



**2X250MW NSPCL BHILAI EXP. POWER PROJECT
LIME FEEDING / DOSING SYSTEM
TECHNICAL SPECIFICATION
MASTER DRAWING LIST WITH SCHEDULE OF
SUBMISSION**

SPECIFICATION No: PE-TS-468-571-A102
SECTION : I
SUB-SECTION : D
REV 00 ANNEXURE-V
SHEET 1 OF 5

ANNEXURE-V

MASTER DRAWING LIST WITH SCHEDULE OF SUBMISSION

1. DOCUMENTS TO BE SUBMITTED ALONG WITH THE OFFER/AWARD OF CONTRACT:

The Bidder shall submit all documents, drawings, diagrams and all such information, which are necessary to fully understand the offer for techno – commercial evaluation as per Annexure-V. The above documents are required for proper evaluation purpose and vendors are requested to comply with above in all respect.

S.No	Description	Along with offer	After Award of Contract
1	Compliance of Specification	Yes	--
2	Deviation List	Yes	--
3	Data Sheet & General Assembly Drawing of complete Lime feeding System	Yes	Yes
4	Manufacturing Drawing & Part Drawing	--	Yes
5	Data sheet & Performance curve	--	Yes
6	Sub Vendor List	Yes	Yes
7	Test certificates	--	Yes
8	Erection check list	--	Yes
9	Pre-commissioning check list	--	Yes
10	Scope of supply	Yes	--
11	Quality plan	--	Yes
12	Operation & Maintenance manual	--	Yes
13	Spare list (Recommended)	Yes	Yes
14	Startup & Commissioning spare	Yes	Yes
15	List of special tools	Yes	Yes
16	Delivery Schedule	Yes	Yes
17	Test & Inspection Procedure	--	Yes



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18	Catalogue	Yes	--
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2. DOCUMENTS TO BE SUBMITTED AFTER AWARD OF CONTRACT:

The Successful bidder shall submit necessary data, documents and drawings for review, approval with requirements specified here under.

Drawings that are reviewed by the NTPC / NTPC's Consultant will be returned to bidder with a transmittal letter with any comments and / or questions marked on the drawings or noted in the letter. All comments and questions must be resolved before a resubmission of drawings / documents. If the design has not developed enough to resolve some of the comments or questions, bidder shall place a "hold" on those items or areas of design. NTPC / NTPC's Consultant reserves the right to return drawings unprocessed to bidder if there exists any evidence that bidder has not acknowledged all comments and questions.

All necessary GA drawings, sections, sub-assembly drawings, specifications of main and sub components and necessary set of operation & maintenance manual as asked by NTPC must be furnished by bidder in soft and hard copy forms. For all document's softcopy format shall be searchable pdf, however in addition all drawings, diagrams like P&IDS shall be supplied in ACAD or other editable format and all lists in Excel format. Further break up of technical documents will be discussed during finalization of the purchase contract.

Unless agreed otherwise, Ten (10) hard copies and five (05) sets of electronic copies of all documents are to be submitted in the English language. Electronic Copies shall be submitted in primary original data format (e.g. DOC, XLS, DWG) as well as in a printable non-proprietary document format (e.g. PDF). Especially P&IDs shall be submitted as DWG files and PDF files. Bidder to ensure submission of hard copies as per NTPC's requirement for all engineering drg/doc and for all subsequent revisions along with a soft copy through email to concerned project team. However, all the engineering related information shall be furnished in soft form to BHEL.

Notes:

1. The above drawing list is tentative and shall be finalized with the successful bidder after placement of order. While some of the drawings indicated above may not be applicable, some additional drawings may also be required based on scope of work.
2. Drawings shall be prepared in Auto-Cad latest edition. Required no. of hard and soft copies (editable) of the drawings shall be furnished as per requirement specified elsewhere in the specification.
3. Only manual calculation with authentic supporting literature (e.g. extracts of hand Book/ standard/codes) shall be acceptable. All design calculations and drawings shall be in SI system only.
4. All the drawings and documents including general arrangement drawing, data sheet, calculation etc. to be furnished to the customer during detailed engineering stage shall include / indicate the following details for clarity w.r.t. Inspection, construction, erection and maintenance etc.:
 - a) All drawings and documents shall indicate the list of all reference drawings including General Arrangement.
 - b) All drawings shall include / show plan, elevation, side view, cross-section, skin section, blow-up view; all major self-manufactured and bought out items shall be labeled and included in BOQ / BOM in tabular form.

