



Tender Document

For

**Supply of 300 nos 120 Watt LED Street Lights
at Corporate Office, TSECL, Agartala**

Published by

**The AGM (Revenue)
Tripura State Electricity Corporation Limited
SDA Tripura
Bidyut Bhavan, Banamalipur
Agartala – 799 001
Tripura**

CONTENTS

SI	Subject	Page No
1.	Issue of Tender Document	2
2.	Tender Notice	3
3.	Tender Details	5
4.	Terms & Conditions	6
5.	Format for Submission of Financial Bid	8
6.	Format for Submission of Guaranteed Technical Particulars	9
7.	Annexure - I	10
8.	Annexure - II	27

**Tripura State Electricity Corporation Limited
SDA Tripura**

**Tender document for Supply of 300 nos 120 Watt LED Street Lights
at Corporate Office, TSECL, Agartala, Tripura**

Issued to M/s _____

This Tender Document contains 29 pages excluding the cover page.

**B K Hrangkhawal
AGM (Revenue)
Tripura State Electricity Corporation Limited
SDA Tripura**

Tender Notice

No. SDA Tripura/TSECL/2015/ 498 – 550

Date: 06/01/2015

Tripura State Electricity Corporation Limited (TSECL), State Designated Agency for implementation of Energy Conservation Act 2001 within the State of Tripura, invites **Financial Bid and Performance Guarantee only from the manufacturers of LED Street lights** for the following works:-

Sl	Name of the Work	Estimated Cost	Earnest Money	Last date of Selling of Tender / Last date of Dropping of Tender	Completion Time
1	Supply of 300 nos. 120 watt LED Street Lights at Agartala, Tripura	Rs. 30,00,000/-	Rs. 75,000/-	28/01/2015 3.30 PM / 4.00 PM	45 days

The tender document for the above listed work can be purchased from the office of undersigned **upto 3.30 pm on 28/01/2015** on payment of **Rs. 500/-** (Rupees Five Hundred only) by cash or demand draft of any nationalized bank in favour of Tripura State Electricity Corporation Limited, payable at Agartala or can be downloaded from www.tsecl.gov.in / www.tripura.nic.in / www.tenders.gov.in / www.sdatripura.in and in that case the tender document fees must be submitted (**separate draft of Rs 500/-**) at the time of submission of the bid.

The complete tender for the work along with requisite earnest money shall be received upto **4.00 PM on 28/01/2015** and the same shall be opened on the same day at 4.30 PM in presence of the interested tenderers or their authorized representatives, if possible.

TSECL reserves the right to accept or reject any or all bids without assigning any reasons thereof and not binded to award the contract on the basis of lowest price only.

(B K Hrangkhawl)
AGM (Revenue)
Tripura State Electricity Corporation Limited
SDA Tripura

No. SDA Tripura/TSECL/2015/ 498 – 550

Date: 06/01/2015

Copy to:

1. The PS of CMD, TSECL, Agartala for information please.
2. The Director (Technical) TSECL, Agartala for information please

3-4. The General Manager (Technical) / General Manager (Finance) for information please

5-11. The Additional General Manager, EC-I, UDP./II, AGT./ Sepahijala/III, KGT./IV, AGT./V, AMB/ Belonia/ Khowai/ Dharmanagar

12-47. The Dy, Gen. Manager, Elect. Division No. I, Agartala/ II, Dharmanagar/ III, Agartala/ IV, Udaipur/ V, Kumarghat/ VI, Bogafa/ VII, Ambassa/ VIII, Bishalgarh/ X, Khowai/ XI, Rabindranagar/ Belonia Elect. Divn./ Sabroom Elect. Divn./ Amarpur Elect. Divn./ Capital Complex Elect. Divn., AGT./ Mohanpur Elect. Divn./ Jirania Elect. Divn./ Teliamura Elect. Divn./ Kamalpur Elect. Divn./ Manu Elect. Divn./ Kanchanpur Elect. Divn., Gumti Division , Jatanbari /Panisagar / Jampuijala/Kailashahar/ Commercial & Tariff Agartala/ Transmission Division, Agartala/ Transmission Divn., UDP/ Transmission Divn., KGT./System Operation/GTED, Baramura/GTED, Rokhia/ GED, Jatanbari/ Central Civil Division, 79tilla/ Testing & Communication, Agt.

48. The Dy. General Manager, Material Management Division, TSECL, A. D. Nagar for necessary action pl. (soft copy enclosed)

49. Sri. Sandip Gan Chowdhury, Sr. Manager, O/o. CSO, TSECL for information and necessary action pl. (soft copy enclosed).

50. The General Manager (Marketing Division), Tripurainfo.com, Post office Chowmuhani, Agartala with a request to display the notice on the website www.sdatripura.in. (soft copy enclosed)

51. Notice Board / Guard File.

**AGM (Revenue)
TSECL**

Tripura State Electricity Corporation Limited
SDA Tripura
Bidyut Bhavan, Banamalipur
Agartala – 799 001
Tripura

1.	Name of work	Supply of 300 nos. 120 watt LED Street Lights at Corporate Office, TSECL, Agartala, Tripura
2.	Date and time of sale of bid	upto 3.30 pm on 28/01/2015
3.	Date and time of receipt of bid	upto 4.00 pm on 28/01/2015
4.	Date and time of opening of bid	4.30 PM on dated 28/01/2015 if possible
5.	Estimated Cost	Rs. 30,00,000/- (Rupees Thirty Lakhs only) all inclusive
6.	Earnest Money	Rs. 75,000/- (Rupees Seventy Five Thousand only) by demand draft of any nationalized bank in favour of Tripura State Electricity Corporation Limited payable at Agartala .
7.	Completion period	45 days from date of receiving the LOA.
8.	Contract Performance Guarantee	The successful bidder will be required to furnish a Contract Performance Guarantee of 10% (Ten percent) of the total contract price within 7 days on receiving the Letter of Award and must sign the contract with TSECL.
9.	Location of Supply	Corporate Office, TSECL, Agartala
10.	Technical Specifications	Please refer Annexure II
11	General Instructions	<ol style="list-style-type: none"> 1. Warrantee of the supplied material from the date of supply for three years has to be committed by the manufacturer. In case of any fault, material has to be replaced without involving extra charges at site (within Tripura) only. 2. Manufacturer is requested to put label “Not for Sale – BEE LED Project” on every street lights to prevent interchangeability.

		<p>3. The Manufacturer will also arrange a visit of at least two TSECL Officers / authorized persons to respective Testing Unit to assure the quality/specification of LED Streetlights before supplying the material to the site. Entire cost of the visit including airfare, boarding & lodging will be borne by the manufacturer.</p> <p>4. Road Permit & C Form may be issued.</p>
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12. Milestones and Payment Schedule

The Payment schedule would be linked to following milestones:

Milestones	Percentage	Cumulative
After Supply of 300 nos. 120 watt LED Street Lights in good condition at Corporate Office, TSECL, Agartala	90	90
After 3 years of Supply	10	100

13. OTHER TERMS & CONDITIONS:

- i. Bids should be submitted in the sealed envelope superscripted with the name of work.
- ii. Parties are required to quote rate in the financial bid both in figures and words.
- iii. All taxes etc. have to be mentioned separately as per format.
- iv. The completion period will be 45 days from the date of receiving of LoA.
- v. The undersigned does not bind himself to accept the lowest rate or any bid and reserve to himself the right of accepting the whole or part of the bid and bidder shall be bound to perform the same at the quoted rates.
- vi. Sales tax or any other tax on the material or the turnover shall be payable by the Executing Agency and TSECL will not entertain any claim in this respect.
- vii. The Executing Agency shall comply with the provisions of Apprentices Act, 1961, Minimum wages Act, 1948 workmen's compensation Act, 1923, Contract Labour (Regulation and abolition) Act, 1970 Payment of wages Act, 1936. Employees Liability Act 1938, Maternity Benefits Act 1961, and The Industrial Dispute Act, 1947, as applicable and the rules and regulations issued the reunder from time to time. Failure to do so shall amount to breach of the contract and the nodal officer may at

his discretion terminate the contract. The Agency shall also be liable for any pecuniary liability arising on account of violation by him of provisions of the Act.

