



TENDER DOCUMENT

FOR

COOLING WATER TREATMENT

PACKAGE

TECHNICAL – SECTION

NATIONAL FERTILIZERS LIMITED
NANGAL UNIT

(Technical Section)

Sr. No.	Description
	INDEX
1.0	INTRODUCTION
	SECTION – A
2.0	DETAILS OF EXISTING COOLING WATER SYSTEM
2.1	Cooling Towers
2.2	Filtration System
2.3	System Volume
2.4	Blow down
2.5	Chlorination and Acid dosing system
2.6	CW Heat Exchangers and Operating Temperature
2.7	Make up water characteristics
2.8	Present cooling water treatment programme
	SECTION – B
3.0	TECHNICAL REQUIREMENTS OF PROPOSED COOLING WATER TREATMENT PROGRAMME
3.1	General requirements of cooling water treatment package
3.2	Cooling Water Treatment Scheme
3.3	Contingency treatment
3.4	Alternative chemicals for water treatment
3.5	Mobilization and stabilization
3.6	Monitoring
3.7	Essentials / Performance Guarantees
3.8	Penalties and termination
	SECTION – C
4.0	INSTRUCTIONS TO BIDDERS
4.1	Technical quote
4.2	Bid evaluation
4.3	Guaranteed overall annual cost
4.4	Vendor's Scope
4.5	Owner's Scope
4.6	Trial order
4.7	Contents of offer
4.8	Splitting of the Contract
4.9	Availability of chemicals without interruption
	ANNEXURES
I	Ammonia Plant Heat Exchangers - data
II	Urea Plant Heat Exchangers - data
III	GTG Heat Exchangers- data
IV	Make up water analysis for last one year

1.0 INTRODUCTION

- 1.1 The Ammonia-Urea complex of National Fertilizers Limited, Nangal Unit was commissioned in the year 1978 to manufacture 900 MTPD of Ammonia and 1000 MTPD of Urea.

Urea Plant is based on Technimonts *Montedison Total solution Recycle Process*. As a backward integration step, Methanol plant of capacity 50 MTPD was installed in the year 1985 using intermediate gaseous streams of Ammonia Plant, and was further augmented to 67 MTPD in the year 1998. M/S Urea Casale revamped the Urea Plant in the year 2001 and the Urea Plant capacity was augmented to 1450 MTPD.

Ammonia plant is based upon KBR Steam Methane Reforming. Feedstock is Natural gas. Plant was commissioned in the year 2013. Ammonia plant capacity is 950 MTPD. Methanol Plant is not operational after the commissioning of Ammonia plant.

- 1.2 Complex has two Cooling Towers in operation, one each for Ammonia plant & Urea plant. Cooling Water Treatment was changed over from Chromate based to Non-chromate in the year 2003. Existing CW treatment programme is being maintained by M/s Chembond Water Technologies Limited, Noida and is effective since July 2021.
- 1.3 'Details of Existing Cooling Water System', 'Technical requirements of proposed Cooling water treatment programme' and 'Instructions to the bidders' have been elaborated in subsequent pages in **Section-A**, **Section-B** and **Section-C** respectively.

SECTION – A

2.0 DETAILS OF EXISTING COOLING WATER SYSTEM

2.1 COOLING TOWERS

Following are the normal operating parameters to be considered for computing the “Chemicals consumption” and “Dose rate of Chemicals”.

Parameters	Units	Ammonia Cooling Tower (ACT)	Urea Cooling Tower (UCT)
TYPE		Induced Draft cross Flow Dual Air Intake	
MAKE		M/s Paharpur-Marley Series 670 DF	M/s Paharpur - Marley Series 670 DF
Basin		Concrete Basin below the ground level with partitions for each of the cells	
CW Circulation Rate (CR)	M ³ /hr	12747	7500
System Hold Up Volume (H)	M3	3000	1100
Supply Temp	°C	28-33	28-33
Return temp	°C	38-43	38-43
Range (R)	°C	10	10
Cycle of Concentration (C)		7	7
Evaporation Rate (E) = $0.00085 \times 1.8 \times CR \times R$	M3/hr	171	103
Blow Down Rate (B) = $E / (C-1)$	M3/hr	29	17

Above parameters may change depending upon the Plant load and seasonal variation.

2.2 SIDE STREAM FILTERS

Side stream filtration facility is there to maintain turbidity of circulating water within limits.

	ACT	UCT
Type of Filter	Pressure sand filters	Pressure sand filters
Number of Filters	5	1
Filtration rate, M3/Hr.	~ 750	150

2.3 System Volume

System hold-up volume comprising of cooling tower basin / sump up to normal operating level is 3000 M³ and 1100 M³ for ACT and UCT respectively. Hold up is inclusive of piping's, pumps and heat exchangers.

2.4 Blow Down

Blow down from Ammonia and Urea Cooling Towers is done intermittently based upon designed Cycles of Concentration. Details have been elaborated at 2.1 above.