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c) Painting schedule shall also be made as a part of general arrangement drawing of each equipment / item indicating at least 3 trade names. d) All the drawings required to be furnished to customer during detailed engineering stage shall include technical parameters, details of paints and lubrication, hardness and BOQ / BOM in tabular form indicating all major components including bought out items and their quantity, material of construction indicating its applicable code / standard, weight, make etc. e) Drawings/ documents to be submitted for purchaser's review/ approval shall be under Revision A, B, C... etc. while drawings /documents to be submitted thereafter for customer's approval after purchaser's approval shall be under R-0, 1, 2, 3 etc. f) Drawings and documents not covered above but required to check safety of machines/ system, shall be submitted during detailed engineering stage without any commercial implication. g) All drawings shall include "B.O.M" and indicate quantity, material of construction, make along with IS/BS No., Technical parameters, dimensions, hardness, machining symbol and tolerance, requirement of radiography and hydraulic tests, painting details, elevation, side view, plan, skin section and blow-up view for clarity. h) All drawings shall be prepared as per BHEL's title block and shall bear BHEL's drawing No. Documents marked for submission to BHEL's Customer shall also bear BHEL's Customer's drawing No. i) 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. j) Bidder to follow the following the drawing submission schedule: k) 1st submission of drawings from date of LOI as per the submission schedule. l) Every revised submission incorporating comments – within 7 days. m) Bidder to submit revised drawings complete in all respects incorporating all comments. Any incomplete drawing submitted shall be treated as non-submission with delays attributable to bidder's account. For any clarification/ discussion required to complete the drawings, the bidder shall depute his personal to BHEL for across the table discussions/ finalizations/ submissions of drawings.			
Sl.No.	Document required after award of contract	No. of hard copies after award of contract	Submission time*
1. #	Sub-Vendor list and Categorization of Lime Feeding/ Dosing System (LDS)	6	3
2. #	Equipment GA of Lime Feeding/ Dosing System (LDS)	6	3
3. #	Equipment Tech. Datasheet of Lime Feeding/ Dosing System (LDS)	6	3
4. #	Layout of Lime Feeding/ Dosing System (LDS)	6	3



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5.	O&M of Lime Feeding/ Dosing System (LDS)	6	12
6.	Instrument Schedule & Valve Schedule	6	8
7.	CONTROL & OPERATIONAL WRITE-UP FOR THE SYSTEM WITH SET POINTS for LDS	6	8
8.	Electrical Load List	6	8
9.	Drawing for complete Piping Arrangement including Supports (Water, Slurry, Instrument Air) for LDS	6	10
10.	Hook-up Drawing for Instruments of LDS	6	10
11.	I/O List (Drives & Instruments) of LDS	6	10
12.	Painting Specification for LDS	6	6
13.	Cable Schedule & Cable Duct/Tray Routing Plan of LDS	6	8
14.	GA & Data Sheet of Motors for LDS	6	10
15.	GA & Data Sheet of Instruments of LDS	6	10
16.	GA & Data Sheet of Valves of LDS	6	10
17.	BOQ/BOM of LDS for Main Supply & Mandatory Spares	6	12
18.	Erection & Commissioning Manual of LDS	6	12
19.	Performance Test Procedure of LDS	6	12

Indicates Primary drawings.

***Within No. of Weeks after the placement of LOI/PO**

R-0 within 21 days from PO & subsequent revisions within 7 days of comments received from BHEL.

Notes:

1. The above drawing list is tentative and shall be finalized with the successful bidder after placement of order. While some of the drawings indicated above may not be applicable, some additional drawings may also be required based on scope of work.
2. Drawings shall be prepared in Auto-Cad latest edition. Required no. of hard and soft copies (editable) of the drawings shall be furnished as per requirement specified elsewhere in the specification.

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3.

Only manual calculation with authentic supporting literature (e.g. extracts of hand Book/ standard/codes) shall be acceptable. All design calculations and drawings shall be in SI system only.