- viii. Unless otherwise stated, the contract shall be for the whole work as described in the scope of work. The agency shall be bound to complete the whole work as described.
- ix. The bid shall be typed or written in indelible ink and shall be signed by the bidder or a person or persons duly authorised to sign on behalf of the bidder. All pages of the bid document containing the entries and all corrections or amendments made therein shall be initiated by the person or persons signing the bid. The following documents shall also accompany the bid:
 - (a) Demand Draft for Earnest Money.
 - (b) Partnership deed or Registration Certificate of the firm/company as the case may be.
 - (c) Copy of registration.
 - (d) Power of Attorney as required under the rule for joint venture.
 - (e) List of similar works executed and/or in progress with agreement cost and certificate of satisfactory completion & performance from the clients.
- x. Incomplete bid or bids not fulfilling any of the conditions specified above are liable to be rejected without assigning any reason.
- xi. The conditional bids and bids without EMD shall be rejected.**
- xii. In case, the party fails to complete the work within the stipulated period, penalty will be charged @ 10% of the total value of work order or the work order may be cancelled.
- xiii. The scope of work can be increased or decreased by TSECL with extension of time.
- xiv. Bid (**Envelope A** – EMD, Tender Fees, Performance Guarantee and applicable documents as per Annexure I & II of NIT, **Envelope B** – Financial Bid) may be submitted in the office of **The AGM (Revenue), Tripura State Electricity Corporation Limited, Bidyut Bhavan, Banamalipur, Agartala – 799 001**. The tender submitting main envelope should be marked with the “**name of the job & NIT No**” and “**do not open before 28 /01/ 2015**”. The undersigned reserved the right to accept or reject any or all the bids without assigning any reason thereof.
- xv. Bidders must accept General Terms & Conditions (which are applicable for this assignment only and not covered before) as described in Annexure I & submit the signed copy of the same with other relevant documents as mentioned above.

B K Hrangkhawal
AGM (Revenue)
Tripura State Electricity Corporation Limited
SDA Tripura

FINANCIAL BID

**Supply of 300 nos. 120 watt LED Street Lights at Corporate Office,
TSECL, Agartala, Tripura**

Sl.	ITEMS	Unit Rate INR.	Taxes / Duties per Unit INR.	Unit Rate i/c of Taxes & Duties INR.	Total Price INR.
1	Supply of 300 nos. 120 watt LED Street Lights at Corporate Office, TSECL, Agartala, Tripura				

In words.....

(Name, Signature, Date & Seal of Bidder)

PERFORMANCE GUARANTEE

Guaranteed Technical Particulars

Sl.	Parameters	Guaranteed Value (should not be less than the required value if mentioned in technical specification section of NIT)
1	LED Operating Current	
2	Output Luminous Flux of luminaire	
3	Beam Angle of luminaire	
4	Avg. Lux Level of luminaire at 30 ft height	
5	Uniformity	
6	Photometric Curve	
7	Material of Luminaire & Diffuser	
8	Dimension	
9	Weight	
10	Conformity with IP-65 Fixtures	
11	LED Life	

(Name, Signature, Date & Seal of Bidder)

Annexure – I

GENERAL TERMS & CONDITIONS OF CONTRACT

A. INTRODUCTION

1.0 DEFINITION OF TERMS

- 1.1 'The Contract' means the agreement entered into between Tripura State Electricity Corporation Limited and Contractor as per the Contract Agreement signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- 1.2 'Owner' shall mean **TRIPURA STATE ELECTRICITY CORPORATION LIMITED (TSECL)** and shall include their legal representatives, successors and assigns.
- 1.3 'Contractor' or 'Manufacturer' shall mean the Bidder whose bid shall be accepted by TSECL for award of the Works and shall include such successful Bidder's legal representatives, successors and permitted assigns.
- 1.4 'Sub-contractor' shall mean the person named in the Contract for any part of the Works or any person to whom any part of the Contract has been sublet by the Contractor with the consent in writing of the owner's Engineer in charge of the work and shall include the legal representatives, successors and permitted assigns of such person.
- 1.5 'Consulting Engineer'/'Consultant' shall mean Power Grid Corporation of India Ltd. or any firm or person duly appointed as such from time to time by TSECL ..
- 1.6 The terms 'Equipment', 'Stores' and 'Materials' shall mean and include equipment, stores and materials to be provided by the Contractor under the Contract.
- 1.7 'Works' shall mean and include the furnishing of equipment, labour and services, as per the Specifications and complete erection, testing and putting into satisfactory operation including all transportation, handling, unloading and storage at the Site as defined in the Contract.
- 1.8 **'Specifications' shall mean the Specifications and Bidding Documents forming a part of the Contract and such other schedules and drawings as may be mutually agreed upon.**
- 1.9 'Site' shall mean and include the land and other places on, into or through which the works and the related facilities are to be erected or installed and any adjacent land, paths, street or reservoir which may be allocated or used by TSECL or Contractor in the performance of the Contract.
- 1.10 The term 'Contract Price' shall mean the item wise price / lump-sum price quoted by the Contractor in his bid with additions and / or deletions as may be agreed and incorporated in the Letter of Award, for the entire scope of the works.
- 1.11 The term 'Equipment Portion' of the Contract price shall mean the ex-works value of the equipment.
- 1.12 The term 'Erection Portion' of the Contract price shall mean the value of field activities of the works including erection, testing and putting into satisfactory operation including successful completion of performance and guarantee tests to be performed at Site by the Contractor including cost of insurances.
- 1.13 'Manufacturer's Works' or 'Contractor's Works', shall mean the place of work used by the manufacturer, the Contractor, their collaborators/associate or sub-contractors for the performance of the Contract.
- 1.14 'Inspector' shall mean TSECL or any person nominated by TSECL from time to time, to inspect the equipment; stores or Works under the Contract and/or the duly authorized representative of TSECL.
- 1.15 'Notification of Award of Contract' / Letter of Award' / Telex of Award' shall mean the official notice issued by TSECL notifying the Contractor that his bid has been accepted.

- 1.16 'Date of Contract' shall mean the date on which Notification of Award of Contract / Letter of Award / Telex of Award has been issued.
- 1.17 'Month' shall mean the calendar month. 'Day or 'Days', unless herein otherwise expressly defined, shall mean calendar day or days of 24 hours each.
A 'Week' shall mean continuous period of seven (7) days.
- 1.18 "Writing" shall include any manuscript, type written or printed statement, under or over signature and/or seal as the case may be.
- 1.19 When the words 'Approved'. Subject to Approval', 'Satisfactory', 'Equal to', 'Proper', 'Requested', 'As Directed', 'Where Directed', 'When Directed', 'Determined by', 'Accepted', 'Permitted', or words and phrases of like importance are used, the approval, judgment, direction etc. is understood to be a function of TSECL.
- 1.20 "Test on Completion" shall mean such tests as prescribed in the Contract to be performed by the Contractor before the work is Taken Over by TSECL.
- 1.21 'Start Up' shall mean the time period required to bring the equipment covered under the Contract from an inactive condition, when construction is essentially complete, to the state ready for trial operation. The start up period shall include preliminary inspection and checkout of equipment and supporting sub-system, initial operation of the complete equipment covered under the Contract to obtain necessary pre-trial operation data, perform calibration and corrective action, shut down, inspection and adjustment prior to the trial operation period.
- 1.22 "Initial Operation" shall mean the first integral operation of the complete equipment covered under the Contract with the sub-system and supporting equipment in service or available for service.
- 1.23 'Trial Operation', Reliability Test', 'Trial Run', 'Completion Test' shall mean the extended period of time after the start up period. During this trial operation period, the unit shall be operated over the full load range. The length of Trial Operation shall be as determined by the Engineer of TSECL unless otherwise specified elsewhere in the Contract.
- 1.24 'Performance and Guarantee Test' shall mean all operational checks and tests required to determine and demonstrate capacity, efficiency and operating characteristics as specified in the Contract Documents.
- 1.25 The term 'Final Acceptance / Taking Over' shall mean written acceptance of the Works performed under the Contract by TSECL, after successful commissioning/completion of Performance and Guarantee Tests, as specified in the accompanying Technical Specification or otherwise agreed in the Contract.
- 1.26 "Commercial Operation" shall mean the Conditions of Operation in which the complete equipment covered under the Contract is officially declared by TSECL to be available for continuous operation at different loads upto and including rated capacity. Such declaration by TSECL, however, shall not relieve or prejudice the Contractor of any of his obligations under the Contract.
- 1.27 'Guarantee period'/ 'Maintenance Period' shall mean the period during which the Contractor shall remain liable for repair or replacement of any defective part of the works performed under the contract.
- 1.28 'Latent Defects' shall mean such defects caused by faulty designs, material or work man ship which cannot be detected during inspection, testing etc, based on the technology available for carrying out such tests.
- 1.29 'Drawings', 'Plans' shall mean all:
- a) Drawing furnished by TSECL as a basis for Bid Proposals.
 - b) Supplementary drawings furnished by TSECL to clarify and define in greater detail the intent of the Contract.
 - c) Drawings submitted by the Contractor with his Bid provided such drawings are acceptable to TSECL.

