1.0 GENERAL

This standard specification covers the design, material construction features, manufacture, inspection & testing at VENDOR'S and / or his sub vendors works suitable painting and packing requirements of air compressor with drive.

2.0 CODES & STANDARDS

2.1 The design, manufacture, inspection & testing of air compressor as specified hereinafter shall comply with the requirements of the latest applicable Indian/British American Standards. The following standards/codes shall be following in particular.

a) IS:5456 Code of practice for testing pf positive displacement type air compressors and exhauster.

b) IS:5727 Glossary of terms relating to compressors and exhauster.

c) IS:6206 Guide for selection, installation and maintenance of air compressors.

2.2 The material of various components shall conform as specified in Data Sheet-A and where not specified, the material shall conform to the applicable IS / BS / ASTM / DIN Standards.

2.3 In case of any conflict between the above mentioned standards / codes and specification, the stipulations in the technical specification shall prevail. In case of any further conflict the same shall be referred to purchaser's engineer for clarification whose decision shall be final & binding.

3.0 DESIGN AND CONSTRUCTION

3.1 Air Compressors of reciprocating type shall be designed for continuous operation to satisfy the conveying air requirement for fail safe operation.

3.2 The design, manufacture and performance of air compressors shall comply with the requirements of latest applicable Indian / British American / DIN standards.

3.3 The compressors shall be water cooled, non lubricated type along with all accessories as specified in the data sheet - A. Intercoolers/ aftercoolers, if provided, shall also be of water cooled, shell – tube construction.

3.4 The compressors shall be designed to ensure trouble free operation with min. vibration and noise. Multiple cylinders, if employed, shall be arranged in such a way as to ensure min. unbalance.

3.5 The wall thickness of the compressor cylinder shall be selected to withstand highest internal pressure and at the same time shall allow a number of reborings.

3.6 The crank case shall be provided with oil level dip stick, breather and drain plug.

3.7 Any oil adhering to the piston rod shall be wiped-off by suitable wiper ring, suitable collars shall also be fixed on the piston rod between the packing and wiper rings so that any trickling oil flow can be stopped from moving towards the cylinder.

3.8 Suction and discharge valves shall be suitable for quick opening and closing in conformity with the rotating speed of the crank shaft. Valves shall have large effective areas permitting low air velocity along with cushioning arrangement to minimise shock. Valve discs shall be of stainless steel (containing 15% or more chromium) heat treated, tempered and ground. The valve seats, guides & springs shall be of hardened stainless steel.

3.9 Crankshaft, crank pin piston pin bearings shall be of antifriction or journal type depending on manufacturer's standard practice.

3.10 Splash or forced feed type of lubrication shall be provided for all bearings and sliding components.

3.11 The air receiver shall be sized that even in the event of total stoppage of air flow from the compressor, operation of conveying is not stopped for 2 cycle time duration.

3.12 Drive motor shall be connected to the air compressor directly or through V-belt or any other suitable type of power transmission system as specified in the data sheets. Shafts should be coupled through heavy-duty flexible coupling in case of direct drive.

3.13 The power rating of the drive shall be selected such that a min. margin of 15% is available over the total input power required at compressor drive shaft at the rated condition. Total input power shall include air compression power plus any power consumed in auxiliaries etc., (if any), when the driver is not directly coupled to compressor, due account shall be made for losses in power transmission in addition to the above 15% extra margin.

4.0 MATERIAL OF CONSTRUCTION

The material of construction for various parts of package air compressors shall be as follows:-

a) Compressor cylinder :CI ,IS- 210, grade FG-260
b) Piston :Aluminum
c) Piston rod :EN-8 as per BS -970
d) Connecting rod :Forged steel as per IS-1875 Cl IV
e) Piston ring :Teflon with 25-30% carbon.
f) Crank case :CI , IS-210 Grade FG-260
g) Suction and delivery valves :S.S as per EN-56 of BS-970
h) Air receiver :MS as per IS (2062)
i) For other parts :As per latest IS/BS/ASTM/AIS/ equivalent standards depending upon the parts

5.0 INSTRUMENTATION AND ACCESSORIES

The conveying air compressor and drive shall be supplied completed with the following instrumentation and accessories as minimum.

a) Discharge air pressure gauge
b) Pressure switch to control actuation of compressor drive motor.
c) Starter for drive motor.
d) Pressure relief valve
e) Drain valve
f) Delivery valve

6.0 INSPECTION & TESTING

6.1 The manufacturer shall conduct all tests to ensure that the equipment finished shall conform to the requirements of this specification and in compliance with requirements of applicable codes & standard.