2.5 Chlorination and Chemicals Dosing System

Following dosing systems are available for both Cooling water systems:

- Sulfuric acid and Soda ash dosing is done by gravity for maintaining pH of the circulating water system (if required). Sulphuric Acid storage/dosing facility exist at site. Soda ash solution preparation tanks are available at site.
- Chlorine dosing system consists of Venturi System powered by filtered water and Electronic Weighing Balance. Chlorine is dozed in basins of Cooling towers through a common dosing system on continuous basis.
- Chlorinated water is available at site for ClO₂ generation facility. However, ClO₂ generator (Generox) is provided by the vendor. Separate Generox system is used for ACT as well as UCT.
- Provision exists to add Chlorine in the make-up Raw water for both ACT and UCT through a common Chlorine Dosing System. Electronic weighing balance is there for weighing the Chlorine tonners.
- Dosing of all the proprietary chemicals is in the Vendor's scope. Electronic Metring pumps or any another facility required for the dosing purpose is supplied by the vendor on returnable basis.

2.6 Details of Heat Exchangers

2.6.1 Ammonia Plant

Most of the heat exchangers are Shell and tube type with cooling water on tube side. . Details of heat exchangers viz Material of construction, type of fluids in shell/tubes, design

operating temperatures of process fluids have been appended as **Annexure-I**.

2.6.2 Urea Plant

Most of the heat exchangers are Shell /tube type with CW on tube side. Inter-stage coolers of CO₂ gas Compressors (K-1/N and CA-1) , Third stage partial condenser (HE- 6B) & Heat Exchanger of C-1 are with CW on shell side. Details of heat exchangers viz Material of construction, type of fluids in shell/tubes, design temperatures of process fluids have been appended as **Annexure-II**.

2.6.3 GTG

Most of the Heat Exchanger are Shell / Tube type with CW on tube side. Details of Heat Exchanger have been appended as Annexure III.

2.7 Make-up Water Characteristics

Make- up water in both the Cooling Towers is raw water (RW) coming from Raw Water Pretreatment Plant.

The make-up water analysis remains within the following range:

1	pH		7.6-8.0
2	Total hardness	as Ca CO ₃ ppm	90-105
3	Calcium Hardness	as CaCO ₃ ppm	70-80
4	Magnesium Hardness	as Ca CO ₃ ppm	20-30
5	Chloride as Cl,	ppm	2.5-3.5
6	Turbidity	NTU	10-40
7	M-alkalinity	as Ca CO ₃ ppm	45-65
8	Equivalent mineral Acidity EMA	as Ca CO ₃ ppm	40-50
9	Sulphates	as Ca CO ₃ ppm	30-50
10	SRB count	Per 100 ml of water	5-20

Laboratory analysis given above is indicative only. These parameters will have seasonal variation. Laboratory analysis of Raw water for the last one year is appended as Annexure-IV.

2.8 Circulating Water Parameters with Existing Cooling Water Treatment Programme

2.8.1 M/s Chembond Water Technologies Limited, Noida has supplied on-going cooling water treatment programme. Normal operating parameters & performance indicators have been tabulated below in Table-I.

TABLE-I

	Parameters	Normal Operating Range
1	PH	6.8-8.0
2	Free Residual Chlorine; ppm	0.2-0.5
3	ClO ₂ , ppm	Positive
4	Oxidation Reduction Potential (ORP) mv	> 350

	Parameters	Normal Operating Range
5	Turbidity (NTU)	5-20
6	Total hardness as Ca CO ₃ ppm	600-800
7	Calcium Hardness as CaCO ₃ ppm	450-600
8	Zinc (ppm)	0.8-1.2
9	Ortho Phosphate as PO ₄ , ppm	6.0-7.0
10	Total Inorganic Phosphate as PO ₄ , ppm	7.0-9.0
11	Chloride as Cl, (ppm)	150-200
12	Cycles of Concentration, COC	6.0-8.0
13	M. Alkalinity as CaCO ₃ , ppm	10-40
14	Iron as Fe, ppm	< 1.0
15	Magnesium Hardness as Ca CO ₃ ppm	150-240
16	Conductivity micromho/cm	800-2000
17	Ammonia as NH ₃ , ppm	< 20
18	Nitrate as NO ₃ , ppm (Ave.)	75-250
19	SRB count /100 ml of CW	< 100
20	Total Bactria Count /ml of CW	< 10 ⁵
21	Corrosion Rate, mpy	< 3