- d) Drawings furnished by TSECL to the Contractor during the progress of the Work; and
- e) Engineering data and drawings submitted by the Contractor during the progress of the Work provided such drawings are acceptable to the owner's Engineer in charge of the work.

1.30 "Codes" shall mean the following including the latest amendments and / or replacement, if any:

- a) A.S.M.E. Test Codes.
- b) A.I.E.E. Test Codes.
- c) American Society of Testing Materials Codes.
- d) Standards of the Indian Standards Institutions.
- e) I.E.E. standards.
- f) I.E.C. standards.
- g) Other Internationally approved standards and / or Rules and Regulations touching the subject matter of the Contract.

1.31 Words imparting 'Person' shall include firms, companies, corporation and association or bodies of individuals.

1.32 Terms and expressions not herein defined shall have the same meaning as are assigned to them in the Indian Sale of Goods Act (1930), failing that in the Indian Contract Act (1872) and failing that in the General Clauses Act (1897) including amendments thereof if any.

1.33 In addition to the above the following definitions shall also apply.

- a) 'All equipment and materials' to be supplied shall also mean 'Goods'.
- b) 'Constructed' shall also mean 'erected and installed'
- c) 'Contract Performance Guarantee shall also mean 'Contract Performance Security'

2.0 APPLICATION

These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

3.0 STANDARDS

The Goods supplied under this Contract shall conform to the standards mentioned in the Various Technical Specifications and when no applicable standard is mentioned; to the authoritative standard appropriate to the Goods and such standards shall be the latest issued by the concerned institution.

4.0 LANGUAGE AND MEASURES

All documents pertaining to the Contract including specification, Schedules, notices, correspondence, operating and maintenance instructions, drawings or any other writing shall be written in English language. The Metric System of measurement shall be used exclusively in the Contract.

5.0 CONTRACT DOCUMENTS

The term "Contract Documents" shall mean and include the following which shall be deemed to form an integral part of the Contract:

- a) Invitation of Bid including letter forwarding the Bidding Documents, Instructions to Bidders, General Terms and Conditions of Contract, Erection Conditions of Contract and all other documents included under the Special Conditions of Contract and various other sections.
- b) Specifications of the equipment to be furnished and erected under the Contract as brought out in the accompanying Technical Specification.

- c) Contractor's Bid proposal and the documents attached there-to including the letter of clarifications thereto between the Contractor and TSECL prior to the Award of Contract.
- d) All the materials, literature, data and information of any sort given by the Contractor along with his bid, subject to the approval of TSECL.
- e) Letter of Award and any agreed variations of the conditions of the documents and special terms and conditions of contract if any.

6.0 USE OF THE CONTRACT DOCUMENTS AND INFORMATION

The Contractor shall not communicate or use in advertising, publicity, sales releases or in any other medium, photographs or other reproduction of the Works under this contract, or descriptions of the site, dimensions, quantity, quality, or other information, concerning the Works unless prior written permission has been obtained from TSECL.

7.0 JURISDICTION OF CONTRACT

The laws applicable to the Contract shall be the laws in force in India. The Courts of **Agartala** shall have exclusive jurisdiction in all matters arising under this Contract.

8.0 MANNER OF EXECUTION OF CONTRACT

- 8.1 The contractor should attend the concerned office of TSECL within 15 (fifteen) days from the date of issue of the Letter of Award to the Contractor for signing the contract agreement.
- 8.2 The Contractor shall provide for signing of the Contract, Performance Guarantee, appropriate power of attorney and other requisite materials.
- 8.3 The Agreement shall be signed in two originals and the Contractor shall be provided with one signed original and the rest shall be retained by TSECL.
- 8.4 The Contractor shall provide free of cost to TSECL all the engineering data, drawings, and descriptive materials submitted with the Bid, in at least six (6) copies to form a part of the contract immediately after issue of Letter of Award.
- 8.5 Subsequent to signing of the Contract, the Contractor, at his own cost, shall provide TSECL with at least ten (10) true copies of Agreement and one soft copy including 6(six) hard copies of the approved drawings within fifteen (15) days after the signing of the Contract.

9.0 ENFORCEMENT OF TERMS

The failure of either party to enforce at any time any of the provisions of this Contract or any rights in respect thereto or to exercise any option therein provided, shall in no way be construed to be a waiver of such provisions, rights or options or in anyway to affect the validity of the Contract. The exercise by either party of any of its rights herein shall not prejudice either party from exercising the same or any other right it may have under the Contract.

10.0 COMPLETION OF CONTRACT

Unless otherwise terminated under the provisions of any other relevant clause, this Contract shall be deemed to have been completed on the date stipulated in the NIT.

GUARANTEE & LIABILITIES

11.0 TIME – THE ESSENCE OF CONTRACT

- 11.1 The time of completion of the Contract as stipulated in the bidding document by TSECL without or with modifications, if any, and so incorporated in the Letter of Award, shall be deemed to be the essence of the Contract. The Contractor shall so organize his resources and perform his Work as to complete it not later than the date agreed to.
- 11.2 The Contractor shall submit a detailed BAR CHART / PERT NETWORK consisting of adequate number of activities covering various key phases of the Work such as procurement, shipment and field erection activities within fifteen (15) days of the date of Notice of Award of Contract. This Bar Chart shall also indicate the issue schedule of equipments/materials within the scope of the owner to be maintained and the interface facilities to be provided by TSECL and the dates by which such facilities are needed. The Contractor shall discuss with

the owner's Engineer in charge of the work for finalisation and approval of the Bar Chart by TSECL. The agreed Bar Chart shall form part of the contract documents. During the performance of the Contract, if in the opinion of the owner's Engineer in charge of the work, proper progress is not maintained, suitable changes shall be made in the Contractor's operations to ensure proper progress without any cost implication to TSECL. The interface facilities to be provided by TSECL in accordance with the agreed Bar Chart shall also be reviewed while reviewing the progress of the Contractor.

11.3 Based on the agreed Bar Chart fortnightly reports shall be submitted by the Contractor as directed by the owner's Engineer in charge of the work.

11.4 Subsequent to the finalization of the Bar Chart, the Contractor shall make available to the owner's Engineer in charge of the work a detailed procurement programme of equipments / materials in line with the agreed Contract Bar Chart. Such procurement programme shall be reviewed, updated and submitted to the owner's Engineer in charge of the work once in every month thereafter.

11.5 The above Bar Charts / procurement programme shall be compatible with TSECL computer environment and furnished to TSECL on such media as may be desired by the owner.

12.0 EFFECTIVENESS OF CONTRACT

The Contract shall be considered as having come into force from the date of the Notification of Award, unless otherwise provided in the Notification of Award.

13.0 LIQUIDATED DAMAGES

13.1 For Equipment / material Portion & Erection portion

13.1.1 If the Contractor fails to successfully complete the commissioning within the time fixed under the Contract, the Contractor shall pay to TSECL as liquidated damages and not as penalty a sum specified for each specified period of delays as below.

13.1.2 Equipment and materials will be deemed to have been delivered only when all its components, parts are also delivered. If certain components are not delivered in time, the equipment and materials will be considered as delayed until such time the missing parts are also delivered.

13.1.3 The liquidated damages will be accounted after reviewing the agreed issue schedule of equipments / materials of the owner and actual date of issue.

13.1.4 The liquidated damages for delay in complete the work in all respect and commissioning of all the equipments within the time fixed under the contract shall be 1% (one per cent) of the contract price of the whole work per week or part thereof.