6.2 All materials used for conveying air compressor and drive shall be of tested quality. Materials shall be tested as per the relevant standards and test certificates shall be made available to the purchaser.

6.3 Test at Shop:

a) All pressure parts shall be subjected to hydraulic testing at a pressure twice the maximum design pressure or 150% of design pressure whichever is more for a period not less than one (1) hour.

b) Assembled receiver shall he hydraulically tested at a pressure twice the maximum working pressure or 150% of the design pressure and the test pressure shall be maintained for at least 30 minutes. All joints shall be gently hammered during the test.

c) Pneumatic test at design pressure shall also be carried out.

7.0 PAINTING

7.1 All parts of air compressors with drive shall be painted as specified in Data Sheet-A or as per the specification furnished elsewhere.

7.2 Before transportation of the equipment necessary cleaning, flushing etc, shall be done shop coats of rust inhibiting paints, lacquers etc., shall be applied to various parts as necessary.

1.0 GENERAL

This specification covers the PURCHASER'S general requirement of design, materials, constructional features, manufacture, inspection and testing at VENDOR"S works and/or his sub vendor's works of Denseveyor, and accessories specified hereinafter.

2.0 CODES AND STANDARDS

2.1 The design, material, construction, manufacture, inspection and performance of the Transporter and accessories, shall comply with all statutory regulations and safety codes currently applicable in the locality where the equipment will be installed. The equipment shall also conform to the latest applicable Indian/British/USA/DIN Standards.

2.2 The material of construction and other works of the Transporter and accessories shall in general conform to the following standards/codes but will be subjected to any modification and requirement as specified in Section C of Technical Speciation.

i) Transporter Vessel – Mild Steel to IS 2062 (Gr. A min); Construction as per IS-2825 / BS5500/ASME SEC-VIII, Div-1
ii) Material Handling Valve – As indicated in Sec-C of the specification
iii) Flange – MS as per ANSI B 16.5

2.3 Where the above standards are in conflict with the stipulations of this specification, this specification supersedes them. In case of any further conflict in this matter, the decision of the Engineer will be final and binding.

3.0 DESIGN REQUIREMENTS

3.1 The dense phase pneumatic conveying system shall be designed for low velocity for conveying of materials as indicated in Section C.

3.2 The system shall consist of dome shaped vessels made of Carbon Steel complete with pneumatically operated dome/metering valves capable of closing through a solid head of material to make a pressure tight seal.

3.3 The bottom of vessel shall have transition bend and a control air supply system to the side of the conveying vessel.

3.4 Airtight seal system shall be provided between the transporter and the feeding point.

3.5 Transporter shall be equipped with **air strainer** to prevent pipe scale /dirt from causing pressure regulator malfunctioning.

3.6 Automatic drain filter and oil fog lubricator set shall be fitted into the air line to dome valve/metering valve for use with pneumatic controls.

3.7 Any air line stop valve fitted in the air supply line of transporter shall be of ball type to avoid any restriction to air flow, when open.

4.0 CONSTRUCTIONAL FEATURES

4.1 The transporter vessel shall be fabricated from mild steel plate to the design of vendor. The vessel shall be of welded structure and shall be provided with necessary supporting structure. The vessel shall be airtight/leak proof in fully assembled condition. Conveying vessel shall be designed and tested as per IS 2825 class-III vessel. Temperature of mill reject coming into the conveying vessel shall be considered as 200 °C. Conveying vessel shall be designed for a pressure 10% above the maximum pressure encountered in the vessel. The conveying vessel shall be constructed with tested quality mild steel plates. They shall withstand the abrasive & hot condition of the mill rejects and operating air pressure. The conveying vessel shall be supported independently on steel columns. The vessel shall have suitably located and adequately numbered air connections for supply of compressed air for conveying mill rejects through pipes to overhead bin.