2.8.2 Various proprietary & non- proprietary chemicals being used have been given below in **Table-II.**

TABLE-II

Proprietary Chemicals			
1	Phosphate/Zn Corrosion Inhibitor	Liquid Form	Continuous Dose
2	Bio Dispersant	Liquid	Continuous Dose
3	Anti scalant	Liquid	Continuous Dose
4	Carbamate based Non-oxidising Biocide	Liquid	Slug Dose
5	QUATERNARY AMMONIUM COMPOUNDS (QUAT) based Non-oxidising Biocide	Liquid	Slug Dose
6	Diclorophene based Non-oxidising Biocide	Liquid	Slug Dose
7	ClO ₂ precursor	Liquid	Continuous Dose
Non-proprietary Chemicals			
1	Sulphuric Acid (H ₂ SO ₄)	Liquid	As per requirement
2	Soda Ash (Na ₂ CO ₃)	Powder	As per requirement
3	Chlorine (Cl ₂)	Gas	Continuous

SECTION -- B

2.0 Technical Requirements for Proposed Cooling Water Treatment Programme

3.1 General Requirements for Cooling Water Treatment package

- a) NFL requires vendors to provide Non-Chromate, ortho-phosphate- Zinc, based cooling water treatment package for Ammonia and Urea Cooling Towers. The cooling water treatment shall comprise of Zinc as the cathodic inhibitor and stabilized ortho-phosphate as the anodic inhibitor combined as a single formulation. Individual chemicals as cathodic and anodic inhibitors in basic chemical form are not acceptable. The products offered should be field tested and proven
- b) A dedicated scale inhibitor cum dispersant shall also be included in the programme for dispersion of iron, general scale and sludge and to take care of chances of scaling due to operation at high pH. Treatment should ensure no scaling in the heat exchangers. There should not be reduction in heat transfer capacity of heat exchangers, due to fouling or formation of deposits.
- c) Effective control of biological growth shall be provided by using suitable biocide, bio-dispersant together with chlorine dioxide or Na Br. Vendor should quote for 3 or more non-oxidizing biocides. Doses should correspond to MIC of the particular biocide.
- d) It is desirable to have continuous dosing of chemicals preferably by metering pumps for good control. For solid dosing, vendor should mention the method of dosing.
- e) Blow down should be suitable for discharge into the inland surface water drains which should be within the IS: 2490 (1981) and MINAS specifications. Chemicals and treatment programme should meet this requirement without exception. The total quantity of blow down from all cooling towers needs to be maintained below the present level as given at 2.4 with the indicative make up water analysis specified at 2.7. The SRB limits in make-up water shall be 5 Nos. per 100 ml (normal) and 20 Nos. per 100 ml (max.). Vendors should mention the water blow-down after each non-oxidizing biocide dosage at percent (%) of system volume and quantity. Excess blow down or make up if resorted to without valid reasons, NFL reserves the right to recover the cost of excess water consumed along with cost of chemicals from the party.
- f) Treatment programme should be capable of sustained operation under the prevailing conditions and should be able to tolerate ingress of ammonia, Urea dust, coal dust and oil, etc. Occasional Ingress of Coal dust, fly ash, etc. in the cooling towers may also take place. Details of contingency limits are indicated at 3.3 below.
- g) Changeover of cooling water treatment shall be on line at all sites i.e. without plant interruption. On line changeover of chemicals if required shall be indicated separately but form a part of the contract.
- h) Chemicals shall be supplied in new HDPE containers. The containers must be properly sealed and also shall be labeled properly with name, brand name, batch no, expiry date etc. Each batch of chemicals should have test certificate that all the chemicals are bio-degradable (preferably within 24 hrs) and environment friendly and do not fall under banned category
- i) Total quantity of chemicals, to be supplied by the Vendor, should be adequate for 365 days operation of the plant in a year.

- j) The offer should be realistic. Under-quoting or offering lower doses of chemicals than required, wherever minimum dosage is specified will call for rejection. During the tenure of the treatment if corrosion rates are within the permissible limits, vendor shall optimize the use of chemicals in consultation with Unit without compromising the water quality and guaranteed parameters.
- k) Vendors are advised to visit plant site and submit proposal only after extensive plant survey, ascertaining quality of makeup, circulating water, blow down, equipment metallurgy etc. Vendor shall assess the requirement of usage of each chemical and will quote appropriate dosages to meet the guarantees. Vendor is free to quote chemicals over and above the ones specified in this document to meet the guarantees. No complaints of the vendor will be entertained after issue of work order.
- l) Some exchangers at Nangal Unit have brass metallurgy. Vendor should quote compatible chemicals to be added in his treatment package.
- m) Vendor shall provide analytical method of analysis along with active content & their value in bulk chemicals, details of instruments on returnable basis/reagents required for analysis of various Chemicals active content. **If these methods are not submitted by the vendors, price bid will not be opened.** NFL has the right to check the analysis of the lot of the bulk chemicals received on random basis (minimum four times in a year), in its own lab or from a reputed lab outside. In case active ingredient is lower with respect to minimum of the value specified by party, deduction from the delivered cost on prorated basis, shall be done for said total chemicals supplied in that lot. In addition to above, cost of testing, if done from Lab. other than NFL's own laboratory, shall be borne by vendor for such case. However, in case the test results are within specified limits, cost of testing shall be borne by NFL. No credit shall be given to vendor for supplying chemical having higher than quoted active ingredient. Vendor shall specify names of at least three such labs, where analysis of active ingredient of its chemicals can be obtained by NFL.

