mm diameter x 609 mm wide. They are numbered as Magnetic drum no.1,2,3,4,5&6 as shown in drawing no. 1&2. These drums are grouped into three circuit ,the first circuit consist of drum no. 1 and drum no. 2 ,the second circuit consist of drum no. 3 and drum no.4 and final the third circuit consist of drum no. 5 and drum no. 6.



Drawing No. 1

The feed containing magnetite in the form of slurry is fed to first drum (Magnetic drum no. 1), through the first port of the feed box. The drum recovers magnetite and then its tailing is fed to drum no. 3 which recovers remaining recoverable magnetite. Similarly slurry will be fed to the drum no. 2 through the second port of the feed box, after magnetite recovery its tailings will be fed to the drum no. 4 which will also recover the remaining recoverable magnetite. Tailings from drum no. 3 and 4 will be sent to suction box where from it will be disposed.

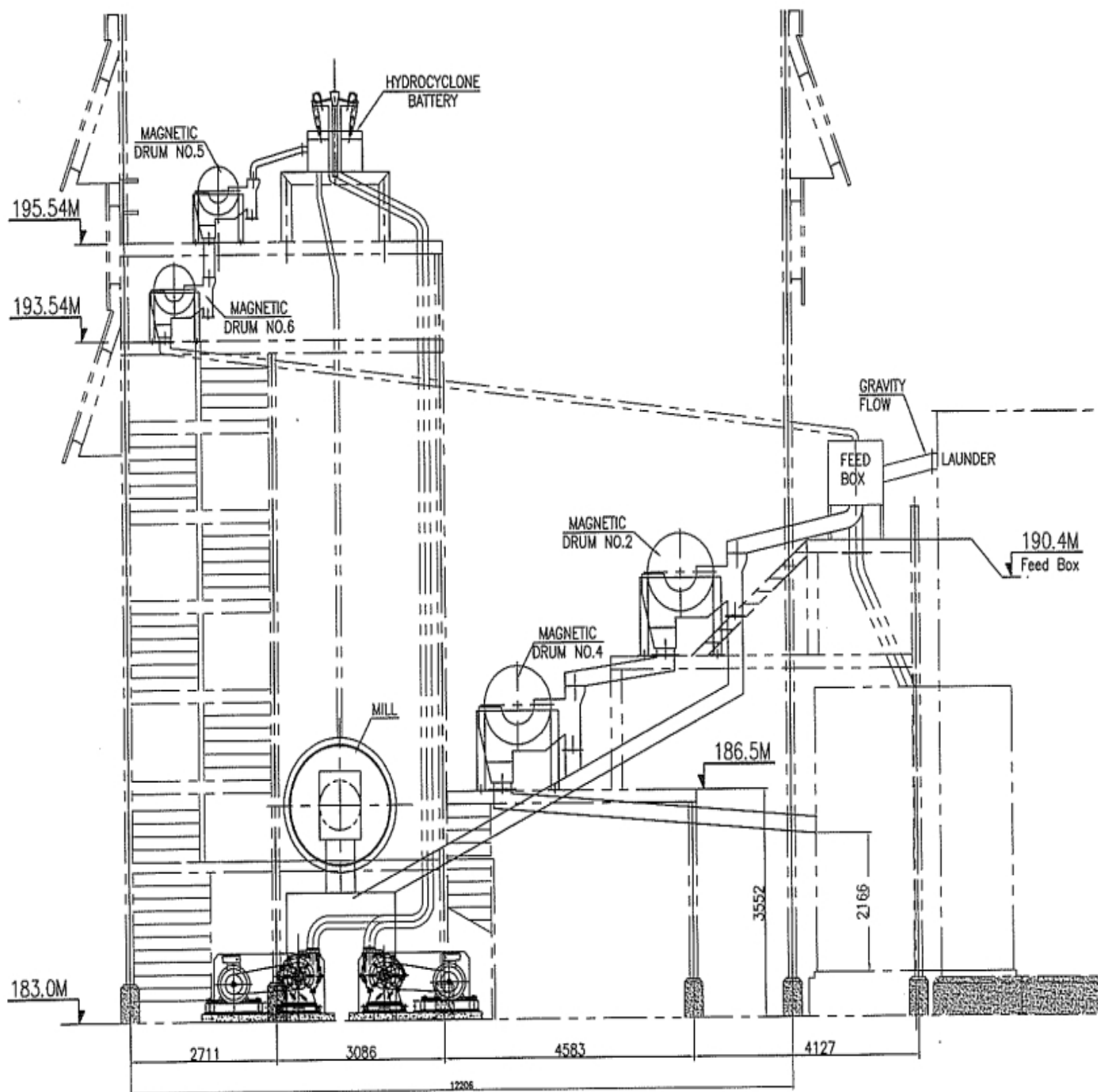
Recovered magnetite from drum no.1, 2,3and4 will be channelized to a mill discharge sump (suction box) of hydrocyclone feed tank. The slurry is pumped to hydrocyclone for separation of coarser and finer particle

Fine magnetite concentrate which is the product of milling system is collected to launder from hydrocyclone overflow. This is fed to the drum no.5 and its tails is passed through drum no.6. Recovered magnetite from drum no. 5 &6 will be sent to launder and then to paddock for removal of water and then dispatched.

The coarser underflow will be fed to ball mill for liberation of magnetite from gangue matrix by grinding process. Ground slurry gets discharged into mill discharge sump from where it will be pumped to hydro-cyclone for classification. This process is in close loop with hydro-cyclone and repeats till final product of required size is obtained.

The plant can be operated either with single circuit or both circuits depending on the feed volume to magnetite plant.

Drum No. 1, 2, 3& 4 are used for recovery and drum no. 5&6 are kept for grade up-gradation.



Drawing No.2

Scope of Work:

Annexure-1A

A) Design & Engineering :

WET DRUM MAGNETIC SEPARATOR SYSTEM

Design and drawing of the complete wet drum magnetic separator system consisting of

1. Four (4) No. Wet Magnetic drum separator of Size 1219 mm diameter x 3810 mm wide. There will be two circuit each comprising of Two magnetic drum in series. MOC will be SS316 L (Vulcanized Rubber Lining) with drive system. Both the circuit should collectively have the capacity to handle 660m³/hr of slurry.
2. Two (2) No. Wet Magnetic drum separator of Size 1219 mm diameter x 609mm wide. MOC SS316 L (Vulcanized Rubber Lining) with drive system to handle 53m³ /hr slurry.
3. The bidder shall confirm that the above system will be adequate to handle the capacity mentioned in technical specification.

Bidder has to provide following drawing and documents

- I. Design and drawing of civil, structural load data of all equipment's including foundations shall be supplied by the bidder.
- II. Design and drawing of M.C.C. as per list of feeders given by the bidder and other required.
- III. Layout fitting to the existing set up will be in the bidder's scope.

B) Supply of Equipment's

The scope of work under this head is to supply, all process/mechanical and electrical equipment's for both type of Magnetic separators and M.C.C. with all required accessories is under bidder's scope of supply. All electrical equipment's should be properly earthed through G.I strips of proper size. Supply of cables and cable trays and other accessories including local push button.

C) Supervision on Erection, and commissioning of Wet Drum Magnetic Separator System:

- 1) The scope of work under this head includes Supervision on erection and commissioning of all process/mechanical, electrical equipments and electrical accessories supplied by the bidder under this package (Wet Drum Magnetic Separator System).
- 2) Trial run/ No load test / commissioning.

D) Performance testing of WET DRUM MAGNETIC SEPARATOR SYSTEM:

The scope of work under this head includes the demonstration of performance guarantee data as specified in the performance guarantee clause.

E) Exclusion:

- All civil and structural works at site for installation of equipment
- Plant illumination and lighting
- Plant drainage system.
- Dismantling of equipment, structure etc.

Bill of material

SL. No.	EQUIPMENT DESCRIPTION	QUANTITY
1	Wet magnetic separation drum of Size 1219 mm diameter x 3810 mm wide with motor, gearbox etc.	4 No.
2	Wet magnetic separation drum of Size of Size 1219 mm diameter x 609 mm wide with motor, gearbox etc.	2 No.
3	M.C.C. , local push button station, Cable, cable tray ,socket, gland and other accessories required(Annexure-1)	1 set
4	Any other equipment required to complete the full system	

Bill of material for electrical items

A) MCC as per specification given in electrical part of tender with LCS for each feeder.

B) Materials to be supplied by bidder for electrical cable terminations.

1. Power cable for each motor shall be considered 150 meters of cable lengths.
2. Control cable (PVC insulated 2. 5 sq.mm stranded multi-core copper conductor cable) for each motor shall be considered 150 meter of cable length.
3. Double compression gland (make: Comet/Dowells) : As per requirement (based on Nos. of terminations)
4. Cable socket (make: Comet/ Dowels) : As per requirement (based on Nos. of terminations) .
5. a) GI strip (Hot dip) Size-50x 6 mm : 250 meter
b) GI strip (Hot dip) size- 25 x 4mm : 300 meter
6. Cable tray fabricated with 50x 50 angle duly painted with two coatings of paints : 250 meter.

Note:

- Bidders may visit the site at their own cost to access the cable length before quoting.

MCC shall have minimum 2 no's spare feeders.

Battery limit

INPUT:

- Neutralized slurry to the feed box.
- Excluding grinding system from Ball mill discharge sump to hydrocyclone overflow.
- Process water to Magnetite Drum no.1,2,3,4,5&6 and other required area from clarifier overflow tank at one point up to 5m distance from Drum no.1
- The purchaser shall provide power supply to the incomer of M.C.C. panel supplied by the bidder.

OUTPUT:

- Discharge of Magnetic drum No 5. &6.

TECHNICAL SPECIFICATION

PACKAGE NO. WMSS-01

FOR

WET DRUM MAGNETIC SEPARATOR SYSTEM

PACKAGE NO. WMSS-01

TECHNICAL SPECIFICATION : PROCESS/MECHANICAL

PACKAGE NO. WMSS-01

FOR

WET DRUM MAGNETIC SEPARATOR SYSTEM

Technical specification

Technical specification of Magnetic Drum No. 1-3, & 2-4.

1. Feed Slurry Characteristics

a) Material to handle	:	Silicious Slurry containing Magnetite
b) Capacity	:	245TPH (Dry)
c) Pulp density	:	30-50% solid (W/W)
d) % of Magnetite in feed	:	(3.05-4.3)%
e) Sp. Gravity of Solid	:	2.8
f) Particle Size	:	80% - 200 Mesh. Out of that (50% -325mesh) 1-2% +48mesh And rest -48 mesh
g) Total volume of slurry	:	660m ³ /hr
h) Volume to handle per Circuit	:	330m ³ /hr

2. Magnetic Drum No. 1,2,3&4 Specification

a) Equipment	:	Drum magnetic Separator
b) Drum Size	:	1219mm Diameter x 3810mm Width
c) Magnetic Circuit	:	1150 Gauss IP(min)
d) Quantity	:	4 No.

Technical Description (magnetic drum)

Drum

- a) 1219mmDiameter x 3810mmdrum Width x 3886 mm tank width.
- b) 5 mm thick are greater SS 316Ldrum shell. It can be replaced easily
- c) The rubber used shall be 6 mm - 45° ± 5 Shore A Durometer Vulcanised rubber lining (wrap).
- d) Drumheads shall be of SS 316 L stainless steel (fabricated) with drip rings.

- e) Drumhead shall be attached to the drum shell with socket head cap screws. An O-ring shall seal the drumhead to the inner ring on the drum shell.
- f) Heavy duty roller bearings shall be used. The bearings are seated in a stainless steel hub in the drumhead. The bearings ride on a stainless steel sleeve on the shaft. The bearing arrangement shall have dual inner seals and outer seals. Bearing housing shall be split type for easy removal of drum.
- g) Both ends of the magnet shaft will be drilled and tapped for grease fittings to supply lubrication to the bearings. The bearings can be lubricated during operation.

Magnetic Element

- a) Ceramic ferrite magnets sealed in SS canisters. Each Canister has a steel back bar for support and magnetic field projection.
- b) Interpole style magnetic element. The magnetic element will incorporate 5 main poles and 4 interpoles. The magnet arc shall be 110°-113°. The magnetic element shall generate the following magnetic field configuration on the drum shell.

Gauss Readings - 1150 Gauss Interpole Magnetic Element

<u>Peak Magnetic</u>	<u>Field Strength</u>
Distance	Gauss(min)
Surface	2350 (Surface of parent shell)
25mm	1750
50.8mm	1150

- c) The magnet arc shall be extendable.
- d) The magnet assembly should be suspended from a shaft of minimum 120 mm diameter or higher diameter shaft machined from hot rolled steel.
- e) Magnetic element position can be field adjusted with lever arm.

Tank

- a) SS 316 L constructions with 12-16 mm thick rubber liner on bottom and 3-6mm thick on the side. Wash out ports both sides of tank. Minimum operating gap shall be 50mm.. Feed shall be delivered from the feed box by feed pipes. “Oversize” feed box shall be supplied to eliminate splashing.

Drum Wash

- a) Weir Bars or Spray pipes shall be provided for drum cleaning.

Drive

- a) Motor shall be provided, 415 V, 50 Hz, 3 phase, class F insulation.
- b) The power transmission shall be through Chain and sprocket drive. The drive shall be equipped with a chain guard. Gear box shall be foot mounted. Shaft mounted gear box is not acceptable.
- c) Optimum Drum speed shall be specified

Frame

- a) Heavy duty support frame shall be provided. The frame is fabricated from SS316L channel.
- b) Frame shall be applied with primer and painted (2 coat of Epoxy).

1. Specifications Sheet for Magnetic Drum No. 1,2,3&4.

Sl. No.	Type	Units	Single Drum
1	Make		
2	Model No		
3	Tank Size	mm	3886
4	Tank Style		
5	Drum Diameter	mm	1219
6	Drum Width	mm	3810
7	Drum Speed	RPM	
8	Shell Thickness	MM	5mm(Mimimum)
9	Wrap Rubber lined- Thickness	mm	6 mm - 45° ± 5 Shore A Durometer
10	Motor Speed	RPM	1440
11	Power	KW	
12	Magnet Description		Ceramic 8A
13	Magnet Location Method		Interpole
14	Flux Density		1150 Gauss @ 50.8mm
15	Spray Water Required	m3/hr	
Materials Of Construction			
16	Magnet		Strontium Ferrite
17	Feed box		SS 316 L+ Vulcanized rubber liner
18	Drum Shell		SS 316 L + Vulcanized rubber liner
19	Main Tank		SS 316 L + Vulcanized rubber liner
20	Discharge Chutes		SS 316 L

Technical specification of Magnetic Drum No.5&6

1. Feed Slurry Characteristics

- a) Material to handle : Magnetite concentrate with impurities
- b) Capacity : 12.5 TPH (Dry)
- c) Pulp density : 20-30%
- d) % of Magnetite in feed : more than 60% solid (W/W)
- e) Sp. Gravity of Magnetite : 5.15
- f) Sp. Gravity of Slime : 2.8
- g) Particle Size : 90% -300 mesh (BSS).
- h) Volume of Slurry to handle: 52m³/hr

2. Cleaner Drum specification

- a) Drum Size : 1219mm ø x 609mm Wide
- b) Magnetic Circuit : 850/1000 Gauss High Gradient
- c) No of drum : 2 No.

Technical Description Magnetic Drum No.5&6

Drum

- a) 1219 mm x Drum Width 609 x Tank width 686mm.
- b) 5 mm thick are greater SS316L drum shell. It can be replaceable readily
- c) The rubber used shall be 6 mm - 45° ± 5 Shore A Durometer Vulcanized rubber lining wrap
- d) Heavy duty roller bearings shall be used. The bearings are seated in a stainless steel hub in the drumhead. The bearings ride on a stainless steel sleeve on the shaft. The bearing arrangement shall have dual inner seals and outer seals. Bearing housing shall be split type for easy removal of drum.
- e) Both ends of the magnet shaft will be drilled and tapped for grease fittings to supply lubrication to the bearings. The bearings can be lubricated during operation.

Magnetic Element

- a) Ceramic ferrite magnets sealed in SS canisters. Each Canister has a steel back bar for support and magnetic field projection.
- b) Interpole style magnetic element. The magnetic element will incorporate 5 main poles and 4 interpoles. The magnet arc shall be 110° - 113° . The magnetic element will generate the following magnetic field configuration on the drum shell:

Gauss Readings – 850/1000 Gauss High Gradient Circuit

<u><i>Peak Magnetic</i></u>	<u><i>Field Strength</i></u>
<i>Distance</i>	<i>Gauss(min)</i>
Surface	2350 (Surface of parent shell)
25mm	1280
50.8mm	850

- c) The magnet arc shall be extendable.
- d) The magnet assembly should be suspended from a shaft of minimum 120 mm diameter or higher diameter shaft machined from hot rolled steel.
- e) Magnetic element position shall be field adjusted with lever arm.

Tank

- a) SS 316 L construction with 12-16 mm rubber liner on bottom and 3-6 mm thick side. Wash out ports both sides of tank. Feed shall be delivered from the feed box by feed pipes.
- b) “Oversize” feed box shall be supplied to eliminate splashing.
- c) Tank shall have Tailings discharge on either side.
- d) Tank shall have 100 mm or more diameter Cleanout Port.

Drum Wash

1. Weir Bars or Spray pipes shall be provided for drum cleaning.
2. Re-pulp of 200 mm or more diameter Water Header (MS) shall be provided

Drive

1. Motor shall be provided, 415 V, 50 Hz, 3 phase, class F insulation.
2. The power transmission shall be through Chain and sprocket drive. The drive shall be equipped with a chain guard. Gear box shall be foot mounted. Shaft mounted gear box is not acceptable.
3. Optimum Drum speed shall be specified

Frame

1. Heavy duty support frame shall be provided. The frame is fabricated from SS316L channel.
2. Frame shall be applied with primer and painted (2 coat of Epoxy).

2. Specification Sheet for Magnetic Drum No.5&6.

Sl. No.	Type	Units	Single Drum
1	Make		
2	Model No		
3	Tank Size	mm	686
4	Tank Style		
5	Drum Diameter	mm	1219
6	Drum Width	mm	609
7	Drum Speed	RPM	
8	Shell Thickness	MM	5mm(Mimimum)
9	Wrap Rubber lined - Thickness	mm	6 mm - 45° ± 5 Shore A Durometer
10	Motor Speed	RPM	1440
11	Power	Kw	
12	Magnet Description		Ceramic 8A
13	Magnet Location Method		Interpole
14	Flux Density		850 Gauss At 50.8mm
16	Spray Water Required	m3/hr	
Materials Of Construction			
15	Magnet		Strontium Ferrite
16	Feed box		SS 316 L + Vulcanized rubber liner
17	Drum Shell		SS 316 L + Vulcanized rubber liner
18	Main Tank		SS 316 L + Vulcanized rubber liner
19	Discharge Chutes		SS 316 L

DRAWINGS, DATA AND MANUALS REQUIRED

Following drawings and documents shall be submitted along with the offer:

Drawings

- a) Layout and General Arrangement drawings for Wet Drum Magnetic Separator System of the subject package incorporating the following information:
 - Overall size and locating dimensions of equipment.
 - All platforms, access stairs/ladders, coverings, load beams, civil design drawings etc. with load data.
 - Clearance and head room required for operation/maintenance of each equipment.
 - Other important dimensions of the individual equipment.
 - Flow sheets incorporating slurry and water balances for 'average' and 'design' conditions.
 - Electrical distribution diagram.
- b) Process and instrumentation diagrams covering the entire package.
- c) Material and water balance diagrams of each system covering the entire package

Data and Manuals

- a) Total weight of individual equipment if not specifically asked for in the equipment data sheet.
- b) Performance/characteristic curves for various equipment as applicable.
- c) Descriptive and illustrative literatures on the equipment offered furnishing all relevant technical features/details of the equipment.
- d) The testing programme /procedure proposed by the Tenderer for each of the applicable equipment including both shop and site tests to satisfy the requisite performance of the equipment.

Following drawings and documents necessarily of 'Final' status shall be submitted by the successful Tenderer after award of contract and during execution of the Contract as per agreed Schedule for Purchaser's Information/Records/Approval as and where felt necessary by the Consulting Engineer. After receipt of order tenderer to furnish a detailed list of drawing/documents to be submitted by them, this shall be finalized by purchaser.

PART - 'A': General Requirement

Drawings:

- Single line process, materials balance and instrumentation diagram for each system/plant covering the entire package.
- Power and other utility distribution scheme.
- Control and protection scheme.
- Layout and Detail Arrangement drawing of each system/plant.
- Schematic drawings for drive and other auxiliary mechanisms.
- Any other drawings not specifically mentioned in this section but considered necessary by Purchaser/Consultants for proper execution of the work.
- Complete set of final 'AS BUILT' drawings after commissioning of the plant.

Data, Calculations and Curves etc.:

- Power calculation for all the individual equipment considering every operational possibility applicable to that particular equipment.
- Size selection, capacity, design calculation and complete load data for every individual equipment.
- Design calculation for all power transmission system and equipment/components e.g., gear/gear box ratings indicating service factor considered, design stress considered, transmission efficiency, reduction ratio etc.
- Details of Pollution Control measures for solid, liquid, gas effluents and noise.
- Requirement of all utilities to be provided by the Purchaser stating all relevant parameters like quantity, pressure, temperatures etc.
- Performance/characteristic curves for various equipment as applicable.
- Any other data, calculation or curves not specifically mentioned but considered necessary by Purchaser/Consultants for proper execution of the work.
- Schedule of total effluents.
- Noise data

Manuals/Leaflets and Write-ups

- Material test certificates
- Detail Instruction Manuals for operation, maintenance, overhaul etc. for each equipment.
- Shop test certificates as applicable
- Manuals/Leaflets, brochures etc. describing all relevant constructional and other technical features for every individual equipment.
- Detail part list showing nomenclature, part number and/or other information necessary for correct identification and ordering of spares.
- Detail list of all special tools and tackle furnished under the Contract with drawings and procedure of usage of the same.

- Erection Manuals for every applicable equipment.

Other Information

- Detail man-power requirement for plant operation
- Detail programme for training of personnel for operation and maintenance of the plant.
- Write-up on safety requirements for plant and personnel.
- Schedule of Preventive Maintenance/Lubrication.
- Equivalent Indian grades of lubricants wherever applicable.
- Bill of materials and materials of construction.
- Maintenance clearance diagrams for all equipment.

PART - B: Specific Requirements

- In addition to the requirements stipulated in PART-A above and the bidder give the data relevant to the Equipment Data Sheets supplied.

