



ISO9001:2000

**NORTH EASTERN ELECTRIC POWER CORPORATION LTD.**  
(A GOVT. OF INDIA ENTERPRISE)

**ASSAM GAS BASED POWER PLANT**

**O/O THE SR. MANAGER (E/M), ST&AUX.,**

**BOKULONI CHARIALI, DIBRUGARH, ASSAM, PIN-786 191**

Website- [www.neepco.gov.in](http://www.neepco.gov.in)

Phone: 0374-2825505, Fax: 0374-282 5217/5349

Detail Notice Inviting Tender No. NEEPCO/AGBP/ST&Aux/CWT/ 2014-15/03 dated 22.11.2014

**INSTRUCTION TO BIDDERS & TECHNO-COMMERCIAL REQUIREMENT**

On behalf of AGBP, NEEPCO Ltd., the undersigned invites sealed tenders under single bid system with 90 (ninety) days validity from reputed/experienced firms **for Chemical Treatment of Cooling Water system at Assam Gas Based Power Plant, Bokuloni village, Dist. Dibrugarh, Assam** as detailed in the specification. Tender documents can be downloaded for free of cost from NEEPCO's website [www.neepco.gov.in](http://www.neepco.gov.in)

**1. ESSENTIAL CONDITION:**

The works shall be carried out at Assam Gas Based Power Plant premises and prices shall be quoted accordingly. All responsibility for transportation of the necessary Chemicals & Instruments including laboratory reagents from the supplier's premises to the power plant shall be of the supplier. The supplier shall arrange for and take full responsibility during transit and comply with necessary safety measures as called for by relevant Act/Regulations.

**2. EARNEST MONEY:** 2% of quoted rate (1% in case of SC/ST) shall be submitted as EMD in the form of DD payable at the State Bank of India, Bokuloni Chariali branch (Code-9143). Tenders not accompanied with EMD of requisite value will not be entertained and returned to the bidders in as received condition.

**2.1** Bidders registered as MSE are exempted from paying tender fee.

**3. Undertaking for MSME:** The bidders participating as MSE shall submit an undertaking in prescribed format as in Annexure declaring the status of the firm under the provisions of MSE along with a copy of relevant document/certificate issued by competent authority (i.e. District Industries Centre or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of Micro, Small & Medium Enterprises) as evidence of their applicability of MSE.

**4.** Mere submission of tender documents to any intending bidder shall not imply automatic qualification for award of contract. All qualification criteria are subject to review at the time of tender evaluation.

**5. QUALIFYING REQUIREMENT:** The bidder should have sufficient successful past experience towards Chemical Treatment of Cooling **Water for at least 5 (five) years** in any thermal power station of Govt. Deptt./CPSU of installed capacity 300 MW and above. Tender paper should invariably be accompanied by copy of dealership certificate, documentary evidence in support of Bidder's past experience in the form of copies of past orders executed, completion certificate from organization etc., organizational strength and financial status for last three years.

**6. LAST DATE/TIME OF SUBMISSION OF TENDERS:** On or before **11:00 hrs of 12.12.2014**. In case the due date happens to be a non-working day, the tender shall be received till **11:00 hrs** of next working day.

**7. DATE AND TIME OF OPENING OF TENDER:** The tenders shall be opened on **12:30 hrs of 12.12.2014**. In case the due date happens to be a non-working day, the tenders shall be opened at 12:30 hrs of next working day.

*MWS*  
*22-11-2014*  
वरिष्ठ प्रबंधक (वि/या)  
Sr. Manager (E/M)  
एस टि और ऑगजिलरि डिभिजन  
S. T. & AUX. Division  
ए.जी.वी.पी., नैपको लि., बकुलुनि  
A.G.B.P., NEEPCO LTD., Bokuloni

## 8. INSTRUCTIONS TO BIDDERS

- (a) Each bidder should carefully study the conditions of contract, technical provisions, schedules and all instructions.
- (b) The Tender shall be submitted in sealed envelopes with proper marking on the top of left hand corner of the envelope **super scribing with the NIT No.** and shall be addressed to the Sr. Manager (E/M), Steam Turbine & Auxiliaries Complex, AGBP, NEEPCO Ltd, Bokuloni Chariali, Dibrugarh on or before 11:00 hrs of 12.12.2014. The EMD shall be enclosed along with the offer in a separate envelope super scribing as "EMD for NIT No. ....".
- (c) The EMD of successful bidder shall be returned after award of work and the successful bidder submits the Contract Performance Guarantee as required.
- (d) The EMD of all unsuccessful bidders shall be returned only after signing of agreement with successful bidder.
- (e) No interest will be paid on EMD in any form.
- (f) The bidders may participate at the tender opening. The authorized representative of the bidder is required to furnish a letter of authorization from the respective bidder.
- (g) The corporation will not be responsible for any delay in receipt or loss of tender in part or whole during transit. Tender send through telex/Fax/telegram will not be accepted.
- (h) Tenders received later than the scheduled date and time will not be considered for opening even if accompanied with earnest money.
- (i) Tender rates shall be legibly written in English in ink, in Indian currency, both in figures and words. In case of any discrepancy between figures and words the rate in words will govern. The tenderer shall attest erasures or other cuttings. In case amount shown against any item of the schedule of price is not in conformity with the quantity and unit price, the unit price quoted shall govern.
- (j) The unit price shall be quoted in the schedule of price of bids. These unit prices should include all cost of materials, labour, equipment and octroi.
- (k) The contract must not be sub-let without the permission of the Corporation.
- (l) Each tenderer shall mention the name, residence and place of business of the person or persons submitting the tender and tender shall be signed by the tenderer. Tender by partnership shall contain the full names of all partners. It shall be signed with partnership name by one of the members of the partnership or by an authorized representative followed by the name and designation (in capital letters) of the person signing the tender. Tenders by corporation should contain the name of the state of incorporation and the signature and designation of the president, Secretary or other persons authorized to bind it in the legal manner. An attested copy of the constitution of the firm shall be furnished. Power of Attorney authorizing the person or persons to sign the tender shall also be furnished. Witness and sureties shall be persons of status and probity and their name, occupation and address shall be stated below their signature.
- (m) The bidders shall submit all the information and documents as sought for in relevant clauses of the tender documents, both in Technical Specification & Commercial conditions. Tenders without the requisite information and documents shall be considered as incomplete and are liable for rejection.
- (n) NEEPCO reserves the right to verify bidders' capability and capacity both in terms of technically and commercially to perform the contract as well as to verify the authentication of any or all documents produced/submitted by bidders.