13.1.5 **The total amount of liquidated damages for delay under the Contract will be subject to a maximum of 5% of the Contract price.**

14.0 GUARANTEE

14.1 The Contractor shall warrant that the equipment/materials supplied by them are new, unused and in accordance with the contract documents and free from defects in material and workmanship for a period of **twelve (12)** calendar months commencing immediately upon the satisfactory commissioning. The Contractor's liability shall be limited to the replacement of any defective parts in the equipment / materials supplied by them under normal use and arising solely from faulty design, materials and/or workmanship provided always that such defective parts are repairable at the site and are not in the meantime essential in the commercial use of the equipment. Such replaced / defective parts shall be returned to the Contractor unless otherwise arranged. No repairs or replacement shall normally be carried out by owner's Engineer in charge of the work when the equipment is under the supervision of the Contractor's supervisory engineer.

14.2 In the event of any emergency, where in the judgment of the owner's Engineer in Charge of work, delay would cause serious loss or damages, repairs or adjustment may be made by him or a third party chosen by him without advance notice to the Contractor and the cost of such work shall be paid by the Contractor. In the event such action is taken by the owner's Engineer in Charge of work, the Contractor shall be notified promptly and he shall assist

wherever possible in making necessary corrections. This shall not relieve the Contractor of his liabilities under the terms and conditions of the Contract.

- 14.3 If it becomes necessary for the Contractor to replace or renew any defective portions of the Works, the provision of this clause shall apply to portion of the Works so replaced or renewed until the expiry of twelve (12) months from the date of such replacement or renewal. If any defects are not remedied within a reasonable time, the owner's Engineer in Charge of work may proceed to do the work at the Contractor's risk and cost, but without prejudice to any other rights which the owner may have against the Contractor in respect of such defects.
- 14.4 The repaired or new parts shall be furnished and erected free of cost by the Contractor. If any repair is carried out on his behalf at the site, the Contractor shall bear the cost of such repairs.
- 14.5 The cost of any special or general overhaul rendered necessary during the maintenance period due to defects in the equipment or defective work carried out by the Contractor shall be borne by the Contractor.
- 14.6 The acceptance of the equipment by the owner's Engineer in Charge of work shall in no way relieve the Contractor of his obligation under this clause.
- 14.7 In the case of those defective parts, which are not repairable at site but are essential for the commercial operation of the equipment, the Contractor and the Owner's Engineer in Charge of work shall mutually agree to a programme of replacement or renewal, which shall minimize interruption to the maximum extent in the operation of the equipment.

15.0 TAXES, PERMITS & LICENCES

The Contractor shall be liable and pay all taxes, duties, levies lawfully assessed against the owner or the Contractor in pursuance of the Contract.

16.0 REPLACEMENT OF DEFECTIVE PARTS AND MATERIALS

- 16.1 If during the performance of the Contract, owner's Engineer in charge of the work shall decide and inform in writing to the Contractor that the Contractor has manufactured any equipment, material or part of equipment unsound and imperfect or has furnished any equipment inferior to the quality specified, the Contractor on receiving details of such defects or deficiencies shall at his own expense within **seven (7) days** of his receiving the notice, or otherwise, within such time as may be reasonably necessary for making it good, proceed to alter, reconstruct or remove such works and furnish fresh equipment/materials upto the standards of the specifications. In case, the Contractor fails to do so, the Owner's Engineer in charge of the work may on giving the Contractor seven (7) days notice in writing of his intentions to do so, proceed to remove the portion of the works so complained of and at the cost of the Contractor perform all such work or furnish all such equipment / materials.
- 16.2 The Contractor's full and extreme liability under this clause shall be satisfied by the payment to the owner of the extra cost, of such replacement procured including erection as provided for in the Contract, such extra cost being the ascertained difference between the price paid by the owner for such replacements and the Contract Price by portion for such defective equipment / materials / works and repayments of any sum paid by the owner to the Contractor in respect of such defective equipment/material. Should the owner not so replace the defective equipment / materials, the Contractor's extreme liability under this clause shall be limited to repayment of all sums paid by the owner under the Contract for such defective equipment/materials.

17.0 DEFENCE OF SUITS

If any action in court is brought against the owner for the failure, omission or neglect on the part of the Contractor to perform any acts, matters, or things under the Contract, or for damage or injury caused by the alleged omission or negligence on the part of the Contractor, his agents, representatives or his Sub-Contractors, or in connection with any claim based on lawful demands of Sub-Contractors, workmen, suppliers or employees, the Contractor shall in all such cases indemnify and keep the owner, from all losses, damages, expenses or decrees arising of such action.

18.0 LIMITATION OF LIABILITIES

The final payment by the owner in pursuance of the Contract shall mean the release of the Contractor from all his liabilities under the Contract. Such final payment shall be made only at the end of the Guarantee / Warranty Period, and till such time all the contractual liabilities and responsibilities of the Contractor, shall prevail. All other payments made under the Contract shall be treated as on-account payments.

19.0 POWER TO VARY OR OMIT WORK

- 19.1 No alterations, amendments, omissions, suspensions or variations of the Works (hereinafter referred to as 'variation') under the Contract as detailed in the Contract Documents, shall be made by the Contractor except as directed in writing by owner's Engineer in charge of the work, but he shall have full powers subject to the provisions hereinafter contained, from time to time during the execution of the Contract, by notice in writing to instruct the Contractor to make such variation without prejudice to the Contract. The Contractor shall carry out such variation and be bound by the same conditions as far as applicable as though the said variations occurred in the Contract Documents. If any suggested variations would, in the opinion of the Contractor, if carried out, prevent him from fulfilling any of his obligations or guarantees under the Contract, he shall notify the owner's Engineer in charge of the work thereof in writing and the owner's Engineer in charge of the work shall decide forthwith whether or not, the same shall be carried out and if the owner confirm his instructions, the Contractor's obligations and guarantees shall be modified to such an extent as may be mutually agreed. Any agreed difference in cost occasioned by any such variation shall be added to or deduced from the Contract Price as the case may be.
- 19.2 In the event of the owner requiring any variation, a reasonable and proper notice shall be given to the Contractor to enable him to work his arrangement accordingly, and in cases where goods or materials are already prepared or any design, drawings or pattern made or work done requires to be altered, a reasonable and agreed sum in respect thereof shall be paid to the Contractor.
- 19.3 In any case in which the Contractor has received instructions from the owner's Engineer in charge of the work as to the requirement of carrying out the alterations or additional or substituted work which either then or later on, shall in the opinion of the Contractor, involve a claim for additional payment, the Contractor shall immediately and in no case later than thirty (30) days, after receipt of the instructions aforesaid and before carrying out the instructions, advise the Owner's Engineer in charge of the work to that effect. But the Owner's Engineer in charge of the work shall not become liable for the payment of any charges in respect of any such variations, unless the instructions for the performance of the same shall be confirmed in writing by the owner's Engineer in charge of the work.
- 19.4 If any variation in the Works results in reduction of Contract Price, the parties shall agree, in writing, to the extent of any change in the price, before the Contractor proceeds with the change.
- 19.5 In all the above cases, in the event of a disagreement as to the reasonableness of the said sum, the decision of owner's Engineer in charge of the work shall prevail.
- 19.6 Notwithstanding anything stated above in this clause, owner's Engineer in charge of the work shall have the full power to instruct the Contractor, in writing, during the execution of the Contract to vary the quantities of the items or groups of items in accordance with the provisions of clause entitled 'Change of Quantity in Section – III'. The Contractor shall carry out such variations and be bound by the same conditions as though the said variations occurred in the Contract Documents.

20.0 ASSIGNMENT AND SUB-LETTING OF CONTRACT

- 20.1 The Contractor may, after informing owner's Engineer in charge of the work and getting his written approval, assign or sub-let the Contract or any part thereof other than supply of main equipments and any part of the plant for which makes are identified in the Contract. Suppliers of the equipment not identified in the Contract or any change in the identified suppliers shall be subjected to approval by the owner's Engineer in charge of the work. The experience list of equipment vendors under consideration by the Contractor for this Contract shall be furnished to the owner's Engineer in charge of the work for approval, prior to procurement of all such items/equipment. Such assignment / sub-letting shall not relieve the Contractor of

any obligation, duty or responsibility under the Contract. Any assignment as above, without prior written approval of the owner's Engineer in charge of the work, shall be void.