MAKE OF ITEMS

REDUCERS / GEAR BOXES

- Siemens limited
- Greaves Limited / Premium Transmission
- Bonfiglioli

BEARINGS

- FAG Precision Bearings Limited, SKF, TIMKEN

HDPE LINER

- Salimar
- Tega
- Garivare

TECHNICAL SPECIFICATION : ELECTRICAL

PACKAGE NO. WMSS-01

FOR

WET DRUM MAGNETIC SEPARATOR SYSTEM

ELECTRIC MOTOR

1.00.00 GENERAL.

1.01.00 Motors shall be furnished in accordance with both this general specification and the driven equipment specification.

1.02.00 In case of any discrepancy, the driven equipment specification shall govern.

2.00.00 STANDARDS

2.01.00 All motors shall conform to the latest applicable IS and IEC Standards/Publications except when otherwise stated herein or in the driven equipment specification.

3.00.00 SERVICE CONDITIONS:

3.01.00 The motors will be installed in hot, humid and tropical atmosphere, highly polluted and corrosive.

3.02.00 Unless otherwise noted, electrical equipment/system design shall be based on the service conditions.

3.03.00 For motor installed outdoor and exposed to direct sun rays, the effect of solar heat shall be considered in the determination of the design ambient temperature.

4.00.00 TYPE AND RATING

4.01.00 A.C. Motors

4.01.01 Motors shall be general purpose, constant speed, squirrel cage, three phase, induction type.

4.01.02 All motors shall be rated for continuous duty. They shall also be suitable for long period of inactivity.

5.01.00 Painting

Motor including fan shall be painted with corrosion proof paints.

6.00.00 TESTS

6.01.0 Upon completion, each motor shall be subject to standard routine tests as per IS. In addition, any special test called for in the driven equipment specification shall be performed.

6.02.0 All motors shall be of RPM 1440.

Motor make: Crompton Greaves/ Siemens/ kirloskar/ ABB/ Bharat Bijlee/ Marathon

Specification of MCC Panel for Magnetite Plant

The Motor Control Centre (MCC) shall be independently free standing, dust-proof, vermin-proof and drip-proof, in construction, suitable for 440 volts, 3-phase, 4 wire, 50 Hz. system, short circuit current level shall be 25 KA. The MCC shall be constructed with CRCA sheet steel of minimum thickness 2 mm to 3 mm. Major standards which shall be followed are IS: 13947 and IEC: 947.

The MCC shall be of cubical construction.

1. Incomer :

Incomer shall be housed in a separate cubicle and shall comprise of 1 No, 3 phase, 50 HZ, 500 Volt, heavy duty type Switch Fuse Unit (SFU) of suitable rating with door drive interlock. Incomer Switch Fuse Unit shall be equipped with following, in separate individual cubicle apart from its own cubicle. All meters shall be flush mounting type and shall be fitted on hinged door. This is to facilitate to replace or repair any meter or relay with out discharging the Switch Fuse Unit.

- a) 01 No Volt meter range 0- 600 volts through selector switch & control fuses to read voltage between the three phases,
- b) 01 No. Ammeter with selector switch to show current in each phase through CT of suitable CT ratio.
- c) LED cluster type indicating lamps for indicating On, Off.
- d) 03 Nos. of LED cluster type indicating lamps for indicating R, Y & B Phases.

2. Starter

All the DOL starters shall be housed in separate cubicles and each shall primarily comprises of following:

- a) 1 No. - SFU switch (with door drive interlock) of 3 phase, 50 Hz, 500 Volt, of suitable current ratings as indicated below, equipped with fuse-links. Fuse-links of SFU shall be of bolted type. The SFU shall be mounted in **upper side corner** of the starter. It is desirable that there shall be a separator between SFU and starter to avoid any contact with live bus bar to avoid accident. The SFU shall also be equipped with 1NO + 1NC Aux. contacts.
- b) 1 No. - Double break, air break contactor of rating as indicated below with 3 NO + 1NC Aux. contacts.
- c) 1 No. - Over load relay (independent mounting type) of suitable rating such that the full load current of motor shall be at about 70 % of the maximum setting of the over load relay. The relay range shall be stipulated in the offer.
- d) 1 No. - Emergency stop push button.
- e) 2 Nos. - Aux. Contactors (coil voltage 230 volts AC). One with 2NO + 2 NC contacts and another with 4NO contacts. All Auxiliary contacts shall be wired up to terminal block as per requirement.
- f) 1 No. - Test push button (to be mounted inside the starter) – 1 No.
- g) 1 No. - Mushroom type push to lock and turn to release Emergency Stop Push button (to be mounted on door).
- h) 1 No. - Current Transducers (Dual channel) of output 4 - 20 mA for remote metering (Make: Automatic Electric/MECO) suitable 1 Amp CT secondary current.

- i) 3 Nos. LED cluster type indicating lamps for ON, OFF and TRIP
- j) Any other component required for proper operation of DOL starter.

DOL starter's main component shall be as below (as applicable):

Rating	SFU Switch	Contactor	Over load (Approx range)	Power cable (Stranded flexible)	Control cable (stranded flexible PVC copper cable)	Amp. Meter
30KW	200Amps	140 Amps	40-57 Amps	35 Sq.mm. PVC copper cable	2.5 Sq.mm.	Required
22KW	160Amps	85 Amps	25-40 Amps	25 Sq.mm. PVC copper cable	2.5 Sq.mm.	Not required
18.5KW	160Amps	85 Amps	25-40 Amps	25 Sq.mm. PVC copper cable	2.5 Sq.mm.	Not required
15KW	100Amps	63 Amps	16-25 Amps	16 Sq.mm. PVC copper cable	2.5 Sq.mm.	Not required
11KW	100Amps	63 Amps	16-25 Amps	16 Sq.mm. PVC copper cable	2.5 Sq.mm.	Not required
7.5KW	63 Amps	63 amps	12.5-20 amps	10 sq.mm PVC copper cable	2.5 Sq.mm.	Not required
5.5 KW	32Amps	32 Amps	8 – 12.5 amps	6 Sq.mm. PVC copper cable	2.5 Sq.mm.	Not required
3.7 KW	32Amps	32 Amps	5-8 amps	4 Sq.mm. PVC copper cable	2.5 Sq.mm.	Not required
2.2 KW	32 Amps	32 amps	3.2 -5 Amps	2.5 Sq.mm. PVC copper cable	2.5 Sq.mm	Not required
1.1 KW	32 Amps	32 amps	1.6-2.5 Amps	2.5 Sq.mm. PVC copper cable	2.5 Sq.mm	Not required

3. Outgoing Switch: All SFU switches shall be fitted with fuse-links (bolted type) and housed in individual cubicles with door drive interlock. Power connections (from main bus to switch and switch to out going terminals) to the 63 amps SFU switch can be made from P.V.C. insulated stranded copper.

Bus bar & Power connections:-

The main bus bar shall be of Electrolytic copper and shall be rated about 20% more than the Incomer current rating after considering derating factor and shall be mounted on Epoxy cast bus bar insulations of suitable voltage rating and housed in a separate chamber. There shall be 4 Nos. of main bus bar, 3 for phase & 1 for neutral, Neutral bus bar shall be suitably rated and shall be used for out going switches and main incomer. The proposed bus-bar size with calculations shall be furnished in the quotation.

General:

The control circuit and power circuit of DOL starter shall be as per enclosed drawing of control circuit and power circuit. Connection provision shall be made such that DOL starter can also be operated through PLC and from remote push button station.

1. Each DOL starter shall have a test push button inside the starter for testing the healthiness of the control circuit when the main SFU is in OFF position. This has been also reflected in our attached control circuit drawing of DOL starter .
2. Local Push Button Stations (LPBS) shall be supplied with the MCC Panel for each DOL starter. The LPBS shall be double door type with canopy at the top.
3. The LPBS shall have 1 No. Start push button and 1 No. Emergency Stop push button (Mushroom head type) and shall be made as per enclosed Drawing No. - MILL/TMD/ELECT - 35
4. The control voltage shall be 220 volts only and to obtain 220 volts source, a Control Transformer of suitable rating shall be provided inside the panel (440 / 220 volts).
5. All control wiring shall be made from single core 2.5 sq .mm, PVC insulated flexible stranded copper conductor cable duly provided with ferrules.
6. The incomer cubicle shall be sufficiently spacious for easy cable termination for 2 Nos. of 3 ½ core 185 sq.mm aluminium conductor PVC insulated double round wire armoured cables and minimum clearance between gland plate and termination point shall not be less than 350 mm.
7. For DOL starters and SFUs a minimum clearance of 250 mm shall be maintained from the gland plate to the termination point.
8. The base frame of the MCC panel shall be with channel of size 75 X 40 X 6 mm. size since it shall be erected above cable trench.
9. The MCC panel shall have one detachable terminal box with gland plate on right side from front of bus bar end as indicated in the attached drawing. This terminal box shall be used as through going bus for future use.
10. CRCA sheet steel of MCC shall be treated by the seven tank process and powder painted with grey colour.
11. The panel shall have gasket hinged doors.
12. All the cubicles for Incomer, starters and SFU shall be sufficiently spacious for easy maintenance and attending breakdown. However the size of cubicles shall not be less than the sizes indicated below (As applicable).
 - i) 30 KW DOL starter – 550mm X 650mm X 250mm. (Width X Height X Depth).
 - ii) 22 KW DOL starter – 550mm X 600mm X 250mm. (Width X Height X Depth).
 - iii) 18.5 KW DOL starter – 550mm X 600mm X 250mm. (Width X Height X Depth).

- iv) 15 KW DOL starter – 550mm X 550mm X 250mm. (Width X Height X Depth).
- v) 11 KW DOL starter – 550mm X 550mm X 250mm. (Width X Height X Depth).
- vi) 7.5 KW DOL starter – 550mm X 550mm X 250mm. (Width X Height X Depth).
- vii) 5.5 KW DOL starter – 550mm X 350mm X 250mm. (Width X Height X Depth).
- viii) 3.7 KW DOL starter – 550mm X 350mm X 250mm. (Width X Height X Depth).
- ix) 2.2 KW DOL starter – 550mm X 350mm X 250mm. (Width X Height X Depth).
- x) 1.1 KW DOL starter – 550mm X 350mm X 250mm. (Width X Height X Depth).
- xi) Cable alley width – Minimum 250 mm.for single column of feeders and 500 mm for common cable alley for double column of feeders.

- 13. The panel shall be placed in back to the wall position and hence no maintenance work shall be possible from the back. But the back side cover of each section of the panel shall be removable with hinged door. The design of the panel shall be such that this condition is met. This must be confirmed in the offer.
- 14. All power cable termination points shall be brought on suitable heavy- duty epoxy moulded terminal blocks of suitable rating.
- 15. All the outgoing terminals shall be provided with bimetal connectors (copper-aluminium) for termination of aluminium cable lugs.
- 16. The MCC panel shall contain minimum 2 Nos of DOL starter (1 No. highest rated and 1 No. medium rated DOL starter which shall be already in the supplied panel).
- 17. MCC panel shall contain minimum 1 No. 63 Amps 3 pole Fuse switch unit with neutral out going feeder .

Shipping section:-

The panel shall be supplied in 2 sections if required . The MCC shall be constructed such that the dismantling and re-assembling is done with bolting arrangement only, no welding / cutting should be required. The individual shipping sections shall be equipped with its own lifting eye bolts capable of handling the weight of the subassembly.

The following shall be furnished with the offer.

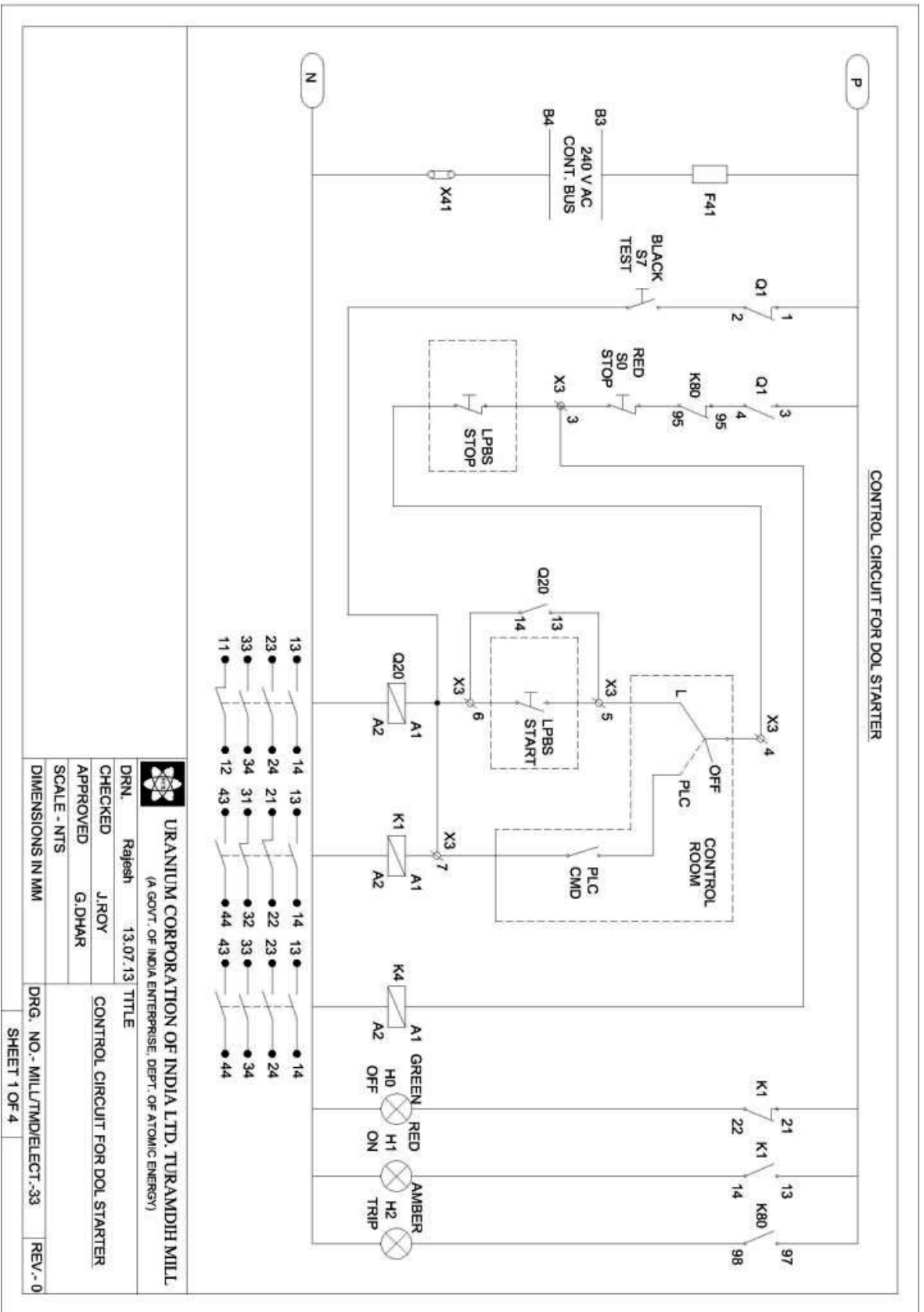
- 1. Dimensioned G.A. drawing of the offered MCC. Indicating the sub-sections.
- 2. Internal component lay out of the MCC clearly showing the clearances.
- 3. Bill of materials with make, type, rating and quantity.
- 4. Single line drawing of the MCC.
- 5. Drawing of the control circuit of the starters.
- 6. Deviations from the tender specifications if any.

LIST OF ACCEPTABLE MAKES OF COMPONENTS

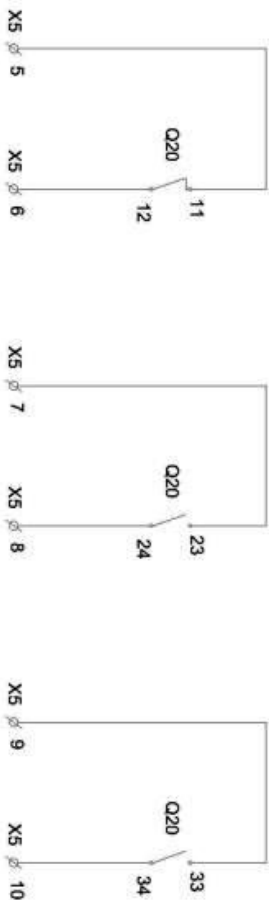
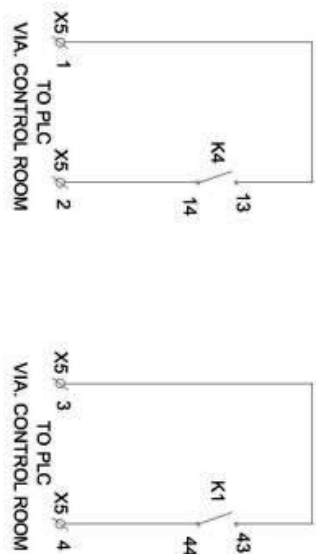
- 1. CONTACTORS – ABB / L & T / SIEMENS
- 2. OVER-LOAD RELAYS – ABB / SIEMENS / L&T (ONLY INDEPENDENT MOUNTING TYPE)
- 3. PUSH BUTTONS - L&T / SIEMENS
- 4. INDICATION LAMPS (CLUSTER LED TYPE) – L & T / SIEMENS / VAISHNO OR EQUIVALENT.
- 5. METERS - AUTOMATIC ELECTRIC / IMP
- 6. FUSE SWITCH UNITS – SIEMENS / L&T
- 7. CONTROL FUSES & HOLDERS (NS TYPE) – GE / SIEMENS / EE

8. CONTROL TERMINALS: ELMEX MAKE OF TYPE CST10 OR EQUIVALENT OF CONNECTWELL.
9. INCOMMER SFU –SIEMENS / L & T

Enclosures: Control & Power Circuit drawing of DOL Starter (4 pages), Local Push Button Station (LPBS) drawing No. - MILL/TMD/ELECT - 35.



WIRING OF POTENTIAL FREE CONTACTS

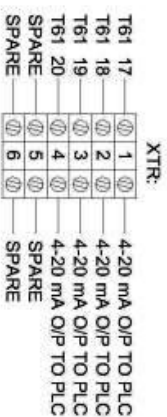
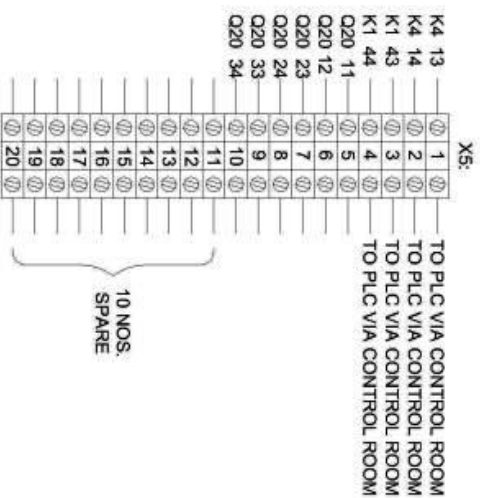
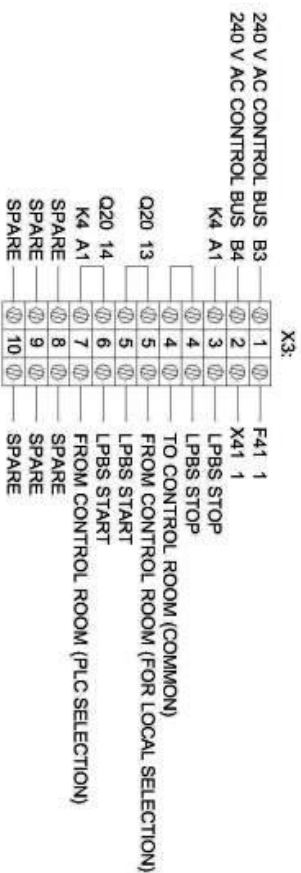
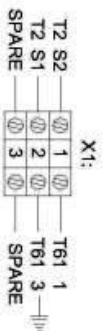


URANIUM CORPORATION OF INDIA LTD. TURAMDIH MILL.
(A GOVT. OF INDIA ENTERPRISE, DEPT. OF ATOMIC ENERGY)


DRN.	Rajesh	13.07.13	TITLE
CHECKED	J.ROY		WIRING OF POTENTIAL FREE CONTACTS
APPROVED	G.DHAR		
SCALE - NTS			
DIMENSIONS IN MM			
DRG. NO. - MILL/TMD/ELECT.-33			REV. - 0

SHEET 2 OF 4

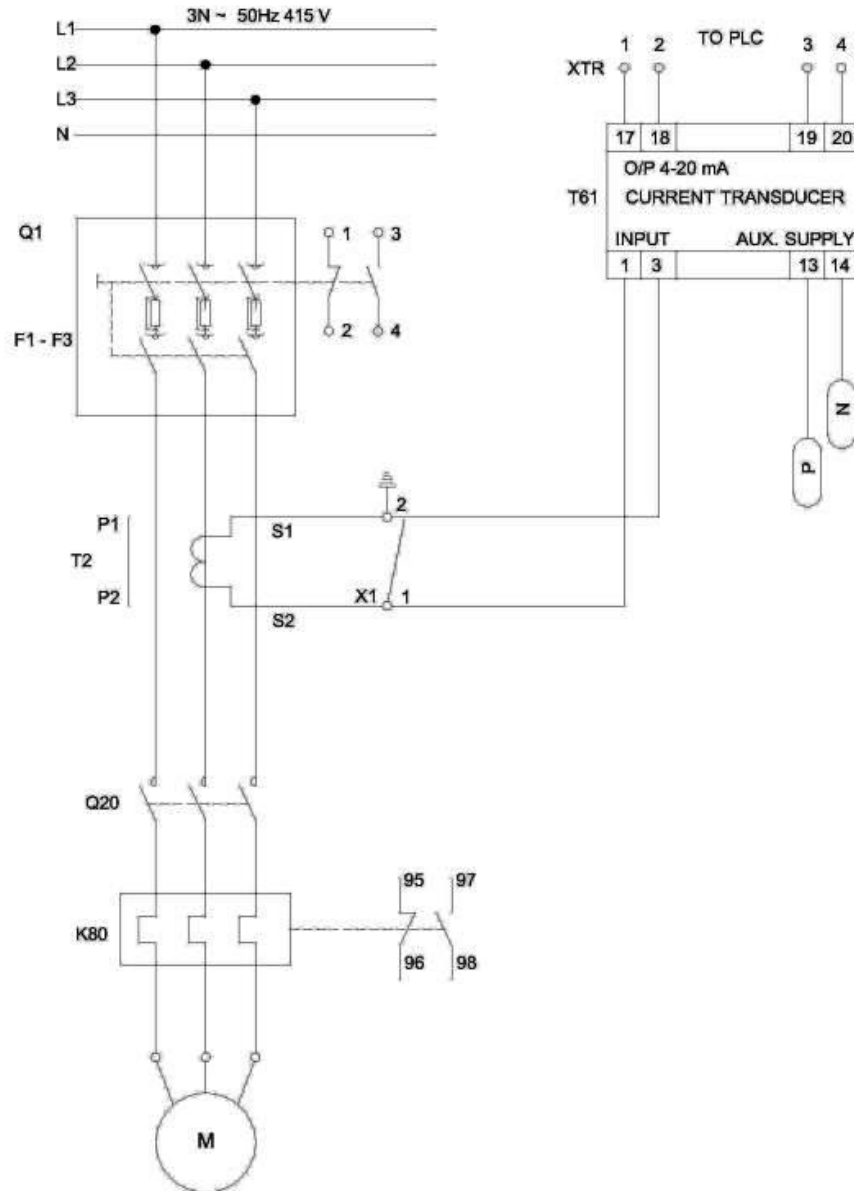
CONTROL TERMINAL BLOCK DETAILS



NOTE :- CONTROL TERMINAL BLOCK SHALL BE OF ELEMEX MAKE
OF TYPE : CST 10 OR EQUIVALENT OF CONNECTWELL MAKE.