*[Handwritten Signature]*  
22-12-2014  
वरिष्ठ प्रबंधक (वि/या)  
Sr. Manager (E/M)  
एस टि और ऑगिलोरि डिभिजन  
S. T. & AUX. Division  
बी.पी.डी., नीपको लि., बकुलुनी  
B. P. D., NEEPCO LTD., Bokuloni



- (o) Extension of purchase and/or any other preference to Govt./PSU/SSI/NSIC units shall be governed by Govt. policies and guidelines on the subject prevalent at the time of bid opening.
- (p) Any explanation desired by the tenderer regarding the meanings or interpretations of the drawings, conditions of the contract and technical provision etc. must be requested for in writing and with sufficient time allowed for a reply to reach them before the submission of tender, oral explanation will not be relevant.
- (q) The corporation reserves the right to revise or amend the conditions of contract, technical provisions, drawings and/or any other documents prior to the date and time specified for opening tenders. Tenderers are required to acknowledge receipt of all revision or amendments to the conditions of contract, technical provision and /or drawings and failure to do so may cause the tender to be rejected.
- (r) It is not binding on the Corporation to accept the lowest tender and the Corporation reserves the right to waive any formality in regard to submission of tender or to reject any or all tenders without assigning any reason thereof in the interest of the Corporation. NEEPCO reserves the right to divide the scope of supply of the materials to successful bidders.
- (s) The tenderer in good faith and full satisfaction shall furnish the information required in the tender form. The tenderer shall print or type his name and that of his company in the schedule of prices and each subsequent continuation sheet thereof, on which he makes any entry. Over writing or changes should be dated and initiated by the tenderer or his authorized agent.
- (t) The tenderer should sign every page of tender.

*[Handwritten Signature]*  
22-11-2014

Sr. Manager (E/M)  
Steam Turbine & Auxiliaries Complex,  
AGBP, NEEPCO Ltd, Bokuloni.

वरिष्ठ प्रबंधक (वि/ या)  
Sr. Manager (E/ M)  
एस टि और ऑगजिलारि डिभिजन  
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A.G.B.P., NEEPCO LTD., Bokuloni

## TECHNICAL SPECIFICATION FOR CW TREATMENT PROGRAMME

### 1. Introduction:

North Eastern Electric Power Corporation Ltd. is a Govt. of India Enterprise, which explores, erects and generates power (thermal as well as hydro) in the entire North Eastern Region. Today, Assam Gas Based Power Project under NEEPCO having installed capacity 291 MW generates power by operating 6 (six) Nos. of 33.5 MW Gas Turbines and 3 (three) Nos. of 30 MW Steam Turbines. For cooling the condenser & heat exchanges by water, the power station has one cooling tower.

Details TECHNICAL DATA of cooling tower is furnished below.

### 2. DESIGN AMBIENT CONDITIONS:

A) Ambient temperature,	
i) Highest in month	: 36.5°C
ii) Highest recorded	: 38.9°C
iii) Lowest in a month	: 06.9°C
iv) Lowest recorded	: 04.4°C
B) Design Wet Bulb temperature	: 21.9°C
C) Design-Dry Bulb temperature	: 13.9°C
D) Relative Humidity,	
i) Maximum	: 87% vapour press. of 24.3 mb.
ii) Minimum	: 69% vapour press. of 14.1 mb.
E) Atmospheric Pollution	: Nox present. Controlled by Steam Injection
F) Wind speed,	
i) Mean	: 2.3 Km/hr.
ii) Maximum	: 3.4 Km/hr.
G) Wind Direction, Summer	: N-NE & NW.
H) Rain fall,	
i) Heaviest in 24 hrs.	: 223.5 mm.
ii) Annual average	: 2759.4 mm
I) No. of rainy days in a year	: 132 days

### 3. DETAIL TECHNICAL DATA OF COOLING TOWER:

Sl. No.	SPECIFICATIONS	COOLING TOWER
1.	SYSTEM TOWER	OPEN RECIRCULATING
2.	TYPE OF TOWER	CROSS FLOW, INDUCED DRAFT
3.	TOWER FRAME MATERIAL	RCC
4.	METALLURGY OF THE WATER COOLED SYSTEM	SS (SA 249 TO304, ASTM A 743 CF 8 M, ASTM 276 Type 410), CS (IS 2062, ASTM 351 CF 8 M, ASTM 276 S 410), MS (IS 2062 Fe 410 WA, IS 2062 Gr-B, IS 1239 HVY BLK ERW, IS 1875 CI 2, ASTM 105, IS 3589 ERW 330, ASTM 234 Gr WPB), BRASS (SB 111 Alloy 443), Bronze, Copper Washers
5.	NO. OF CELLS	08 (eight)
6.	CELL CAPACITY	19,500 m <sup>3</sup> /hr.
7.	TOWER HEIGHT (FROM GROUND LEVEL TO TIP	13.79 mtrs.
8.	BASIN HOLD-UP VOLUME	7,984.60 m <sup>3</sup> /hr.
9.	RE-CIRCULATION RATE	19,500 m <sup>3</sup> /hr.
10.	EVAPORATION & DRIFT LOSS	300 m <sup>3</sup> /hr (Approx)



11.	DESIGN DELTA TEMPERATURE	10°C
12.	CW IN/OUT TEMPERATURE (MAX.)	30/45°C
13.	CW IN/OUT TEMPERATURE (MIN.)	20/30°C
14.	MAKE-UP WATER RATE	450 m <sup>3</sup> /hr.
15.	BLOW-DOWN RATE (PRESENTLY)	100 m <sup>3</sup> /hr.
16.	OPERATING COC (PRESENTLY)	4 in winter and 5 in summer
17.	COOLING WATER PUMP CAPACITY	6600 Cum/hr each (3 pumps are run at a time normally).

#### 4.A. MAKE – UP WATER QUALITY:

The program for cooling water treatment should be designed **considering the seasonal variation** of make-up water quality as furnished below and optimum blow-down in hours as much as possible.

PARAMETERS	MAKE-UP WATER PARAMETERS					
	Winter (Oct. to April)			Summer (May to Sep.)		
	High	–low	Average	High	–low	Average
PH	8.7-8.3		8.3	7.8 -6.5		7.6
TDS as CaCO <sub>3</sub>	170 -96		150	90 -50		71
Turbidity as NTU	<5		<5	140 -10		10
M-Alkalinity as CaCO <sub>3</sub>	140 -80		92	66 - 36		50
Total-Hardness as CaCO <sub>3</sub>	150 - 80		110	60 -28		56
Ca-Hardness as CaCO <sub>3</sub>	56 - 40		42	28 -14		24
Mg Hardness as CaCO <sub>3</sub>	70 - 50		70	34 -22		30
Chloride as Cl'	7 - 4		4.5	3.0 -0.8		1.5
Sulphate as SO <sub>4</sub> "	45 -36		37	26 -15		20
Silica as SiO <sub>2</sub>	28 -24		25	28-14		24
Dissolved Iron as Fe	0.8 -0.4		0.3	0.8 -0.4		0.3

#### 4.B. RE-CIRCULATING WATER QUALITY:

The maximum allowable limit for each parameters of the re-circulating water keeping the C.O.C. at maximum possible level without damaging the system healthiness are to be specified by vendor. **However, the COC should not be >4.0 in winter and >5 in summer season. The LSI within ± 0.5 is highly desirable at the said COC.** This will be one of the key selection criteria for finalization of the vendor.