Corrosion Inhibitor	% of Total phosphate as PO_4
	% of Zinc as Zn
Dispersant	% of Organo-phosphonate
	Sequestration value mg/ml (minimum)
Bio dispersant	% Active ingredient & physical property
$NaClO_2$	% active content
Non- Oxidizing Biocide	as described in Clause 3.2.3 (iv)

- n) Vendor shall carry out daily water analysis to monitor the necessary treatment package. NFL has the right to check the analysis. Lab facilities shall be provided to the vendor for the above analysis. However, for analysis of chlorine dioxide and Zinc, spectrophotometer shall be provided by the vendor. All reagents for testing/analysis in the scope of vendor.
- o) Corrosion coupon will be assessed jointly by NFL and vendor.
- p) Microbiological analysis will be carried out by NFL in the presence of Vendors' representative.

3.2 CW Treatment Scheme

3.2.1 pH Control

Treatment program should be designed in such a way that the pH of

circulating water in return header is kept within 6.8-8.0. pH in circulating water shall not be allowed to go below 6.5 at any time. Vendor shall maintain the same with his treatment. During exigencies when pH goes higher than specified values, pH can be maintained by dosing concentrated sulphuric acid. When pH goes below the specified value vendor shall be permitted to control pH by dosing Soda Ash, if so required. pH reduction can be take place under following conditions:

- I) Microbiological activities
- II) Ingress of acidic gases/ leakage in heat exchangers

- a) pH reduction due to microbiological activity should be avoided. In case of such occurrence, reasons for such an occurrence shall be established to the satisfaction of NFL and corrective action must be taken immediately for which vendor shall use biocide.

If pH reduction is due to other reasons, the contractor may be allowed by NFL to use Soda Ash. Bidder shall intimate the quantities of Soda Ash to be consumed for each cooling tower separately in techno-commercial bid. Price of Soda Ash shall be indicated in the Price Bid. The maximum quantity of soda ash permitted per year for all towers taken together will be limited to 24 tons/year.

- b) In case of pH reduction is due to ingress of acidic gases/ exchanger leakage, soda ash dosing shall be permitted for pH correction which will be in NFL's account. Such dosing shall be decided by mutual consent in writing prior to start of dosing. Soda Ash required for dosing under all conditions shall be arranged by bidder. Soda Ash supplied shall be of 95-99% content of Na_2CO_3 (by Wt.)

3.2.2 Corrosion Inhibitor and Anti-scaling Dispersant:

The treatment programme should be capable of maintaining corrosion rate less than 3 mpy on MS unpassivated sand blasted corrosion coupons manufactured as per IS -8188-1999 specifications, to be supplied by NFL and shall be installed in return header every month in each cooling tower. Corrosion racks and necessary fittings to be provided by vendor.

One additional rack shall be available as common spare (standby) for all towers. The corrosion coupons shall be sealed by NFL and party's representative will be associated with such sealing. All keys shall be kept with plant authorities.

Party should give percent (%) composition of total phosphate & Zinc in their corrosion inhibitor. Normal range of 7-9 ppm of total inorganic phosphate and 1ppm of Zinc is preferred to be maintained by regular chemical dosing at all times in circulating water. Bid evaluation shall be done based upon the quoted quantity and active content in the formulation by the vendors.

- a) The scale inhibitor cum dispersant shall take care of chances of scaling due to operation at high pH and high temperature. Procedure for analysis of

dispersant in circulating cooling water is essential along with the technical bid. To take care of the adverse effects of higher pH during monsoon season, doses of dispersant are to be maintained on sufficiently higher side to avoid scale formation in critical exchangers where cooling water is on shell side with low velocity. The dispersant offered should be proven and supporting documents for the same to be provided

- b) In case of some critical exchangers, a need may arise for localized (satellite) dosing of dispersant. The Vendor should be ready with necessary arrangements for the same. Doses of dispersant should be selected accordingly.
- c) Dispersant Test : Recommended dispersant should give min. 95 % of $\text{Ca}_3(\text{PO}_4)_2$ inhibition test at 50 % of the recommended dose level under test condition which are pH: 8, Ortho PO_4 : 8 ppm, temperature -70°C and Ca hardness :500 ppm as CaCO_3 in presence of total iron of 1mg / lit in cooling water system. NFL reserves the right to test the dispersant.