20.2 For components / equipment procured by the Contractor for the purposes of the Contract, after obtaining the written approval of the owner, the Contractor's purchase specifications and enquiries shall call for quality plan to be submitted by the suppliers along with their proposals. The quality plans called for from the Vendors shall set out, during the various stages of manufacture and installation, the quality practices and procedures followed by the Vendors quality control organization, the relevant reference document/standard used, acceptance level, inspection documentation raised, etc. Such quality plans of the successful vendors shall be discussed and finalized in consultation with the owner's Engineer in charge of the work and shall form part of the purchase order / contract between the Contractor and the Vendor. Within three weeks of the release of the purchase orders/contracts for such bought out items/components, a copy of the same without price details but together with detailed purchase specifications, quality plans and delivery conditions shall be furnished to the owner's Engineer in charge of the work by the Contractor.

21.0 CHANGE OF QUANTITY

21.1 During the execution of the Contract, TSECL reserves the right to increase or decrease the quantities of items under the Contract but without any change in unit price or other terms & conditions. Such variations shall not be subjected to any limitation for the individual items but the total variations in all such items including items not covered under the Contract shall be limited to $\pm 25\%$.

21.2 The Contract price shall accordingly be adjusted based on the unit rates available in the Contract for the change in quantities as above. In case, the unit rates are not available in the contract, the same shall be worked out as below: -

- i) If the rates for the additional, altered or substituted work are specified in the contract, the contractor is bound to carry the additional, altered or substituted work at the same rates as are specified in the contract.
- ii) If the rates for the additional, altered or substituted work are not specifically provided in the contract, the rates will be derived from a similar class of work as are specified in the contract.
- iii) If the rates for the additional, altered or substituted work includes any work for which no rate is specified in the contract / can not be derived from the similar class of work in the contract, then such work shall be carried out at the rates which will be determined on the basis of current schedule of rate of TSECL above minus / plus the percentage which the total contract amount bears to the estimated cost put to tender. Provided always if the rate for particular part or parts of the item is not available in the schedule of rates, the rate of such part or parts will be determined by the owner on the basis of the prevailing market rate when the work was done.
- iv) If the rates for the additional, altered or substituted work can not be determined in the manner specified in sub-clause i, ii & iii above, then the contractor shall within 7 (Seven) days of receipt of order to carry out the order, inform the owner's Engineer in charge of the work of rate which it is his intention to charge for such class of work, supported by analysis of rate or rates claimed, and the owner shall determine the rate or rates claimed with mutual settlement with the contractor.
- v) The deviation limit referred to above is the net effect (algebraically sum) of all additions and deductions ordered.
- vi) Time for the completion for the work shall be extended in the proportion that the altered, additional or substituted work bears to the original contract of the work and the certificate of the owner's Engineer in charge of the work shall be conclusive for approval of the time extension by TSECL.

22.0 PAKING, FORWARDING AND SHIPMENT

22.1 The Contractor, wherever applicable, shall after proper painting, pack and crate all equipment in such a manner as to protect them from deterioration and damage during rail and road

transportation to the site and storage at the site till the time of erection. The Contractor shall be held responsible for all damages due to improper package.

22.2 The Contractor shall notify the owner's Engineer in charge of the work of the date of each shipment from manufacturer's works, and the expected date of arrival at the site.

22.3 The Contractor shall also give all shipping information concerning the weight, size and content of each packing including any other information the owner's Engineer in charge of the work may require.

22.4 The Contractor shall prepare detailed packing list of all packages and containers, bundles and loose materials forming each and every consignment dispatch to Site.

The Contractor shall further be responsible for making all necessary arrangements for loading, unloading and other handling, right from manufacturer's works up to the Site and also till the equipment is erected, tested and commissioned. He shall be solely responsible for proper storage and safe custody of all equipment.

23.0 CO-OPERATION WITH OTHER CONTRACTORS AND CONSULTING ENGINEERS

The Contractor shall agree to cooperate with the TSECL's Consulting Engineers and freely exchange with them such technical information, as is necessary to obtain the most efficient and economical design and to avoid unnecessary duplication of efforts. The owner's Engineer in charge of the work shall be provided with three copies of all correspondence addressed by the Contractor to the consulting Engineers of TSECL in respect of such exchange of technical information.

24.0 NO WAIVER OF RIGHTS

Neither the inspection by TSECL nor any order by TSECL for payment of money or any payment for or acceptance of, the whole or any part of the Works by the owner's Engineer in charge of the work, nor any extension of time, nor any possession taken by the owner's Engineer in charge of the work shall operate as a waiver of any provision of the Contract, or of any power herein reserved to TSECL or any right to damages herein provided nor shall any waiver of any breach in the Contract be held to be a waiver of any other or subsequent breach.

25.0 CERTIFICATE NOT TO AFFECT RIGHT OF THE OWNER AND LIABILITY OF CONTRACTOR.

No interim payment certificate of the owner's Engineer in charge of the work, nor any sum paid on account by TSECL, nor any extension of time for execution of the Works granted by TSECL shall affect or prejudice the rights of TSECL against the Contractor or relieve the Contractor of his obligation for the due performance of the Contractor, or be interpreted as approval of the Works done or of the equipment furnished and no certificate shall create liability for TSECL to pay for alterations, amendments, variations or additional works not ordered, in writing, by the owner's Engineer in charge of the work or discharge the liability of the Contractor for the payment of damages whether due, ascertained or certified or not or any sum against the payment of which he is bound to indemnify TSECL, nor shall any such certificate nor the acceptance by him of any sum paid on account or otherwise affect or prejudice the rights of TSECL against the Contractor.

26.0 INSPECTION AND TESTING OF EQUIPMENTS / MATERIALS

26.1 All equipments / materials shall be dispatched by the contractor only after issuance of Materials Inspection Clearance Certificate (MICC) by the inspecting officer / team of TSECL unless otherwise waived by TSECL during execution of the contract in special circumstances.

26.2 After manufacturing or at the stage of dispatch of equipments / materials the contractor shall give intimation to the owner's Engineer in charge of the work for conducting inspection of equipments / materials at manufacture's works or at recognised testing laboratories to be arranged by the contractor. The intimation shall be made at least 15(fifteen) days before the equipments / materials become ready for dispatch.

26.3. Testing of equipments / materials as specified above shall be conducted at the risk and cost of the contractor. The contractor shall also bear the to and fro travelling and lodging charges of the inspecting officer / team of TSECL.

27.0 PROGRESS REPORTS AND PHOTOGRAPHS

During the various stages of the Work in the pursuance of the Contract, the Contractor shall at his own cost submit periodic progress reports as may be reasonably required by the owner’s Engineer in charge of the work with such materials as, charts, Bar Charts, photographs, test certificates, etc. Such progress reports shall be in the form and size as may be required by the owner’s Engineer in charge of the work and shall be submitted in at least three (3) copies.

28.0 TAKING OVER

Upon successful completion of erection and commission of all equipments and materials upto the satisfaction of owner’s Engineer in charge of the work, a **Taking over Certificate** as a proof of the completion of the work will be issued by the owner. Such certificate shall not unreasonably be withheld.

CONTRACT SECURITY AND PAYMENTS

29.0 CONTRACT PERFORMANCE GUARANTEE

The Contractor shall furnish contract performance guarantee as specified in clause **8.0 of Section - I** for the proper fulfillment of the Contract within **fifteen (15) days** of “Notice of Award of Contract.”

30.0 CONTRACT PRICE ADJUSTMENT

30.1 The provisions detailed herein shall be read and interpreted in conjunction with the provisions of **Clause 11 of Section – II.**

30.2 All adjustment in the Contract price shall be computed in accordance with the conditions and formulae detailed hereunder:

30.3 Only the following components of the Bid Price shall be subject to price adjustment:

a) Ex-factory price component of the equipment, subject to positive ceiling of ten percent (+10%) and no ceiling on negative side (excluding equipment and consumable material required for erection and spares) unless otherwise specified in the Contract. However, the actual payment of price adjustment, at any stage, shall not exceed 10% of cumulative ex-works price of equipment/material already supplied.

b) Erection component.

30.4 The price adjustment formulae for the component of the Bid Price, as mentioned in clause 30.3 above shall be as stipulated here in after.

30.4.1 Ex-Factory Price Component of the Equipment

i. For the equipment component of the Contract / Bid price, price adjustment provision shall be applicable only on the ex-factory prices for the equipment / materials.

ii. The price adjustment shall be worked out on the components of the ex-factory bid price in Indian Rupees only as quoted by the Contractor and price adjustment amount so computed shall also be payable or recoverable in Indian Rupees Only.

iii. It is understood that the bid price for any shipment comprises of a fixed portion (designated as ‘F’ and the value of which is specified here-under) and variable portion linked with the indices for various materials and labour.