4.

All the drawings and documents including general arrangement drawing, data sheet, calculation etc. to be furnished to the customer during detailed engineering stage shall include / indicate the following details for clarity w.r.t. Inspection, construction, erection and maintenance etc.:

n)

All drawings and documents shall indicate the list of all reference drawings including General Arrangement.

o)

All drawings shall include / show plan, elevation, side view, cross-section, skin section, blow-up view; all major self-manufactured and bought out items shall be labeled and included in BOQ / BOM in tabular form.

p)

Painting schedule shall also be made as a part of general arrangement drawing of each equipment / item indicating at least 3 trade names.

q)

All the drawings required to be furnished to customer during detailed engineering stage shall include technical parameters, details of paints and lubrication, hardness and BOQ / BOM in tabular form indicating all major components including bought out items and their quantity, material of construction indicating its applicable code / standard, weight, make etc.

r)

Drawings/ documents to be submitted for purchaser's review/ approval shall be under Revision A, B, C... etc. while drawings /documents to be submitted thereafter for customer's approval after purchaser's approval shall be under R-0, 1, 2, 3 etc.

s)

Drawings and documents not covered above but required to check safety of machines/ system, shall be submitted during detailed engineering stage without any commercial implication.

t)

All drawings shall include "B.O.M" and indicate quantity, material of construction, make along with IS/BS No., Technical parameters, dimensions, hardness, machining symbol and tolerance, requirement of radiography and hydraulic tests, painting details, elevation, side view, plan, skin section and blow-up view for clarity.

u)

All drawings shall be prepared as per BHEL's title block and shall bear BHEL's drawing No. Documents marked for submission to BHEL's Customer shall also bear BHEL's Customer's drawing No.

v)

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.

w)

Bidder to follow the following the drawing submission schedule:

(i)

1st submission of drawings from date of LOI as per the submission schedule.

(ii)

Every revised submission incorporating comments – within 7 days.

(iii)

Bidder to submit revised drawings complete in all respects incorporating all comments. Any incomplete drawing submitted shall be treated as non-submission with delays attributable to bidder's account. For any clarification/ discussion required to complete the drawings, the bidder shall depute his personal to BHEL for across the table discussions/ finalizations/ submissions of drawings.

Annexure-VI

Reference: Tender Enquiry No.:

Name of Package: LIME FEEDING/DOSING SYSTEM

Project Name: 2x250 MW NSPCL Bhilai Expansion Power Project (FGD)

Subject: - CIF Content

SI No.	Description/ LIST OF CIF (Import) CONTENTS FOR LIME DOSING SYSTEM FOR <u>2x250 MW NSPCL Bhilai Expansion Power Project (FGD)</u>	UNIT	QUANTITY	CURRENCY	RATE OF CUSTOM DUTY	SOURCE OF SUPPLY	TOTAL CIF CONTENT
1							
2							
3							
4							
5							
6							
7							

Signature of Bidders

(Sign & Stamp)

(ON COMPANY LETTER HEAD)

To,
M/s Bharat Heavy Electricals Ltd.,
Project Engineering Management,
Power Project Engineering Institute,
HRD & ESI Complex,
Plot No 25, Sector-16 A, Noida-201301

Dear Sir,

This has reference to:

1. Our offer for LIME FEEDING/DOSING SYSTEM for 2x250 MW NSPCL Bhilai Expansion Power Project (FGD), Tender No. _____
2. Order no. F.No. 6/18/2019-PPD dt. 23.07.2020 issued by Ministry of Finance, Department of Expenditure Public Procurement Division.

I have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India; I certify that M/s (Company Name _____) is not from such a country,

or,

if from such a country, has been registered with the competent authority. *(Strike through if not applicable)*

I hereby certify that M/s (Company Name _____) fulfil all requirements in this regard and is eligible to be considered for procurement on GeM.