4.2 Dome/Metering valve shall be of manufacturer's standard construction and will be easily openable and closeable type. All joints will be flanged with asbestos free or silicon rubber gaskets suitable for 200 °C.

4.3 All bends will be of long radius cast bends (R = 5D). Conveying pipes will be of mild steel heavy duty type.

5.0 TESTING AND INSPECTION

5.1 The purchaser shall have free access to those parts of manufacturer's works which are concerned with the fabrication of the steel work and shall be afforded with all reasonable facilities at all stages of preparation, fabrication and trial assemblies for satisfying himself that the fabrication is being undertaken in accordance with the provisions of this specification

5.2 Should any structure or part of a structure be found not to comply with any of the provision of this specification, it shall be liable to rejection. No structure or part of the structure, once rejected shall be resubmitted for inspection/test except in cases where the purchaser or his authorized representative considers the defect as rectifiable defects which may appear during fabrication shall be made with the consent of and according to the procedure laid down by the purchaser, the purchaser may, at his discretion, check the test results obtained at the manufacturer's works by independent tests at the Government test house or elsewhere, and should not be found to be unsatisfactory shall be rejected. The costs of such tests shall be borne by the contractor.

5.3 Scope of inspection shall include but not limited to the following:

i) Material used in the fabrication shall be with manufacturer's test certificate with proper correlation for physical properties and chemical analysis. In the absence of correlation actual tests shall be done.

ii) Welders shall be qualified as per ASME Standard. Only qualified welders shall be employed for the fabrication purpose.

iii) Electrodes shall be of makes approved by BHEL.

iv) All fillet welds, root run and trial run of butt welds shall be subjected to visual dye penetrating test with no linear indication. Acceptable norm for dye-penetrating test shall be as per Appendix-8 of ASME SEC. VII Div. 1.

v) Special tests like NDT as per relevant code will be carried out for fabrication items.

vi) Chemical analysis and hardness tests of linear plates shall be carried out.

vii) Dimension shall be maintained as per approved drawings.

DATA SHEET

S. No.	Parameter	Description
1	Quantity of material to be conveyed per hour by each denseveyor	575 Kg
2	Capacity of denseveyor envisaged	Adequately sized to meet above requirement
3	Air supply pressure available	Bidder to Decide
4	Any Cooling envisaged for dome valve & quantity of cooling water	Bidder to Decide
5	Distance over which material is to be conveyed	Refer Layout Drawings

1.0 GENERAL

1.1 This specification covers the PURCHASER'S general requirement of design, manufacture, fabrication, assembly, inspection, testing and delivery to site or mill reject bunker and accessories specified.

2.0 CODES AND STANDARDS

2.1 The design, material, construction, manufacture, inspection, testing and performance of the mill reject bunker shall comply with all statutory regulations and all safety codes currently applicable in the locality where the equipment will be installed.

2.2 The material of construction and other works of the mill reject bunker shall in general conform to the following standards /codes but will be subject to any modification and requirements as specified in data sheet A of Section-D.

a)	Structural steel	:	IS-2062 Gr A (min)
b)	Rolled Steel Beams, Channels and Angle Sections	:	IS-808
c)	Scheme of Symbols for Welding	:	IS-813
d)	Covered Electrodes for Metal Arc Welding of Structural Steel	:	IS-814
e)	Code of practice for use of Metal Arc Welding for general Construction in Mild Steel	:	IS-816
f)	Code of practice for inspection of Welds	:	IS-822
g)	Code of practice for use of structural steel in general building construction	:	IS-800
h)	Dimension for steel plate, sheet and Strip for structural and general Engineering purposes	:	IS-1730
i)	Recommendation for metal arc welding	:	IS-9575

2.3 Where the above standards are in conflict with the stipulations of this specification, the specification supercedes them. In case of any further conflict in this matter, the decision of the ENGINEER shall be final binding.