#### 5. METALLURGY OF COLLERS / CONDENSERS:

The Condenser tubes are of Stainless Steel. Cooler tubes are copper / stainless steel.

#### 6.A. DOSING FACILITY AVAILABLE WITH OWNER:

Chlorine gas for continuous dosing facility available with CT to control normal biological growth. Free Residual chlorine is maintained normally at 0.2 to 0.9 ppm. Vendor may suggest for continuation / discontinuation of the above facilities depending upon their formulated treatment program. However, in case of any other bio-cide treatment except chlorine gas may offer by vendor in their treatment program will not be accepted.

**6.B.** Depending upon the load on the steam turbines, either two or three cooling water pumps may be run to maintain temperature across the condenser. e.g. the circulating rate may vary from time to time. Vendor is expected to incorporate this in the treatment program.

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## 7. THE TREATMENT PROGRAMME WE ARE LOOKING FOR:

- a) The treatment program is desired to
  - A. inhibit system metallurgy from any corrosive attack including pitting corrosion
  - B. stop precipitation and deposition of water borne salts/ suspended material in the Condenser circuit (all forms of scaling and fouling)
  - C. control microbiological growth and formation of biological film in the system
  - D. Preserve water by optimal blow down.
- b) The Chemicals should not have any adverse affect on the components of the CW system, the packing materials, CW & ACW pumps, concrete, tubes and conduits, MS pipes etc.
- c) Chemicals used should be environment friendly & biodegradable, non toxic, and non hazardous.
- d) Program should necessarily be non-chromate and non-precipitating type.
- e) Treatment program should be designed for both anodic and cathodic protection using multi component inhibitor system preferably Phosphonate / Zinc inhibitors. The minimum level of zinc & ortho-phosphate at re-circulated water should be 0.5-1 ppm and 5 ppm respectively **Based on specified COC.**
- f) Proper anti-scalant / dispersant should be used to control Calcium, Magnesium and Silica scaling on the tube surface. Effort shall be made to maintain equal Calcium & Magnesium cycle. Program should ensure that there is no meta phosphate deposition on the tube surface at a skin temperature of 70°C.
- g) Based upon the type of inhibitors used in CT & the make-up water quality, treatment program may use Sulphuric acid in CT.
- h) The proposed chemical treatment should relatively be in the alkaline zone, i.e the pH of the water should be maintained at 7.5 or above. Any program, offered by the vendor which operates below pH 7.5 is not acceptable.
- i) Program should contain one time chemicals required for pre-cleaning and passivation & regular dosing chemicals for cooling tower.
- j) Minimum shelf life of the chemicals to be used in treatment should not be less than 1 year.

## 8. VENDOR'S SCOPE:

Apart from providing the correct formulation of chemicals for the treatment program and effect proper dosing and monitoring required for the treatment the vendor shall also provide the following:

- a) Vendor is asked to design & submit their treatment program matrix for Phosphonate / zinc inhibitor system.
- b) Vendor shall fill-up the designed treatment program matrix for one time chemicals required for pre-cleaning and passivation, regular dosing chemicals in prescribed format as indicated in Annexure-A.
- c) Vendor shall supply all metering pumps required for dosing of regular chemicals along with PVC tubes on returnable basis. At least one pump of each rating shall be kept as spare for immediate replacement during any outage.
- d) Vendor shall supply one bio-fouling monitor (delta P type) and one depositor monitor on returnable basis. Installation & power supply for these monitors shall be in the owner's scope.
- e) Repair & maintenance of pumps and instruments to be used in the treatment program is solely under vendor scope and owner shall not take any responsibility for their break down during use.
- f) Vendor shall supply about 12 nos. of CS coupon, 20 nos. of MS coupon, 12 nos. of SS coupon & 12 nos. of Brass coupon on non-returnable basis (details of coupons & racks already available with owner is enclosed as Annexure-D). Price for coupon should be included in basic offer. These materials should be available at site before start-up of the treatment program.
- g) Vendor shall deploy one qualified person permanently stationed at site for day-to-day monitoring, supervision, lab analysis of the system and report submission to owner's concerned persons.

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Necessary reagents, apparatus etc. for lab analysis shall be supplied by the vendor and be kept at site. Owner shall provide suitable space for lab analysis purpose.

- h) Vendor shall carry out daily quality checks of water sample as per the list furnished in Annexure-C. Vendor shall also measure TVC and SRB on regular basis to see the microbial growth in the system.
- i) Vendor's representative at site shall also maintain record of chemical consumption & stock balance on daily basis and report the same to owner's concerned persons. Maintenance of minimum stock of chemicals at site lies with the vendor.
- j) Chemicals should be supplied in non-metallic drums of size 30 litres/50 litres/200 litres (maximum). The vendor shall maintain minimum packing size of each type of chemicals.
- k) The vendor is required to supply the chemicals for 3 months requirement at normal circulation rate as indicated immediately after the release of work order.
- l) Vendor shall ensure that the time period required for stabilization of the program including pre-cleaning and passivation does not exceed 30 days.
- m) Vendor shall be ready to mobilize at site with all chemicals and instruments within 15 days from the date of issue of LOI/order.
- n) The material safety data sheet (MSDS) and the technical data sheet of each chemical are to be supplied along with the offer.
- o) Vendor shall impart training to owners operating & maintenance staffs at site on Water Chemistry and Cooling Water treatment as per convenient date(s) of owner.

## **9. PERFORMANCE MONITORING AND EVALUATION:**

### **A) Corrosion:**

Corrosion limit shall be measured through CS, SS, MS and Brass coupons installed in the corrosion coupon rack for CT. Coupon shall be exposed for 90 days and shall be taken out for measuring general & pitting corrosion rates. Fresh Coupon shall be installed after taking out the old coupon for the next quarter. The corrosion rate shall be measured in accordance with ASTM 2688 standard test method for corrodibility of water in absence of heat transfer (weight loss method) Method B & Method C. After measuring the general corrosion rate of each coupon, an average shall be calculated.

The result of accepted program shall be manifested in terms of the following:

#### **On Carbon Steel coupon:**

Average general corrosion rate should preferably be within 3 mpy.

#### **On Stainless Steel coupon:**

Average general corrosion rate should be less than 0.1 mpy (No visible sign of localized corrosion should be seen on SS tubes).

#### **On Mild Steel coupon:**

Average general corrosion rate should preferably be less than 5 mpy.

#### **On Brass coupon:**

Average general corrosion rate should preferably be less than 0.3 mpy.