[where applicable, evidence of valid registration by the competent authority shall be attached]

Thanking You,
Yours faithfully,

Director/Proprietor/Partner
M/s _____

(ON COMPANY LETTER HEAD)

To,
M/s Bharat Heavy Electricals Ltd.,
Project Engineering Management,
Power Project Engineering Institute,
HRD & ESI Complex,
Plot No 25, Sector-16 A, Noida-201301

Dear Sir,

This has reference to:

1. Our offer for LIME FEEDING/DOSING SYSTEM for 2x250 MW NSPCL Bhilai Expansion Power Project (FGD), Tender No. _____
2. Order no. F.No. 6/18/2019-PPD dt. 23.07.2020 issued by Ministry of Finance, Department of Expenditure Public Procurement Division.

I have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India; I certify that M/s (Company Name _____) is not from such a country,

or,

if from such a country, has been registered with the competent authority. *(Strike through if not applicable)*

I hereby certify that M/s (Company Name _____) fulfil all requirements in this regard and is eligible to be considered for procurement on GeM.

[where applicable, evidence of valid registration by the competent authority shall be attached]

Thanking You,
Yours faithfully,

Director/Proprietor/Partner
M/s _____

(ON COMPANY LETTER HEAD)

To,
Bharat Heavy Electricals Limited
PEM, PPEI Building, Plot No 25,
Sector -I6A, Noida (U.P)-201301

Subject: - No Deviation Certificate

Reference: Tender Enquiry No.: _____

Name of Package: LIME FEEDING/DOSING SYSTEM

Project Name: 2x250 MW NSPCL Bhilai Expansion Power Project (FGD).

Dear Sir,

We hereby confirm that we have not taken any deviation in the above referred tender enquiry.

If any deviation in any part of our offer is found same shall be null & void.

Thanking You,
Yours faithfully,

M/s _____

PRICE ADJUSTMENT FOR SUPPLY AND MANDATORY SPARES

- (i) The Contract price shall be subject to price adjustment during performance of the Contract to reflect changes in the cost of labour and material components in accordance with the provisions described below:
- (ii) The price adjustment provisions shall be applicable separately for price components relating to Supply of Equipment as per price break-up furnished by the Contractor.
- (iii) Only following components of the Contract Price will be subject to Price adjustment:
 - (a) Ex-Works supply price of Plant and Equipment including commissioning spares, Mandatory spares.
- (iv) Price adjustment amounts towards aforesaid components of Contract Price shall be paid in the respective currencies of Contract (INR).
- (v) The indices for price adjustment shall be as elaborated hereunder.
- (vi) The price adjustment formula for the components of the Contract Price, as mentioned at Sl.No. (iii) above, shall be as stipulated hereinafter.
- (vii) **Ex-Works Price Component of Plant and Equipments including commissioning spares, Mandatory Spares and**

It is understood that the price component of the equipments for any shipment/despatch comprises of a fixed portion (designated as 'F' and the value of which is specified hereunder) and a variable portion linked with the indices for various materials and labour (description and co-efficient as enumerated below).

The amount of price adjustment towards variable portion payable/recoverable on each shipment/despatch shall be computed as under:

$$EC = EC1 - EC0$$

EC1 will be computed as follows:

$$EC1 = EC0 \{F + a \times A1/ A0 + Lb \times L1/ L0\}$$

Where

EC = Adjustment to Ex-Works supply Price Component expressed in the currency of The Contract (INR) payable to the contractor for each shipment/despatch.

EC1 = Adjusted Amount of Ex-Works supply Price Component expressed in the currency of the Contract (INR) payable to the Contractor for each shipment/despatch.

EC0 = Ex-Works supply Price for the plant and equipments in the currency of the Contract (INR), shipment/despatch wise.

- F shall be fixed portion of the Ex-Works Component of the Contract and shall be considered as 0.15.

- a shall be co-efficient of major materials/items involved in the Ex-Works Component of the Contract Price and shall be considered as 0.55.

- 'A' shall be published price indices of corresponding major materials/items.

Case 1: 'A', in case of all applicable supply part / component/ items etc. index for "Manufacture of Fabricated Metal Products, Except Machinery and equipment" shall be used as published by Ministry of Commerce & Industry, GOI base year 2011-12=100

- 'Lb" shall be co-efficient for labour component in the Ex-Works Component of the Contract Price which shall be considered as 0.3.

'L' shall be consumer price index number for industrial workers (All India average) as published by Labour Bureau, Shimla/RBI Base year 2016=100.