3.0 DESIGN REQUIREMENT

3.1 The coal mill reject bunker shall be fabricated of mild steel plate with adequate stiffeners welded on. The bunker shall be supported on the concrete foundation provided by the purchaser. Foundation bolts, gratings etc. shall be provided by the bidder.

3.2 The reject bunker shall be complete with twin sector discharge gate, stainless steel liners, flanged connections, platforms, gratings/chequered plates, access staircase, hand railings etc. The equipment shall be designed and equipped for outdoor operation, complete with all accessories.

4.0 CONSTRUCTIONAL FEATURES

4.1 The bunker shall be of welded structure and shall be provided with necessary supporting structure. Flanged opening shall be provided at the bottom of the bunker for attaching the twin sector gate. The inclined part of the bunker shall be designed with a valley angle of not less than 60 deg. To the horizontal. The design of the bunker shall be such that the problem of formation of arch is eliminated. The inside surface shall be provided with liner MOC as specified elsewhere in the specification. Explosion diaphragm/Pressure relief valve shall be provided to release air from the bunker in case pressure inside the bunker exceeds 1 .0 kg/cm^2(g)

4.2 Vendor shall furnish all steel work required for support and access for operation and maintenance. This shall include platforms, grating/chequered plates, stairways, hand railings, base plates, foundation bolts etc. Purchaser will provide only the foundation with pockets. The bunker shall have shed over it and shall be provided with monorail & hoist for equipment handling.

4.3 The storage bunker shall be so arranged that any 10 ton capacity truck can be conveniently loaded under it by an operator standing on the platform. The bunker-supporting column shall be so spaced to have a clear road access of 5.0 m width & clear headroom of 5.5 m.

4.4 Access and platform shall be provided with 32 mm thick MS grating & 32 mm MS GI pipe hand railing.

4.5 The storage bunker shall be provided with filter bags as specified elsewhere in the specification. Filter bags shall be suitably treated to minimize the chances of filter catching fire. It shall be possible to plug opening for damaged bag filters, if any, to facilitate un-interrupted operation. Suitable explosion vents shall be provided for the bag filter unit. Sequential cleaning cycle shall be initiated with pressure drop signal across the bag filter once sufficient cleaning air pressure is available. Solenoid/pneumatic valves shall be provided for this purpose. Bag cleaning mechanism shall be automatic and

shall comprise of solenoid valves. Air nozzles shall be provided just above the filter to facilitate individual cleaning of each bag.

4.6 The terminal boxes for terminating reject conveying pipes shall be of steel construction with necessary deflector or impingement plate to take care of impact and wear due to high velocity reject particles discharging into the bunker.

5.0 INSPECTION AND TESTING

5.1 The purchaser shall have a free access at all reasonable times to these parts of manufacturer's works which are concerned with the fabrication of the steel work and shall be afforded all reasonable facilities at all stages of preparation, fabrication and trial assemblies for satisfying himself that the fabrication is being undertaken in accordance with the provisions of this specification.

5.2 Should any structure or part of a structure be found not to comply with any of the provisions of this specification, it shall be liable to rejection. No structure or part of structure, once rejected shall be resubmitted for inspection/ test except in cases where the purchaser or his authorized representative considers the defect as rectifiable. Defects which may appear during fabrication shall be made good with the consent of and according to the procedure laid down by the purchaser. The purchaser may, at his discretion, check the test results obtained at the manufacture's works by independent tests at the government test house or elsewhere and should the material so tested be found to be unsatisfactory shall be rejected. The cost of such tests shall be borne by the contractor.

5.3 Examination of material of construction, verification, correlation and identification with material test certificate.

5.4 Ensuring that the relevant weld procedure and welder qualifications tests are in accordance with fabrication code.

5.5 Inspection during fabrication at appropriate stage including fit up. Witness of dye penetrant testing at root and final run for all groove welds and final run for fillet welds as per ASTM E 165. All surfaces examined shall be free of:

a) Relevant linear indications (Linear indications are those indications in which length is more than three times the width and only indication with major dimension greater than 1.6 mm shall be considered relevant).

b) Four or more rounded defects in a line separated by 1.6 mm or less (edge to edge). Rounded indications are those where length less than three times the width.