### **B) Scaling:**

Regular monitoring of scale pattern in the system shall be done through deposit monitor (under simulated condition). During shut down period of Coolers / Condensers, a physical inspection shall be done jointly with the vendor's representative. The scale in any case should not be hard. Loose deposits (if any) on the surface should easily be washed out with water spray. **In case any hard scale is observed on the tube surface or on the deposit monitor, program shall be treated as ineffective.** In such case Owner may allow the Vendor to take necessary corrective action within a time frame and without any additional financial implication, failing which the contract shall be liable for termination. Owner's decision shall be final in such cases.

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### C) Bio-fouling:

Bio fouling of the system shall be monitored on regular basis through the Bio-fouling monitor installed in the tower. Algae / slime growth on cooling tower top deck & the side louvers is also an indication of bio growth in the system.

### 10. GUARANTEE:

Vendor shall stand guarantee for the following measurable parameters:

a) Average general corrosion rate shall not exceed:

IN CS COUPONS	: 3 mpy.
IN SS COUPONS	: 0.1 mpy.
IN MS COUPONS	: 5 mpy.
IN BRASS COUPONS	: 0.3 mpy.

b) There should not be any scale formation over heat surface and no reduction in thermal efficiency of condensers / coolers due to deposits / fouling. Traces of scaling on tube surface (if occurs) shall be loose in nature, which can be easily washed out by water spray.

c) Microbial growth shall not exceed following limit:

TVC	: <100000 counts / ml.
SRB	: <100 counts / 100 ml.
Iron Bacteria	: <100 counts / 100 ml.

d) LSI (Langlier saturation index) should be maintained at the range of  $\pm 0.5$ . If the LSI goes beyond the limits the vendor should immediately take appropriate action without any extra expenses to the owner. In case the LSI is not maintained continuously for 15 days it shall be considered as non-performance of the treatment system.

e) Differential temperature in each Condenser should not exceed beyond 4% of the initial value recorded before start of the treatment, throughout the treatment process.

f) Delta P across the biofouling monitor should not exceed more than 20% of the initial value during the whole treatment process. In case it exceeds 20% or more beyond initial value, continuously for 7 days or more it will be considered as non-performance.

g) The deposit monitor will be inspected jointly by the vendor and owner from time to time at a frequency decided by the owner later on. Owner's decision regarding deposits seen will be final in this regard.

### 11. PENALTY:

Initially during start-up of the program, first 30 days shall be given to vendor for stabilization of treatment program. Vendor shall insert their own coupons for measuring general corrosion rates and can take corrective action in case of failure of the program without any additional financial implication of the contract. After 30 days of initial start-up, evaluation period will start. Evaluation period shall be 90 days each time during entire treatment period. If the vendor fails to achieve the guaranteed figure of average general corrosion rate (as per Sl. No.9), following penalty shall be imposed.

- If the average general corrosion rate for CS coupons exceeds 3 mpy but does not exceed 10 mpy, then for every 1 mpy increase or part thereof beyond 3 mpy, a penalty @ 5% of the landed cost of regular dosing chemical consumed during the evaluation period (90 days) shall be imposed.
- If the average general corrosion rate for MS coupons exceeds 5 mpy but does not exceed 10 mpy, then for every 1 mpy increase or part thereof, a penalty @ 5% of the landed cost of regular dosing chemical consumed during the evaluation period (90 days) shall be imposed.
- If the average general corrosion rate for Brass coupons exceeds 0.3 mpy but does not exceed 1.0 mpy, then for every 0.1 mpy increase or part thereof, a penalty @ 5% of the landed cost of regular dosing chemical consumed during the evaluation period (90 days) shall be imposed.



- d) If the vendor does not meet the support services continuously for 4 days it will attract a penalty @ 4% of the landed cost of regular dosing chemical consumed during the evaluation period (90 days).
- e) LSI is not maintained in the prescribed limits continuously for 15 days or more a penalty @ 5% of the landed cost of regular dosing chemical consumed during the evaluation period (90 days) shall be imposed.
- f) Delta P in the Bio fouling monitor exceeds 20% of the initial value continuously for 7 days or more a penalty @ 5% of the landed cost of regular dosing chemical consumed during the evaluation period (90 days) shall be imposed.
- g) Penalty shall be imposed separately for each type of above guarantee parameters.
- h) Total penalty amount, in any case, shall be limited to 40% on the landed cost of regular dosing chemical consumed during the evaluation period (90 days).

## **12. TERMINATION:**

Contracts shall be liable of termination on following ground.

### **A. ON CORROSION RATE:**

#### **FOR CS COUPON:**

- a) If the average general corrosion rate for CS coupons exceeds 10 mpy.

#### **FOR MS COUPON:**

- a) If the average general corrosion rate for MS coupons exceeds 10 mpy.

#### **FOR BRASS COUPON:**

- a) If the average general corrosion rate for Brass coupons exceeds 1 mpy

**B.** If massive biological film is formed and vendor fails to control the same within 30 days.

**C.** If the chemicals that are being used in treatment program are found not eco-friendly.

**D.** Non-availability of support services for more than 4 days continuously.

- i) In all cases, a penalty amounting 40% of landed cost of regular dosing chemical consumed during the evaluation period (90 days) shall be imposed along with the termination of contract. Owner, however, reserves the right to take final decision in granting the extension and termination of the contract as & when called for. There shall be no binding on the owner in this regard.

## **13. CONTINGENCY PLAN:**

The treatment program shall comply with the following contingencies in the CW System:

Growth of algae / slime on cooling tower deck, fills, distributors, sumps etc. Moreover, vendor may note that the above parameters given are indicative only and there are seasonal variations. Any additional quantity of chemicals required to take care of any variations in makeup water parameters, ambient conditions or heat load on cooling water is deemed to be included in the offer.

## **14. GENERAL INFORMATION REQUIREMENT:**

- i. The vendor should have experience in Cooling Tower treatment in power plants (Thermal /CC) above 300 MW installed capacity and submit necessary documents as proof of statement.
- ii. **Vendor must have ISO: 9001-2000 and ISO:14001-1996 Certification.**
- iii. The vendor must have executed **at least three similar jobs in the last five financial years.**
- iv. Vendor to provide details of treatment including description of program covering all theoretical and practical aspects, nature of chemicals and purpose etc.
- v. Vendor is expected to visit site to familiarize with the system and its operating conditions prior to quoting price. However any clarification/ specific information the vendor may need from the owner must be in writing before the bidding process. No relaxation in parameters shall be allowed after issue of the work order.
- vi. **The supply and work shall be performed by a single vendor.** The vendor shall give single point guarantee for the complete system for quantities, performance of materials & system. No relaxation in parameters shall be allowed after issue of the work order.