For the indices, subscript '0' refers to indices as on date of completion of delivery as per LOA.

Subscript '1' refers to indices as on date of shipment/despatch.

Note:

- 1) PVC shall be applicable only beyond original overall completion schedule as per LOA. PVC shall be applicable only if the delay is not attributable to contractor/ vendor. However even if the delay is attributable to vendor then also the negative price variation shall be passed on to BHEL.
- 2) The price variation shall be limited to (+) 20% of Ex-Works Supply Price including commissioning spares, Mandatory spares.

CURRENT STATISTICS

No. 21: Wholesale Price Index (Contd.)

(Base: 2011-12 = 100)

Commodities	Weight	2021-22	2021	2022		
			Apr	Feb.	Mar. (P)	Apr. (P)
1.3.13.6 Articles of Concrete, Cement and Plaster	0.292	129.2	128.2	130.6	131.4	132.8
1.3.13.7 Cutting, Shaping and Finishing of Stone	0.234	122.2	122.9	120.5	120.9	123.7
1.3.13.8 Other Non-Metallic Mineral Products	0.169	90.5	78.9	98.3	100.2	104.9
1.3.14 MANUFACTURE OF BASIC METALS	9.646	140.0	128.6	147.1	156.2	160.5
1.3.14.1 Inputs into steel making	1.411	150.8	133.6	162.4	177.1	181.4
1.3.14.2 Metallic Iron	0.653	147.7	135.5	154.9	172.0	178.4
1.3.14.3 Mild Steel - Semi Finished Steel	1.274	118.8	113.0	122.9	127.9	133.8
1.3.14.4 Mild Steel -Long Products	1.081	137.2	127.6	144.8	153.1	158.6
1.3.14.5 Mild Steel - Flat products	1.144	157.5	142.8	160.3	169.8	178.3
1.3.14.6 Alloy steel other than Stainless Steel- Shapes	0.067	133.6	127.7	143.6	150.2	155.2
1.3.14.7 Stainless Steel - Semi Finished	0.924	141.7	131.0	147.7	169.8	173.0
1.3.14.8 Pipes & tubes	0.205	155.9	140.4	167.1	171.0	172.7
1.3.14.9 Non-ferrous metals incl. precious metals	1.693	139.7	125.9	149.4	154.9	155.2
1.3.14.10 Castings	0.925	118.8	113.3	122.7	122.6	125.6
1.3.14.11 Forgings of steel	0.271	159.0	155.3	165.8	165.0	166.9
1.3.15 MANUFACTURE OF FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND EQUIPMENT	3.155	130.4	122.6	133.5	134.4	137.8
1.3.15.1 Structural Metal Products	1.031	123.9	120.6	125.3	127.5	130.3
1.3.15.2 Tanks, Reservoirs and Containers of Metal	0.660	155.9	139.4	159.8	159.5	166.8
1.3.15.3 Steam generators, Except Central Heating Hot Water Boilers	0.145	96.1	96.8	93.5	96.4	96.4
1.3.15.4 Forging, Pressing, Stamping and Roll-Forming of Metal; Powder Metallurgy	0.383	117.5	100.9	126.2	126.2	127.7
1.3.15.5 Cutlery, Hand Tools and General Hardware	0.208	108.2	106.7	109.4	108.5	111.7
1.3.15.6 Other Fabricated Metal Products	0.728	136.5	131.3	140.1	140.8	143.2
1.3.16 MANUFACTURE OF COMPUTER, ELECTRONIC AND OPTICAL PRODUCTS	2.009	113.7	111.6	116.4	116.5	116.3
1.3.16.1 Electronic Components	0.402	106.0	102.2	111.5	111.5	113.0
1.3.16.2 Computers and Peripheral Equipment	0.336	134.7	134.6	134.7	134.8	134.8
1.3.16.3 Communication Equipment	0.310	121.7	116.3	128.6	128.8	128.2
1.3.16.4 Consumer Electronics	0.641	102.1	101.8	102.3	102.2	101.2
1.3.16.5 Measuring, Testing, Navigating and Control equipment	0.181	108.4	107.0	112.2	112.2	111.2
1.3.16.6 Watches and Clocks	0.076	145.6	142.8	148.4	150.5	150.6
1.3.16.7 Irradiation, Electromedical and Electrotherapeutic equipment	0.055	106.1	103.5	107.4	107.6	107.9
1.3.16.8 Optical instruments and Photographic equipment	0.008	98.3	95.8	99.7	99.7	99.6
1.3.17 MANUFACTURE OF ELECTRICAL EQUIPMENT	2.930	122.3	118.6	124.8	125.2	125.9
1.3.17.1 Electric motors, Generators, Transformers and Electricity distribution and Control apparatus	1.298	119.6	117.6	121.2	121.4	121.6
1.3.17.2 Batteries and Accumulators	0.236	121.7	116.5	125.1	126.2	129.1
1.3.17.3 Fibre optic cables for data transmission or live transmission of images	0.133	102.9	102.2	106.4	107.2	102.7
1.3.17.4 Other electronic and Electric wires and Cables	0.428	140.5	130.4	146.5	148.1	151.5
1.3.17.5 Wiring devices, Electric lighting & display equipment	0.263	114.5	112.4	115.4	115.3	115.8
1.3.17.6 Domestic appliances	0.366	128.4	124.6	131.3	131.3	131.9
1.3.17.7 Other electrical equipment	0.206	113.2	110.2	113.9	113.4	113.1
1.3.18 MANUFACTURE OF MACHINERY AND EQUIPMENT	4.789	120.0	116.7	122.0	122.3	123.7
1.3.18.1 Engines and Turbines, Except aircraft, Vehicle and Two wheeler engines	0.638	119.2	112.7	121.4	122.7	125.5
1.3.18.2 Fluid power equipment	0.162	122.1	120.3	124.9	124.9	125.1
1.3.18.3 Other pumps, Compressors, Taps and Valves	0.552	115.1	114.2	115.2	115.5	116.4
1.3.18.4 Bearings, Gears, Gearing and Driving elements	0.340	118.1	114.4	119.9	119.6	120.3
1.3.18.5 Ovens, Furnaces and Furnace burners	0.008	74.2	72.1	76.9	76.5	77.3
1.3.18.6 Lifting and Handling equipment	0.285	120.0	115.2	124.1	124.0	125.3