3.2.3 Micro Biological Control:

- i) Chlorination shall be done continuously to maintain a free residual chlorine level of 0.2 ppm in return header of each cooling tower.
- ii) Any excess of chlorine should be avoided due to its harmful effects.
- iii) Chlorine dioxide shall be dozed for which vendor shall provide a chlorine dioxide generator for **in-situ generation or sodium bromide**.
- iv) At least three non-oxidising biocides out of the following suggestive biocides are to be recommended by the vendor so as to achieve the guaranteed figure as per clause No. 3.7. Minimum active content of biocide and ppm dose based on hold up volume for effective bio control shall be as follows

S.No	Biocide type	Minimum % active content	Minimum ppm dose based on hold up
1	Quaternary Ammonium compounds (QUAT)	40	25
2	Carbamate based	45	30
3	Isothiazoline based	1.4	30
4	Methylene bithiocynate (MBT) based	9	25
5	Diclorophene based (a)	40	30

Minimum dosing frequency of non-oxidising biocide will be once in two weeks per tower and a minimum of 26 doses per year per tower preferably with sequential dosing. Changes in the biocides, if any, will be reviewed after actual application and monitoring of the system.

- v) Party shall submit procedure for analysing active ingredient of all offered biocides. If offered biocide active content and/or dose is less than the above, NFL reserves the right to reject the bid technically or modify the dose to arrive at aforesaid minimum requirement and load the additional quantity. If offered concentration/dose is more than specified above, then offered quantity shall be considered for evaluation. Vendors can also quote biocides other than listed above. However vendor shall submit

adequate proof that the offered non-oxidising biocide with indicated active ingredient and dosage has been used successfully for at least 2 years in other ammonia/urea cooling towers, backed up by user certificate.

Effectiveness of biocide at quoted levels can be independently verified by NFL through certified laboratories. If dosage level is found inadequate, then quantity can be enhanced by NFL, cost of which will be borne by vendor. Result of test will be binding on the party.

- vi) A dedicated bio-dispersant shall be dosed on continuous basis to keep the system free from bio-film formation. Minimum dosage of 3 ppm of bio dispersant in circulating water is to be maintained.

3.2.4 Operating Parameters: In addition to details specified above, the vendor should also consider the following, while designing the treatment.

- ❖ Holding time index / large system volume and limitation in blow down rate. COC should be in the range of 6-8. However, vendor shall assess the requirement based upon actual operating data available with Unit.
- ❖ Water quality as specified at 2.7
- ❖ High temperatures in the CW heat exchangers (both on process and CW sides)
- ❖ Nitrifying bacteria, preferably <25 counts / ml on monthly basis.

Vendor will provide following circulating water parameters to be measured on daily basis:

Sr. No.	Parameter	Unit	Normal	Maximum*
1.	pH			
2.	Free residual chlorine as Cl ₂	ppm		
3.	Chlorine Dioxide (ClO ₂)	ppm		
4.	Oxygen reduction potential (ORP)	mV		
5.	Turbidity	NTU		
6.	Total hardness as CaCO ₃	ppm		
7.	Calcium hardness as CaCO ₃	ppm		
8.	Zinc	ppm		
9.	Ortho phosphate as PO ₄	ppm		
10.	Total inorganic Phosphate PO ₄	ppm		
11.	Scale Dispersant	ppm		
12.	Chloride as Cl	ppm		
13.	Bio dispersant	ppm		
14.	Silica as SiO ₂	ppm		
15.	Cycle of Concentration			
16.	M alkalinity as CaCO ₃	ppm		
17.	Iron content	ppm		

*Maximum value shall be applicable based on the quality of makeup water as mutually agreed before *starting the treatment*. It is desired that normal control

limits should not be crossed. In case of exceeding the normal limits, necessary information shall be conveyed to Production Incharge and corrective action taken immediately.

3.3 Contingency Treatment:

- 3.3.1 The vendor shall have a contingency treatment programme to take care of the effect of various contaminants

The limits of contaminants in CW circulating water shall be as follows:

Ammonia Contaminant	40 ppm (max) for all Towers
Urea Contaminant	10 ppm (max), for all Towers
Oil	10 ppm (max), for all Towers

- 3.3.2 Contingency shall be decided at the time of its occurrence by mutual consent in writing by NFL. Same shall be approved by Unit In-charge prior to the start of contingency treatment. A contingency shall be declared if disturbed condition persists for 48 hrs (forty eight hours) for Ammonia and Urea and immediately on detection of oil. The bidder should indicate the details of chemicals to be used along with quantity for meeting each contingency for each tower separately. This treatment shall remain effective for 72 hours.

Loading of quotations against contingencies shall be made based on the number of contingencies as stipulated below:

	<u>Ammonia CT</u>	<u>Urea CT</u>
Oil	1	1
Ammonia	1	3
Urea	0	0

In case, the contingency like leakage of cooling water from underground header etc., is not controlled within a reasonable time and NFL decides to continue with it in order to avoid plant interruption, then the modalities of using addition chemicals shall be discussed and agreed mutually. The continuation of contingency as well as additional expenditure on this account shall require prior approval of the Unit In-charge.