 URANIUM CORPORATION OF INDIA LTD. TURAMDIH MILL (A GOVT. OF INDIA ENTERPRISE, DEPT. OF ATOMIC ENERGY)	
DRN.	Rajesh 15.07.13
CHECKED	J.ROY
APPROVED	G.DHAR
SCALE - NTS	
DIMENSIONS IN MM	
DRG. NO. - MIL/ITM/ELECT.-33	REV. - 0

POWER CIRCUIT DIAGRAM



URANIUM CORPORATION OF INDIA LTD. TURAMDIH MILL
(A GOVT. OF INDIA ENTERPRISE, DEPT. OF ATOMIC ENERGY)

DRN. Rajesh 13.07.13 TITLE

CHECKED J.ROY

APPROVED G.DHAR

SCALE - NTS

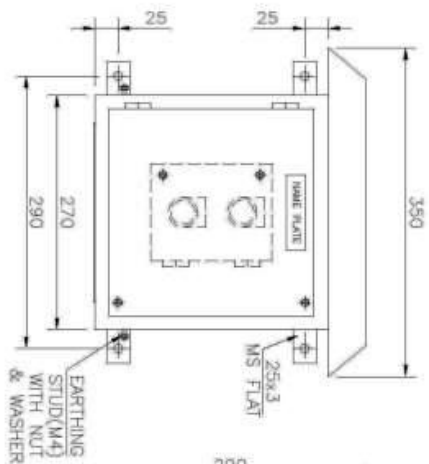
DIMENSIONS IN MM

POWER CIRCUIT DIAGRAM

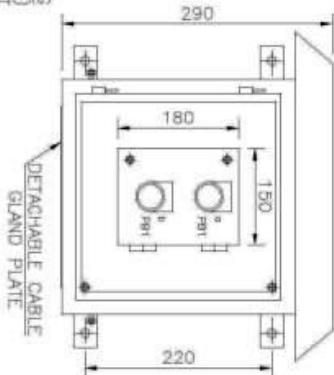
DRG. NO.- MILL/TMD/ELECT.-33

REV.- 0

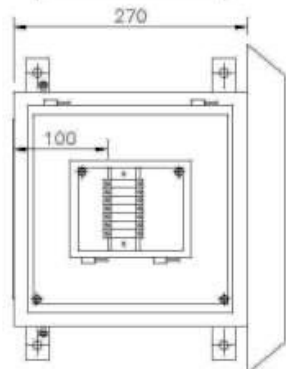
SHEET 4 OF 4



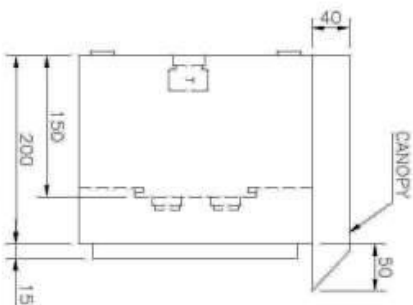
**FRONT VIEW
WITH PROTECTIVE DOOR**



**FRONT VIEW
WITHOUT PROTECTIVE DOOR**



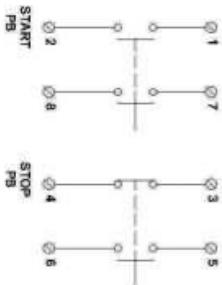
**FRONT VIEW
WITHOUT PROTECTIVE & INSIDE DOOR**



SIDE VIEW

NOTE :-

- 1) ALL DIMENSIONS ARE IN MM
- 2) ALL SHEET METAL WORKS ARE OF 2 mm THK. CRCA SHEET STEEL
- 3) ALL OPENINGS WILL BE COVERED WITH NEOPRENE RUBBER GASKET
- 4) THE ENCLOSURE WILL BE PAINTED AS POWDER COATED PAINT OF SHADE NO. RAL 7032 AFTER NECESSARY CHEMICAL TREATMENT
- 5) DEGREE OF PROTECTION : IP-65
- 6) NAME PLATES WILL BE MADE FROM BLACK ANODISED ALUMINIUM SHEET WITH NO LETTERS ENGRAVED ON IT.
- 7) ALL WIRING WILL BE DONE BY 2.5 sq.mm PVC INSULATED STRANDED COPPER WIRE OF 650 V GRADE.
- 8) THE HINGED DOOR WILL BE EARTHED BY FLEXIBLE CU BRAIDED WIRE
- 9) DOOR OF THE ENCLOSURE SHALL HAVE PROPER LOCKING ARRANGEMENT AS GENERALLY DONE IN ELECTRICAL PANEL.
- 10) PUSH BUTTONS WITH TERMINALS IN SHEET METAL ENCLOSURE.
- 11) CONTROL TERMINAL SHALL BE CST-10 OF ELMAX MAKE OR EQUIVALENT OF CONNECTWELL MAKE
- 12) IN SHEET JOINTING AREA WELDING SHALL BE CONTINUOUS.
- 13) LPBS SHALL BE SUITABLE FOR OUTDOOR USE.



URANIUM CORPORATION OF INDIA LTD. TURAMDIH MILL.
(A GOVT. OF INDIA ENTERPRISE, DEPT. OF ATOMIC ENERGY)

DRN. Rajesh 22.07.13 TITLE

CHECKED J.Roy

APPROVED G. DHAR

SCALE -

DIMENSIONS IN MM

LOCAL PUSH BUTTON STATION

(L.P.B.S.)

DRG. NO.- MIL/ITMD/ELECT.-35

REV.- 0

A4

CABLES

Major standards which are to be followed are IS: 1554, IS: 6380, IS: 7098, IS: 9918 and IEC: 502

All cables shall be PVC insulated ,PVC sheathed galvanised steel round wire armoured Fire Retardant cable

Cable shall be 1100 V grade, 85° C rating, heavy duty PVC power cable in line with IS-1554, IS-5831 & IS-8130, IS-3975.

The Size of Outgoing power cables shall be followed as follows:

- i) 30 KW motors – 3C X 50 Sq.mm. PVC insulated, round G.I. wire armoured, Aluminium Power Cable
- ii) 22 KW motors – 3C X 35/50 Sq.mm. PVC insulated, round G.I. wire armoured, Aluminium Power Cable
- iii) 18.5 KW motors – 3C X 35 Sq.mm. PVC insulated, round G.I. wire armoured, Aluminium Power Cable
- iv) 15 KW motors – 3C X 25 Sq.mm. PVC insulated, round G.I. wire armoured, Aluminium Power Cable
- v) 11 KW motors – 3C X 25 Sq.mm. PVC insulated, round G.I. wire armoured, Aluminium Power Cable
- vi) 7.5 KW motors – 3C X 16 Sq.mm. PVC insulated, round G.I. wire armoured, Aluminium Power Cable
- vii) 5.5 KW motors – 3C X 10 Sq.mm. PVC insulated, round G.I. wire armoured, Aluminium Power Cable
- viii) 3.7 KW motors – 3C X 4 Sq.mm. PVC insulated, round G.I. wire armoured, Copper Power Cable
- ix) 2.2 KW motors – 3C X 2.5 Sq.mm. PVC insulated, round G.I. wire armoured, Copper Power Cable
- x) 1.1 KW motors – 3C X 2.5 Sq.mm. PVC insulated, round G.I. wire armoured, Copper Power Cable

All control cables for Local Push Button Station shall be of 2.5 Sq.mm copper PVC insulated stranded multicore cable with round steel galvanised wire armouring .

Tenderer shall submitted Cable Manufacturer's test certificate.

Cable Make : Polycab/Gloster/CCI/KEI/Universal/Torrent

MAKE OF VARIOUS ELECTRICAL ITEMS:

• Cable – LT & Control	:	Gloster / CCI / Poly Cab / KEI
• Motor	:	ABB / Siemens / CG / Kirloskar
• Panel / Contactor	:	L&T / Siemens
• Air Circuit Breaker	:	L&T / Siemens / GE
• Overload Relay	:	Siemens / L&T
• Connector	:	Elmes / Connectwell
• Push Button	:	Siemens / L&T / ESAB
• Indication Lamp	:	ESAB / L&T / Siemens / Teknik
• Fuse	:	Siemens / L&T
• Control fuse	:	GE / Siemens
• Switch	:	L&T / Siemens
• VVFD	:	ABB (ACS 800 series)
• Meter	:	Automatic Electric / Meco
• Capacitor	:	ABB / EPCOS

PERFORMANCE GUARANTEE & TESTS

SPECIFICATION NO.WMSS-01
FOR
WET DRUM MAGNETIC SEPARATOR SYSTEM
PERFORMANCE GUARANTEE & TESTS

1.00.00 GUARANTEE AND TEST CONDITIONS

The various guarantee figures, those shall have to be met by the Contractor in the Performance Guarantee Tests, have been stipulated in the following clauses.

The total duration of interruptions/stoppages, for reasons answerable by or within the control of the Contractor shall be less than 10% of the respective total test period specified for that particular plant/system.

A single test period of 3 day and uninterrupted operation averaging the overall recovery and grade of magnetite available in cleaner circuit not less than overall recovery and grade given by the bidder in percentage shall be required to prove the guarantee.

During the test period, Rougher circuit feed and cleaner circuit feed shall be separately sampled by an agreed methodology to obtain samples of both feed and product being representative of the 3 day period.

The composite samples shall be measured for % of magnetite and sieve analysis by standard sieving method and Davis tube tester method respectively.

- | | |
|------------------------|--|
| a) Required throughput | Rated capacity in term 660 M ³ /hr slurry handling for Wet Drum Magnetic Separator System and Overall magnetite recovery in Drum No.5&6 grade given by the Bidder. |
| b) Product | <p>: Party should exhibit following recovery of magnetite to achieve guaranteed performance.</p> <ul style="list-style-type: none">i. 95% and above Magnetite recovery in Overall system and Magnetic drum no.1,2,3 &4.ii. 90% and above Magnetite concentrate grade in Magnetic drum no.5&6. |

- | | |
|------------------------------------|--|
| c) Duration of test (Rougher feed) | 3 Day continuous and uninterrupted run of the system |
|------------------------------------|--|

Under the following conditions:

- | | |
|--|-----------------|
| i) Magnetite Grade in Rougher circuit feed | : 3.05 to 4.3 % |
|--|-----------------|

Performance Tests

Immediately after satisfactory "Completion of Commissioning", the plant/section shall be subjected to the "Test on Completion" i.e. Performance Guarantee Tests.

The tests shall be performed within 15 days after commissioning of the plant or any individual system. All relevant procedural details of the tests will be discussed and agreed at the time of award of Contract. However, the plant/s, during the tests, shall be operated normally, as per Contractor's written operating instructions by the Purchaser's operating staff under direct supervision and completion responsibility of the Contractor.

Before the start of the tests, details of the test, section/system to be tested, their dates for execution, organisation of labour and other requisite materials, course of work and the right and obligation of the contractor and the Purchaser during the test period shall be stated and furnished by the Contractor in a programme to be agreed upon and approved by the Purchaser.

For proof of the guaranteed figures, the measuring and control devices installed in the plant shall be used. Before the tests, the measuring instruments shall be checked for accuracy, calibrated and sealed. After completion of the test, the said instruments shall again be checked for accuracy. Any other portable measuring and control devices, if required to prove the guarantee figures, shall be arranged by the Contractor at no extra cost to the Purchaser and subject to acceptance of the same by the Engineer prior to the test.

During the Performance Tests, the entire plant with all the equipment therein shall be closely monitored by the Engineer and the observations shall be noted for subsequent appropriate action by the Contractor.

1.02.00 **Non-fulfillment of Performance Guarantee and Repeat Test**

In case the Contractor fails to prove the performance guarantees set out in the contract, he will be entitled to an additional period of Sixty (60) days, counted from the date of completion of the unsuccessful Performance Test, during which he shall, at his expense and risk and with the approval of the Purchaser, carry out with due expediency the necessary rectification, replacements and/or modifications and shall execute an additional Performance Guarantee Test. During this period, the Contractor shall retain his supervisory and other personnel at the site at his own cost.

In case the Contractor fails within the said additional sixty (60) days period to carry out all the necessary rectifications/modifications etc. and/or fails to prove during the repeat Performance Guarantee Test that the plant is capable of attaining the Performance Guarantees.

In order to mitigate such damages, the Contractor shall make best endeavor to carry out the required rectifications, replacements and/or modifications etc. and repeat the Performance Test in the shortest possible time. In default, the Purchaser, will have the right, within his own capabilities, make the aforesaid rectifications/modifications etc. and to carry out the repeat Performance Tests in lieu of the Contractor, or to entrust a third party to execute the same at the Contractor's expenses and risk.

PROPOSAL EXHIBIT SHEETS

C O N T E N T S

SCHEDULE I	:	GUARANTEED PERFORMANCE DATA AND OTHER PERTINENT INFORMATION
SCHEDULE II	:	EQUIPMENT DATA SHEETS
SCHEDULE III	:	DEVIATIONS
SCHEDULE IV	:	SCHEDULE OF PRICES & MISC. COMMERCIAL PARTICULARS
SCHEDULE V	:	SPARE PARTS

PROPOSAL EXHIBIT SHEETS

1.00.00 INSTRUCTIONS TO TENDERER

The Tenderer shall fill-in all the technical information and other data asked for in the enclosed schedules and submit the same along with his proposal.

The equipment data sheets should be properly filled-in. Phrases like "To be furnished later" shall be avoided and may even nullify the bid. Data which cannot be made definitive at offer stage may be marked with asterisk (*) but every care should be taken to furnish all data/information asked for.

The information sought out in the proposal exhibit sheets provided hereinafter shall be furnished only in the format specified and at the appropriate spaces allocated. These must be properly authenticated by the Tenderer as verification of the data submitted. The signed pages with Seal of the Company, in their entirety, shall be returned with and shall be an essential part of the Tenderer's original proposal unless otherwise stated specifically in the Schedule of Proposal Exhibit Sheets. Other copies of the Proposal shall contain Xerox copies of these sheets duly filled in.

Failure to comply strictly with the above requirements may, as indicated earlier, result in total rejection of the Proposal.

PROPOSAL EXHIBIT SHEETS

SCHEDULE - I

**GUARANTEED PERFORMANCE DATA
OTHER PERTINENT INFORMATION**

GUARANTEED PERFORMANCE DATA AND OTHER PERTINENT INFORMATION

The Tenderer shall furnish some important parameters/data, on the plant and equipment offered, under the specified operating conditions as per the following format :

1.00 WET DRUM MAGNETIC SEPARATOR SYSTEM

1.01 Guaranteed Performance data:

- i) Average capacity :
- ii) Design capacity (Dry T/hr.) :
- iii) Guaranteed
 - Capacity Handling :
 - Recovery :
 - Grade :

1.02 Requirement of utilities:

- i) Water :
 - Industrial water for drum spray wash :
(m³/day)
- ii) Electrical power (KW) :
 - at LT (415 Volt, 3 ph,50Hz):
- iii) Consumables
 - Lubricant (m³/year) :
 - Others (if any) :

PROPOSAL EXHIBIT SHEETS

SCHEDULE – II

EQUIPMENT DATA SHEETS

1. Specifications Sheet for Magnetic Drum No. 1,2,3&4.

Sl. No.	Type	Units	Single Drum
1	Make		
2	Model No		
3	Tank Size	mm	3886
4	Tank Style		
5	Drum Diameter	mm	1219
6	Drum Width	mm	3810
7	Drum Speed	RPM	
8	Shell Thickness	MM	5(Mimimum)
9	Wrap Rubber lined-Thickness	mm	6 mm - 45° ± 5 Shore A Durometer
10	Motor Speed	RPM	1440
11	Power	KW	
12	Magnet Description		Ceramic 8A
13	Magnet Location Method		Interpole
14	Flux Density		1150 Gauss @ 50.8mm
15	Spray Water Required	m3/hr	
Materials Of Construction			
16	Magnet		Strontium Ferrite
17	Feed box		SS 316 L+ Vulcanized rubber liner
18	Drum Shell		SS 316 L + Vulcanized rubber liner
19	Main Tank		SS 316 L + Vulcanized rubber liner
20	Discharge Chutes		SS 316 L

2. Specifications Sheet for Magnetic Drum No. 5&6.

Sl. No.	Type	Units	Single Drum
1	Make		
2	Model No		
3	Tank Size	mm	686
4	Tank Style		
5	Drum Diameter	mm	1219
6	Drum Width	mm	609
7	Drum Speed	RPM	
8	Shell Thickness	MM	5mm(Mimimum)
9	Wrap Rubber lined - Thickness	mm	6 mm - 45° ± 5 Shore A Durometer
10	Motor Speed	RPM	1440
11	Power	Kw	
12	Magnet Description		Ceramic 8A
13	Magnet Location Method		Interpole
14	Flux Density		850 Gauss at 50.8mm
15	Spray Water Required	m3/hr	
Materials Of Construction			
16	Magnet		Strontium Ferrite
17	Feed box		SS 316 L + Vulcanized rubber liner
18	Drum Shell		SS 316 L + Vulcanized rubber liner
19	Main Tank		SS 316 L + Vulcanized rubber liner
20	Discharge Chutes		SS 316 L

PROPOSAL EXHIBIT SHEETS

SCHEDULE III

Deviations

The Tenderer shall furnish an exhaustive list of deviations, if there is any, in their proposal. Tender not complying with Tender specifications are liable to be summarily rejected. No exceptions/deviations to the Tender specifications shall be recognized unless expressly set forth herein and all other terms & conditions of the Tender specifications remain in full force and effect. If no exceptions or deviations are proposed by the Tenderer, it shall be so stated clearly.

All exceptions and deviations from the Tender specifications shall be submitted in the enclosed format clause by clause. Failure to complete the enclosed format may be cause for rejection of the bid.

The enclosed format is for bid evaluation only and will not be a part of the contract. Only those exceptions and deviations which are accepted by the Purchaser will form part of the contract.

Sl. No.	Section No./ Drawing No.	Clause No.	Description of Deviation	Whether agreeable to withdraw, if insisted by Purchaser (Yes/No)	Price Implication (Yes / No)

PACKAGE NO. WMSS-01

Wet Drum Magnetic Separator System

GENERAL CONDITIONS

GENERAL CONDITIONS

I N D E X

ITEM

1.0 APPLICATION

DEFINITION AND INTERPRETATION

2.1 Definition of Terms

2.2 Interpretation

2.3 Singular and Plural

2.4 Headings or Notes

2.5 Cost

LANGUAGE AND SYSTEMS OF MEASUREMENT

3.1 Language

3.2 System of Measurement

ENGINEER AND ENGINEER'S REPRESENTATIVE

4.1 Engineer's Duties

4.2 Engineer's Representative

4.3 Engineer's Power to Delegate

4.4 Engineer to Act Fairly

ASSIGNMENT AND SUB-LETTING

5.1 Assignment

5.2 Sub-letting

CONTRACT DOCUMENTS

6.1 Documents mutually explanatory

6.2 Secrecy

6.3 Governing Laws and Jurisdiction

7.1 Drawings

7.2 Approved Drawings

- 7.3 Inspection of Drawings
- 7.4 Foundation Drawings
- 7.5 Errors in Drawings
- 7.6 Operating & Maintenance Instructions
- 8.1 Mistakes in Information
- 8.2 Errors by Contractor

OBLIGATIONS OF THE CONTRACTOR

- 9.1 General Obligation
- 9.2 Setting out
- 10.0 Contract Agreement
- 11.1 Performance Bonds
- 12.1 Contractor to Inform Himself Fully
- 12.2 Sufficiency of Tender
- 12.3 Import license & Foreign Exchange
- 12.4 Consents, Way leaves etc.
- 13.1 Contractor's Key Personnel
- 13.2 Training
- 14.0 Engineer's Decisions

PROGRAM

- 15.1 Program to be furnished
- 15.2 Procedure & Method
- 15.3 Progress of Works

CONTRACTOR'S SUPERINTENDENCE

- 16.1 Contractor's Representatives
- 16.2 Notice of Objection
- 17.1 Contractor's Equipment
- 17.2 Fencing, Lighting, Guarding and Fire Protection
- 17.3 Electricity & Water and Space
- 17.4 Opportunities for other Contractors.
- 17.5 Protection of Tree

17.6 Fossils etc.

LIABILITY FOR ACCIDENT AND DAMAGE

18.1 Care of the Works

18.2 Damage to persons and property before taking over

18.3 Damage to persons and property after taking over

18.4 Damage to persons and property from a
cause occurring before taking over

18.5 Claims for damage to persons or property

18.6 Accident or Injury to Workmen

19.0 Indirect or consequential damage

INSURANCES, REGULATIONS & PATENT RIGHTS

20.1 Insurance of works

20.2 Third party Insurance

20.3 Insurance against accident etc. to Supervisors

20.4 Damage notification period

20.5 Remedy on failure to Insure

21.0 Compliance with statutes, Regulations etc.

22.1 Patent Rights etc.

22.2 Claims in respect of Patent Rights

GENERAL OBLIGATION OF THE PURCHASER

23.1 Foundations

23.2 Authority for Access

23.3 Access not Exclusive

HOURS OF WORK AND RATE OF PROGRESS

24.1 Hours of work

24.2 No Night or Sunday Work

24.3 Rate of Progress

24.4 Clearance of Site on Completion

LABOUR

- 25.1 Engagement of Labour
- 25.2 Return of Labour
- 25.3 Minimum Wages and safety
- 25.4 Contract Labour (Regulation & Abolition)
- 25.5 Contractor to abide by various acts
- 25.6 Non-observance of Contract Labour Act.
- 25.7 Indemnity
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GENERAL CONDITIONS

1. APPLICATION

Unless otherwise provided in the Contract, these General Conditions shall govern the Contract.