- vii. The complete system will include amongst other things, all chemicals, dosing pumps, piping, storage tanks and electrical cables and monitoring and measuring equipments as indicated, laboratory regents and test equipments. Only power supply will be provided at a suitable point.
- viii. Technical services, skilled manpower etc. required for operation of the system round the clock will be provided by the vendor. **Boarding, transport etc. will not be provided by NEEPCO.** Bio data of employees with credentials to be furnished before placement.
- ix. The program should not have any adverse effect on materials of construction in the Plant.
- x. The chemical formulation should have sufficient proven performance data both in laboratory as well as in field. The formulation will be tested in the Laboratory of the Plant for active ingredients; the vendor shall furnish procedure, failing which the chemicals will not be accepted.
- xi. Inventory control of various chemicals will be in the vendor's scope. Use of chemicals will be jointly signed by NEEPCO & vendor. Payment for chemicals will be made based on this statement.
- xii. Shelf life of each chemical is to be indicated. Minimum shelf life of chemicals on receipt at AGBP, NEEPCO should not be less than one year.
- xiii. All chemicals are to be supplied in properly sealed containers in good condition, marked properly for handling instructions, content, quantity, hazards, date of manufacture, date of expiry and manufacturer's details. No chemical will be accepted loose; or in unsealed, mutilated, unmarked containers. In such case the vendor has to replace the same without any extra financial implication to the owner and without hampering the treatment process.
- xiv. Price of corrosion coupon will be included in the offer.
- xv. The vendor is to certify and confirm that the treatment program is designed to take care of seasonal fluctuations of make-up water quality. Claims for additional chemical consumption on account of fluctuations of make-up water quality will not be entertained.
- xvi. The vendor has to show the performance of scaling on the deposit monitor.
- xvii. All monitoring tools like deposit monitor, bio-fouling monitor are to be provided and installed by the vendor. Necessary power supply point will be provided.
- xviii. Vendor should have sufficient field and laboratory knowledge for analyzing corrosion rate, bio-fouling rate / trend, scale rate / trend, microbiological analysis, chemical analysis for PO<sub>4</sub>, Zn, total Calcium hardness, chloride, silica etc.
- xix. Vendor to suggest corrective action on the basis of day-to-day treatment program monitoring.
- xx. Installation & evaluation of test coupons to be done as per ASTM.
- xxi. Fortnightly analysis: a) Cooling water b) general scaling tendency.
- xxii. Report to be submitted within 1st week of the next month.
- xxiii. Vendor to train NEEPCO personnel.

#### **15. PERIOD OF CONTRACT:**

The period of contract under this tender shall be for one year (365 days) with the provision of extension for another one year at the same terms & conditions. However, the extension of contract is fully at the discretion of owner.

#### **16. PRICE EVALUATION:**

Price evaluation shall be based on following of chemicals:

- |  |             |
|--|-------------|
| a) Chemical for pre-cleaning and passivation etc.    | : One time  |
| b) Regular dosing chemicals                          | : 365 days. |
| c) Sulphuric acid (if required in treatment program) | : 365 days. |

#### **17. TECHNICAL REJECTION OF TENDER:**

Tender shall be liable for technical rejection on any of the following ground:

- a) Non-compliance of point no. 7, 8 & 9.



b) Non acceptance of guarantee, penalty & termination clause (pt.no. 10,11 & 12)

c) Incomplete information and data furnishing.

Owner's decision will be final in this regard. No claim what so ever of the bidders will be entertained in case the bid is rejected on technical ground.

**18. CONFIRMATION TO BE FURNISHED BY VENDOR:**

SL.NO.	ATTRIBUTES	YES / NO
1.	One time chemicals for pre-cleaning, passivation and regular dosing chemicals indicated in the program.	
2.	Prices of CS coupons ( ) MS coupons ( ) Brass coupons ( ) Copper coupon ( ) included in base offer.	
3.	Prices of lab testing apparatus & the reagents included in the base offer.	
4.	Deputation of site representative for regular monitoring and supervision as per relevant clause is agreed.	
5.	Guarantee clause is accepted.	
6.	Penalty clause is accepted	
7.	Termination clause is accepted	
8.	Evaluation criteria is accepted	

**19. SCHEDULE OF GUARANTEED AND TECHNICAL PARTICULARS:** Guaranteed and Technical particulars shall be furnished.

**20. PRICES:** Bidders shall quote their item wise prices as per **Annexure – I**. The quoted prices shall remain FIRM during the period of contract. The prices shall be on F.O.R destination (AGBP) basis and shall be inclusive of packing, forwarding, freight and transit insurance charges but exclusive of taxes and duties. However, the detailed break up of the prices separately showing all components i.e. basic ex-works prices, packing, forwarding, freight and transit insurance charges and the present rates of taxes and duties must be clearly indicated.

**21. TERMS OF PAYMENT:**

21.1 No advance payment will be made under this contract

21.2 The initial two months shall be treated as trial period of the CW treatment programme. The first payment shall be released only after successful performance of trial period and subsequent payments shall be released every month on successful performance of monthly treatment programme.

21.3 Payment shall be released for actual work done/chemicals consumed on successful performance of the treatment programme and as per the terms and conditions of contract after submission of monthly report on certification by EIC.

21.4 If however at any point of time the chemical consumptions are more than the BOQ quantity then the payment shall be restricted to the BOQ quantity only and no payment shall be made for excess consumption of chemicals on any account whatsoever.

**22. Security Cum Performance Guarantee:** The successful bidder shall furnish a **bank guarantee** as per prescribed format within 30(thirty) days from the date of issue of purchase order, from any **scheduled nationalized bank** for an amount **equal to the 10%** (ten percent) of the contract value towards faithful performance of the contract. The Bank Guarantee shall be valid for a period to cover 90(ninety) days from the last date of completion of treatment. **The BG must be accompanied by a separate sealed confirmation letter from the executing bank on the bank's letter head showing its complete postal address, telephone numbers, fax numbers and the code numbers of the authorized signatories to the BG.**

**23. SCHEDULE**

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22-11-2014

**23.1** The work shall commence within 30 (thirty) days of receipt of the detailed work order.

**23.2** Initial mobilization including deployment of manpower, all required equipment and chemicals must be completed at least 7 (days) prior to the scheduled commencement of work.

**24. Liquidated Damages:** In the event of failure to execute any delivery advice within the stipulated delivery period, NEEPCO reserves the right to recover as liquidated damage @ ½ (half) percent value of the undelivered portion of supply for each calendar week or part thereof. The total recovery on account of this liquidated damage shall not exceed 15 percent of the value of the undelivered materials. The recovery will be made either from Security-cum-Performance guarantee or from the subsequent invoices of the successful bidder.

#### Annexure – A

##### TREATMENT PROGRAMME MATRIX

(To be filled-up by Vendor)

##### 1. ONE TIME CHEMICAL FOR PRE-CLEANING, PASSIVATION ETC:

ATTRIBUTE	NAME OF CHEMICAL	DOSE RATE		TOTAL QUANTITY
		CONTINUOUS (PPM)	SLUG (KG/DAY)	

##### 2. REGULAR TREATMENT CHEMICALS:

ATTRIBUTE	NAME OF CHEMICAL	DOSE RATE		TOTAL QUANTITY (KG/DAY)
		CONTINUOUS (PPM)	SLUG (KG/DAY)	
1. Corrosion inhibitors.	1.			
	2.			
	3.			
2. Scale control / dispersant	1.			
	2.			
3. Biocide	1.			
4. Bio-dispersant	1.			
5. Any other				

Note: - For no 1 and 2 above the number of chemicals to be used is not limited to spaces provided in the table.