3.4 Alternative chemicals for water treatment

The contractor may sometimes find it necessary to change one or two chemicals during the treatment based on his experience regarding efficacy of the chemical in use. Since the contractor shall be in a better position to know regarding nature of makeup water, circulating water and effectiveness of the treatment, after carrying out the treatment for some time, allowing use of alternative chemicals is considered in the interest of achieving better results.

For this purpose vendor shall specify all such alternative chemicals along with their unit rates in the quotation itself. Main chemical shall be taken for the purpose of bid evaluation and calculating guaranteed cost. Any chemical not in bidding list, if needed can be agreed after mutual discussion and prior approval of Unit In-charge.

However, the overall guaranteed cost shall remain the same.

3.5 Mobilization Period & stabilisation period : Mobilization period for starting the treatment shall be one month maximum from the award of contract or as mutually agreed. However, Contract period for the purpose of calculation of the number of days shall be with effect from the actual date of start of treatment programme. Stabilization period shall be one month (max.) from the start-up of the Cooling Water Treatment as mutually agreed. No penalty shall be levied during stabilization period. If existing vendor continues for the next contract, there shall be no stabilization period.

3.6 Monitoring:

3.6.1 Monitoring Tools: Vendor should be equipped with gadgets for monitoring the health of the cooling water system, including simulation capabilities for trouble-shooting. Gadgets for studying fouling factor, heat flux etc. on line shall be required. Vendors should clearly mention the details of the monitoring instruments which will be supplied free of cost with the package for use at site on returnable basis.

Following online / other monitoring instruments are to be provided for each tower from the Vendors:

- a) Bio-fouling monitors (with differential pressure gauge)
- b) Online Deposit monitors.
- c) Corrosion racks with necessary fittings and screws compatible with corrosion coupon.
- d) Analytical kit for field testing (with reagents replenishment).
- e) Corrotrac facility for instantaneous corrosion rate (Minimum twice in month during normal operation)
- f) ORP monitor
- g) Dosing system including metering pumps and replacement of spares as and when required. Vendor shall keep necessary spare dosing and monitoring system and spares parts at site so that chemical dosing system and monitoring system can be kept in service uninterrupted. If the vendor fails to maintain the system in healthy condition the same will be attended by NFL at the cost and risk of the vendor. To ensure precise addition of chemicals on continuous basis, the dosing system shall comprise all the parts/pumps /equipment/pipeline/valves to ensure the dosing of different chemicals from dosing tank right up to the basin and any other equipment required to achieve the dosing on continuous and uniform basis.
- h) PC based Software and hardware for trend check.
- i) Any other instrument for simulation and diagnostic study

3.6.2

Party should have full-fledged R&D set up and/or technical collaboration with a reputed institute/laboratory/Internationally renowned company/organization providing cooling water treatment package for trouble shooting of the problems associated with cooling water treatment. Requisite documents supporting the above shall be enclosed. Requests from parties not meeting these criterion shall not be considered for qualification.

The party should have properly trained team for trouble-shooting of the problems associated with this cooling water treatment.

3.6.3 Monitoring Services : Vendor should carry out:

- Continuous monitoring and supervision by his specialist(s) during pre-cleaning & passivation initially and also on day-to-day basis, during normal operation.

- Reporting to plant personnel & submission of daily analysis report to Plant In-charge by 4.00 pm every day. Involve NFL personnel in the operation and control of the treatment.
- Submission of monthly report on water quality and monthly consumption of chemicals.
- Reports with detailed analyses and corrective actions for excess consumption of normal and / or contingency chemicals, if any.
- Trouble shooting as and when required through vendor's resident expert.
- Training of NFL personnel periodically w.r.t cooling water treatment developments.

3.6.4

Vendor should depute a supervisor cum Chemist, for round the clock to monitor Cooling Water Treatment, at their cost for trouble shooting and analysis to take care of the on-going cooling water treatment. The qualification & experience in fertilizers industry cooling water treatment of the supervisors should be submitted along with the technical bid.

3.6.5

Dosing of all chemicals (regular as well as contingency) shall be the total responsibility of the Vendor. In case the plant is being operated under disturbed conditions of leakage etc. leading to deviation in cooling water parameters, pH of cooling water will be checked every 2 hours for 2-3 days to find optimum dosage of chemicals to take care of the situation.

3.7 Essentials/Performance Guarantees

Vendor will furnish the following guarantees for the performance of their C.W. treatment programme. Written procedure shall be submitted for analysis and ascertaining the guarantees, which shall be approved by NFL.

3.7.1 Corrosion Rate: The corrosion rate as measured on sand blasted MS, un-passivated test coupons (C-1010/UNSV-1010) as per IS -8188:1999, procedure separately for each tower should not exceed 3 mpy (measured in return header).