5.6 Any other tests as specified in the fabrication code.

5.7 Dimensional check match marking as per approved drawings.

6.0 SCOPE OF INSPECTION FOR RACK AND PINION GATE

6.1 Examination of materials of construction, verification, correlation/testing and identification of material with test certificate for important items like body, drives, warm shaft, rack & pinion, wheel etc.

6.2 Dye Penetration check on drive shaft & warm shaft as per IS-3658 and there shall be no surface defects.

6.3 Dimensional check

6.4 For chain proof load shall be carried out.

6.5 Hardness of rubber component

6.6 Check for overall dimension, completeness, no load working after assembly.

6.7 Clearing, marking and painting.

Mill Discharge Spout and Pyrite Hopper

- Each coal mill has a discharge spout with a pneumatic cylinder operated knife gate valve for discharging rejects into a pyrite hopper of adequate capacity. This hopper shall serve to store the mill rejects between each operating cycle of dense phase system. Minimum effective storage capacity shall be 2-3 times the effective (batch capacity) of the conveying vessel.

- Each pyrite hopper shall be provided with a manually operated plate/ dome type valve of approved design at the bottom, adequately sized manhole/inspection door, impingement deflector plate, sizing gird and emergency chute with manually operated Knife gate valve and reject quenching arrangement (water spray) shall be provided. Any platform/ structural support (as per IS 2062 Gr A/B) required to maintain the above equipment before pneumatically operated plat / dome valve. Necessary explosion vent (rupture disc with MOC SS 304/316) of proven design shall be provided in each pyrite hopper.

- Each emergency chute shall be provided with a manually operated gate valve to transfer mill rejects from pyrite hopper to ground or to Owner's trolley. The gates shall be of robust construction and suitable for trouble free operation. The lever/gear wheel arrangement for manual operation shall be designed such that minimum effort is required to operate the gate. Necessary access and platform shall be provided. Limit switches shall be provided to indicate the valve position on control panel.

- Each pyrite hopper shall be provided with two level switches – one to start the operating sequence and the other to indicate the hopper above grid chocked condition.

- Open/ Close Limit switches shall be provided in all manual and pneumatic KGVs and these limit switches shall be interlocked with MRS control system. Solenoid box cum local control panel shall be provided. Same shall house system start stop, vessel pressure indication, probe over ride, purge button so that system can be locally optd. It shall be possible to operate individual vessel from local pneumatic panel for few cycles in emergency.

- Following control modes shall be provided

- Remote mode: System shall be controlled through MRS control System.

- Local Mode:

a) Energized mode: Manual override shall be selected from MRS control System. System logic shall be executed in MRS control system itself.
b) De-energized mode: MRS control system shall be delinked and system (individual stack up assembly) shall be operated manually.

- The sizing grid shall be provided inside the pyrite hopper to prevent oversized mill rejects, tramp iron etc. from entering the conveying vessel. The arrangement for collecting bigger pieces of coal rejects from the grid includes, among others, Knife Gate Valve, chute work etc. Bigger pieces of coal rejects shall roll down from the grid and through KGVs, chute work etc. Bigger pieces of coal rejects shall roll down from the grid and can be removed through the over sized seized reject removal gate (to be provided preferably at the bottom of inspection door) be discharged to Owners trolley. The arrangement shall be finalized during detail engineering. The grid shall be made of minimum 10 mm dia. M.S. bars IS with clear opening of 40 mm x 40 mm.

VOLUME-III

DRAWINGS/ DOCUMENTS TO BE SUBMITTED WITH THE BID

Bidder shall submit the following drawings / documents along with their bid

a) Utility requirement in the format given under Vol-III
b) Duly stamped copy of “Scope (power and control) diagram”.
c) Electrical Equipment Specification for Mill Reject Handling System duly stamped
d) Signed and stamped copy of Filled up electrical load list
e) Filled up Guaranteed power Consumption(GPC) format
f) Un priced copy of price format indicating quoted/ not quoted against each row/column
g) Signed/Stamped copy of Compliance cum Confirmation Certificate (Vol-III)

OFFER WILL BE CONSIDERED AS INCOMPLETE IN ABSECE OF ANY OF ABOVE DOCUMENTS.