DEFINITIONS AND INTERPRETATION

2.1 Definition of Terms

In construing the Contract, the following words shall have the meanings herein assigned to them unless there is something in the subject or context inconsistent with such construction:

- a) The 'Owner' / 'Purchaser' / 'Client' / 'Company' / 'Corporation' / 'Employer' shall mean "Uranium Corporation of India Limited" having its Registered and Head Offices at Jaduguda, P.O. Jaduguda Mines, Singhbhum (East), Jharkhand-832102, referred to throughout in the Contract Document by 'Owner' or 'Purchaser' or 'Client' or UCIL or 'Company' or 'Corporation'.
- b) The 'Contractor' is the successful Tenderer who is awarded the Contract by the Owner to perform the Works covered by the Contract and shall be deemed to include the Contractor's, successors, heirs, executors, administrators, representatives or assigns approved by the Purchaser and will be referred to as if of masculine gender and singular number, throughout in these Documents.
- c) The term 'Sub-Contractor' used herein refers to a party or parties having a direct contract with the Contractor to whom any part of the Contract has been sublet by the Contractor with the consent in writing of the Owner.
- d) 'Accepting Authority' shall mean the Chairman and Managing Director of UCIL or his representative appointed by him in writing to act on his behalf.
- e) The 'Engineer'/'Engineer-in Charge' shall mean the officer(s) appointed in writing by the Accepting Authority to act as 'Engineer'/'Engineer-in Charge' from time to time for the particular contract.
- f) The 'Engineer's Representative' shall be the person nominated by the Engineer in writing to act on his behalf.
- g) 'Plant', and/or 'Equipment', and/ or 'Component' shall mean and include plant, stores and materials to be provided and work to be done by the Contractor under the Contract.

- h) 'Works' means the works to be executed by the Contractor in accordance with the Contract, which has also been referred to as 'Contract Work'.
- i) 'Temporary' works means all Temporary works of every kind required in or about the execution completion and maintenance of the works by the Contractor at their own cost and risk.
- j) 'Constructional Plant', 'Contractors Equipment' shall mean all appliances or things of whatsoever nature required in or about the execution, completion and maintenance of the Works or Temporary Works by the Contractor at his own cost and risk (as hereinafter defined) but does not include materials or other things intended to form or forming part of the permanent work.
- k) 'Contract' means the Notice Inviting Tenders, Conditions of Tendering, Tender Form, General Conditions of Contract, General Specification, Technical Specifications, Priced Schedule of Items, the Letter of Acceptance, Contract Agreement and Drawings and any other document which may be included at the time of signing of the Contract Agreement. Till formal contract Agreement is executed the Letter of Intent / Letter of Acceptance shall be deemed to be the Contract.
- l) The 'Specification' shall mean the Specification annexed to these General Conditions and any subsequent modifications thereof and the drawings and Schedule attached thereto (if any) and such other specifications as may be approved by the Engineer.
- m) 'Drawings' means the Drawings referred to in the Contract and any modification of such drawings approved in writing by the Engineer and such other Drawings as may from time to time be furnished or approved in writing by the Engineer.
- n) 'Site' means the lands and other places on, under, in or through which the works are to be executed or carried out and any other lands or places provided by the Owner for the Purpose of the Contract.
- o) 'Defects Liability Period' shall mean the period of guarantee as explained under Clause 37.1 of these General Conditions.
- p) 'Month' shall mean calendar month, 'Day' shall mean a period of 24 hours beginning at midnight.
- q) 'Letter of Intent'/'Letter of Acceptance' shall mean the Purchaser's letter conveying his acceptance of the Tender subject to such reservations as may have been stated therein.

- r) 'Approved' or 'to approval' shall mean as approved by or approval of the Consulting Engineer or Owner or Engineer.
- s)
 - i) 'F.O.B.' shall mean delivery free of expenses to the Purchaser on board the vessel at the port of shipment.
 - ii) 'F.O.R. Destination' shall mean delivery free of expenses to the Purchaser on rail wagons at destination Railway Station siding as may be named or in the case of despatched by road free on road carrier delivered at site.
 - iii) The phrase 'F.O.R. Works' shall mean loaded and stored or trimmed, free of expenses to the Purchaser on road carrier or on board rail-wagons at Contractor's siding or at the nearest Railway Station for transportation.
 - iv) 'C.I.F. Port' shall mean Cost Insurance and Freight inclusive delivery free of expenses to the Purchaser at Indian Port of entry.
 - v) C.I.F. site shall mean Cost Insurance and Freight inclusive delivery free of expenses to the Purchaser at site.
- t) The 'Contract Sum' shall mean:
 - i) In the case of Lump Sum Contract the sum for which the tender is acceptable.
 - ii) In the case of percentage Rate Contracts the estimated value of the works as mentioned in the tender adjusted by the Contractor's percentage.
 - iii) In the case of Item Rate Contracts the cost of the work arrived at after multiplying of the quantities shown in Schedule of Quantities by the item rates quoted by the Tenderer or as finally accepted for the various items, subject to any variation mentioned in the Contract.
- u)
 - i) Market Rate shall be rate as decided by the Engineer on the basis of the cost of materials and labour at the site where the work is to be executed, plus the percentage mentioned in relevant schedule to cover all overheads and profit.
 - ii) "Schedule(s)" referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers issued by the Purchaser or the standard schedule of rates prescribed by the Purchaser and the amendments thereto issued from time to time.

- iii) 'Urgent Works' shall mean any urgent measures that, in the opinion of the Engineer, become necessary during the progress of works to obviate any risk of accident or failure of which become necessary for security.
- v)
 - i) 'Initial Operation' or 'Reliability Run' shall mean continuous operation of the contract plant and materials under varying load to furnish proof of satisfactory operation for a specified period which shall not be less than four (4) weeks.
 - ii) 'Commissioning' shall mean the successful operation of the plant and equipment after all initial adjustments, trials, cleaning and reassembly required at site, if any, have been completed.
 - iii) 'Tests on Completion' shall mean such tests as are prescribed by the Specification and/or tests mutually agreed upon by the Purchaser and the Contractor to be made by the Contractor after erection of the equipment to prove satisfactory operation as required by the Specification.
 - iv) 'Acceptance Tests' shall mean such tests, as are required to prove the performance guarantees of the plant given by the Contractor before taking over of the plant by the Purchaser.
- w) 'Warranty Period' shall mean the period of guarantee and shall have the same meaning as Defect Liability Period defined in Clause 37.1 of these General Conditions.
- x) 'Security Deposit' or 'Security Bond' shall have the same meaning as Performance Bond as indicated in Clause 11.1 of these General Conditions.

2.2 Interpretation

Words importing persons or parties shall include firms and corporations.

2.3 Singular and Plural

Words importing the singular only also include the plural and vice versa where the context requires.

2.4 Headings or Notes

The Headings and marginal notes in these General Conditions shall not be deemed part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.

2.5 **Cost**

The word 'Cost' shall be deemed to include overhead costs whether incurred on or off the site

3.0 **LANGUAGE AND SYSTEMS OF MEASUREMENT**

3.1 **Language**

English shall be the ruling language. Any tender, drawing, technical data, document and/or correspondence which forms the basis of an order or contract or which may be furnished by the Contractor for the Purchaser's approval or information as provided under the said order or contract, shall be in English.

3.2 **Systems of Measurement**

The metric system of measurements shall be used in all specifications, drawings, designs, documents and/or correspondences. All measuring devices, instruments and appliances shall be designed for working on the metric system.

4.0 **ENGINEER AND ENGINEER'S REPRESENTATIVE**

4.1 **Engineer's Duties**

The Engineer shall carry out such duties in issuing decisions, certificates and orders as are specified in the Contract.

4.2 **Engineer's Representative**

The Engineer's Representative shall be responsible to the Engineer and his duties are to watch and supervise the works and to test and examine any plant, equipment, component, materials or workmanship employed in connection with the Works. The Engineer's Representative shall have no authority to relieve the Contractor of any of his obligations under the Contract nor except as expressly provided in the Contract, to order any work involving delay in completion or any extra payment to the Contractor by the Purchaser nor to make any variation to the works.

4.3 **Engineer's Power to Delegate**

The Engineer may from time to time in writing delegate to the Engineer's Representative any of the powers, discretion, functions and/or authorities vested in him and he may at any time revoke any such delegation. The Engineer shall furnish to the Contractor a copy of any such written delegation or revocation. No such delegation or revocation shall have effect until a copy thereof has been delivered to the Contractor. Any written decision, instruction or approval given by the Engineer's Representative to the Contractor in accordance with such delegation shall bind the Contractor and the Purchaser as though it had been given by the Engineer provided always that :

- (a) Any failure of the Engineer's Representative to disapprove any Plant, equipment, component, material or workmanship shall not prejudice the power of the Engineer thereafter to disapprove such plants material or

workmanship and to order the rectification thereof in accordance with these Conditions.

- (b) If the Contractor shall be dissatisfied by reason of any decision of the Engineers Representative he shall be entitled to refer the matter to the Engineer who will thereupon confirm, reverse or vary such decision in accordance with Clause 14 (Engineer's Decisions).

4.4 **Engineer to Act Fairly**

Wherever by these Conditions the Engineer is required to exercise his discretion, by the giving of a decision, opinion, consent or to express satisfaction or approval or to determine value or otherwise take action which may affect the rights and obligations of either the Purchaser or the Contractor, the Engineer shall exercise such discretion fairly within the terms of the Contract and having regard to all the circumstances.

5.0 ASSIGNMENT AND SUB-LETTING

5.1 Assignment

The Contractor shall not assign the Contract or any part thereof or any benefit, obligation or interest therein or thereunder without the prior written consent of the Purchaser.

5.2 Sub-Letting

The Contractor shall not sub-let the whole of the works. Except where otherwise provided by the Contract, the Contractor shall not sub-let any part of the works without the prior written consent of the Engineer. Any such consent, if given, shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any Sub-Contractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents, servants or workmen. Provided that the restriction contained in this Clause shall not apply to Sub-Contracts for any part of the works of which the makers are named in the Contract.

CONTRACT DOCUMENTS

6.1 Documents Mutually Explanatory

Unless otherwise provided in the Contract, the provisions of General Conditions shall prevail over those of any other document forming part of the Contract and in case of conflict Special Conditions shall prevail over General Conditions. Subject to the foregoing the several documents forming the Contract are to be taken as mutually explanatory of one another but in the case of ambiguities or discrepancies the same shall be explained and adjusted by the Accepting Authority who shall thereupon issue to the Contractor instructions thereon. Provided always that if in the opinion of the Accepting Authority compliance with any such instructions shall involve the Contractor in any cost which, by reason of such ambiguity or discrepancy the Contractor did not and had reason not to anticipate, the Accepting Authority shall certify and the Purchaser shall pay such additional sum as may be reasonable to cover such cost.

6.2 Secrecy

The Contractor shall take necessary steps to ensure that all persons employed on any work in connection with contract have noticed that the Indian Official Secret Act 1923 (XIX of 1923) and Indian Atomic Energy Act 1962 (XXXIII of 1962) and latest amendment applied to them and shall continue so to apply even after the execution of such works under the Contract.

6.3 Governing Laws and Jurisdiction

This Contract shall be governed by the Indian Laws in force and it shall be deemed to have been executed at Jaduguda, District Singhbhum (East), Jaduguda, India within

the ordinary civil jurisdiction of the competent court situated in Ghatsila, District Singhbhum (East), Jharkhand.

7.1 Drawings

The Contractor shall submit to the Engineer for approval.

- (a) Within the times given in the Specification or in the program to be provided under Clause 15 as given in the technical specifications, such drawings, samples, patterns and models as may be called for therein and in the numbers therein required.
- (b) During the progress of the works within such reasonable time as the Engineer may require such drawings of the general arrangement and details of the works as the Engineer may reasonably require.

Within the times given in the Specification or the program, after receiving such drawings, samples, patterns and models, the Engineer and/ or Consultant shall signify his approval or otherwise. The Contractor shall supply additional copies of approved drawings in accordance with the details set out in the Specification.

If the Engineer and/ or Consultant shall not approve any Drawing, sample, pattern or model so provided, the same shall be forthwith modified to meet the reasonable requirements of the Engineer and/ or Consultant and shall be resubmitted. Approved Drawings shall be signed or otherwise certified by the Engineer and / or Consultant. Drawings shall be supplied as specified.

7.2 Approved Drawings

Drawings approved as above described shall not be departed from except as provided in Clause 38 (Variations). Approval of drawing does not relieve the responsibility of the Contractor to achieve the Performance Guarantee.

7.3 Inspection of Drawings

The Engineer shall have the right at all reasonable times to inspect at the premises of the Contractor all Drawings of any portion of the works.

7.4 Foundation Drawings

The Contractor shall within the times mentioned in the Specifications or in accordance with the program, provide drawings showing the manner in which the Plant is to be affixed together with all information relating to the works required for preparing suitable foundations for providing suitable access for the Plant and any necessary equipment to the point on Site where the plant is to be erected and for making all necessary connections to the Plant (whether such connections or foundation drawings are to be made by the Contractor under the Contract or not).

7.5 Errors in Drawings

Subject to Clause 8.1 (Mistakes in information) any expenses resulting from an error or omission in or from delay in delivery of the drawings and information mentioned in Sub-Clause 4 of this Clause shall be borne by the Contractor.

7.6 Operating and Maintenance Instructions

The Contractor shall furnish to the Purchaser before the works are taken over, Operating and Maintenance Instructions of all equipment / systems together with Drawings of the Works as completed in sufficient detail to enable the Purchaser to maintain, dismantle, reassemble and adjust all parts of the works. Unless otherwise agreed, the works shall not be considered to be completed for the purposes of taking over under the terms of Clause 36 (Taking Over) until such instructions and drawings have been supplied to the Purchaser.

8.1 Mistakes in Information

The Contractor shall be responsible for any discrepancies, errors or omissions in the Drawings and information supplied by him whether they have been approved by the Engineer or not provided that such discrepancies, errors or omissions are not due to incorrect drawings or inaccurate information furnished to the Contractor in writing by the Purchaser or the Engineer.

8.2 Errors by Contractor

The Contractor shall at his own expense carry out any alternations or remedial work necessitated by reason of such discrepancies, errors or omission for which he is responsible and modify the drawings and information accordingly and shall bear all costs incurred therein. The performance of his obligations under this Sub-Clause shall be in full satisfaction of the Contractor's liability under Sub-Clause 1 of this Clause and under Clause 7.5 but shall not relieve him of his liability under Clause 35.2 (Delay in Completion) in so far as that liability arises as a result of such discrepancies, errors or omission.

OBLIGATIONS OF THE CONTRACTOR

9.1 General Obligations

The Contractor shall subject to the provisions of the Contract, execute the works with the due care and diligence within the Time for Completion and shall provide all labour, including the supervision thereof and Contractor's Equipment, necessary thereof and all other things whether temporary or permanent nature and for carrying out his obligations under Clause 37 (Defects), so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.

9.2 **Setting Out**

The Contractor shall be responsible for the accurate setting out of the Works in relation to original points, lines and levels of reference given by the Engineer in writing and for the correctness, subject as above mentioned, of the positions, levels, dimensions and alignment of all parts of the Works and for the provision of all necessary instruments, appliances and labour in connection therewith. If, at any time during the progress of the Works, any error shall appear or arise in the positions, levels, dimensions or alignment of any part of the works, the Contractor, on being required so to do by the Engineer or the Engineer's Representative, shall at his own cost, rectify such error to the satisfaction of the Engineer or the Engineer's Representative, unless such error is based on incorrect data supplied in writing by the Engineer or the Engineer's Representative or as a result of default by another contractor, not being a Sub-Contractor, in which case the cost of rectifying the same shall be borne by the Purchaser. The checking of any setting out or of any line or level by the Engineer or the Engineer's Representative shall not in any way relieve the Contractor of his responsibility for the accuracy thereof. The Contractor shall carefully protect and preserve bench marks, sight rails, pegs and other things used in setting out the works.

10.0 **Contract Agreement**

The Contractor shall enter into and execute a Contract Agreement (to be prepared and completed by the Contractor) in the form annexed with such modification as may be necessary within 30 days from the issue of Letter of Acceptance. Till the formal contract Agreement is executed the Letter of Acceptance will have the force of Contract Agreement. The Letter of Acceptance and also the Contract Agreement shall be signed on behalf of the Purchaser by the Accepting Authority or his nominee. The Contract Agreement shall be signed on behalf of the Contractor by person(s) holding Power of Attorney on behalf of the Contractor. The Successful Contractor will prepare the bond copies of Contract Agreement at his own cost and after signing of his document will submit 10 (Ten) copies of the same to the purchaser at free of cost.

11.1 **Performance Bond**

For the performance of the contract the contractor shall furnish a Bank Guarantee of a reputed Scheduled Commercial bank approved by the purchaser in favour of the purchaser, within 14 days from the issuance of letter of intent/acceptance. The amount of such Bank Guarantee shall be equivalent to 10% of the contract sum. The terms and conditions of the Bank Guarantee shall have to be in accordance with the specimen annexed to the tender document and confirmed by the contractor in its techno commercial offer. The cost of the Bank Guarantee shall have to be borne by the contractor. The Bank Guarantee shall remain valid till expiry of the defect liability period in terms of clause 37.1 herein and issue of final certificate by the engineer.

12.1 **Contractor to Inform Himself Fully**

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself fully, before submitting his Tender, as to the form and nature thereof, including the sub-surface conditions, the hydrological and climatic conditions, the extent and nature of work and materials necessary for the completion of the works, the means of access to the Site and the accommodation he may require and, in general shall be deemed to have obtained all necessary information as to risks, contingencies and all other circumstances which may influence or affect his Tender.

If he shall have any doubt as to the meaning of any portion of the Tender documents, he shall set forth the particulars thereof and submit them to the Purchaser in writing for clarification. Any information thus had or otherwise obtained from the Purchaser shall not in any way relieve the Contractor from his responsibility for supplying the plant and equipment and or executing the works in terms of the specification, including all detailed and incidental work and supply of all accessories, apparatus or materials which may not have been specifically mentioned in the Specification or drawings, but otherwise necessary for insuring complete erection and safe and efficient commercial working of the plant and equipment and / or complete execution of the works.

12.2 **Sufficiency of Tender**

The Contractor by tendering shall be deemed to have satisfied himself as to all the conditions and circumstances affecting the Contract Sum, as to the possibility of executing the works as shown and described in the Contract, as to the general circumstances at the site of the works, if access thereto has been made available to him and as to the general labour position at the site and to have determined his prices accordingly. The Contractor shall be responsible for any misunderstanding or incorrect information however obtained except information given in writing by the Purchaser or the Engineer.

12.3 **Import License and Foreign Exchange**

Deleted.

12.4 **Consents, Way leaves etc.**

The Contractor shall, before the time specified for delivery of any Plant, equipment, component or material to the Site, obtain all consents, way leaves and approvals required in connection with the Regulations and By-laws of local or other authority which shall be applicable to the works.

13.1 **Contractor's Key Personnel**

The Contractor shall furnish the list of Key Personnel, along with details of their experience, proposed to be engaged in the execution of the Contract for approval by the Engineer. Only the persons approved by the Engineer shall be deployed in the execution of the Contract. Such approval by the Engineer shall not relieve the Contractor of any of his duties or responsibilities under the Contract.

13.2 **Training**

The Contractor shall during the currency of the Contract when called upon by the Engineer engage and also ensure engagement by sub-contractors and others employed by the Contractor in connection with the works, such number of apprentices as required under the Apprentices Act. 1961 and shall be responsible for all obligations of the Purchaser under the Act including the liability to make payment to Apprentices as required under the Act.

The Contractor shall also be responsible for any other specific training requirement as per the provisions set out in the specification.

14.0 **Engineer's Decisions**

The Contractor shall proceed with the works in accordance with the decisions instructions and orders given by the Engineer in accordance with these Conditions, provided always that:

- (a) If the Contractor shall, without undue delay after being given any decision, instruction or order otherwise than in writing, require it to be confirmed in writing, such decision, instruction or order shall not be effective until written confirmation thereof has been received by the Contractor, and
- (b) If the Contractor shall, by written notice to the Engineer within fourteen (14) days after receiving any decision, instruction or order of the Engineer in writing or written confirmation thereof, dispute or question the decision, instruction or order, giving his reasons for so doing, the matter shall be referred to the Engineer who shall within a further period of twenty one (21) days by notice in writing, with reasons therefore, to the Contractor confirm, reverse or vary such decision.

15.0 **PROGRAM**

15.1 **Program to be furnished**

The Contractor shall submit with his Tender, a program in the form of Network in MS Projects or Primavera, according to which he proposes to carry out the works.

Within the time stated in Special Conditions, or if no time is stated within one month of the acceptance of his Tender the Contractor shall submit to the Engineer for his approval a program based on above showing, in such form as may reasonably be required by the Engineer, the order of procedure in which he proposes to carry out the works on site and commissioning thereof. The submission to and approval by the Engineer of such program shall not relieve the Contractor of any of his duties or responsibilities under the Contract.

15.2 **Procedure and Method**

After submission to and approval by the Engineer of such program the Contractor shall adhere to the order of procedure and method stated therein unless he obtains the written permission of the Engineer to vary such order or method.

15.3 **Progress of Works**

The Contractor shall submit Monthly Reports identifying quantitatively the monthly as well as cumulative progress of work against targets in such form as may reasonably be required by the Engineer. If at any time it should appear to the Engineer that the actual progress of the Works does not conform to the Program, the Contractor shall produce, at the written request of the Engineer, a revised program showing the modifications to the approved program necessary to ensure completion of the works within the Time for completion.

Besides this report, regular weekly /monthly meeting are to be conducted with the Contractor as per direction of the Engineer-in-Charge. The documentary evidence in support of the monthly report are required to be produced, as and when asked for.

CONTRACTOR'S SUPERINTENDENCE

16.1 **Contractor's Representatives**

The Contractor shall employ one or more competent representatives, whose name or names shall have previously been communicated in writing to the Engineer by the Contractor, to superintend the carrying out of the Works on the Site. The said representative, or if more than one shall be employed, then one of such representatives, shall be present on the Site during all working hours and any orders or instructions which the Engineer may give to the said representative of the Contractor shall be deemed to have been given to the Contractor.

16.2 **Notice of Objection**

The Engineer shall be at liberty by notice in writing to the Contractor to object to any representative or person employed by the Contractor in the execution of or otherwise about the works who shall in the opinion of the Engineer, misconduct himself or be incompetent or negligent. The Contractor shall replace such person from the Works immediately.

17.1 **Contractor's Equipment**

Except to the extent specified in Special Conditions the Contractor shall at his own expense, provide all Contractor's Equipment, haulage and water and power necessary to execute and complete the works.