No. 19: Other Consumer Price Indices

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Item	Base Year	Linking Factor	2021-22	2021	2022	
				Apr.	Mar.	Apr.
	1	2	3	4	5	6
1 Consumer Price Index for Industrial Workers	2016	2.88	-	120.1	126	127.7
2 Consumer Price Index for Agricultural Labourers	1986-87	5.89	1075	1041	1098	1108
3 Consumer Price Index for Rural Labourers	1986-87	—	1084	1049	1109	1119

Source: Labour Bureau, Ministry of Labour and Employment, Government of India.

Annexure-A

DEFAULT/ BREACH OF CONTRACT, INSOLVENCY AND RISK PURCHASE

In case of delays (beyond the maximum late delivery period as per LD clause) in supplies, or if there be defective supplies or non-fulfilment of any other terms and conditions of the Contract as enumerated subsequently in this clause, then, without prejudice to its right to recover any expenses, losses or damages to which the Buyer may be put to incur or sustain by reason of the Seller/Contractor's default or breach of Order/Contract or to suspend business dealings with the Seller/Contractor in terms of the Buyers' Guidelines for Suspension of Business Dealings as applicable from time to time, the Buyer shall also be entitled to cancel the Order/ Contract either in whole or portion thereof without compensation to Seller. On the occurrence of any of the acts/omissions mentioned below, the Buyer may if it so desires, procure upon such terms and in such manner as deemed appropriate, plant/ equipment/ stores not so delivered or others of similar description where plant/ equipment/ stores exactly complying with particulars are not, in the opinion of the Buyer (which shall be final), readily procurable, at the risk and cost of the Seller.

The Seller shall be liable to the Buyer for any excess costs incurred thereof and the Seller shall continue the performance of the Order/Contract to the extent not cancelled under the provisions of this clause. The Seller shall on no account be entitled to any gain on such repurchases. If the Bidder does not agree to this Risk Purchase clause, BHEL reserves the right to reject the bid/offer of the Bidder.