The amount of price adjustment towards variable portion payable on each consignment shall be computed as under:

$$dEC = Eco \left\{ a \frac{(A_1 - A_0)}{A_0} + b \frac{(B_1 - B_0)}{B_0} + c \frac{(C_1 - C_0)}{C_0} + I \frac{(L_1 - L_0)}{L_0} \right\}$$

Where

dEC = Price adjustment amount payable to Contractor, for each consignment.

(If it works out negative, the amount is to be adjusted by the TSECL with the payment of other items to the contractor).

Eco	=	Ex-factory price of the equipment/ material consignment wise.
A,B,C,	=	Corresponding published price indices of various materials.
L	=	Labour Index.
F	=	Fixed portion of the ex-factory bid price and shall be 15% (i.e. 0.15).
a,b,c,	=	Co-efficient (expressed as components of bid price) of major materials involved in the ex-factory price of the equipment / material
I	=	Co-efficient of labour component in the ex-factory price of the equipment / materials.

Subscript '0' refers to indices as on 30 days prior to the date set for opening of bids.

Subscript '1' refers to indices as of:

1. Three months prior to the date of consignment for labour; and
2. At the expiry of two third (2/3) period from the date of base index to the date of consignment for material.

For the purpose of Price Adjustment, the date of consignment for Goods shall mean schedule date of shipment or actual date of shipment, whichever is earlier. Schedule date of shipment shall be ex-works date of dispatch, governed by the accepted Bar Chart.

No price increase shall be allowed beyond the original delivery dates unless specifically stated in the Time Extension letter, if any, issued by TSECL. The owner shall, however, be entitled to any decrease in the Contract Price which may be caused due to lower price adjustment amount in case of delivery of Goods beyond the original delivery dates. Therefore, in case of delivery of Goods beyond the original delivery dates, the liability of TSECL shall be limited to the lower price adjustment amount which may work out either on schedule date or actual date of dispatch of Goods.

The values of a,b,c,.....shall be such that $F+a+b+c+...+I=1$. The values of a, b, c,..... shall be determined by TSECL.

30.4.2

Erection Component:

The monthly erection price adjustment amount shall be computed for the erection bid price as per the formula given below:

$$dER = 0.75ERO \times \frac{(F_1 - F_0)}{F_0}$$

Where

dER	=	Price adjustment payable to the Contractor (if it works out to negative, the amount is to be adjusted by the TSECL with the payment of other items to the contractor), for each billing.
ERO	=	Value of erection work done in the billing period as established by the Contract.
F	=	Indian Field Labour Index, namely All India Consumer Price Index for Industrial Workers. (All India Average) as published by IEEMA / Labour Bureau, Simla of the Government of India.

Subscript '0' will correspond to 30 days prior to the date set for opening of bids.

Subscript '1' will correspond to the billing period.

For the purpose of Price Adjustment, the Billing period shall mean the Billing Period as per Contract time schedule i.e. the agreed Bar Chart or

actual period, whichever is earlier. The Billing period, for various erection activities will be as per agreed erection Bar Chart indicating monthly schedule of erection activities for completion of works.

No Price increase shall be allowed beyond the original erection dates unless specifically stated in the Time Extension letter, if any, issued by TSECL. However, TSECL be entitled to any decrease in the Contract Price which may be caused due to lower price adjustment amount in case of delays beyond the original erection dates. Therefore, in case of delays beyond the original erection dates, the liability of TSECL shall be limited to the lower of the price adjustment amount, which may work out either on scheduled date or actual date of erection.

The price variations calculated by the above formula for erection component shall not be subject to any ceiling unless otherwise specially mentioned in Special Conditions of Contract.

30.5 **Adjusted Contract Price**

The adjusted Contract price shall be

ECO + dEC + ERO + dER

Plus other element of contract price, if any.

30.6 Every three months after the award of Contract and a month prior to shipment of equipment (in the case of ex-factory price component of Contract Price), and every month after establishing his Site office (in case of erection), the Contractor shall submit to the owner's Engineer in charge of the work written notice of the changes, if any, that have occurred in the specified material and labour indices during the previous reporting period containing the effective date of such change, the amount of change, the amount Contract Price adjustment and documentary evidence to substantiate the price adjustment.

30.7 The Contractor shall promptly submit price adjustment invoices on monthly basis, whether such adjustment is positive or negative.

31.0 PAYMENT

31.1 The payment to the Contractor for the performance of the Works under the Contract will be made by TSECL as per the guidelines and conditions specified hereinafter. All payment made during the Contract shall be on account payments only. The final payment will be made on completion of all Works and on completion of warranty / guaranty period including fulfillment by the Contractor of all his liabilities under the Contract.

31.2 **Currency of Payment**

All payments under the Contract shall be in Indian Rupees only.

31.3 **Due Dates for Payments**

TSECL will make progressive payment as and when the payment is due as per the terms of payment set forth as herein after.

32. MODE OF PAYMENT

32.1 Payment due on supply / erection of Equipment & materials / services shall be made by the owner's Engineer in charge of the work through account payee Banker cheque.

32.2 **TERMS OF PAYMENT**

The terms of payments for various activities under the contract are as under.

32.2.1 **Price of Supply and Erection**

The terms of payments for price of all equipment / materials and erection are detailed herein after.

A) For supply of Equipment / materials

i) 80% of the cost of equipment / materials after:

- a. Acknowledgement of Letter of Award.
 - b. Submission of contract performance guarantee as per clause 8.0 (Section – D).
 - c. Submission of a detailed Bar Chart based on the work schedule stipulated in the Bid document and its approval by TSECL.
 - d. Signing of contract agreement.
 - e. On production of dispatch documents including the material inspection clearance certificate (MICC) issued by the inspecting officer / team of TSECL.
 - f. On receipt of materials at site.
 - i) Balance 10% of the cost of equipment / materials after successful erection at site.
 - ii) Balance 10% of the cost of equipment / materials after successful commissioning.
- B) For the Erection Component
- i) 90% of the erection component after
 - a. On establishing his office at site preparatory to mobilization of his erection establishment including posting of site engineer.
 - b. On successful erection of equipments / materials as per direction of the owner's Engineer in charge of the work.
 - ii) Balance 10% after successful commissioning.
 - iii) Progressive bill value for erection component shall not be less than Rs.1.0 lac.

32.2.2 All further payments under the Contract shall be made as stipulated in the Contract document after signing the Contract Agreement. The adjusted contract price as per relevant clauses of the contract document shall be made by TSECL or adjusted from the progressive bill of the contractor on submission of price adjustment invoices with supporting documents by the contractor and on final acceptance by TSECL.

32.2.3 **Transportation & Insurance**

Transportation upto the work site of all equipments and materials supplied by the contractor or issued by the owner and insurance charges shall be borne by the contractor and the owner in no way shall be liable for the transportation and insurance charges.

32.2.4 **Price adjustment / Contract Variation**

Any increases in Contract Price due to price adjustment provision as per Clause 30.0 of this section, shall be payable in the similar manner as provided in clause 32.2.2 above. Any reduction in Contract Price as per price adjustment provision given in clause 30.0 of this Section shall be effected by recovering 100% of the reduction amount from any of the Contractor's bills falling immediately due for payment.

The terms of payments for Contract variations in terms of clause 19 and Sub-clause 21.1 (if any) of this Section shall be the same as given above for price adjustment.

33. EXTENSION OF TIME

33.1 The owner may consider **granting of time extension** for completion of the work if it is felt absolutely essential for the grounds arising out as per clause – 21 and clause – 40 of this section or otherwise the time extension shall be granted on fulfillment of following conditions by the Contractor:-

- a) The contractor must apply to the owner's Engineer-In-charge in writing for extension of time so required justifying the necessity as per proforma.

- b) Such application must state **the grounds** which hindered the contractor in the execution of the work within the time as stipulated in the contract document.
 - c) Such application must be made within 30 days of the date on which such hindrance had arisen.
 - d) The owner's **Engineer-in - charge** must be of the opinion that the grounds shown for the extension of time are reasonable and without extension of such time completion of the work is practically impossible.
- 33.2 **The owner's Engineer-In- Charge** will have full powers, but the orders on the application Of the Contractor accepted by the appropriate authorities of TSECL Shall be issued by him only after written approval from the concerned authority..
- 33.3 The opinion of **the Engineer- in- charge**, whether the grounds shown for the time extension are or are not reasonable, is final. If the owner's Engineer- **in- charge** is of the opinion that the grounds shown by the supplier/ contractor are not reasonable and declines to grant extension to time, the supplier/contractor will be intimated accordingly.