- Analysis shall be reported as a rational number upto one decimal place after rounding as per procedure laid down in IS:2- 1960.
- The test coupon shall be removed normally after a duration of 30 days. However, in case of any exigencies, the time limit may vary by plus minus 5 days after approval of Unit in-charge.
- In case cooling water circulation is stopped for more than 8 hours, the test coupons shall be rejected.

3.7.2 Micro Biological Count: Bidder shall guarantee cooling water system free of undesirable biological growth (to be measured every week) throughout the period of operation.

Total bacterial count (TBC) should not exceed 1 lac/ml on fortnightly basis

Sulphate Reducing Bacteria (SRB) should not exceed 100/100 ml on

fortnightly basis.

3.7.3 Iron in circulating water should be < 1.0 ppm on fortnightly average of Iron analyzed on daily basis.

3.7.4 There should not be any tube leakage or fouling of heat exchangers due to inadequacy in the C.W. treatment which may result in stoppage of plant. Inspections during planned shutdowns should reveal that heat exchangers and cooling water system is in good condition without serious corrosion, pitting, scaling or fouling.

3.8 Penalties and termination

In case, the conditions, mentioned under the 'Guarantees', are not met, the following penalties shall be levied on a yearly basis.

3.8.1 Corrosion rate:

- a) If the corrosion rate of any of the Cooling Tower exceeds the guaranteed corrosion rate of 3mpy or in case corrosion coupon has gained weight to any extent, it will be treated as failure and Rs.25000/- per tower shall be deducted for each of such failure.
- b) In addition to above deduction, if the failure occurs consecutively in following months for the same tower, 20% of the SD-cum-PBG on prorata basis (Total SD-cum-PBG amount x number of towers where failure occurred/total number of towers being treated) will be forfeited and vendor shall be given 30 days from the occurrence notice to rectify the same.
- c) If failure occurs third time consecutively in same tower balance amount of SD-cum-PBG, as defined in clause 3.8.7, shall be forfeited and contract is liable to be terminated.
- d) Further, if failure occurs on any four occasions in same tower during term of contract for one year, balance amount of entire SD-cum-PBG amount shall be forfeited as per clause 3.8.7 and contract is liable to be terminated.

3.8.2 If any of the three parameters, (TBC, SRB and Fe), individually exceed the limits in any one tower mentioned above during the term of the contract (excluding stabilization period), vendor shall be allowed to modify treatment at his cost. However, If any one or more of the parameters remains out in consecutive(s) reading anytime during term of contract, Rs.10,000 per tower per parameter shall be deducted.

3.8.3 NFL shall have the right to terminate the contract, in case of any eventual unsatisfactory performance including heavy fouling of heat exchangers due to which plant has to be stopped, notwithstanding various provisions of the contract

3.8.4 In case due to unsatisfactory performance of the contract, termination clause becomes operative, a termination notice of 15 days (minimum) to 3 months shall be given to the vendor. The contract shall be terminated after expiry of the notice period. During the notice period, all terms and conditions as applicable in the contract shall apply. However, no penalties w.r.t. guaranteed parameters of TBC, SRB, Fe shall be applicable.

3.8.5 The total liability of the vendor during the one year term of the contract on the account of failure to meet the guarantees of the corrosion rate, SRB, TBC, Fe under 3.8.1 and 3.8.2 will be limited to SD cum PBG amount, as per clause 3.8.7, plus penalty amount deducted under clause 3.8.1(a).

3.8.6 The SD-cum-PG amount will be 5% of total guaranteed basic order value worked out as per section 4.3.

3.8.7 In case termination clause becomes operative, forfeiture of SD-cum-PBG shall be as follows, in addition to liabilities under clause 3.8.1 (a):

- a) If termination clause is operated within first six months of the start of treatment, total amount of SD-cum-PBG submitted (i.e. all towers of annual basis) shall be forfeited.
- b) If termination clause is operated between seventh to ninth month of the start of the treatment, total amount equivalent to 75% of the SD-cum-PBG submitted (i.e. all towers of annual basis) shall be forfeited.
- c) If termination clause is operated between tenth to twelfth month of the start of the treatment, total amount equivalent to 50% of the SD-cum-PBG submitted (i.e. all towers of annual basis) shall be forfeited.

It is further clarified that in case any deduction has been made earlier as per clause 3.8.2 or SD-cum-PBG according to 3.8.1 (b), same shall be refunded/ adjusted against the above forfeiture amount of SD-cum-PBG amount.

3.8.8 In case a regular contract is terminated on unsatisfactory performance, the vendor shall be put on holiday for one year for Nangal Unit.