DOCUMENT OTHER THAN ABOVE, IF ANY, SUBMITTED WITH THE OFFER WILL NOT FORM PART OF CONTRACT AND ACCORDINGLY WILL NOT BE CONSIDERED FOR BID EVALUATION.

PRE-BID CLARIFICATION SCHEDULE

S. No.	Section/Clause /Page No.	Statement of the referred clause	Clarification Required

The bidder hereby certifies that above mentioned are the only clarifications required on the technical specification for the subject package.

SIGNATURE:_____

NAME:_____

DESIGNATION:_____

COMPANY: _____

DATE:_____

COMPANY SEAL

INSTRUMENT AIR REQUIREMENT*

S. No.	Description	Requirement (m^3/ min & Pressure)	Intermittent/ Continuous
01			
02			
03			
04			
05			
06			

SERVICE WATER REQUIREMENT*

S. No.	Description	Requirement (m^3/ min & Pressure)	Intermittent/ Continuous
01			
02			
03			
04			
05			
06			

EQUIPMENT WATER REQUIREMENT*

S. No.	Description	Requirement (m^3/ min & Pressure)	Intermittent/ Continuous
01			
02			
03			
04			
05			
06			

* Bidder shall furnish the instrument air, service water and equipment water requirement along with supporting calculation and reference document.

SIGNATURE:_____

NAME:_____

DESIGNATION:_____

COMPANY: _____

COMPANY SEAL

DATE:_____

Annexure-A

STANDARD FORMAT FOR ELECTRICALFEEDER LOAD LIST

1	2	3	4	5	6	7	8	9	10	11	12
S. No.	KKS code as in vendor drawing	Description of feeder	Rating (KW/A)	Supply type	Unitised /Station	Normal / Emergency	Feeder type	Running Mode	Recommended cable size	Location Coordinates	Remarks

GUIDE LINES TO FILL THE FORMAT

Column No.	Legend	Designation	Description
1	S. No.	1,2,3	Serial Number
2	**KKS code as in vendor drawing**	- - -	Unique kks of the Equipment
3	Description	- - -	Description of the bidders Equipment
4	Rating		Name plate Rating in kW or Amps at 50 deg C
5	Supply type	11 KV 3 ph AC / 3.3 KV 3 Ph AC / 415 V 3 Ph AC / 220 V DC / 240 V AC UPS / 240 V AC Non -UPS	
6	Unitised/Station	U	Unit(U) is applied for each unit.
		S	STN(S) is applied for common equipment load.
7	Normal / Emergency	N	Normal Supply
		E	Emergency Supply(Emergency supply i.e DG supply)
8	Feeder type	U	Unidirectional Motor feeder
		B	Bidirectional Motor feeder
		H	Heater feeder
		S	SFU(switch fuse feeder)
9	Running Mode	W	Working
		S	Standby
10	Recommended cable size	- /- / - /- /-	Recommended Incoming power cable size in: No of runs/no. of cores/ Size in mm2/Al or Cu/ PVC or XLPE
11	Location		Location of the Equipment in coordinates row & columns as per layout
12	Remarks		Any other relevant information

Notes:

1) Electrical Load list shall be submitted as "MS Excel" sheet also in addition to that in pdf as per the format given above.

2) Each Row shall contain data of Only One equipment / load. i.e., if there are two numbers of the same equipment, they shall be indicated in two different rows with unique description & tag number.