34.0 DEDUCTION FROM CONTRACT PRICE

All costs, damages or expenses which the owner may have paid, for which under the Contract, the Contractor is liable, will be deducted from the progressive bill of the contractor.

35.0 TRANSFER OF THE TITLE

- 35.1 This Transfer of Title of equipments / materials shall not be constructed to mean the acceptance and the consequent "Taking Over" of equipment and materials. The Contractor shall continue to be responsible for the quality and performance of such equipment and materials and for their compliance with the specifications until "Taking Over" and the fulfillment of guarantee provisions of this Contract.
- 35.2 This Transfer of Title shall not relieve the Contractor from the responsibility for all risks of loss or damage to the equipment and materials as specified under the clause entitled "Insurance" of this Section.

36.0 INSURANCE

- 36.1 The Contractor at his cost shall arrange, secure and maintain all insurance as may be pertinent to the Works and obligatory in terms of law to protect his interest and interests of TSECL against all perils detailed herein. The form and the limit of such insurance as defined herein together with the under-writer in each case shall be acceptable to TSECL. However, irrespective of such acceptance, the responsibility to maintain adequate insurance coverage at all times during the period of Contract shall be of the Contractor alone. The Contractor's failure in this regard shall not relieve him of any of his contractual responsibilities and obligations. The insurance covers to be taken by the Contractor shall be in a joint name of TSECL and the Contractor. The Contractor shall, however, be authorized to deal directly with Insurance Company or Companies and shall be responsible in regard to maintenance of all insurance covers. Further the insurance should be in freely convertible currency.
- 36.2 Any loss or damage to the equipment during handling, transportation, storage, erection, putting into satisfactory operation and all activities to be performed till the successful completion of commissioning of the equipment shall be to the account of the Contractor. The Contractor shall be responsible for preference of all claims and make good the damages or loss by way of repairs and / or replacement of the equipment / material, damaged or lost. The transfer of title shall not in any way relieve the Contractor of the above responsibilities during the period of Contract. The Contractor shall provide TSECL with copy of all insurance policies and documents taken out by him in pursuance of the Contract. Such copies of documents shall be submitted to TSECL immediately after such insurance coverage. The Contractor shall also inform TSECL in writing at least sixty (60) Days in advance regarding the expiry / cancellation and/or change in any of such documents and ensure revalidation, renewal etc., as may be necessary well in time.
- 36.3 The perils required to be covered under the insurance shall include, but not be limited to fire and allied risks, miscellaneous accidents (erection risks) workman compensation risks, loss or damage in transit, theft, pilferage, riot, strikes, social unrest and malicious damages, civil commotion, weather conditions, accidents of all kinds, etc. The scope of such insurance shall

be adequate to cover the replacement/reinstatement cost of the equipment for all risks upto and including delivery of goods and other costs till the equipment is delivered at Site. The insurance policies to be taken should be on replacement value basis. Notwithstanding the extent of insurance cover and the amount of claim available from the underwriters, the Contractor shall be liable to make good the full replacement/rectification value of all equipment / materials and to ensure their availability as per project requirements.

36.4 All costs on account of insurance liabilities covered under the Contract will be to Contractor's account and will be included in Contract Price, However, TSECL may from time to time, during the pendency of the Contract, ask the Contractor in writing to limit the insurance coverage, risks and in such a case, the parties to the Contract will agree for a mutual settlement, for reduction in Contract price to the extent of reduced premium amount. The Contractor, while arranging the insurance shall ensure to obtain all discounts on premium, which may be available for higher volume or for reason of financing arrangement of the project.

36.5 The clause entitled 'Insurance' under the Section - IV, covers the additional insurance requirements for the portion of the works to be performed at the Site.

37.0 LIABILITY FOR ACCIDENTS AND DAMAGES

Under the Contract, the Contractor shall be responsible for loss or damage to the equipment until the successful completion of commissioning as defined else-where in the Bidding Documents.

38.0 DELAYS BY THE OWNER OR HIS AUTHORISED AGENTS

In case the Contractor's performance is delayed due to any act on the part of the owner or his authorized agents, then the Contractor shall be given due extension of time for the completion of the Works, to the extent of such act on the part of the owner has caused delay in the Contractor's performance of the Contract.

Regarding reasonableness or otherwise of the extension of time, the decision of the TSECL shall be final.

39.0 DEMURRAGE, WARFARE, ETC.

All demurrage, warfare and other expenses incurred due to delayed clearance of the material or any other reason shall be to the account of the Contractor.

40.0 FORCE MAJEURE

40.1 Force majeure is herein defined as any cause which is beyond the control of the Contractor or TSECL as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the Contract, such as:

- a. Natural phenomena, including but not limited to floods, droughts, earthquakes and epidemics;
- b. Acts of any Government including but not limited to war, declared or undeclared, quarantines, embargoes.

Provided the contractor shall within fifteen (15) days from the occurrence of such a cause notify the owner in writing of such causes, acceptance of which will be given by the owner after verification.

40.2 The Contractor or TSECL shall not be liable for delays in performing his obligations resulting from any force-majeure cause as referred to and / or defined above.

The date of completion will, subject to hereinafter provided, be extended by a reasonable time. In such case the contractor shall submit to owner's Engineer-in-charge of the work the time extension application as per format attached at **ANNEXURE –II**.

41.0 SUSPENSION OF WORK

TSECL reserves the right to suspend and reinstate execution of the whole or any part of the Works without invalidating the provisions of the Contract. Orders for Suspension or

reinstatement of the Works will be issued by TSECL to the Contractor in writing. The time for completion of the works will be extended for a period equal duration of the suspension.

42.0 CONTRACTOR'S DEFAULT

42.1 If the Contractor shall neglect to execute the Works with due diligence and expertise or shall refuse or neglect to comply with any reasonable order given to him, in the Contract by the owner's Engineer in charge of the work in connection with the works or shall contravene the provisions of the Contract, the owner may give notice in writing to the Contractor to make good the failure, neglect or contravention complained of. Should the Contractor fail to comply with the notice within thirty (30) days from the date of serving the notice, then and in such case the owner shall be at liberty to employ other workmen and forthwith execute such part of the Works as the Contractor, may have neglected to do or if the owner shall think fit, without prejudice to any other right he may have under the Contract to take the work wholly or in part out of the Contractor's hands and re-contract with any other person or persons to complete the works or any part thereof and in that event the owner shall have free use of all Contractor's equipment that may have been at the time on the Site in connection with the works without being responsible to the Contractor for fair wear and tear thereof and to the exclusion of any right of the Contractor over the same, and the owner shall be entitled to retain and apply any balance which may otherwise be due on the Contract by him to the Contractor, or such part thereof as may be necessary, to the payment of the cost of executing the said part of the Work or of completing the Works as the case may be. If the cost of completing of Works or executing a part thereof as a foresaid shall exceed the balance due to the Contractor, the Contractor shall pay such excess. Such payment of excess amount shall be independent of the liquidated damages for delay, which the Contractor shall have to pay if the completion of Works is delayed.

42.2 In addition, such action by the owner as aforesaid shall not relieve the Contractor of his liability to pay liquidated damages for delay in completion of Works as defined in clause 13.0 of this Section.

Such action by the owner as aforesaid, the termination of the Contract under this clause shall neither entitle the Contractor to reduce the value of the Contract Performance Guarantee nor the time thereof. The Contract Performance Guarantee shall be valid for the full value and for the full period of the Contract including guarantee period.

43.0 TERMINATION OF CONTRACT ON OWNER'S INITIATIVE

43.1 The owner reserves the right to terminate the Contract either in part or in full due to reasons stipulated in the clause entitled "Contractor's Default." The owner shall in such an event give fifteen (15) days notice in writing to the Contractor of his decision to do so.

43.2 The Contractor upon receipt of such notice shall discontinue the work on the date and to the extent specified in the notice.