17.2 Fencing, Lighting, Guarding and Fire Protection

The Contractor shall be responsible for the proper fencing, lighting, guarding and watching of all the Works under this Contract on the site at his own expense until taken over and for the proper provision during a like period of temporary roadways, footways, guards and fences as far as the same may be rendered necessary by reason of the works for the accommodation and protection of the owners and occupiers of adjacent property, the public and others. No naked light shall be used by the Contractor on the site otherwise than in the open air without specific permission in writing from the Engineer.

The Contractor shall also take all reasonable precautions to prevent fires of any nature in the general area and vicinity of his operation and he shall be responsible for all damages from fires attributable to his own activities or to those of his employees or to the activities of his Sub-Contractors or their employees.

17.3 Electricity, Water and Space

The Contractor shall be entitled to use for the purposes of the works such supplies of electricity and water and also space as may be available therefore on the Site and of which details are given in Special Conditions and shall at his own expense, provide any equipment and distribution line necessary for such use and shall pay to the Purchaser for such use such sum as may reasonably be fixed by the Engineer.

17.4 Opportunities for other Contractors

The Contractor shall in accordance with the requirements of the Engineer, afford all reasonable opportunities for carrying out their work to any other contractors employed by the Purchaser and their workmen and the workmen of the Purchaser and of any other duly constituted authorities who may be employed in the execution on or near the Site of any work not included in the Contract or of any Contract which the Purchaser may enter into in connection with or ancillary to the Works. If, however, the Contractor shall on the written request of the Engineer or the Engineer's Representative, make available to any such other Contractor, or to the Purchaser or any such authority, any Contractor's Equipment or provide any other service of whatsoever nature the Purchaser shall pay to the Contractor in respect of such use or service such sum or sums as shall in the opinion of the Engineer, be reasonable.

17.5 Protection Trees

Trees designated by the Engineer shall be protected from damages during the course of the works and earth level within 1 meter of each such tree shall not be changed. Where necessary, such trees shall be protected by providing temporary fencing.

17.6 Fossils etc.

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site of the works shall as between the Purchaser and the Contractor be deemed to be the absolute property of the Purchaser. The Contractor shall take responsible precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall immediately upon discovery thereof and, before removal, acquaint the Engineer's Representative of such discovery and carry out, at the expense of the Purchaser, the Engineer's Representative's orders as to the disposal of the same.

LIABILITY FOR ACCIDENTS AND DAMAGE

18.1 Care of the Works

The Contractor shall take full responsibility for the care of the works or any Section or Portions thereof until the date stated in the Taking-over Certificate issued in respect thereof under Clause 36 (Taking Over) and in case any damage or loss shall happen to any Portion of the works not taken over as aforesaid, from any cause whatsoever (save and except the damages to works at site caused by the excepted risks as defined in Sub-Clause 2 of this Clause) the same shall be made good by and at the sole cost of the Contractor and to the satisfaction of the Engineer. The Contractor shall also be liable for any loss of or damage to the works occasioned by him or by any Sub-Contractor in the course of any operations carried out by him or by his Sub-Contractors for the purpose of completing any outstanding work or complying with his obligations under Clause 37 (Defects).

18.2 Damage to persons and property before taking over

The Contractor shall indemnify the Purchaser in respect of death or injury to any person and of all damages to any property (other than property forming part of the works not yet taken over) occurring before all the works shall have been taken over and against all actions, suits, claims, demands, costs, charges and expenses arising in connection therewith that shall be occasioned by the negligence of the Contractor or any Sub-Contractor or by defective design (other than a design made, furnished or specified by the Purchaser and for which the Contractor has disclaimed responsibility giving appropriate reasons in writing within a reasonable time after the receipt of the Purchaser's instructions), materials or workmanship but not otherwise. Provided that the Contractor shall not be liable by virtue of this Sub-Clause in respect of damage or injury attributable to defects in any Section or Portion of the Works taken over.

18.3 Damage to persons and property after taking over

If there shall occur any loss of or damage or injury to any property (other than property forming part of the works not yet taken over) or person while the Contractor is on the Site for the purpose of making good a defect in any Section or Portion of the Works pursuant to Clause 37 (Defects) or for the purpose of carrying out Tests on Completion of any such section during the Defects Liability Period as provided in Sub-clause 36.4 (Interference with Tests) the Contractor shall be liable as follows :

(a) In respect of loss of or damage to the said Section or portion the Contractor's obligation shall be as defined in Clause 37 (Defects).

(b) In respect of damage or injury to any other property or to any person and of any actions, claims, demands, costs, charges and expenses arising in connection therewith the Contractor shall be liable to the extent that such damage or injury was caused by the negligence of the Contractor or a Sub-Contractor while on the site as aforesaid or by defective materials or workmanship used in making good the said defect but not otherwise.

The said section or portion of the works shall be defined by reference to the Taking Over Certificate issued in respect thereof pursuant to Clause 36 (Taking over).

18.4 Damage to Persons and Property from a Cause Occurring before taking over

If there shall occur, after the commencement of the Defects Liability Period in respect of any Section or Portion of the Works, any loss of or damage or injury to any property (other than property forming part of the Works not yet taken over) or person as a result of a cause occurring prior to the commencement of the Defects Liability Period the Contractor's Liability shall be as follows:

(a) In respect of loss of or damage to the said Section or Portion the Contractor's obligations shall be as defined in Clause 37 (Defects).

(b) In respect of damage or injury to any property or to any person and of any actions, claims, demands, costs, charges and expenses arising in connection therewith the Contractor shall be liable to the extent that such damage or injury was caused by the negligence of the Contractor or a Sub-Contractor or by defective design (other than a design made, furnished or specified by the Purchaser and for which the Contractor has disclaimed responsibility giving appropriate reasons in writing within a reasonable time after receipt of the Purchaser's instructions) materials or workmanship but not otherwise.

18.5 Claims for damage to persons or Property

In the event of any claim being made against the Purchaser arising out of the matters referred to in and in respect of which the Contractor may be liable under this Clause, the Contractor shall be promptly notified thereof and may at his own expense conduct all negotiations for the settlement of the same and any litigation that may arise therefrom. The Purchaser shall not, unless and until the Contractor shall have failed to take over the conduct of the negotiations or litigation, make any admission, which

might be prejudicial thereto. The conduct by the Contractor of such negotiations or litigation shall be conditional upon the Contractor having first given to the Purchaser such reasonable security as shall from time to time be required by the Purchaser to cover the amount ascertained or agreed or estimated, as the case may be of any compensation damages, expenses and costs for which the Purchaser may become liable. The Purchaser shall at the request of the Contractor, afford all available assistance for any such purpose and shall be repaid all reasonable costs incurred in so doing.

18.6 Accident or Injury to Workmen

The Contractor shall indemnify the Purchaser against all actions, suits, claims, demands, costs or expenses arising in connection with death or injuries (other than such as may be the responsibility of the Purchaser, his agents or servants) suffered by persons employed by the Contractor or his Sub-Contractors on the Works, whether at Law or order any Statutes dealing with the question of the liability of employers for injuries suffered by employees.

19.0 Indirect or Consequential Damage

Except as provided in Clause 35.1 (Delay in Completion) for a reduction of the Contract sum for delay and except as provided in Clause 37.11 (Gross Misconduct) the Contractor shall not be liable to the Purchaser by way of indemnity or by reason of any breach of the Contract for loss of use (whether complete or partial) of the Works or of profit or of any contract or for any indirect or consequential damage that may be suffered by the Purchaser.

INSURANCE, REGULATIONS AND PATENT RIGHTS

20.1 Insurance of Works (equipment or any other material at site)

The Contractor shall in the joint names of the Contractor and the Purchaser, insure the all works and keep each part hereof insured for the Contract Sum against all loss or damage from whatever cause arising other than the excepted risks, from the date of shipment or the date on which it becomes the property of the Purchaser, whichever is the earlier, until it is taken over by the Purchaser. The Contractor shall insure against the Contractor's liability in respect of any loss or damage occurring whilst the Contractor is on Site for the purpose of making good a defect or carrying out the Tests on completion during the Defects Liability period or for the purpose of completing any outstanding work and against any loss or damage arising during the Defects Liability period from a cause occurring prior to taking over. Such insurance shall be effected with an insurer for a sum and in terms to be approved by the Purchaser and the Contractor shall from time to time, when so required by the Engineer, produce the policy and receipts for the premium or premiums or satisfactory evidence of insurance cover. All moneys received under any such policy shall be applied in or towards the replacement and repair of the Works lost, damaged or destroyed by this provision shall not affect the Contractor's liabilities under the Contract. The Contractor shall ensure also the insurance of whole works against theft, fire, damage etc. till taking over by the Purchaser

20.2 Third Party Insurance

The Contractor shall, prior to the commencement of any work on the Site by the Contractor pursuant to the Contract, insure against his liability for damage or injury occurring till the Defects liability period is over to any person (including any employee of the Purchaser or other contractors) or to any property (other than property forming part of the Works) due to or arising out of the execution of the Works. Such insurance shall e effected for an amount with an insurer and in terms to be approved by the Purchaser and the Contractor shall from time to time when so required by the Engineer produce the policy and the receipts for the premiums or satisfactory evidence of insurance cover. The terms of the policy shall include a provision whereby, in the event of any claim being made against the Purchaser in respect of which the Contractor would be entitled to indemnity under the policy, the insurer will indemnify the Purchaser against such claims and any costs, charges and expenses in respect thereof.

20.3 Insurance against Accident etc. to Supervisory Staff

The Contractor shall insure and shall maintain insurance against his liability under Clause 18.7 (Accident or injury to Workmen) and shall from time to time when so required by the Engineer produce the policy and the receipts for the premiums or satisfactory evidence of insurance cover. The terms of any such policy shall also include the provision to indemnify the Purchaser mentioned in Sub-Clause 2 of this Clause. Provided always that in respect of any persons employed by any Sub-Contractor's obligation under this Sub-Clause shall be satisfied if the Sub-Contractor shall have insured against the liability in respect of such persons in such manner that the Purchaser is indemnified under the policy, but the Contractor shall require such Sub-Contractor to produce to the Engineer when required the policy, the receipt for the premiums or satisfactory evidence of insurance cover.

20.4 Damage Notification Period

All events or occurrences, by which a claim on insurer will result, shall be notifiable within a period of sixty (60) days from the date of receipt Plant, Equipment or Materials at site or from the date of occurrence of the events. This period shall be further extensible as required in the event of Packages of supplies not being opened at specified rates of premium.

20.5 Remedy on Failure to Insure

If the Contractor shall fail to effect and keep in force the insurance referred to in these Conditions the Purchaser may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the Purchaser from any moneys due or which may become due to the Contractor under the Contract or recover the same as a debt from the Contractor from any other moneys due or becoming due to the Contractor.

21.0 Compliance with Statutes, Regulations etc.

The Contractor shall, in all matters arising in the performance of the Contract, conform in all respects with the provisions of any Central or State Statute, Ordinance or other Law or any Regulation or By-Law of any local or other duly constituted authority that shall affect the Contractor in the performance of his obligations under the Contract and shall keep the Purchaser indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance, Law, Regulation or By-Law.

22.1 Patent Rights etc.

The Contractor shall fully indemnify the Purchaser against all claims and proceedings for or on account of infringement of any letters, patent, registered design, copy right, trade mark or trade name or industrial property right protected in the Contractor's country or in India arising by reason of the construction of the Works or by the use of any Plant supplied by the Contractor, but such indemnity shall not cover any use of the Works otherwise than for purpose indicated by or reasonably to be inferred from the Specification or any infringement which is due to the use of any Plant in association or combination with any other plant not supplied by the Contractor.

22.2 Claims in respect of Patent Rights

In the event of any claim being made or action brought against the Purchaser arising out of the matters referred to in this Clause, the Contractor shall be promptly notified thereof and may at his own expense conduct all negotiations for the settlement of the same and any litigation that may arise therefrom. The Purchaser shall not, unless and until the Contractor shall have failed to take over the conduct of the negotiations or litigation, make any admission, which might be prejudicial thereto. The conduct by the Contractor of such negotiations or litigation shall be conditional upon the Contractor having first given to the Purchaser such reasonable security as shall from time to time be required by the Purchaser to cover the amount ascertained or agreed or estimated as the case may be of any compensation damages, expenses and costs for which the Purchaser may become liable. The Purchaser shall at the request of the Contractor, afford all available assistance for the purpose of contesting any such claim or action and shall be repaid all reasonable expenses incurred in so doing.

GENERAL OBLIGATIONS OF THE PURCHASER

23.1 Foundation

If a building structure foundation or approach is by the Contract to be provided by the Purchaser such building structure foundation or approach shall be in condition suitable for the efficient transport, reception, installation and maintenance of the works.

23.2 Authority for Access

In the execution of the Works no persons other than the Contractor, Sub-Contractors and his and their employees shall be allowed on the Site except by the written permission of the Purchaser but facilities to inspect the Works at all times shall be afforded to the Engineer and his representatives and other authorities, officials or representatives of the Purchaser.

23.3 Access not Exclusive

The access to and possession of the Site referred to in Sub-Clause 1 hereof shall not be exclusive to the Contractor but only such as shall enable him to execute the Works. In respect of any space allotted to the Contractor for purposes of or in connection with

the contract, the Contractor shall be a licensee subject to the following and such other terms and conditions as may be imposed by the Purchaser.

- i) that the Contractor shall pay a nominal license fee of Rs. 0.50(Rupees nil and Paisa fifty only) per year per Sq.m for plant site .
- ii) that such use of occupation shall not confer any right of tenancy of the space to the Contractor.
- iii) that the Contractor shall be liable to vacate the space on demand by the Engineer
- iv) that the Contractor shall have no right to any construction over this land without the written permission of the Engineer. In case the Contractor is allowed to construct any structure the Contractor shall have to demolish and clear the same before handing over the completed work unless agreed to the contrary.

The Contractor shall provide, if necessary, or if required on the site, all temporary access there to and shall alter, adopt and maintain the same as required from time to time and shall take up and clear them away as and when no longer required and as and when ordered by the Engineer and make good all damage done to the site.

HOURS OF WORK AND RATE OF PROGRESS

24.1 Hours of Work

Unless otherwise provided in the Specification the Contractor shall carry out the Works on the Site during the normal working hours generally recognised in the district. The Contractor may, after consulting with the Engineer, carry out the work at other times if it shall be practicable in the circumstances for work to be so done, and become necessary for the completion of the Works within the Time for Completion at no extra cost to the Purchaser.

24.2 No Night or Sunday Work

Unless otherwise provided in the specification no work shall be carried out on site during the night or on Sundays without the consent in writing of the Engineer or the Engineer's Representative except if the work is unavoidable or absolutely necessary for the saving of life or property or for the safety or quality of the works in which case the Contractor shall immediately advise the Engineer or the Engineer's Representative.

24.3 Rate of Progress

If for any reason, which does not entitle the Contractor to an extension of time, the rate of progress of the works or any Section is at any time, in the reasonable opinion of the Engineer, too slow to ensure completion by the Time for Completion, the Engineer shall so notify the Contractor in writing and the Contractor shall thereupon take such steps as are necessary and the Engineer may approve to expedite progress so as to complete the works or such Section by the Time for Completion. The Contractor shall not be entitled to any additional payment for taking such steps.

24.4 Clearance of Site on Completion

From time to time during the progress of the works the Contractor shall clear away and remove from the Site all surplus materials and rubbish and on completion of the Works all Contractor's Equipment and leave the whole of the Site and Works clean in a workmanlike condition to the satisfaction of the Engineer.

LABOUR

25.1 Engagement of Labour

The Contractor shall make his own arrangements for the engagement of all labour local or otherwise giving reasonable regard to local conditions and save in so far as the Contract otherwise provides, for the transport, housing, feeding and payment thereof. Interstate migratory labour will not be allowed unless permitted legally.

25.2 Return of Labour

The Contractor shall furnish to the Engineer at the intervals and in the form approved by the Engineer, a distribution return of the number and description by trades of the work people employed on site for the works. The Contractor shall also submit on the 4th and 19th of every month to the Engineer a true statement showing in respect of the second half of the proceeding month and the first half of the current month (1) the accident that occurred during the said fortnight showing the circumstances under which they happened and the extent of damages and injury caused by them and (ii) the number of female workers who have been allowed Maternity Benefit as provided in the Maternity Benefit Act. 1961 or Rules made thereunder and the amount paid to them.

25.3 **Minimum Wages and safety**

The Contractor shall pay to labour employed by him wages not less than fair wages as defined in the Contract Labour (Regulation and Abolition) Act, 1970 and Rules made there under. **UCIL's Safety Rules & Regulations** for contractor's employees as given in the Annexure-A will be complied strictly during the execution of various works at site. Contractor has to follow the Safety Rules & Regulations as per Indian Electricity Rules to do the electrical works. **Corporation shall not provide any safety appliances and tools & tackles under any circumstances. Contractor shall ensure the use of safety appliances during the work at site.** Contractor will take full safety measures and arrange the necessary safety gadgets / appliances, tools & tackles, helmet, gumboot, safety belt, shockproof shoe, safety suit / uniform, goggles, gloves, apron, ladders, trolley, wheel barrow, bamboos, rope, machineries, scaffolding, etc. required for the work by their own cost so as to ensure that no damage, loss or injury to corporation's personnel, contractors' personnel, third party or equipment are caused due to the work being carried out by contractor. Contractor must report in writing (duplicate) to the Engineer-In charge or Safety Officer (Mill)-UCIL immediately on becoming aware of any accident at their site.

25.4 **Contract Labour (Regulation & Abolition)**

The contractor shall in respect of labour employed by him comply with or cause to be complied with the Contract labour (Regulation & Abolition) Act, 1970 and Rules made thereunder in regard to all matters provided therein.

25.5 **Contractor to Abide by Various Acts.**

The Contractor shall comply with the provisions of the payment of wages Act., 1936, Minimum Wages Act, 1948, Employers Liability Act., 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefit Act., 1961 and Mines Act, 1952, E P F (M) ACT, 1952 or any modifications thereof or any other Law relating thereto and rules frame there under from time to time.

25.6 **Non-observance of Contract Labour Act**

The Engineer shall, on a report having been made by an Inspecting staff as defined under the contract Labour (Regulation) Act., 1970 and rules made thereunder, have the power to deduct the money due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the contract for the benefit of workers, non-payment of wages or of deductions made from his or their wages which are not justified by the terms of the contract or non-observance of the said Act.

25.7 **Indemnity**

The Contractor shall indemnify the Purchaser against any payment to be made under and for observance of the Contract labour (Regulation and Abolition) Act, 1970 and Rules made thereunder without prejudice to his right to claim indemnity from his sub-contractors.

In the event of the Contractor committing a default or breach of any of the provisions of aforesaid Act and rules made thereunder / amended from time to time, or furnishing any information or submitting or filling any Form / Register / Slip under the provisions of the law which is materially incorrect, then on the report of the Inspecting Officer, the Contractor shall without prejudice pay to the Purchaser a sum not exceeding liabilities for such defaults including liquidated damages etc. for every default, breach or furnishing, making, submitting, filling materially, incorrect statement as may be fixed by the Labour Department and the Contractor should indemnify the Purchaser against all such liabilities.

5.8 **Model Rules for Labour Welfare**

The Contractor shall at his own expense comply with or cause to be complied with Model Rules for Labour Welfare as provided under the Rules framed by the appropriate government from time to time for the protection of health and for making sanitary arrangements for workers employed directly or indirectly on the works. In case the contractor fail to make arrangements as aforesaid the Engineer shall be entitled to do so and recover the cost thereof from the contractor.

Failure to comply with Model Rules for Labour Welfare, Safety Code or the provisions relating to report on accidents and to grant Maternity Benefits to female workers shall make the contractor liable to pay to the Purchaser as liquidated damages an amount not exceeding Rs. 50.00 for each default or materially incorrect statement. The decision of the Engineer in such matters based on reports from the Inspecting Officer, shall be final and binding and deductions for recovery of such liquidated damages may be made from any amount payable to the Contractor.

25.9 Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful riotous or disorderly conduct by or amongst his employees and for the preservation of peace and protection of persons and property in the neighborhood of the Works against the same.

WORKMANSHIP AND MATERIALS

26.1 Quality of Materials and Workmanship and Tests

All plant, materials and workmanship shall be of the respective kinds specified in the Contract and in accordance with the Engineer's Instructions and shall be subjected from time to time to such tests as the Engineer may direct at the place of manufacture or fabrication, or on the Site or at such other place or places as may be specified in the Contract, or at all or any of such places. The Contractor shall provide such assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used and shall supply samples of materials before incorporation in the works for testing as may be selected and required by the Engineer.

26.2 Cost of Samples and Tests

All samples shall be supplied by the Contractor at his own cost unless otherwise specified. The cost of making any test shall be borne by the Contractor.

26.3 Inspection of Operations

The Engineer and any person authorised by him shall at all times have access to the Works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the Works and the Contractor shall afford every facility for and every assistance in or in obtaining the right to such access.

27.1 Inspection and Testing during Manufacture

The Contractor shall be responsible for all inspections, examinations and testing as required under this contract. The Engineer shall be entitled during manufacture to inspect, examine and witness test on the Contractor's premises during working hours the materials and workmanship and check the progress of manufacture of all plant to be supplied under the Contract and if part of the said plant is being manufactured on other premises the Contractor shall obtain, for the Engineer, permission to inspect, examine and witness test as if the said plant were being manufactured on the Contractor's premises. Such inspection, examination or witness of test if made shall not relieve the Contractor from any obligation under the Contract.

27.2 Date for Inspection and Testing

The Contractor shall notify well in advance and agree with the Engineer the date and the place at which any plant/equipment including system and subsystem will be tested. The Contractor shall furnish beforehand the Quality Assurance Plan & Inspection and Test Report to the Engineer for approval. The Contractor shall forward to the Engineer duly certified copies of test readings of all tests.

27.3 Certificate of Testing

As and when Plant shall have passed the tests referred to in this Clause the Engineer shall furnish to the Contractor's certificate in writing to that effect. Issuance of such certificate shall not relieve the Contractor from any obligation under the Contract.

27.4 Rejection

If as a result of such inspection, examination or test for the Plant (other than a Test on Completion under Clause 33) the Engineer shall decide that such Plant is defective or not in accordance with the Contract he shall notify the Contractor accordingly stating in writing his objection and reasons therefor. The Contractor shall with all speed make good the defect or ensure that the Plant complies with the Contract. Thereafter, if required by the Engineer, the tests shall be repeated under the same terms and conditions save that all reasonable expenses to which the Purchaser may be put by the repetition of the tests shall be deducted from the Contract Sum.