GUARANTEED POWER CONSUMPTION FORMAT
2 x 800 MW DARLIPALI STPP - Mill Reject Handling System
Mode: Pneumatic Conveying

Sl.No.	Description / Item	Working	Standby	Power Consumption (KW) (at motor input terminal)	Duty Factor	Total Power Consumption (KW)
1	**2**	**3**	**4**	**5**	**6**	**7 = 3 x 5 x 6**
1	Conveying Air Compressor	1	1		0.50	
					Total KW	

Notes

1	**Power consumption (KW) of air compressors shall be measured at motor input terminals when operating at the rated capacity and pressure and performed on test rig at the vendor's works and actual motor shall be used for this purpose.**
2	**The base auxiliary power is 85 KW. Quoted power by bidder at column no. (7) shall be evaluated with respect to base auxiliary power. For bid evaluation purpose, excess power quoted by bidder over base auxiliary power, shall be loaded with 2258 USD per KW (USD conversion rate shall be taken as defined in NIT).**
3	**Power quoted by bidder shall be termed as 'Guaranteed Power consumption' (GPC) and bidder shall be liable to demonstrate compliance to GPC value during PG test/ Demonstration test at site. If the actual power consumption exceeds the guaranteed power consumption, liquidated damages shall be payable by the Contractor at the rate of 2258 USD per KW excess power consumption, over the guaranteed power consumption indicated by bidder in his bid. Such liquidated damages may be recovered by the BHEL by deduction from the contract price or by enforcing the contract performance guarantee or in any other manner deemed fit by the BHEL. For this purpose, the drives of standby equipment shall not be considered.**

COMPLIANCE CUM CONFIRMATION CERTIFICATE

The bidder shall confirm compliance with following by signing/ stamping this compliance certificate (every sheet) and furnish same with the offer.

a) The scope of supply, technical details, construction features, design parameters etc. shall be as per technical specification & there are no exclusions other than those mentioned under “exclusion” and those resolved as per ‘Schedule of Deviations’, if applicable, with regard to same.

b) There are no other deviations w.r.t. specifications other than those furnished in the ‘Schedule of Deviations’. Any other deviation, stated or implied, taken elsewhere in the offer stands withdrawn unless specifically brought out in the ‘Schedule of Deviations’.

c) Bidder shall submit QP in the event of order based on the guidelines given in the specification & QP enclosed therein. QP will be subject to BHEL/ CUSTOMER approval & customer hold points for inspection/ testing shall be marked in the QP at the contract stage. Inspection/ testing shall be witnessed as per same apart from review of various test certificates/ Inspection records etc. This shall be within the contracted price with no extra implications to BHEL after award of the contract.

d) All drawings/ data-sheets/ calculations etc. submitted along with the offer shall be considered for reference only, same shall be subject to BHEL/ CUSTOMER approval in the event of order.

e) The offered materials shall be either equivalent or superior to those specified in the specification & shall meet the specified/ intended duty requirements. In case the material specified in the specifications is not compatible for intended duty requirements then same shall be resolved by the bidder with BHEL during the pre - bid discussions, otherwise BHEL/ Customer’s decision shall be binding on the bidder whenever the deficiency is pointed out.

   For components where materials are not specified, same shall be suitable for intended duty, all materials shall be subject to approval in the event of order.

f) The commissioning spares shall be supplied on ‘As Required Basis’ & prices for same included in the base price itself.

g) All sub vendors shall be subject to BHEL/ CUSTOMER approval in the event of order.

h) Guarantee for plant/equipment shall be as per relevant clause of GCC /SCC /Other Commercial Terms & Conditions.

i) In the event of order, all the material required for completing the job at site shall be supplied by the bidder within the ordered price even if the same are additional to approved billing break up, approved drawing or approved Bill of quantities. This clause will apply in case during site commissioning additional requirements emerges due to customer and/ or consultant’s comments. No extra claims shall be put on this account.

j) Schedule of drawings submissions, comment incorporations & approval shall be as stipulated in the specifications. The successful bidder shall depute his design personnel to BHEL’s/ Customer’s/ Consultant’s office for across the table resolution of issues and to get documents approved in the stipulated time.

k) As built drawings shall be submitted as and when required during the project execution.

l) The bidder has not tempered with this compliance cum confirmation certificate and if at any stage any tempering in the signed copy of this document is noticed then same shall be treated as breach of contract and suitable actions shall be taken against the bidder.

DRAWINGS