#### Annexure – B

##### OPERATING RANGE OF COOLING WATER QUALITY PARAMETERS

(To be filled-up by Vendor)

Sl. No.	QUALITY PARAMETERS	OPERATING RANGE
1.	PH	
2.	TDS as CaCO <sub>3</sub>	
3.	Turbidity as NTU	
4.	M-Alkalinity as CaCO <sub>3</sub>	
5.	Ca-Hardness as CaCO <sub>3</sub>	
6.	Mg-Hardness as CaCO <sub>3</sub>	
7.	Chloride as Cl.	
8.	Silica as SiO <sub>2</sub>	
9.	Dissolved Iron as Fe	



10.	Zinc, ppm	
11.	Free residual chlorine, ppm	
12.	Phosphate, ppm	Total phosphate as PO <sub>4</sub>
		Ortho-phosphate as PO <sub>4</sub> , P <sub>2</sub> O <sub>5</sub>
13.	Conductivity, Micro- mho/cm	
14.	Holding time index, hrs.	
15.	SRB, count per 100 ml	
16.	TVS, count per ml.	
17.	Iron bacteria, counts per 100	

#### Annexure – C

##### 1. DAILY LAB ANALYSIS UNDER VENDOR'S SCOPE:

COOLING WATER	MAKE-UP WATER
PH, residual chlorine, total phosphate, ortho-phosphate, zinc, iron, silica, ca-hardness, Mg-hardness, chloride, conductivity, TDS, M-alkalinity, turbidity.	PH, residual chlorine, iron, silica, ca-hardness, Mg-hardness, chloride, conductivity, TDS, M-alkalinity, turbidity.

##### 2. LAB TEST BEING CARRIED OUT AT OWNER'S LAB:

PARAMETERS	FREQUENCY
PH, residual chlorine, total phosphate, ortho-phosphate, zinc, iron, silica, ca-hardness, Mg-hardness, chloride, conductivity, TDS, M-alkalinity, turbidity.	Once in a day

#### Annexure – D

##### DETAILS OF COUPONS & RACK AVAILABLE WITH THE OWNER

##### 1. Coupons available for use: Nil

##### 2. Coupon rack details:

- ♣ Rack consists of five loops with provision for inserting five coupons at a time.
- ♣ Pipe material: PVC (25 NB).

#### Annexure – E.

Any other test / procedures that the vendor may like to highlight.

*MW*  
22-11-2024

**Annexure – F****DAILY REPORT ON COOLING WATER TREATMENT.***(Sample format)***CUSTOMER: AGBP, NEEPCO LTD.****Date:****LOCATION: Cooling Tower.****CIRCULATING WATER QUALITY**

PARAMETERS	UNIT	CONTROL LIMIT	CIRCULATING WATER QUALITY
Temperature (in/out)	°C		
Wet bulb temperature	°C		
No. of CW Pumps in operation	No.		
No. of ACW Pumps in operation	No.		
No. of CT cells in operation	No.		
Make-up water	m <sup>3</sup> /hr.		
COC			
Blow-down	m <sup>3</sup> /hr.		
PH			
FRC	ppm		
Conductivity	us/cm		
Iron	ppm as Fe		
Chloride	ppm as Cl		
Phosphate	ppm as PO <sub>4</sub>		
Total hardness	ppm as CaCO <sub>3</sub>		
Calcium hardness	ppm as CaCO <sub>3</sub>		
M. alkalinity	ppm as CaCO <sub>3</sub>		
Turbidity	NTU		
Bio-fouling monitor dP	cm – H <sub>2</sub> O		
TBC	Counts / ml		
SRB / Iron bacterial	Counts / 100 ml		
L.I.			
Chlorine dosing rate	kg/hr.		
<b>CHEMICALS:</b>			
	Kg/day		
<b>CONTINGENCY CHEMICALS:</b>			
	Kg/day		

N.B.: Sample formats of other reports to be furnished by the Vendor.



22-07-2014



**FORM: UNDERTAKING FOR BIDDERS WHO ARE REGISTERED AS MICRO AND SMALL ENTERPRISES**

A. I/We confirm that the provision of Micro and Small Enterprise are applicable to us and our Organization falls under the definition of following category:

- i) [ ] – Micro Enterprises  
ii) [ ] – Small Enterprises

Please tick the appropriate option box [ ] and attach relevant documents/certificates issued by ..... (District Industries Centre or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board, or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of Micro, Small & Medium Enterprises) as evidence of their applicability of Micro and Small Enterprises

B. I/We also undertake to inform the change in this status as aforesaid during the currency of the Contract, if any.

Dated:

Signature of Bidder.....

  
वरिष्ठ प्रबंधक (वि/या)  
Sr. Manager (E/M)  
एस टि और ऑगजिलरि डिभिजन  
S. T. & AUX. Division  
ए.जी.पी.सी., नैपको लिमिटेड, बकुलानी  
A.G.B.P., NEEPCO LTD., Bokuloni

## Annexure-1

### a) Pre-cleaning & Passivation

SI No.	Chemicals	Dose on hold up basis	Quantity	Rate (Rs)	Amount (Rs)

### b) Regular Dosing

SI No.	Chemicals	Dose basis	Doses	Average Quantity per day	Total Qty. for 01 year	Rate (Rs)	Amount (Rs)

Note: - For a) and b) above, the number of chemicals to be used is not limited to spaces provided in the table.

## GENERAL TERMS & CONDITIONS OF CONTRACT

### 1.B.1 DEFINITION OF TERMS:

In this contract, the following words/expression shall, unless the Contract otherwise requires, have the meaning hereby respectively assigned to them.

- i) The "Corporation" or "NEEPCO" or the "Owner" shall mean the North Eastern Electric Power Corporation Ltd., Shillong, which includes all its Offices and shall include its successors, legal heirs and permitted assigns.
- ii) The "Contractor" shall mean the Bidder whose bid/tender has been accepted by the Corporation, and shall include Bidder's/Tenderer's heirs, legal representative, successors and permitted assigns.
- iii) The "Head of Project" shall mean the head of project offices of the corporation having overall authority on the entire functional activities of the project and not below the rank of Deputy General Manager.
- iv) The "Engineer-in-Charge" shall mean the Officer appointed in writing by the Corporation from time to time to act for and on behalf of the Corporation for operation of the Contract.
- v) The "Consulting Engineer" shall mean the firm or the person as may be duly appointed by the Corporation to act as consultant for the purpose of the work covered in the contract.
- vi) The "Plant" or "Equipment" shall mean and include plant, machinery, equipment, apparatus, materials and the works forming a part of the assemblies, sub-assemblies, accessories etc.
- vii) The "Contract" shall mean and include the tenders and acceptance thereof and the formal agreement between the Corporation and the Contractor, together with the documents referred to therein otherwise it shall mean the Notice Inviting Tender, Detailed Notice Inviting Tender, information and instructions to the Bidders, the Terms and Conditions of Contract, Schedules, Forms, Tender Covering Letters, Schedule of Prices, Letter of

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12-11-14



Intent/Award and acceptance of Contractor thereof, any other Schedules and particulars supplied by the Corporation, all correspondences made between the Corporation and the Contractor prior to signing to the Contract final general conditions and agreement to be entered into.