28.0 Delivery

Unless the Engineer shall otherwise direct, no plant, equipment, component or material shall be delivered to site until the Engineer shall have issued, in respect of such Plant, a certificate under Clause 27.3 (Certificate of Testing). Likewise Plant, Contractor's Equipment, materials or structures fabricated in workshops shall be delivered to site only upon an authorisation in writing applied for and obtained by the Contractor from the Engineer.

The Contractor shall be responsible for the reception on Site of all Plant, Contractor's Equipment, workshop fabricated structures and materials delivered for the purposes of the Contract. Shipping procedures, packing and delivery notes shall be as per instructions of the Engineer unless otherwise set out in the Special Conditions.

29.1 Examination of Work before Covering up

No work shall be covered up or put out of view without the approval of the Engineer or the Engineer's Representative and the Contractor shall afford full opportunity for the Engineer or the Engineer's Representative to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The Contractor shall give due notice to the Engineer's Representative whenever any such work or foundations is or are ready or about to be ready for examination and the Engineer's Representative shall, without unreasonable delay, unless he considers it unnecessary and advises the Contractor

accordingly, attend for the purpose of examining and measuring such work or of examining such foundations. Such waive shall not release the contractor from any obligations under the contract.

29.2 Uncovering and Making Openings

The Contractor shall uncover any part or parts of the works or make openings in or through the same as the Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer.

30.1 Removal of Improper Work and Materials

The Engineer shall during the progress of the works have power to order in writing from time to time

- (a) the removal from the Site, within such time or times as may be specified in the order, of any materials which, in the opinion of the Engineer, are not in accordance with the Contract.
- (b) the substitution of proper and suitable materials and
- (c) the removal and proper re-execution, notwithstanding any previous test thereof or interim payment therefore, of any work which in respect of materials or workmanship is not, in the opinion of the Engineer, in accordance with the Contract.

The rejected material shall lie at the site at the Contractor's risk till removal by the Contractor.

30.2 Default of Contractor in Compliance

In case of default on the part of the Contractor in carrying out such order, the Purchaser shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor by the Purchaser or may be deducted by the Purchaser from any moneys due or which may become due to the Contractor.

31.0 SUSPENSION OF WORKS

31.1 Suspension of work

In the event the engineer feels necessary, he may issue a written order to the contractor for suspending the work.

If the work is not suspended for the default of the contractor, he will be entitled to extra cost incurred for giving effect to such suspension order. The engineer shall determine the amount of such extra payment and/or extension of time under clause 35.1 to be granted to the contractor, provided the contractor applies for such extra payment and/or extension of time within 14 days from the order of suspension of the work.

If the work is suspended for the default of the contractor, he will be liable to pay the purchaser all consequential losses and damages suffered by it, owing to such suspension. Amount of losses and damages suffered shall be computed by the engineer and shall have to be intimated to the contractor within 14 days from the order of suspension of the work.

However any action under this clause by the engineer shall not prevent the purchaser from exercising any other remedy available to it under the contract.

31.2 Force Majeure

Force majeure shall mean any unforeseen circumstances at site which is beyond the control of the parties to the contract e.g.; Natural disaster/calamities, war, invasion act of foreign enemies, riot and civil war.

If any party considers that any circumstances of force majeure have occurred which may affect performance of its obligation, it shall notify the other party within 14 working days and the other party may accept the contention of the party involving the force majeure closure or reject the contention in writing giving reasons written 14 days thereof.

Upon the occurrence of any circumstances of force majeure the contractor shall endeavor to continue to perform its obligations under the contract as far as possible. The contractor shall not be absolved from its obligations, which arose prior to or after the period of the force majeure event. The contractor shall notify the engineer of the steps it proposes to take including any reasonable alternative means for performance, which is free from the force majeure circumstances. However, the contractor shall take steps only at the direction of the engineer.

32.0 **FORE CLOSURE OF CONTRACT IN FULL OR IN PART**

If at any time after acceptance of the tender, the Corporation shall decide to fore-close or reduce the scope of the works and hence not require the whole or any part of the work to be carried out, the Engineer-in-charge shall give notice in writing to that effect to the Contractor.

- (a) In the event, any action is taken by Purchaser in terms of clause 32.0 bearing above, the Contractor shall be paid at contract rates full amount for works executed at site as per billing schedule and in addition, a reasonable amount as certified by the Engineer-in-charge for the items hereunder mentioned which could not be utilised on the work to the full extent because of the foreclosure.

Any expenditure incurred on preliminary site work e.g. temporary access roads, temporary labour huts, staff quarters and site office, storage, accommodation and water storage tanks.

- (b) i) The Corporation shall have the option to take over Contractor's Materials or any part thereof either brought to site or of which the Contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work), provided however, the Corporation shall be bound to take over the materials or such portions thereof as the

Contractor does not desire to retain. For materials taken over by the Corporation, cost of such materials shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the Contractor.

- ii) For Contractor's materials not retained by the Corporation, reasonable cost of transportation of such materials from site to Contractor's permanent stores or to his other works, whichever is less. If materials are not transported to either of the said places, no cost of transportation shall be payable.
- (c) If any materials supplied by the Corporation are rendered surplus, the same except normal wastage shall be returned by the Contractor to the corporation at rates not exceeding those at which these were originally issued less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the Contractor. In addition, cost of transporting such materials from site to the Corporation stores if so required by the Corporation.
- (d) Reasonable compensation for transfer of Tools & Plants from site to Contractor's permanent stores or to his other works, which ever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable. The Contractor shall if required by the Engineer-in-charge furnish to him books of account, wage books, time sheets and other relevant documents as may be necessary to enable him to certify the reasonable amount payable under this condition.

However, save as provided hereinabove, the Contractor shall have no further claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works, but which he did not derive in consequence of the fore closure of the whole or part of the works.

33.0 **DEFECTS BEFORE TAKING OVER**

If in respect of any Section or portion of the works not yet taken over, the Engineer shall at any time:

- (a) decide that any work done or plant supplied or materials used by the Contractor or any Sub-Contractor is or are defective or not in accordance with the Contract, or that such Section or Portion of the Works is defective or does not fulfil the requirements of the Contract (all such matters being hereinafter in this Clause Called 'defects'), and
- (b) as soon as reasonably practicable give to the Contractor notice in writing of the said decision specifying particulars of the defects alleged and of where the same are alleged to exist or to have occurred, and
- (c) so far as may be necessary place the Plant at the Contractor's disposal, then the Contractor shall with all speed and at his own expense, make good the defects so specified. In case the Contractor shall fail so to do the Purchaser may, provided he does so without undue delay, take at the cost of the

Contractor such steps as may in all the circumstances be reasonable to make good such defects. The Contractor shall be entitled to remove and retain all Plant that the Purchaser may have replaced at the Contractor's cost nothing contained in this Clause shall affect any claim by the Purchaser under Clause 35 (Delay in Completion).

34.0 TESTS ON COMPLETION

34.1 Notice of Tests

The Contractor shall submit to and agree with the Engineer initially the complete schedule of Tests on Completion. The Contractor shall give to the Engineer 21 days' notice in writing of the date after which he will be ready to make the Tests on completion as per above schedule. Unless otherwise agreed the tests shall commence within 10 days after the said date on such day or days as the Engineer shall notify the Contractor in writing.

34.2 Delayed Tests

If in the opinion of the Engineer the tests are being unduly delayed he may, by notice in writing, call upon the Contractor to commence such tests within 21 days from the receipt of the said notice and the Contractor shall commence the said tests on such days within the said 21 days as the Contractor may fix and of which he shall give notice to the Engineer. If the Contractor fails to make such tests within the time aforesaid the Engineer may himself proceed to make the tests. All tests so made by the Engineer shall be at the risk and expense of the Contractor.

34.3 Facilities for Tests on Completion

The Purchaser except where otherwise specified shall provide free of charge subject to the provisions of Sub-Clause 4 of this Clause such labour, materials, electricity, fuel and water as may be requisite and as may be reasonably demanded to carry out such tests efficiently. Lubricants and other consumables, special apparatus and precision instruments as required to carry out such tests efficiently shall be provided by the Contractor free of charge.

34.4 Repeat Tests

If any portion of the works fails to pass the tests, tests of the said Portion shall, if required by the Engineer or by the Contractor, be repeated within a reasonable time upon the same terms and conditions, save that all reasonable expenses to which the Purchaser may be put by the repetition of the tests shall be deducted from the Contract Sum.

34.5 Consequences of failure to pass Tests on Completion

If the works or any Section thereof shall fail to pass the tests on the repetition thereof under Sub-Clause 4 of this Clause the Engineer shall be entitled :

- (a) to order a further repetition of the tests under the conditions of Sub-Clause, or

- (b) to reject the works or Section thereof in accordance with Clause 33 (Defects before taking over) if the results of the tests show that the works or the Section fail to meet the performance guarantees or the agreed tolerance specified in the Contract, or if there are no such guarantees or tolerances, the results show that the works or the Section are not in accordance with the Contract or
- (c) to issue a Taking Over Certificate, if the Purchaser so wishes, subject to such reduction of the Contract Sum as may be provided in the Contract or failing such provision as may be agreed by the Purchaser and the Contractor.

35.0 **TIME FOR COMPLETION**

35.1 **Extension of Time for Completion**

If by reason of;

- (a) Force Majeure, or
- (b) Delay by any other contractor engaged by the purchaser; or
- (c) Suspension of the works under clause 31.1 or
- (d) Any other cause which in the opinion of the engineer is beyond the reasonable control of the contractor;

The contractor shall within 14 days from the occurrence of the above event causing delay, apply to the engineer in writing for extension of time. The engineer if convinced, may on receipt of such notice and supporting details; grant extension of time to the contractor in writing for the completion of the works for a period he feels is reasonable.

35.2 **Delay in Completion**

If the contractor fails to complete the works or sections thereof in accordance with the contract within the time for completion the purchaser shall be entitled on giving to the contractor notice in writing to a reduction of the contract sum as liquidated damages of an amount calculated at $\frac{1}{2}$ % of the contract sum for each week between the time for completion and the actual date of completion but the reduction shall not in any case exceed 5% of the contract sum. Such reduction shall be to the exclusion of any other remedy of the purchaser in respect of the contractor's failure to complete the work, and shall not release the contractor for any of its other obligations under the contract.

36.0 **TAKING OVER**

36.1 **Taking-over Certificate**

As soon as the works have been completed in accordance with the Contract (except in minor respects that do not affect their use for the purpose for which they are intended and save for the obligations of the Contractor under Clause 37 (Defects) and have passed the Tests on Completion, the Engineer shall issue a certificate to the Contractor (herein called a 'Taking-Over Certificate's) in which he shall certify the date on which the Works have been so completed and have passed the said tests and the

Purchaser shall be demand to have taken over the works on the date so certified whereupon title to and risk of loss of damage to the works or any Section or Portion thereof shall, subject to the provisions of Clause 18 (Liability for Accidents and Damage) and Clause 37 (Defects), pass to the Purchaser but the issue of a Taking-over Certificate shall not operate as an admission that the Works have been completed in every respect. In the event of the works being divided by the Contract into two or more Sections the Purchaser shall be entitled to take over any Section or Sections before the other or others, and thereupon the Engineer shall issue a Taking-Over Certificate in respect thereof. Save as provided in Sub-Clause 3 of this Clause the Purchaser shall not use the works or any Section or Portion thereof until a Taking-over Certificate has been issued in respect thereof.

36.2 Taking-over by Portions

If by agreement between the Purchaser and the Contractor any Portion of the works (other than & section or Sections) shall be taken over before the remainder of the works the Engineer shall issue a Taking-over Certificate in respect of that Portion But this will not relieve the responsibility of the Contractor to establish the Performance Guarantee within the scope of work.

36.3 User before Taking-over

If by reasons of any default on the part of the Contractor, a Taking-Over Certificate has not been issued in respect of every portion of the Works within one month after the Time for Completion the Purchaser shall be at liberty to use the Works or any Section or Portion thereof in respect of which a Taking-Over Certificate has not been issued if and so long as the works or the Portion so used as aforesaid shall be reasonably capable of being used provided that the Contractor shall be afforded the earliest possible opportunity of taking such steps as may be necessary to permit the issue of the Taking-over Certificate.

36.4 Interference with Tests

If, by reason of any act or omission of the Purchaser or the Engineer, or of some other contractor employed by the Purchaser, the Contractor shall be prevented from carrying out the Tests on Completion then, unless in the meantime the works shall have been proved not to be substantially in accordance with the Contract, the Purchaser may take over the works and the Engineer shall issue an Interim Taking-over Certificate accordingly; nevertheless the Contractor shall make the said tests during the Defects Liability Period as and when required by the Engineer by 14 days' notice in writing and Clauses 34.2, 34.3, 34.4 and 34.5 (Tests on Completion) shall apply.

37.0 DEFECTS AFTER TAKING OVER

37.1 Defects Liability Period

In these Conditions the expression 'Defects Liability Period' shall mean the period stated in special Conditions or, if no period is stated, twelve (12) months calculated from the date certified in the Taking-Over Certificate issued in accordance with Clause

36 or, in the event of more than one certificate having been issued by the Engineer under the said Clause, from the respective dates so certified and in relation to the Defects Liability Period. The expression 'The Works' shall be construed accordingly.

37.2 Making Good Defects

The Contractor shall be responsible for making good with all possible speed at his expense any defect in or damage to any portion of the Works which may appear or occur during the Defects Liability Period and which arises either :

- (a) from any defective materials, workmanship or design (other than a design made, furnished or specified by the Purchaser and for which the Contractor has disclaimed responsibility giving appropriate reasons in writing within a reasonable time after receipt of the Purchasers instructions) or
- (b) from any act or omission of the Contractor done or omitted during the said period.

37.3 Notice of Defects

If any such defect shall appear or damage occur the Purchaser shall forthwith inform the Contractor thereof stating in writing the nature of the defect or damage. The provisions of Clause 37 shall apply to all replacements or renewals carried out by the Contractor to remedy defects and damage as if the said replacements and renewals had been taken over on the date they were completed to the satisfaction of the Engineer.

37.4 Extension of Defects Liability Period

The Defects Liability Period shall be extended by a period equal to the period during which the Works (or that Portion thereof in which the defect or damage to which the Clause applies has appeared or occurred) cannot be used by reason of that defect or damage.

37.5 Delay in Remedying Defects

If ;any such defect or damage be not remedied within a reasonable time the Purchaser may proceed to do the work at the Contractor's risk and expense.

37.6 Removal of Defective Work

The Contractor may with the consent of the Engineer remove from the Site any Portion of the Works which is defective or damaged if the nature of the defect or damage is such that repairs cannot be expeditiously carried out on the Site.

37.7 Further Tests on Completion

If the replacements or renewals are of such a character as may affect the efficiency of the works or any portion thereof, the Purchaser may within one month of such replacement or renewal give to the Contractor notice in writing requiring that Tests on

completion be made, in which case such tests shall be carried out as provided in Clause 34 (Tests on Completion).

37.8 Conditions Applicable

These General Conditions shall apply to all inspections, adjustments, replacements and renewable and to all tests occasioned thereby carried out by the Contractor pursuant to this Clause.

37.9 Right of Access

Until the final certificate of payment shall have been issued, the Contractor shall have, with the permission of the Purchaser, the right of access, during normal working hours, at his own risk and expense, by himself or his duly authorised representatives, whose names shall have previously been communicated in writing to the Engineer, to all parts of the works for the purpose of inspecting the working thereof and to records of the working and performance thereof for the purpose of inspecting the same and taking notes therefrom. Subject to the Engineer's approval, the Contractor may at his own risk and expense make any test which he considers desirable.

37.10 Contractor to Search

The Contractor shall, if required by the Engineer in writing, search for the cause of any defect, imperfection or fault under the directions of the Engineer. Unless such defect, imperfection or fault shall be one for which the Contractor is liable under the Contract the cost of the work carried out by the Contractor in searching as aforesaid shall be borne by the Purchaser. But if such defect, imperfection or fault shall be one for which the Contractor is liable as aforesaid, the cost of the work carried out in searching as aforesaid shall be borne by the Contractor.

37.11 Gross Misconduct

'Gross Misconduct' means an act or omission on the part of the Contractor implying either a failure to pay due regard to serious consequences which a conscientious and reasonable contractor would normally foresee as likely to ensue, or a deliberate disregard of any consequences of such act or omission.

38.0 VARIATIONS

38.1 Engineer's Power to Vary

The Contractor shall not alter any of the works except as directed in writing by the Engineer. The Engineer shall have full power, subject to the provision hereinafter contained, from time to time during the execution of the Contract by notice in writing to direct the Contractor to alter, amend, omit, add to or otherwise vary any of the Works. The Contractor shall carry out such variations and be bound by the same conditions, so far as applicable, as though the said variations were stated in the Specification. Provided that no such variation shall, except with the consent in writing of the Contractor be such as will, with any variations already directed to be made, involve a

net addition to or deduction from the Contract Sum of more than fifteen (15) percent thereof. In any case in which the Contractor has received any direction from the Engineer which either than or later will, in the opinion of the Contractor, involve an addition to or deduction from the Contract Sum the Contractor shall as soon as reasonably possible and where practicable, before proceeding therewith, advise the Engineer in writing to that effect. The amount to be added to or deducted from the Contract Sum shall be ascertained and determined in accordance with the rates specified in the schedules of prices, so far as the same may be applicable, and where rates are not contained in the said schedules or are not applicable such amount shall be such sum as is worked out on the basis of prevailing market rates and contractors' overhead.

38.2 Orders for Variations to be in Writing

No such variations shall be made by the Contractor without an order in writing of the Engineer. Provided that no order in writing shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an order given under this Clause, but is the result of the quantities exceeding or being less than those stated in the bill of quantities. Provided also that if for any reason the Engineer shall consider it desirable to give any such order verbally, the Contractor shall comply with such order and any confirmation in writing of such verbal order given by the Engineer, whether before or after the carrying out of the order, shall be deemed, to be an order in writing within the meaning of this Clause. Provided further that if the Contractor shall within 7 days confirm in writing to the Engineer and such confirmation shall not be contradicted in writing within 21 days by the Engineer, it shall be deemed to be an order in writing by the Engineer.

38.3 Claims for Additional Payment for Variations

The Contractor shall send to the Engineer, once in every month, an account giving particulars (as full and detailed as possible) of all claims for any additional payment to which the Contractor may consider himself entitled and of all extra or additional work ordered by the Engineer which he has executed during the preceding month. No claim for payment (interim or final) will be considered unless included in such account.

38.4 Variations Exceeding Fifteen (15) Percent

If, with the consent in writing of the Contractor and the Purchaser, the total value of all variations ordered under the provisions of this clause exceeds 15 percent of the Contract sum, the Contract sum shall be amended by such sum as shall be agreed upon between the Engineer and the Contractor. In the event of disagreement the Engineer shall fix such sum as shall in his opinion be reasonable and proper, having regard to all material and relevant factors including the Contractor's non-costs and overheads.

39.0 VESTING OF PLANT AND CONTRACTOR'S EQUIPMENT

39.1 Ownership of Plant

Plant, equipment, component and material supplied or to be supplied pursuant to the Contract shall become the property of the Purchaser at whichever is the earlier of the following times :

- (a) when Plant is appropriated to the Contract ;
- (b) when by virtue of Clause 31 (Suspension of works) the Contractor become entitled to require that the Contract Price of Plant be included in an interim certificate; or
- (c) when plant is delivered pursuant to the Contract.

39.2 Marking of Plant

Where the property in Plant passes to the Purchaser prior to the delivery of such Plant the Contractor shall so far as is practicable and to the reasonable satisfaction of the Engineer set the Plant aside and mark the Plant as the property of the Purchaser. In the event of the Contractor failing so to set aside and mark the Plant as aforesaid the Engineer shall be entitled to withhold any interim certificate to which the Contractor may otherwise be entitled.

Such Plant shall be in the care and possession of the Contractor solely for the purposes of the Contract and shall not be within the ownership or disposition of the Contractor and any interim certificate issued by the Engineer shall be without prejudice to the exercise of any power of the Engineer contained in the Contract to reject Plant which is not in accordance with the Contract and upon any such rejection the property in the rejected plant shall immediately revert to the Contractor.

40.1 Removal of Contractor's Equipment

All Contractor's Equipment Constructional Plant, Temporary works and materials provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent in writing of the Engineer, which shall not be unreasonably withheld.

40.2 Loss or damage to Contractor's Equipment

The Contractor shall be liable for loss of or damage to any of the Contractor's equipment which may happen otherwise than through the default of the Purchaser.

40.3 Other Conditions

Any other conditions affecting Contractor's equipment shall be set out in Special Conditions.

41.0 CERTIFICATE AND PAYMENT

41.1 Certificate for Payment

The Contractor may at the times and in the manner following apply for interim and final certificates for claiming payment as referred to in Clause 42 (Terms of Payment) for Plant delivered to the site and for work executed on the site.

A detail billing schedule indicating break up of works , showing separately, where applicable, delivery, construction, erection and commissioning and value thereof along with sequence of execution shall be submitted by the Contractor immediately after award of the Contract. The Contractor shall get the billing schedule approved by the Purchaser well in advance of submitting any application for interim certificates, otherwise any interim certificate may be withheld.

41.2 Application for Interim Certificates

Applications for interim certificates may be made to the Engineer in respect ;of each delivered Plant and from time to time as work on the Site Progresses.

Each such application shall state the amount claims and shall set forth in detail, in the order of the schedule of prices, particulars of the work executed on the site and of the Plant delivered to the Site Pursuant to the Contract to a date named in the application and since the period covered by the last preceding certificate, if any.

41.3 Issue of Interim Certificates

The Engineer shall issue to the Contractor an interim certificate within one month after receiving an application therefor in accordance with Sub-Clause 2 of this Clause which the Contractor was entitled to make.

41.4 Value of Interim Certificates

Every interim certificate shall certify the total value of plant delivered to the Site or as the case may be of the work duly executed on the site and of the Plant delivered to the site for use in the works pursuant to the Contract up to the date named in the application for the certificate, less the total of any sums previously certified in interim certificate, provided that no sum shall be included in any interim certificate in respect of any works that, according to the decision of the Engineer, does not comply with the Contract, or has been brought and is at the date of the certificate prematurely upon the Site.

41.5 Withholding Interim Certificates

An interim certificate may not be withheld on account of defects of a minor character which are not such as to affect the use of the works or of any Portion thereof.

41.6 Advance and Progress Payments

If the Contract provides for progress payments or other payments in advance, before or during manufacture or before delivery details shall be given in Special Conditions and any amounts becoming due to the Contractor in respect thereof shall be included in interim certificates. The making of payments pursuant to this Sub-Clause shall be subject to the Contractor procuring financial assurance by means of the bond or guarantee of an Insurance company or bank or other securities approved by the Purchaser the details and terms of which shall be stated in Special Conditions.