The order/contract may be cancelled in whole or part thereof and Risk & Cost Clause in line with terms and conditions of PO/Contract may be invoked by the Buyer in any of the following cases:

- i. If the Seller/Contractor fails to deliver the goods or materials or any installment thereof within the period(s) fixed for such delivery or the Seller's poor progress of the supply/services vis-à-vis delivery/execution timeline as stipulated in the contract, backlog attributable to the Seller including unexecuted portion of supply does not appear to be executable within balance period available;
- ii. delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications/execution methodology;
- iii. withdrawal from or repudiation/abandonment of the supply/services by the Seller before completion as per contract or if the Seller refuses or is unable to supply goods or materials covered by the order/Contract either in whole or in part or otherwise fails to perform the Order/Contract.
- iv. Non supply by the Seller within scheduled completion/delivery period as per contract or as extended from time to time for reasons attributable to the Seller;
- v. Termination of Contract on account of any other reason(s) attributable to the Seller.
- vi. Assignment, transfer, sub-letting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vii. If the Seller be an individual or a Sole Proprietorship, in the event of death or insanity of the Seller.
- viii. If the Seller/Contractor being an individual or if a partnership firm thereof, shall at any time be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;
- ix. If the Seller/Contractor being a Company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager
- x. Non- Compliance to any contractual condition or any other default attributable to the Seller.

Such defaulting vendor/Seller shall not be eligible to participate in re-tendering conducted on account of risk purchase made due to fault of such vendor/Seller.

BHEL's right to go for Risk and Cost, Calculation of Risk and Cost amount & LD, recovery options to BHEL are given in detail in Annexure-V hereto.

ANNEXURE-V

(RISK AND COST CLAUSE)

1. BHEL reserves the right to terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor *after due notice of a period of 14 days' by BHEL* in any of the following cases:
 - i) If the Seller/Contractor fails to deliver the goods or materials or any instalment thereof within the period(s) fixed for such delivery or the Seller's poor progress of the supply/ services vis-a-vis delivery/execution timeline as stipulated in the Contract, backlog attributable to seller including unexecuted portion of supply does not appear to be executable within balance available period;
 - ii) Delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications;
 - iii) Withdrawal from or repudiation/ abandonment of the supply/ services by Seller before completion as per contract or if the Seller refuses or is unable to supply goods or materials covered by the Order/Contract either in whole or in part or otherwise fails to perform the Order/Contract;
 - iv) Non-supply by the Seller within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the Seller;
 - v) Termination of Contract on account of any other reason (s) attributable to Seller.
 - vi) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
 - vii) If the Seller be an individual or a sole proprietorship Firm, in the event of the death or insanity of the Seller;
 - viii) If the Seller/Contractor being an individual or if a firm on a partnership thereof, shall at any time, be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the Order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;
 - ix) If the Seller/Contractor being a company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances shall have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager;
 - x) Non-compliance to any contractual condition or any other default attributable to Seller.

1.1 Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Work (*) as per rates of new contract

B= Value of Balance scope of Work (*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

1.2 * Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose.

Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: In case portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk & Cost amount.

1.3 LD against delay in executed work in case of Termination of Contract:

LD against delay in executed work shall be calculated in line with LD clause no. 16 of GCC, for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract.

Method for calculation of LD against delay in executed work in case of termination of contract" is given below.

- i. Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
- ii. Let the value of executed work till the time of termination of contract = X
- iii. Let the Total Executable Value of work for which inputs/fronts were made available to contractor and were planned for execution till termination of contract = Y
- iv. Delay in executed work attributable to contractor i.e. $T2 = [1 - (X/Y)] \times T1$
- v. LD shall be calculated in line with LD clause (clause 16) of the Contract for the delay attributable to contractor taking "X" as Contract Value and "T2" as period of delay attributable to contractor.

2. Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor

Without prejudice to the other means of recovery of such dues from the Seller recoveries from the Seller on whom risk & cost has been invoked shall be made from the following:

- a) Dues available in the form of Bills payable to seller, SD, BGs against the same contract.
- b) Dues payable to seller against other contracts in the same Region/Unit/ Division of BHEL.
- c) Dues payable to seller against other contracts in the different Region/Unit/ division of BHEL.

In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.