- vii) The "Site" shall mean the Plant where the work is to be executed under the Contract including any other land, path or street provided by the owner for the purpose of the Contract together with such other places as may be specifically designated in the Contract or subsequently offered/approved as forming part of the site.
- viii) "Letter of Intent" (in short L.O.I.) or "Notice Of Award" or "Letter of Acceptance" shall mean the Corporation's letter conveying his acceptance of the tender, subject to such observations/conditions as may have been stated therein.
- ix) "Writing" shall include any manuscript type, written or printed statement, under or over signature or seal, as the case may be.
- x) "Words" importing the singular only shall also include the plural and vice versa, where the context so requires.
- xi) Words importing 'person' shall include Firms, Companies, Corporations and other bodies whether incorporated.
- xii) The expression "Works" or "Work" Or "Plant" or Equipment" shall mean and include the plant & equipment, labour and services, and any other function to be executed at site as defined in the Contract.
- xiii) "Date of Agreement" means the date on which both the parties have signed the contract agreement or any other date mentioned in the Contract/Letter of Intent as the effective date of contract whichever is earlier.
- xiv) "Day" or "Days" unless herein expressly defined shall mean calendar day or days of twenty-four (24) hours each.
- xv) A "Week" shall mean continuous period of seven (7) days.
- xvi) "Month" shall mean calendar month.
- xvii) "Codes" shall mean approved standards and/or rules and other various Acts as applicable regulations touching the subject matter of the contract, including the latest amendments, and or replacement, if any.
- xviii) "Contract Price" shall mean the total price quoted by the Contractor in his bid with addition/deletion agreed, taxes applicable at the time of L.O.I. or the amount mentioned in the agreement/L.O.I. or the actual amount paid/payable by the Corporation whichever is higher.

#### 1.B.2 TERMS OF PAYMENT:

1.B.3 **PAYMENT TERM:** 100% payment after statutory deduction will be made to the contractor after acceptance of 10% CPG. The party has to furnish a Bank Guarantee against Contract Performance in the format enclosed at ANNEXURE-II for an amount equivalent to 10 % of total order value valid during the guarantee period with a claim period of 90 (ninety) days. The BG should be submitted within 30 days from the date of issue of letter of intent/work order.

1. B.3.i Part payment shall be allowed against completed units in case of delay for shutdown of units in sequence.

1. B.3.ii No advance payment will be made under this contract, including mobilization advance.

1.B.4 **LIQIDATED DAMAGE:** The Contractor shall ensure uninterrupted services/works under the Contract to the satisfaction of the Engineer-in-charge of NEEPCO. The contractor shall ensure engagement of adequate manpower and shall engage his work force round the clock. In case the Contractor fails to complete the works in time i.e. within 15 days in each condenser, liquidated damage @ 0.5% per day delay of the contract value subject to a maximum of 15% of the contract value shall be deducted from the Contractor's bill.

1.B.5 **VALIDITY:** The contract shall be valid till successful completion of the guarantee period of six months from the date of award of contract. NEEPCO reserves the right to terminate the contract before its expiry, if the Contractor fails to provide the services or commits a significant breach of the contract and fails to remedy such breach within 7 (seven) days of being brought to the attention of the Contractor in writing.

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22-11-2014



- 1.B.6 The Contractor is deemed to have full knowledge about the nature and character of the plant & equipment as the case may be for the work to be executed when necessary, of the site condition, the relevant matters, details and extent of work and he must take all safety precautions for his workers. The Contractor shall ensure proper safety of the men, materials and plant & equipments of the Corporation while working at Site. The Contractor shall provide suitable safety equipment of prescribed standard to his workmen and follow safety work procedure. No personal protective equipment shall be issued by the corporation.
- 1.B.7 The Contractor is required to comply with all relevant acts, rules and regulations applicable in respect of safety of the personnel engaged for the works.
- 1.B.8 NEEPCO will not accept any liability for accidents to Contractor's workmen and compensation required to be paid to the Contractor's workmen in the event of any accident will be borne by the Contractor. NEEPCO bears no responsibility whatsoever towards the Contractor's workmen for any loss / damage caused by any accident during the works. For any such eventuality the responsibility lies solely on the Contractor.
- 1.B.9 The Contractor at his own interest and cost shall arrange for adequate insurance cover for his workers to protect them against all claims applicable under Workmen's Compensation Act, 1923.
- 1.B.10 The Contractor's workmen will not be entitled to free medical treatment from NEEPCO. The Contractor shall ensure the receipt of medical benefit to his workmen under Employees State Insurance Act'1948.
- 1.B.11 The Contractor shall ensure full compliance of various Indian Laws and Statutory Regulations, to the extent applicable, as stated below, but not limited to, in force from time to time:
- i) Workman's Compensation Act, 1923.
  - ii) Payment of Wages Act, 1936.
  - iii) Minimum wages Act, 1948.
  - iv) Contract Labour (Regulation & Abolition) Act, 1970.
  - v) Provident Funds and Miscellaneous Provisions Act, 1952.
  - vi) Income Tax Act 1961.
  - vii) Assam Finance Act 1956.
  - viii) Assam Sales Tax Act 1947.
  - ix) Any other Act or Statue having bearing over engagement of workers directly or indirectly for execution of the Contract.
- 1.B.12 The Income Tax and other taxes as may be payable under the provision of relevant Acts will be deducted at source.
- 1.B.13 The Contractor's personnel shall maintain strict discipline and harmony at the work site. The Engineer-in-Charge of NEEPCO shall be at discretion to object to the presence of any worker / representative of the Contractor at site, if in his opinion, such worker / representative has misconducted himself or found incompetent or negligent or otherwise undesirable and the Contractor shall remove such person(s) immediately.
- 1.B.14 The persons engaged by the Contractor must not be found under the influence of alcohol and drugs within the Plant area during the duty hours and also maintain decorum in the Plant area at all the time. The Contractor shall not engage minor labour below 18(eighteen) year of age under any circumstances.
- 1.B.15 Temporary Entry Pass for entry into the work site will be issued by NEEPCO in favour of the Contractor and each of his workers till expiry of the contract period. No personnel shall be allowed to enter inside the NEEPCO's Plant/Colony area without valid Entry Pass. The Contractor shall apply for the temporary Entry pass for his employees giving full details of them.
- 1.B.16 **DIRECTION FOR EXECUTION OF WORKS/ ENGINEER IN CHARGE:**  
The Contractor's workers shall act and carry out all works as per instruction / direction of the Engineer-in-charge of NEEPCO for the said works or his authorized representative