41.7 Effect of Interim Certificates

No interim certificate shall be relied upon as conclusive evidence of any matter stated therein nor affect or prejudice any right of the Purchaser or the Contractor against the other.

41.8 Final Certificate of Payment

Application for the final certificate may be made to the Engineer after the Contractor has ceased to be under any obligation under Clause 37 (Defects) provided that, if a Taking-Over Certificate has been issued in respect of any Section or Portion of the works, the Contractor may apply for a separate final certificate at any time after the said obligation has ceased in relation to such section or portion. There the Contractor has carried out replacements or renewals to the works in compliance with Clause 37 (Defects) the Contractor's obligations shall continue as provided in Sub-Clause 37.3 but the right of the Contractor to apply for a final certificate other than for the replacements or renewals shall not be affected by that fact and after the Contractor has ceased to be under any obligation under Clause 37 (Defects) in respect of the replacements or renewals he may apply for a final certificate in respect thereof.

41.9 Issue of Final Certificate

The Engineer shall issue to the Contractor a final certificate within two months after receiving an application thereof which the Contractor was entitled to make.

41.10 Value of Final Certificate

A final certificate shall certify the total of all amounts comprised in interim certificates previously issued in respect of the works or the Section or Portion thereof to which the final certificate relates subject to such additions thereto or deductions therefrom as may be authorised under Sub-Clause 12 of this Clause.

41.11 Final Certificate Conclusive

A final certificate shall, save in the case of fraud or dishonesty relating to or affecting any matter dealt within the certificate be conclusive evidence as to the sufficiency of

the works and of the value thereof unless any proceedings arising out of the Contract whether under Clause (Arbitration) or otherwise shall have been commenced by either party before the final certificate has been issued or within three months thereafter.

41.12 Adjustment to Certificate

If any sum shall become payable to the Contractor under the Contract otherwise than for work executed or Plant delivered the amount thereof shall be included in the next certificate (interim or final) issued by the Engineer and if any sum shall become payable under the Contract by the Contractor to the Purchaser, prior to the issue of the final certificate, whether by deduction from the Contract Sum or otherwise, the amount thereof shall be deducted in the next certificate.

41.13 Corrections to Certificates

The Engineer may in any certificate give effect to any correction or modification that should properly be made in respect of any previous certificate.

PAYMENT CONDITIONS

42.0 Terms of Payment

It is available in commercial terms and condition.

43.0 REMEDIES AND POWER

43.1 Default of Contractor

If the Contractor shall become bankrupt, or have a receiving order made against him, or shall present his petition in bankruptcy, or shall make an arrangement with or assignment in favour of his creditors, or shall agree to carry out the Contract under a committee of inspection of his creditors or, being a corporation, shall go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or if the Contractor shall assign the Contract, without the consent in writing of the Purchaser first obtained, or shall have an execution levied on his goods, or if the Engineer shall certify in writing that in his opinion the Contractor.

- (a) has abandoned the Contract, or
- (b) without reasonable excuse has failed to commence the works or has suspended the progress of the works for twenty-eight days after receiving from the Engineer written notice to proceed, or
- (c) has failed to remove materials from the Site or to pull down and replace work for twenty eight (28) days after receiving from the Engineer written notice that the said materials or work had been condemned and rejected by the Engineer under these conditions, or
- (d) despite previous warnings by the Engineer, in writing is not executing the works in accordance with the Contract, or is persistently or flagrantly neglecting to carry out his obligations under the Contract, or

- (e) has, to the detriment of good workmanship, or in defiance of the Engineer's instructions to the contrary, sub-let any part of the Contract.

Then the Purchaser may after giving fourteen days' notice in writing to the Contractor, enter upon the Site and the Works and expel the Contractor there from without thereby voiding the Contract, or releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and powers conferred on the Purchaser by the Contract and may himself complete the works or may employ any other contractor to complete the works. The Purchaser or such other Contractor may use without being responsible Contractor for fair wear and tear for such completion so much of the contractor's equipment, Constructional Plant, Temporary Works and materials, which have been deemed to be reserved exclusively for the execution of the Works, under the provisions of the Contract, as he or they may think proper and the Purchaser may at any time, sell any of the said Contractor's Equipment, Constructional Plant, Temporary Works and unused materials and apply the proceeds of sale in or towards the satisfaction of any sums due or which may become due to him from the Contractor under the Contract.

43.2 Valuation at Date of Forfeiture

The Engineer shall, as soon as may be practicable after any such entry and expulsion by the Purchaser, fix and determine experts, or by or after reference to the parties, or after such investigation or inquiries as he may think fit to make or institute and shall certify what amount, if any, had at the time of such entry and expulsion been reasonably earned by or would reasonably accrue to the Contractor in respect of work then actually done by him under the Contract and the value of any of the said unused or partially used materials, any Constructional Plant and any Temporary Works.

43.3 Payment after Forfeiture

If the Purchaser shall enter and expel the Contractor under this Clause, he shall not be liable, to pay to the Contractor, any money on account of the Contract until the expiration of the Defects liability period and thereafter until the costs of execution and maintenance, damages for delay in completion, if any and all other expenses incurred by the Purchaser have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum or sums, if any, as the Engineer may certify would have been payable to him upon due completion by him after deducting the said amount. If such amount shall exceed the sum which would have been payable to the Contractor on due completion by him, then the Contractor shall, upon demand, pay to the Purchaser the amount of such excess and it shall be deemed a debt due by the Contractor to the Purchaser and shall be recoverable accordingly.

44.0 URGENT REPAIRS

If, by reason of any accidents or failure, or other event occurring to in or in connection with the works, or any part thereof, either during the execution of the works, or during the Defects liability period, any remedial or other work or repair shall, in the opinion of the Engineer or the Engineer's Representative, be urgently necessary for the safety of

the works and the Contractor is unable or unwilling at once to do such work or repair, the Purchaser may employ and pay other persons to carry out such work or repair as the Engineer or the Engineer's Representative may consider necessary. If the work or repair so done by the Purchaser is work which in the opinion of the Engineer, the Contractor was liable to do at his own expense under the Contract, all expenses properly incurred by the Purchaser in so doing shall be recoverable from the Contractor by the Purchaser, or may be deducted by the Purchaser from any moneys due or which may become due to the Contractor. Provided always that the Engineer or the Engineer's Representative, as the case may be shall as soon after the occurrence of any such emergency as may be reasonably practicable notify the Contractor thereof in writing.

45.0 **TERMINATION OF CONTRACT**

45.1 **Due to Prolonged Delay**

If even after of the maximum reduction of 5% under clause 35(2), i.e. after expiry of ten weeks, from the scheduled date of completion, the work still remains incomplete, the purchaser may by notice in writing to the contractor, terminate the contract and may get the contract executed itself or by any other party for which the contractor shall be liable to pay the purchaser for all extra cost incurred and consequential losses suffered by purchaser by reason of the failure of the contractor to complete the work.

45.2 **For Corrupt and Fraudulent Practice**

If the contractor; fraudulently, offers or give or agree to give to any person in corporation's service or to any other person on his behalf any payment, compensation, consideration, gift or any kind of inducement or reward for doing or forbearing to or for having done or forborne to do any act in relation to the obtaining or execution of this contract for the Corporation, the purchaser by written notice may terminate the contract.

45.3 **For attachment of plants, machineries & equipments at site**

The purchaser may terminate the contract in writing if the contractor, suffers any order attachment passed by any court in respect of the plants, equipment's, machineries and tools etc. engaged in the site of the purchaser by the contractor and such attachment order continues for a period of more than 21 days.

45.3.1 **For Non Performance of terms and conditions of the contract.**

If the contractor fails to perform its duties and obligation as laid down in the contract or despite previous warnings by the Engineer, in writing is not executing the works in accordance with the Contract, or is persistently or flagrantly neglecting to carry out his obligations under the Contract, the Engineer shall give notice in writing to the contractor and direct the contractor to rectify its defect or latches within 30 days from the date of the notice. If even after the expiry of 30 days the contractor fails to rectify its defects/latches the purchaser may terminate the contract in writing.

In the event of termination of the contract as aforesaid in terms of clauses 45(2),(3) and/ or (4) above, the contractor shall be liable to compensate the purchaser for all consequential losses and damages suffered by it.

46.0 **DISPUTE AND ARBITRATION**

46.1 **Dispute**

If at any time any questions, dispute or difference (hereinafter referred to as a "Dispute") shall arise between the Purchaser and the Contractor, either party shall, as soon as reasonably practicable, give to the other notice in writing of the existence of such Dispute specifying its nature and the point of issue. The parties shall attempt, within a period of sixty (60) days after receipt by one party of a notice from the other party of the existence of the Dispute, to settle such Dispute amicably in the first instance by mutual discussions between the parties.

46.2 **Arbitration**

Notwithstanding anything contained in this Contract, all questions, disputes or differences whatsoever which is not amicably settled as per clause no 46.1 above, between the parties to the Contract, arising out of or relating to the construction, meaning and operation or interpretation of provision of the Contract or matters related thereto whether during the currency of the Contract or its failure or after the completion of the Contract, shall be referred to the adjudication of Sole arbitrator to be nominated and appointed by the Chairman and Managing Director of the Purchaser. It will be no objection to any such appointment even if the Arbitrator so appointed is an employee of the Purchaser.

The award of the Sole Arbitrator shall be final and binding on the parties and the provisions of The Arbitration and Conciliation Act, 1996 and Rules made there under shall be applicable to the arbitration proceedings under this clause. It is a term of the contract that the party invoking arbitration shall specify the disputes to be referred to arbitration under this clause with details in respect of each of such disputes.

46.3 **Work to continue**

Work under the contract shall be continued by the Contractor during the arbitration proceedings, unless otherwise directed in writing by the Purchaser or the Engineer or unless the matter is such that the works cannot possibly be continued until the decision of the arbitrator is obtained and except as those which are otherwise expressly provided in the contract, no payment due or payable by the purchaser shall be withheld on account of such arbitration proceedings unless it is the subject matter or one of the subject matters thereof.

47.0 NOTICES

47.1 Notices to Contractor

All certificates, notices or written orders to be given to the contractor by the Purchaser or the Engineer under the terms of the Contract shall be served by sending the same by registered post or fax to or leaving the same with acknowledgement thereof at the Contractor's principal place of business or to such other address as the Contractor shall nominate for that purpose.

47.2 Notices to Purchaser and Engineer

Any notice to be given to the Purchaser or to the Engineer under the terms of the Contract shall be served by sending the same by registered post or fax to or leaving the same with acknowledgement thereof at the respective addresses to be nominated for that purpose.

47.3 Change of Address

Either party to the Contract or the Engineer may change its nominated address by prior written notice to the others.

48.0 MISCELLANEOUS

48.1 Endorsement of Terms

The failure of either party to endorse at any time of the provision of the contract or any rights in respect there to or to exercise an option herein provided shall in no way be construed to be waiver of such provisions, rights or option or in any way to affect the validity of this Contract. The exercise by either party of any of its rights herein shall not preclude or prejudice either party from exercising the same or any other right it may have.

49.0 Special Conditions

1. The installation jobs also comprise of removal of scrap generated to scrap yard. The work place should be kept clean and all left out material should be disposed properly every day as per instruction of the Engineer In charge, UCIL. . **If contractor fails to remove the scrap or materials within 7 (seven) days, it will be done through any other agency at contractor's risks & costs.**
2. Power connection to one points for distribution board provided by the contractor within 100 meters radius of work-site. Power supply will be chargeable
3. **Scope of supply of UCIL - free of cost:**
Water and lighting facility as per availability.

Annexure- A

SAFETY OF CONTRACTOR'S EMPLOYEES

1. The contractor shall at all times, take all reasonable precaution for the safety of employee, including those of sub – contractors in the performance of his contract and shall comply with all applicable provisions of both Central as well as the State Safety Laws. In addition to the safety provisions, the contracting officer shall include the SAFETY requirements as RECOMMENDED by the Health Physics Unit, Turamdih for a specified contract. In the event that contractor fails to comply with these provisions, the contracting officer may, without prejudice to any other legal or contractual rights, issue an order for stopping all or any part of the work, thereafter a start order for resumption of work may be issued at the sole discretion of the Contracting Officer. The contractor shall make no reason of or in connection with such stoppage.
2. Contractor shall have a full time Safety Officer / Engineer when the contractor employ 500 or more persons or when engaged specifically in hazardous work.. In the case of contractors employing fewer than 500 persons , his safety representative shall be an employee in a high supervisory capacity and his safety duties may be in addition to his other technical / administrative duties.
3. Contractor shall have at least one person fully trained in First Aid to be present at the site of work all time.
4. Contractor must report to the Safety Officer (Mill) – through their contracting officer every accident involving
 - Their personnel
 - UCIL property or personnel.
 - Property or personnel of other contractors working at the site.
- 4.1 Contractor must report to the Safety Officer (Mill) immediately on becoming aware of any accident of Type - A (see Appendix –1) giving the following information :-
 - Name of the informant
 - Nature and location of incident being reported
 - Name of Supervisor / Engineer – In charge, location and telephone no. where he can be reached.
- 4.1.1 Contractor shall submit their investigation reports , through their contracting officer , to the Safety officer (Mill) immediately but not later than 3 (three) working days after the occurrence of accident in the Form – A (see Appendix - 2)
- 4.1.2 In the case of Type – B accidents (see Appendix – 1) , Contractors shall submit their investigating reports , through their contracting officer , to the Safety officer (Mill) immediately but not later than 3 (three) working days after the occurrence of accident in the Form – A .
- 4.3 Monthly summary of accidents and cases of fire shall be prepared by each contractor in Form – B (see Appendix – 3) and be sent to the Safety officer (Mill) by the 7th of the next month.
- 4.3.1 Prime contractor reports shall include the man days lost and occurrence of accident under the jurisdiction of the Sub Contractors.

4.3.2 Contractors shall submit a narrative on safety activities and fire incidents for each month along with Form – B. The review should contain such items as Personnel and programme change, major project started and major problem.

APPENDIX – 1

CLASSIFICATION OF ACCIDENTS

TYPE – A

1. Fatal injury.
2. Serious injuries such as fracture, dislocation, severe burns etc. necessitating hospitalisation.
3. Any injury to five or more persons.
4. Accidents resulting in damage by fire , Explosion etc.

TYPE – B

1. Minor injuries which results in laceration, abrasion, contusion etc.
2. Disabling injuries but not requiring hospitalisation.

APPENDIX – 2

(FORM – A)

ACCIDENT INVESTIGATION REPORTS

Name of contractor and project :
Nature of contract :
Name of Engineer Incharge :
Name of injured person :
Age :
Address :

Date and Time of accident :
Place where accident occurred :
Nature of job :

What was injured person doing :
at the time of accident

Description of accident (in detail) :

Nature of injuries :
What was defective or in wrong :
condition that was responsible
for the accident
What was wrong with working :
methods / instructions
What steps should be taken :
to prevent reoccurrence of
such accidents

Name of witness : 1.
2.

Safety representative's remarks
with signature and date

APPENDIX – 3

(FORM –B)

SUMMARY OF ACCIDENT FOR THE MONTH OF

Name of the contractor :

Name of project :

Name of the sub – contractor :

Name of safety representative
of the project:

Total nos. of persons working in the project.	<u>Male</u>	<u>Female</u>
--	-------------	---------------

Engineers

Supervisors

Labours

Total nos. of accidents
(Including Type A & B)

Disabling injuries

Non – disabling injuries

(Signature & stamp of Contractor)

cc: Engineer – In-charge

cc: Safety officer, UCIL (MILL)

SPECIFIC TERMS & CONDITIONS FOR SUBMITTING THE OFFER

- 1) **SCOPE:** Scope as per Annexure 1(A)
- 2) **STYLE OF QUOTATION :** TWO PART SINGLE STAGE SYSTEM
 - a) The tender will be on two part system. Part-I consisting of techno-commercial part (except price) & Part-II consisting of price only as per enclosed format (Annexure-1,2,3,4 & 5). After evaluation of the Techno commercial offers, the price part of the suitable parties will be opened.
 - b) Quotations are to be submitted in 'DUPLICATE' and to be typewritten or printed on vendor's letterhead. Any correction or over writing should be authenticated.
- 3) **PART-I, TECHNO COMMERCIAL BID (UNPRICED)**

It shall contain

 - a) Earnest Money Deposit.
 - b) Commercial terms & conditions of sale
 - c) Blank (unpriced) price bid proforma (copy of your price part without price).
 - d) All documents in support of your credentials (see **PRE-QUALIFICATION CRITERIA (PQC) indicated below.**
- 4) **PART-II, PRICE BID:** This part shall contain "Price" as per enclosed format 1, 2, 3, 4 & 5.
- 5) **MODE OF SUBMISSION OF TENDER**
 - a) Both parts of the offer should be sealed and super scribed with tender reference no., due date, Part No. i.e. Part-I for techno-commercial bid and Part-II for price bid and bidder's name & address.
 - b) Personal delivery is recommended. Tenderers forwarding tender by mail shall do so at their own risk. Tender received after the due date & hour may not be entertained. All envelopes duly sealed should be addressed to the Dy. General Manager (Purchase), Uranium Corporation of India Ltd., P.O. Jaduguda Mines, East Singhbhum, Jharkhand –832 102. Incomplete offers are likely to be rejected / ignored.
 - c) Offer shall **NOT** be sent by E-mail or Fax.
- 6) **DELIVERY SCHEDULE:** Tentative delivery schedule shall be within 6 months from the date of placement of LOI / purchase order. However, delivery schedule as in our purchase order shall apply.
- 7) **PRICE:** Your quoted rates should be on landed cost basis i.e. inclusive of basic price, all statutory duties & taxes, freight, insurance & unloading charges. Concessional rate of sales tax should be considered to quote your price. Please quote your price as per enclosed price format.
- 8) **PRICE TERMS:** Offers must be submitted on FOR DESTINATION basis for supply by road.

* TURAMDIH is located at about 7 KMs from TATANAGAR RLY STATION.
- 9) **BASIS OF EVALUATION:** The total lowest cost arrived under price format (5) of Sl. No. 5 (Grand total) which will be the landed cost basis and will be considered as the basis for award of contract to the successful bidder.
- 10) **FIRM PRICE:** The price should be firm till execution of entire order quantity.

11) **PAYMENT TERMS:**

a) **DESIGN & DRAWING**

- a) 60% of Design value with 100% of taxes and duties will be paid within 30 days from the date of initial submission of design documents and drawings as per delivery schedule.
- b) 20% of Design value will be paid within 30 days from the date of final submission of approved design documents and drawings.
- c) 10% of Design value will be paid within 30 days after commissioning.

b) **SUPPLY PART**

- a) 60% of Supply value with 100% of taxes and duties will be paid against receipt within 30 days.
- b) 20% of Supply value will be paid within 30 days of acceptance of material.
- c) 10% of Supply value will be paid within 30 days of commissioning.

c) **SUPERVISION OF ERECTION & COMMISSIONING CHARGES**

- a) 90% of supervision of E & C charges with 100% of taxes and duties will be paid within 30 days of E & C.

- d) Balance 10% of design & drawing, supply part and supervision of erection & commissioning charges will be released within 30 days of handing over and submission of PBG @ 10% of contract value.

- 12) **VALIDITY:** The offer should remain valid for 180 days from the date of opening of the tender.

- 13) **EARNEST MONEY DEPOSIT:** As per our "Instructions to tenderer and general conditions of contract" (enclosed). The E.M.D amount shall be Rs. 2,00,000/- only (Rupees two lakhs only). Supplier registered with NSIC / SSI are exempted for submission of EMD.

- 14) **SECURITY DEPOSIT:** The successful bidder shall furnish a security deposit to the extent of 5% of the total value of the order within 15 days after the order is awarded. Such a deposit will be held by the Corporation until successful completion of the order/contract, and will bear no interest. It will be forfeited in the event of breach of contract. Security deposit may be in the form of a bank guarantee issued by/ counter guaranteed by an Indian nationalized bank in favor of URANIUM CORPORATION OF INDIA LTD.

15) **BANK GUARANTEE (B.G)**

- a) Bank guarantee should be as per our proforma & issued by an Indian nationalised bank.
- b) They shall be valid for periods as under:
 - a) For Security : Till satisfactory completion of order.
 - b) For Warranty : Till end of warranty period.
- c) Bank guarantee shall provide for claim period of 6 months after the expiry date.
- d) If the bank guarantee is furnished with validity period less than as stipulated above or in the likelihood of the order not being executed within the stipulated delivery schedule, it will be your responsibility to arrange for extension of the validity of BGs as necessary and furnish the same well in advance of the expiry of the bank guarantee failing which we will be at liberty to invoke the bank guarantee.

16) **PRE-QUALIFICATION CRITERIA (PQC):**

- a) The Tenderer shall have designed, manufacture, supplied and successfully commissioned wet drum magnetic separator system of slurry handling capacity not less than 528 m3/hr and magnetite concentrate of 10 TPH or more comprising of wet Magnetic drum and related equipment's etc. during last three (04) financial years i.e., from 2011-2012 , 2012-2013 & 2013-2014.
- b) The Tenderer should have satisfactorily completed a single contract of costing not less than 1(one) crore or two contract costing not less than 50 lakhs each during last 3 financial years. (2011-2012 , 2012-2013 & 2013-2014)
- c) The Tenderer should have positive net worth. The Tenderer should have made profit before prior period adjustment and extraordinary items for at least two out of last three financial years (2011-2012, 2012-2013 & 2013-2014). Tenderer should also submit copy of balance sheet of three year as proof of fulfilling these criteria.

17) **SUPERVISION OF ERECTION & COMMISSIONING:** The equipment along with spares after receipt and acceptance shall be erected and commissioned under your supervision as per the agreed scheduled, by your service engineers upon written information from us.

18) **COMMISSIONING ON NO LOAD & FULL LOAD BASIS:** Charges for commissioning on NO LOAD and FULL LOAD basis of equipment supplied under this packages & performance testing as outlined in the scope of work.

19) **PERFORMANCE DEMONSTRATION AND TAKING OVER:**
The entire system shall be operated continuously for a period of three days successfully at the rated capacity and NIT conditions. The system will be deemed to have been taken over after successful performance demonstration.

20) **OPERATION AND MAINTENANCE MANUAL:** Five (5) sets each of operation and maintenance manuals with all relevant drawings, spare part list, part no., MOC, etc. of complete system including bought out items must be handed over before performance demonstration. The manual shall contain Trouble shooting, interlock details, etc.

21) **PENALTY CLAUSE:**

- a) If the Wet Drum Magnetic Separator system gives overall magnetite recovery and grade up to 90% of the offered, no penalty will be levied.
- b) In case overall magnetite recovery and grade will be less than 90% entire PBG i.e. 10% of the contract value will be revoked / forfeited.