43.3 If the Contractor is an individual or a proprietary concern and the individual or the proprietor dies and if the Contractor is a partnership concern and one of the partners dies then unless the owner is satisfied that the legal representatives of the individual contractor or of the proprietor of propriety concern and in the case of partnership, the surviving partners, are capable of carrying out and completing the Contract, the owner shall be entitled to cancel the Contract as to its uncompleted part without being in any way liable to payment of any compensation to the estate of deceased Contractor and / or to the surviving partners of the Contractor's firm on account of the cancellation of the Contract. The decision of the owner that the legal representatives of the deceased Contractor or surviving partners of the

Contractor's firm cannot carry out and complete the Contract shall be final and binding on the parties.

RESOLUTION OF DISPUTES

44.0 SETTLEMENT OF DISPUTES

- 44.1 Any dispute(s) or difference (s) arising out of or in connection with the Contract shall, to the extent possible, be settled amicably between the parties.
- 44.2 If any dispute or difference of any kind whatsoever shall arise between the owner's Engineer in charge of the work and the Contractor, arising out of the Contract for the performance of the Works whether during the progress of the Works or after its completion or whether before or after the termination, abandonment or breach of the Contract, it shall, in the first place, be referred to and settled by the Additional General Manager of the concerned circle / General Manager of TSECL as the case may be, who, within a period of thirty (30) days after being requested by either party to do so, shall give written notice of his decision to both the parties.
- 44.3 In the event the Contractor being dissatisfied with any such decision, the matters in dispute shall be referred to arbitration as hereinafter provided.

45.0 ARBITRATION

- 45.1 All disputes or differences in respect of which the decision, if any, of the appropriate authority of TSECL has not become final or binding as aforesaid shall be settled by arbitration in the manner hereinafter provided.
- 45.1.1 The arbitration shall be conducted by an arbitrator, to be nominated by TSECL and he will be the sole arbitrator to conduct the arbitration.
- 45.1.2 The arbitration shall be conducted in accordance with the provisions of the Indian Arbitration & Reconciliation Act, 1996 or any statutory modification thereof. The venue of arbitration shall be at **Agartala**.
- 45.2 The arbitrators may, from time to time with the consent of all the parties enlarge the time for making the award.
- 45.3 The arbitrator shall have full powers to review and/or revise any, decision, opinion, direction, certification or valuation of the Engineer in accordance with the Contract, and neither party shall be limited in the proceedings before such arbitrators to the condense or arguments out before the Engineer for the purpose of obtaining the said decision.
- 45.4 During settlement of disputes and arbitration proceedings, both parties shall be obliged to carry out their respective obligations under the Contract

46.0 RECONCILIATION OF ACCOUNTS

The Contractor shall prepare and submit every month, a statement covering payments claimed and the payments received vis-à-vis the works executed, for reconciliation of accounts with the owner's Engineer in charge of the work. The Contractor shall also prepare and submit a detailed account of Materials received from TSECL and utilized by him for reconciliation purpose.

Annexure – II
SPECIFICATIONS OF LED STREET LIGHTS

SI No.	TYPE OF TEST/SPECIFICATION		TEST METHOD
1	High bright white power LEDs shall be used in the luminaries and the wattage of these LEDs shall be >1 W and < 3W.		Specify make
2	Manufacturer shall submit proof of procurement of LEDs and LM-80 Test reports of specific LED used in the proposed Luminaire. (No other Chip details to be offered)		LM-80/IS 16105 Test report
3	Life span of LEDs used in the Luminaire shall be greater than 50,000 hours at 70% light output. (Manufacturer shall submit the proof)		LM-80 /IS 16105 Test report
4	Manufacturer shall submit the Photo Biological Safety Report for the LEDs as per IEC 62471 and assessment of blue light as per IEC/TR 62778 – Ed. 1.0		IEC 62471 & IEC/TR 62778 – Ed. 1.0 Test report
5	LED chip efficiency shall be greater than 135 Lumens/watt at Tj 25 C (Manufacturer shall submit the proof)		LED Test report
6	Color rendering index (CRI) of the LEDs used in the luminaire shall be greater than 70		LM 80/16106 LED Test Report
7	Colour temperature of the luminaire shall be made from SW50 & SW57 as per ANSI Standard (CCT as per BIS only)		LM 79/IS 16105-2012
8	The distribution of luminaire illumination (control of distribution) shall be based on type of road as per BIS standard IS1944		LM 79/IS 16105-2012
9	Manufacturer shall submit the LM-79/IS: 16106 test report from any of the NABL Accredited laboratory at the time of supply of the luminaries.		LM 79/IS 16105-2012
10	Power factor	> 0.95	LM 79/IS 16105-2012
11	System Efficiency (lumen/watt)	Shall be >85 lumen/watt, System lumen output supported by LM79 report shall be submitted.	LM 79/IS 16105-2012
12	CRI of Luminaries	> 70 (Supported by LM79 report shall be submitted.)	LM 79/IS 16105-2012
13	Light Uniformity Ratio (Emin/Eavg) shall be as per IS 1944 based on category of road		Uniformity calculation for road width , pole height , overhang width etc based on IES file generated by IES: LM 79/IS 16106 testing

14	The luminaire light output (lumen) shall be constant. The voltage variations / fluctuations in the specified voltage range shall not impinge upon the lumen it produces. Maximum +/-2% is allowed throughout in the input operating voltage range.		TPL/ Self NABL Acc. Lab report
15	Operating voltage	140 V to 270V universal electronic driver with internal surge protection of 4 KV	TPL/ Self NABL Acc. Lab report
16	Total Harmonic Distortion	< 10% THD	Test Method IEC:610003-2
17	LEDs shall be operated at a current not more than 90% of its maximum and should have Im80 approval on this current rating		TPL/ Self NABL Acc. Lab report
18	LED drive current	>=350 mA<1000 mA	TPL/ Self NABL Acc. Lab report
19	LED driver efficiency	> 85%	TPL/ Self NABL Acc. Lab report
20	Luminaire body temperature shall not exceed 30 °C from the ambient, even after continuous operation of luminaire for 24 hours.		TPL/ Self NABL Acc. Lab Report
21	Heat dissipation / heat sink	Well-designed thermal management system with defined heat sink	INSITU/Thermal Test will cover this parameter Manufacture shall submit design/ drawing indicating maximum temperature point on LED array. This value shall not exceed junction temperature (Specified in LM 80 report at which life > 50000 hrs)
22	Junction Temperature (Tj)	Should be less than value at which LM80 (IS16105) data published.	Confirm, Third Temp Should Be 105°C or above.
23	Luminaire shall be compliance to Type test as per IS: 10322 Part 5 Sec -3/IEC:60598 -2-3		TPL / Self NABL Accredited TEST REPORT as per IS:10322 part 5 Sec-3 /IEC:60598-2-3
24	The luminaire housing shall be made up of corrosion free High Pressure Aluminum die cast thus conforming the luminaire to minimum IP-65 for Luminaire at 60 W or below/ IP-66 for Wattage above 60 W- protection and safety as per IEC 60598/IS 10322. (NABL accredited lab report supporting the same shall be furnished at the time of supply). Necessary Guarantee & Warranty certificate may be submitted at the time of bid submission. Multiple Fixtures are not allowed.		TPL/ Self NABL Accredited TEST REPORT as per IS:10322 part 5 Sec-3 /IEC:60598-2-3
25	The luminaire shall be equipped with distortion free, clear, heat resistant, toughened, UV stabilized glass		TPL/ Self NABL Accredited TEST REPORT as per IS:10322

	cover in the front fixed to the die cast Aluminum frame which shall be fixed to the housing by means of stainless steel screws.	part 5 Sec-3 /IEC:60598-2-3
26	The luminaire shall be built in such a way that it can withstand wind speed of 150Kmph. NABL accredited lab report supporting the same shall be furnished by the manufacturer.	TPL/ Self NABL Accredited TEST REPORT as per IS:10322 part 5 Sec-3 /IEC:60598-2-3
27	Cover/glass without lens or with lens	Fixture cover – UV stabilized Polycarbonate / toughened glass or equivalent will be accepted for the Luminaire without lens. For the luminaire with lens toughened glass is required with proper IP65 provision.
27	IP Protection	Optical and control gear compartment Minimum IP65 / 66 for respective wattages mentioned in sl. no. above or more (IS:10322)
28	Frequency	50Hz +/- 3%
29	Operating temperature	Range: -10C to +50C
30	Impact resistance	Impact resistance >= IK 07
31	Protections	IP65 upto 60W and IP66 for wattage above 60W, Surge protection 4 Kv, IEC61000-4-5
32	Working humidity	10% to 90% RH