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- 1.B.17 **FORCE MAJURE:** NEEPCO reserves the right to suspend the work at any time under FORCE MAJURE conditions which shall include but not limited to the following:
- a) Acts of God, acts of public enemy, wars, insurrection, riots, disturbance, explosions etc.
  - b) Local disturbances and deteriorating Law & Order situation, bandh/ industrial unrest of any nature.
  - c) Any other reasons beyond control of the corporation.
- In event of any suspension of work under FORCE MAJURE, the Contractor shall have no right to claim for any compensation.
- 1.B.18 **SETTLEMENT OF DISPUTES:** A process of mutual settlements shall decide all the differences or disputes arising out of the Contract between the parties. However, if the process of mutual settlements fails, then the dispute under this contract will be settled through arbitration as per Indian Arbitration and Conciliation Act, 1996.
- 1.B.19 **TERMINATION OF CONTRACT:** NEEPCO reserves the right to terminate this contract in the event of Contractor's continued default in providing requisite services after proper and due notice having being served upon. NEEPCO also reserves the right to terminate this contract if any condition under FORCE MAJURE warrants stoppage of the work. In case of termination on account of this reason, before completion of the Contract period the Contractor shall be paid all eligible charges as per this contract on pro rata basis for work done up to the date of termination. On expiry of the Contract period, this contract will automatically stand terminated.
- 1.B.20 **AGREEMENT:** On acceptance of the Letter of Intent, placed on the successful bidder and submission & acceptance of relevant Bank Guarantee in lieu of Contract Performance, a formal work order shall be issued to the bidder, a copy of which shall be signed by authorized signatory of the bidder and submitted to the order issuing authority of NEEPCO. This L.O.I, Work Order and the Tender document submitted and any other relevant correspondences made on this account shall form the contract document, which shall be binding on the contractor.
- 1.B.21 **CONTRACT PERFORMANCE GUARANTEE:**
- 1.B.21.1 Within 30 (Thirty) days from the date of issue of Letter of Intent, the Contractor shall furnish a Security-cum-Performance Guarantee for an amount equal to 10 (ten) percent of the Contract value, exactly as per the enclosed format (ANNEXURE - II) from any Nationalized Bank in favour of NEEPCO Ltd. valid for entire period of contract, guarantee period and additional 90 (ninety) days covering the claim period.
- 1.B.21.2 The Security-cum-Performance Guarantee furnished by the Contractor shall be irrevocable and unconditional and NEEPCO shall have the right to invoke it notwithstanding any dispute or difference between NEEPCO and the Contractor pending before any Court, Tribunal, Arbitrator or any other authority as per provision of the contract.
- 1.B.21.3 On expiry of the contract the Bank Guarantee will be released to the Contractor without any interest on presentation of an absolute 'NO DEMAND CERTIFICATE' from the Corporation and on receipt in good condition all tools and tackles or any other property belonging to the Corporation and issued to the Contractor in good faith for due performance of the contract. However, the Corporation shall be entitled to retain, set off, deduct or adjust any claim against the Contractor from the money deposited with or becoming payable by the Corporation.
- 1.B.21.4 It is expressly understood and agreed that the amount of contract performance guarantee shall not be construed as limiting factor/amount of various liabilities under the contract.



1.B.22 **SUBLETTING OF CONTRACT:** The Contractor shall not without the prior consent in writing of the Engineer-in-Charge or Corporation, sublet or transfer his contract. Any assignment, subletting/subcontracting without prior written approval of the Engineer-in-Charge shall be void

1.B.23 **DEATH, INSOLVANCY AND BREACH OF CONTRACT:** The Corporation may at any time by notice in writing summarily terminate the contract without compensation to the Contractor in any of the following events that is to say:

1.B.23.1 If the Contractor being an individual or if a firm any partner thereof shall at any time, be adjudged insolvent or shall have a receiving order or order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act i.e. the Presidency Towns Insolvency Act, 1909 & Provincial Insolvency Act 1920 or any other act for the time being in force or make any conveyance or assignment with his creditors or suspend payment or if the firm be dissolved under Partnership Act. Or,

1.B.23.2 If the Contractor being a company is wound up voluntarily or by the order of a Court or a Receiver Liquidator or Manager on behalf of the Debenture holder is appointed or circumstances have arisen which entitle the court or Debenture holders to appoint a Receiver, Liquidator or Manager or,

1. B.23.3 If the contractor commits any breach of the contract not herein specifically provided for. Provided always that such determination shall not prejudice any right of action or remedy which shall have accrued or shall accrue thereafter to the Corporation and provided also the contractor shall be liable to pay to the Corporation. The Contractor shall under no circumstances be entitled to pay gain or repurchase.

1.B.24 **DEDUCTION FROM CONTACT PRICE:**

1.B.24.1 All costs, claims damaged or expenses which the Corporation may have paid for which Contractor is liable under the Contract, shall have to be refunded by the Contractor and will be deducted by the Corporation from performance guarantee or from any money due or which become due by him to the Contractor under this contract.

1. B.24.2 Any sum of money due and payable to the Contractor (including performance guarantee or any other guarantee returnable to him) under this Contract may be appropriated by the Corporation and set off against any claim of the Corporation, for the payment of sum money arising out of or under any other Contract made by the Contractor with the Corporation.

1.B.24.3 It is an agreed term of the contract that the sum of money withheld or obtained under this clause by the Corporation will be kept withheld or retained as such by the Corporation or till this claim arising out of in the same contract is either mutually settled or determined by the Arbitrator, or by the Competent Court, as the case may be, and that the Contractor shall have no claim for interest or damages whatsoever on his Account or any other account in respect of any sum of money withheld or retained under this clause and duly notified as such to the Contractor.

1.B.25 **BREACH OF CONTRACT:**

In case of infringement of any terms and conditions major or minor of this covenant/agreement by the Contractor the Corporation shall have full power to rescind, cancel or terminate the contract after observing all legal formalities. The decision of Corporation in this regard shall be final and binding.

1.B.26 **SUSPENSION OF WORK:**

1.B.26.1 The Corporation reserves the right to suspend and restore execution of the whole or any part of the Contract. Orders for suspension or restoring the works will be issued by the Engineer-in-Charge to the Contractor in writing.

1.B.26.2 Any necessary and demonstrable costs incurred by the Contractor as a result of such suspension of the works will be paid by the Corporation, provided such costs are substantiated to the satisfaction of the Engineer-in-Charge. The Corporation shall not be responsible for any liabilities if suspension is due to some default on the part of the Contractor.