22) **AGREED LIQUIDATED DAMAGE:** Time shall be the essence of the contract. If successful tenderer fails to execute the order within the agreed delivery schedule, he shall be liable to pay as "agreed liquidated damages" a sum @ ½% of the contract value per week or part thereof of delay subject to a maximum of 5%.

23) **GUARANTEE / WARRANTY (DEFECT LIABILITY PERIOD):** The material shall be warranted against manufacturing defects, poor workmanship and mechanical and electrical inherent problems for a period of 18 months from the date of supply or 12 months from the date of commissioning, whichever is earlier. Defected material shall be repaired/replaced free of cost on "free at our site" basis. This shall be backed up by a B.G for 10% of the PO value valid for the warranty period as per our proforma enclosed.

- 24) **INSPECTION:** UCIL reserves the right for stage inspection at the supplier's works. However acceptance of goods will be based on full inspection at UCIL site only. In the event of damage or loss of goods, supplier shall repair / replace the material free of cost at our satisfaction within 3 months of intimation.
- 25) **PREFERENCE:** Preference to PSU's will be applicable as per Govt. guidelines in vogue. Party claiming exemption shall submit valid supporting documents along with their offer.
- 26) **RISK PURCHASE:** In the event of order not being executed satisfactorily, we reserve the right to purchase material from alternative sources at your risk and cost.
- 27) **CANCELLATION OF ORDER:** It will be your endeavor to execute the purchase order to our satisfaction. In case of your failure to do so, the order is liable to be cancelled.
- 28) **ASSURED SPARES AVAILABILITY:** The bidder shall confirm in writing that all spares & components of the equipment offered shall be made available for a minimum period of 10 years from the date of supply of the machine.
- 29) Other terms & conditions as in "Instructions to Tenderer & General Conditions of Contract" (enclosed) shall also apply.
-

PRICE FORMAT- 1

DESIGN & ENGINEERING CHARGES:

Design and engineering charges for:- [The tenderer shall note the quoted price ,shall span from ' Designing up to and including Approval of drawing & documents , submission of requisite no. of final 'As built along with hard copies , tracings, transparencies & soft copies and also the operation & maintenance manual of the plant under this package WMSS-01]

SL NO.	Equipment Description	Unit Price	Total Taxes & Duties, if any	Total
1	Design engineering services of Wet Drum Magnetic separator system and other related item as per scope of work covered under this package, including submission & approval of drawings.			
2	Design & engineering of all civil foundation of equipments to be supplied, submission & approval of drawing.			
3	Design & engineering of all electrical systems to be supplied under this package, submission & approval of drawings.			
4	Design of layout fitting to existing set up.			
TOTAL				

Note: - the bidder shall mention under each head the tentative list of drawings along either offer to be submitted during detailed design and engineering.

PRICE FORMAT - 2

SUPPLY OF EQUIPMENTS:

The bidder shall mention all equipments required for completion of Wet Drum Magnetic Separator system as per scope of work and shall submit their price as per format given below:-

SL NO.	Equipment Description	Quantity	EX. Works Price	TAXES AND DUTIES			Total Taxes & Duties	Freight Insurance Including loading & Unloading	Total f.o.r site
				ED	CST/ VAT	other taxes & Duties			
1	Wet magnetic separation drum of Size 1219 mm diameter x 3810 mm wide with motor, gearbox etc	4 No.							
2	Wet magnetic separation drum of Size of Size 1219 mm diameter x 609 mm wide with motor, gearbox etc	2 No.							
3	MCC, local bush button, cable, cable tray and socket ,gland and other required accessories	1 lot							
4	Any other equipment required to complete the full system								
							Grand total Rs.		

PRICE FORMAT - 3

SUPERVISION OF ERECTION & COMMISSIONING CHARGES:

Charges for supervision on erection & commissioning of equipments supplied under this package & performance testing as outlined in the scope of work including all taxes and duties:

Rs. _____ (Lump sum) _____

PRICE FORMAT -4

ESSENTIAL SPARES:

The bidder shall supply under mentioned (A) essential spares along with equipments, covered under the scope of supply for the Wet Drum Magnetic Separator system & (B) Consumables and shall submit their prices as per format given below.

SL NO.	Equipment Description	Quantity	EX. Works Price	TAXES AND DUTIES			Total Taxes & Duties	Freight Insurance Including loading & Unloading	Total F.O.R site
				ED	CST /VAT	other taxes & Duties			
1	Spare for Drum No. 1,2,3 &4								
	a) Gear Box	2 set							
	b) Motor	2 set							
	c) Drive Sprocket	2 set							
	d) Chain	2 set							
	e) Bearings	2 set							
	f) Gear Box	2 set							
2	Spare for Drum No. 5&6								
	a) Gear Box	1 set							
	b) Motor	1 set							
	c) Drive Sprocket	1 set							
	d) Chain	1 set							
	e) Bearings	1 set							
	f) Gear Box	1 set							
3	Spare for MCC								
	a) Indicating lamps	10 Nos.							
	b) Overload relay	2no. each type							
	c) Contractor	2no. each type							
	d) Switch	2no. each type							
	e)Main Switch for incomer of MCC.	1no.							
(A) TOTAL(Rs.)									

PRICE FORMAT -5

Sl.No.	Description	TOTAL AMOUNT (Rs.)
1	Design & Engineering charges (as per price format-1)	
2	Supply of Equipments (as per price format-2)	
3	Supervision of Erection & Commissioning Charges (as per price format-3)	
4	Essential & Consumables spares (as per price format-4)	
5	GRAND TOTAL (in figure and word)	

DRAWINGS





INSTRUCTIONS TO TENDERER AND GENERAL CONDITIONS OF CONTRACT

Tenderers are required to give their sealed Tender in duplicate.

No Tender shall be considered if:

- a) Tenders are received after the specified date and time.
- b) The quotations are not legible and contain overwriting.
- c) Prices are tendered telegraphically on the due date and not confirmed subsequently.
- d) All the pages of offer are not signed by competent and authorised persons. Any person given a tender shall furnish documentary evidence that his signature on the tender, submitted by him is legally binding upon himself, his firm or company as the case may be.

Prices: The prices quoted must be net per unit quantity Sales tax/Excise duty, packing and delivery charge if applicable should be shown separately. Wherever necessary the prices may be shown separately if the material or part is imported.

Prices shall be given as under:

- a) F.O.R. destination (Jaduguda / Narwapahar / Turamdih) by road.
- b) If the item is imported, break up shall be furnished indicating:
 - i) F.O.B. port of shipment in foreign currency.
 - ii) Insurance & freight up to Calcutta Port.
 - iii) Foreign Exchange rate.
 - iv) Customs tariff heading and custom's duty.
 - v) Clearance & charges for delivery at Jaduguda.

Acceptance of Tender: The final acceptance of the tender rests with UCIL, who reserves to itself the right to reject any or all tenders without assigning any reason. It does not bind itself to accept the lowest or the whole of a tender. Order may be placed on more than one tenderer.

Validity: The prices should remain firm for acceptance for 180 days from the date of opening of the tender.

Responsibility of Completeness: Goods quoted for must be complete in all respect. Any fittings or accessories which may not be specifically mentioned in the specification but which are usual or necessary are to be provided by the Tenderer without extra charges.

Quantity: The Corporation reserves the right to order less or more than the specified quantity at the offered rates.

Insurance: Transit insurance should cover all risks upto the destination. Insurance will be arranged by the Corporation or the supplier depending on the basis of the contract.

Earnest Money: Offers should be accompanied by an earnest money deposit, without which, the offer is liable to be rejected.

The amount of the EMD shall be as stipulated under "SPECIFIC TERMS & CONDITIONS FOR SUBMITTING OFFER".

E.M.D. shall be in the form of a demand draft drawn on State Bank of India, Jaduguda Branch (code No. 0227) or Jamshedpur Branch of any Indian Nationalised bank drawn in favour of URANIUM CORPORATION OF INDIA LTD. E.M.D. shall not bear any interest.

Security Deposit: The successful bidder shall furnish a security deposit to the extent of 5% of the total value of the order, before the order is awarded. Such a deposit will be held by the Corporation until successful completion of the order/contract, and will bear no interest. It will be forfeited in the event of breach of contract. Security deposit may be in the form of a bank guarantee issued by/ counter guaranteed by an Indian Nationalised bank in favour of URANIUM CORPORATION OF INDIA LTD.

Inspection: UCIL reserves the right of stage and/or pre-dispatch inspection for which due notice shall be given by the supplier. However, final inspection shall be done on receipt of goods at destination.

Capability: List of customers of repute with Photostat copies of order may be submitted along with your offer.

Rejection of Goods: UCIL reserves the right to reject goods which are not as per specification and also if supplied in breach of the terms & conditions stipulated. In case of rejection you shall have to replace free of cost or refund the amount paid.

UCIL shall be entitled to recover from the supplier costs incurred by UCIL in respect of the rejected goods. Rejected goods will be lying at the UCIL's store at the supplier's risk and shall be removed by the supplier at his own cost immediately on receipt of rejected advice. The Corporation will not be responsible for any loss on account of deterioration etc. of the rejection goods. If rejected goods are not removed by the supplier, UCIL may charge penal rent and dispose off the goods as deemed.

Failure and Termination of Contract: When once the tender is opened, the tenderer is bound to abide by the rate, delivery and other terms & condition quoted by him. For any default in this connection or withdrawal of the quotation, the earnest money deposit shall be forfeited. If the tenderer fails to deliver any stores in accordance with to the terms & conditions, as per specifications stipulated, replace any stores rejected within such time as may be stipulated or breach of contract in any other way, the Corporation shall be entitled to anyone or more of the following:

- a) Cancel the contract, wholly or partly.
- b) Forfeit the earnest money and/or security deposit
- c) Impose penalty up to 10% of the contract value.
- d) To Procure from alternative sources and recover extra cost incurred by the Corporation.
- e) Removal of supplier's name from the approved list of suppliers.
- f) To receive from the tenderer as agreed liquidated damages a sum equal to half a percent of the value of the stores which the tenderer fails to deliver per each week or part thereof during which the delivery of such stores may be in arrears.
- g) Recovery of Liquidated damages.

In the event of action taken under clause (d) and (f) above, the tenderer shall be liable for any loss which the Corporation (UCIL) may sustain on that account but the tenderer shall not be entitled to any saving on such purchases made against default.

The decision of the Corporation (UCIL) shall be final as regards the

- acceptability of stores supplied by the tenderer and the Corporation.
- shall not be required to give any reason in writing or otherwise at
- any time for the rejection of the Stores.

Warranty Clause: The tender shall declare that the goods/stores/articles sold to the Corporation, (UCIL) under contract shall be of the best quality, workmanship and shall be strictly in accordance

with the specifications and duty parameters contained in the contract. The corporation reserves the right to call for a performance guarantee backed by a bank guarantee. Notwithstanding the fact that the Corporation (UCIL), or any person on its behalf, may have inspected and/or approved the said goods/stores/articles, if it be discovered not to conform to the description and quality aforesaid or deteriorated goods may be rejected. On such rejection all the provisions relating to 'Rejection of goods' shall apply. The tenderer shall, if so called upon, replace the good, or such portion there of as is rejected by the Corporation and compensate such damages as may arise by reason of the break of the condition here in contained. Nothing, here in contained shall prejudice any other right of the corporation (UCIL) in that behalf under a contract or otherwise.

Payment terms: Unless otherwise agreed to, payment will be made within 30 days of receipt and acceptance of goods.

Force Majeure: In the case of strikes/lockouts, closure of works (whole or partial) breakdown of machinery, act of God or any other cause beyond the control of the Corporation preventing or hindering the normal operation, the Corporation shall be at liberty to cancel this order at any time before receipt of the goods without being liable to the supplier for damages or other claims.

Disputes: Both parties agree in, disputes arising out of this order may be settled by arbitration, in accordance with the Indian arbitration Act, 1940 by a sole arbitrator who shall be appointed by the Chairman & Managing Director of this Corporation (UCIL).

Jurisdiction: This agreement/order shall be deemed to have been executed at Jaduguda, District Singhbhum (East), Jharkhand and it is subject to the jurisdiction of the court of Law in Ghatsila only irrespective of anything to the contrary that may be mentioned in the offer of the tenderer.

PROFORMA FOR BANK GUARANTEE AGAINST EARNEST MONEY DEPOSIT

To,

Uranium Corporation of India Limited
P.O. Jaduguda Mines,
Dist: East Singhbhum (Jharkhand)
Pin: 832 102

Dear Sir,

In accordance with invitation to Bid under your Tender no. _____, M/s (Supplier's name & address) hereinafter called the (Bidder) wish to participate in the said bid for supply of (Material Description & Quantity) and you, as a special favour have agreed to accept an irrevocable and unconditional, Bank Guarantee for an amount of Rs. _____ valid up to _____ on behalf of the bidder in lieu of the Earnest Money Deposit (EMD) by way of demand draft required to be made by the bidder, as a condition precedent for participation in the said bid.

We, (Banker's name & address) guarantee and undertake to pay immediately on demand by Uranium Corporation of India Limited, the amount of Rs _____ (Rupees _____) without any reservation, protest, demur and recourse. Any such demand made by the said owner shall be conclusive and binding on us irrespective of any dispute or difference raised by the bidder.

This Guarantee shall be irrevocable and shall remain valid upto and including (Validity of offer + 6 months). If any further extension of this guarantee is required, the same shall be extended to such required period (not exceeding one year) on receiving instructions from M/s (Supplier's name) on whose behalf this guarantee is issued.

AND WE, (Bankers) lastly agree that our liability hereunder shall not be discharged by virtue of agreements between UCIL and the supplier whether with or without our knowledge, and / or consent or by reason of UCIL showing any indulgence or forbearance to the supplier whether as to payment, time, performance or any other matter whatsoever or any modification of the said contract which but for this provision would amount to discharge of the surety under the law.

This guarantee shall not be revoked by us whether before its coming into force or any time during its currency without your previous consent in writing.

AND WE, (Bankers) also agree that our liability hereunder shall not be discharged by any change in the constitution of this bank or the firm of supplier. Our liability under the guarantee shall not in any event whatsoever exceed the sum of Rs. _____ (Rupees _____).

Our guarantee shall remain in force until (date) or such further date up to which this bank guarantee is renewed or extended and unless a claim under the guarantee is lodged with us within 6 (six) months from such date all rights of UCIL under the guarantee shall be forfeited and we shall be relieved and discharge from all liabilities thereunder.

NOT withstanding anything contained herein:

- i. Our liability under this Bank Guarantee shall not exceed Rs. _____ (Rupees _____)
- ii. This Bank Guarantee shall be valid upto _____.

iii. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before _____.

For the purpose of enforcing legal rights / remedies under this guarantee we agree that the court of law of GHATSILA, Singhbhum East, Jharkhand State shall have exclusive jurisdiction.

We have power to issue this guarantee and the undersigned has full power to sign this guarantee on our behalf under POWER OF ATTORNEY granted to him by the Bank.

Dated at (Place) this _____ day of _____ 201_____

For (BANKER'S NAME)

Signature
(Name in Capital letter)
Designation _____

Signature
(Name in Capital letter)
Designation _____

PROFORMA FOR BANK GUARANTEE AGAINST SECURITY DEPOSIT

TO

URANIUM CORPORATION OF INDIA LIMITED
P.O. JADUGUDA MINES,
DIST: EAST SINGHBHUM (JHARKHAND)
PIN : 832102

Sir,

WHEREAS on or about the _____ day of _____ M/s (Supplier's name & address), a Company / Firm registered under (companies Act 1956/.....) and having its registered office situated at (Postal address) (herein after referred to as 'The Supplier') entered into a contract bearing reference no. _____ dtd. _____ with Uranium corporation of India Limited., (A Govt. of India Enterprises), P.O. Jaduguda Mines, Dist: Singhbhum East, Jharkhand – 832102 (herein after referred to as UCIL) for supply (details of order) (herein after referred to as 'The Contract').

AND WHEREAS under the terms and conditions of the contract the supplier is required to keep with UCIL a security deposit of Rs. _____ (Rupees _____ only) or submit a Bank Guarantee in lieu of cash deposit for the fulfillment of the terms and conditions of the contract, and whereas the supplier has chosen to submit a Bank Guarantee.

NOW WE (Bankers) hereby agree and undertake to indemnify UCIL and keep UCIL indemnified to the extent of a sum not exceeding the sum of Rs. _____ (Rupees _____) against any damage or loss that may be suffered by UCIL by reason of non-fulfillment of any of the terms and conditions of the contract by the supplier.

AND WE, (Bankers) hereby undertake to pay on demand in writing by UCIL or any officer of UCIL within 48 hours and without any demur to UCIL on behalf of the supplier any sum of sums not exceeding in the total Rs. _____ (Rupees _____) as may be claimed by UCIL as the damages or loss that UCIL may have suffered by reasons of the non-fulfillment of any particular terms and conditions of the contract by the supplier.

We undertake to pay to you any money so demanded notwithstanding any dispute or disputes raised by the supplier in any suit or proceeding pending before any court or tribunal or arbitrators relating thereto.

AND WE, (Bankers) hereby further agree that the decision of UCIL as to whether the supplier has committed breach of any such terms & conditions of the contract or not and assessment of UCIL as to the amount of damages or loss suffered by UCIL on account of such breach would be final and binding on us and it need not be established.

AND WE, (Bankers) lastly agree that our liability hereunder shall not be discharged by virtue of agreements between UCIL and the supplier whether with or without our knowledge, and / or consent or by reason of UCIL showing any indulgence or forbearance to the supplier whether as to payment, time, performance or any other matter whatsoever or any modification of the said contract which but for this provision would amount to discharge of the surety under the law.

This guarantee shall not be revoked by us whether before its coming into force or any time during its currency without your previous consent in writing.

AND WE, (Bankers) also agree that our liability hereunder shall not be discharged by any change in the constitution of this bank or the firm of supplier. Our liability under the guarantee shall not in any event whatsoever exceed the sum of Rs. _____ (Rupees _____).

Our guarantee shall remain in force until (date) or such further date up to which this bank guarantee is renewed or extended and unless a claim under the guarantee is lodged with us within 6 (six) months from such date all rights of UCIL under the guarantee shall be forfeited and we shall be relieved and discharge from all liabilities thereunder.

For the purpose of enforcing legal rights / remedies under this guarantee we agree that the court of law of GHATSILA, Singhbhum East, Jharkhand State shall have exclusive jurisdiction.

We have power to issue this guarantee and the undersigned has full power to sign this guarantee on our behalf under POWER OF ATTORNEY granted to him by the Bank.

Dated at (Place) this _____ day of _____ 201____

For (BANKER'S NAME)

Signature
(Name in Capital letter)
Designation _____

Signature
(Name in Capital letter)
Designation _____

NOTE TO SUPPLIERS :

- i) BANK GUARANTEE submitted by you should be sent to us directly by the issuing bank under Registered Post (A.D).

NOTE TO ISSUING BANK :

- i) In case you desire to submit the BANK GUARANTEE directly to us, you are requested to send by Registered Post (A.D) an unstamped duplicate copy of the guarantee directly to us with a covering letter to compare with the original BGs and confirm that it is in order.

PROFORMA FOR BANK GUARANTEE AGAINST WARRANTY

TO

URANIUM CORPORATION OF INDIA LIMITED
P.O. JADUGUDA MINES,
DIST: EAST SINGHBHUM (JHARKHAND)
PIN : 832102

Sir,

WHEREAS M/s (Name and full address) (hereinafter referred to as the 'contractor' received an order bearing reference number _____ dated _____ (hereinafter referred to as the 'Contract') from Uranium Corporation of India Limited, P.O. Jaduguda Mines, District: Singhbhum, Jharkhand – 832102 (hereinafter referred to as 'UCIL') for the supply of _____.

And whereas the contractor is required to guarantee that the goods supplied is free from defects in its material of construction workmanship and its performance and further required to rectify by repair or replacement free of all costs to UCIL any defect / defects in the goods and / or its performance, if noticed within the warranty period stipulated.

And whereas UCIL has agreed to pay the contractor the full value (inclusive of duties and taxes) of the goods supplied on the contractor furnishing a bank guarantee in the manner here in contained for a sum of Rs. _____ (Rupees _____) to cover the said guarantee.

Now we (the Banker) hereby agree and undertake to indemnify UCIL and keep UCIL indemnified to the extent of a sum not exceeding the sum of Rs. _____ (Rupees _____) against any damage or loss that may be suffered by UCIL by reason of non-fulfillment of the obligations under the said guarantee by the contractor.

AND WE, (Banker) hereby undertake to play on demand in writing by UCIL or any officer of UCIL within 48 hours and without any demur to UCIL on behalf of the supplier any sum or sums not exceeding in the total Rs. _____ (Rupees _____) as may be claimed by UCIL as the damages or loss that UCIL may have suffered by reasons of the non-fulfillment of any particular terms and conditions of the contract by the suppliers.

We undertake to pay to you any money so demanded notwithstanding any dispute or disputes raised by the supplier(s) in any suit or proceeding pending before any court or Tribunal or arbitrators relating thereto.

AND WE (Bankers) hereby further agree that the decision of UCIL as to whether the contractor has committed breach of any such terms and conditions of the contract or not and assessment of UCIL as to the amount of damages or loss suffered by UCIL on account of such breach would be final and binding on us and it need not be established.

AND WE, (Bankers) lastly agree that our liability hereunder shall not be discharged by virtue of arrangements between UCIL and the supplier whether with or without our knowledge, and / or consent or by reason of UCIL showing any indulgence or forbearance to the supplier whether as to payment, time, performance or any other matter whatsoever or any modification of the said contract which but for this provision would amount to discharge of the surely under the law.

This guarantee shall come into force simultaneously with your making the payment to the supplier and shall not be revoked by us whether before its coming into force or any time during its currency without your previous consent in writing.

AND WE, (Bankers) also agree that our liability hereunder shall not be discharged by any change in the constitution of this bank or the firm of supplier. Our liability under the guarantee shall not in any event whatsoever exceed the sum of Rs. _____ (Rupees _____).

Our guarantee shall remain in force until _____ (date) _____ or such further date up to which this bank guarantee is renewed and unless a claim under the guarantee is lodged with us within 6 (six) months from such date, all rights of UCIL under the guarantee shall be forfeited and we shall be relieved and discharge from all liabilities thereunder.

For the purpose of enforcing legal rights / remedies under this guarantee we agree that the court of law of GHATSILA, Singhbhum East, Jharkhand State shall have exclusive jurisdiction.

We have power to issue this guarantee and the undersigned has full power to sign this guarantee on our behalf under POWER OF ATTORNEY granted to him by the Bank.

Dated at (Place) this _____ day of _____ 201__

For (BANKER'S NAME)

Signature

(Name in Capital letter)
Designation _____

Signature

(Name in Capital letter)
Designation _____