SECTION - C

4.0 Instruction to Bidders for bidding documents

4.1 Technical Quote

- 1 Bidder shall quote separately for Ammonia, Urea and CPP (wherever applicable) Cooling Water treatment in respect of control parameters of circulating water, chemical dosing rate, chemical consumption, Unit rates etc.
- 2 Bidder shall indicate the maximum consumption of each regular chemical to be supplied by him, for each cooling tower per month. Maximum payable/guaranteed contract amount shall be calculated for all towers taken together, on yearly consumption based on 365 days of regular operation of cooling towers as more specifically detailed at 4.3.
- 3 Bidder shall also mention tower wise maximum consumption of sulphuric acid and chlorine to be supplied by NFL as free issue materials.
- 4 Any extra chemicals, required for change over from existing treatment to new treatment shall be mentioned separately.
- 5 After annual shutdown and draining of Cooling Tower, the requirement of Pre-cleaning/ bio- cleaning and passivation chemicals as well as one extra charge required due to refilling of cooling tower, should be indicated separately.
- 6 Contingency chemicals and their quantities for contingency, as foreseen by Bidder (Ref para 3.3) for each cooling tower, shall be indicated separately. Same shall be included in evaluation of bid.
- 7 In case of any additional shutdown during the year which has resulted in draining of the water from the cooling tower (s), the additional initial fill, pre-cleaning/ bio-cleaning and passivation chemicals including biocide and bio dispersant whichever required, shall be allowed after approval of competent authority.
- 8 Bidder should specify the time period for stabilization before start of normal treatment programme. Maximum stabilization period shall be 30 days from start up of cooling water treatment. In case of any interruption in this duration, due to shut down resulting in draining of cooling towers, stabilization period shall be extended suitably after mutual discussions with NFL. However, contract period shall remain same and payment shall be released for chemical consumption on actual but limited to overall cost of all towers taken together on yearly basis.
- 9 Chemical consumption shall be calculated on the basis of C.O.C., blow down quantity as mentioned in 'details of existing cooling water system' in Section-A. Bidder shall furnish calculations for the same.
- 10 Contract shall initially be for one year duration which on successful execution may be extended for another year. Vendor shall however quote for a period of two years during which the quoted rates shall remain firm.

4.2 Bid Evaluation : Following shall be considered for the purpose of bid evaluation only :

- For the purpose of evaluation, cost of all towers shall be clubbed together on an annual basis.
- Cost of chemicals for regular treatment based on bidders quotation in terms of quantity and unit rates shall be considered for 365 days of operation in a

year

- Cost of chemicals required for change over from existing treatment to new treatment
- Cost of Pre-cleaning/ bio- cleaning and passivation chemicals as well as one charge required due to refilling of cooling tower, after annual shutdown and draining of Cooling Tower
- Cost of Contingency chemicals based on quantities indicated by bidder for each contingency and for number of contingencies as listed at 3.3 for each cooling tower
- Equivalent cost of sulphuric acid and chlorine to be supplied by NFL, based on maximum quantities indicated by bidder for 365 days.
- Landed cost of soda ash quoted in price bid format subject to maximum of 24MT/ per year as per clause 3.2.1 (a).

It is however, clarified that guaranteed overall annual cost shall be calculated as detailed at 4.3 below.

4.3 Guaranteed overall annual cost

- a) Vendor shall guarantee the overall annual cost of treatment chemicals which shall be worked out as follows. However payment shall be released based on actual consumption of chemicals limited to overall guaranteed cost.
- b) Guaranteed overall annual cost shall be worked out as follows:
 - The cost shall be clubbed for all the towers on yearly basis
 - Landed Cost of chemicals for regular treatment based on bidders quotation in terms of quantity and unit rates shall be considered for 365 days of operation in a year. In case there is a variation in actual operating days, adjustment shall be made on prorata basis for either side. Any excess consumption above the adjusted quoted value shall be, to the vendor's account.
 - The quantity of sulphuric acid which is supplied to the vendors as free issue materials by NFL shall be clubbed for all towers. Any additional quantity consumed over and above the quoted quantity shall be to the bidders account
 - The quantity of chlorine which is supplied to the vendors as free issue materials by NFL shall be clubbed for all towers. Any additional quantity consumed over and above the quoted quantity shall be to the bidders account.
 - Quantity of sulphuric acid and chlorine as quoted by the bidders shall be considered separately. These shall not be adjusted against each other nor these shall be included in the guaranteed overall annual cost.
 - Any extra chemicals, required for change over from existing treatment to new treatment shall be mentioned separately. These shall not be included in Guaranteed annual cost. Payment against these chemicals shall be made on the basis of actual consumption, limited to quoted value, over and above the Guaranteed overall annual cost
 - Pre-cleaning/ bio- cleaning and passivation chemicals as well as one charge for refilling of cooling tower after annual shutdown, should be

- indicated separately and shall be paid additionally, on actual consumptions. These shall not be included in guaranteed annual cost.
- The contingency chemicals as quoted by the bidders shall not be included in Guaranteed overall annual cost. Payment against these chemicals shall be made on the basis of actual consumption, limited to quoted value, over and above the Guaranteed overall annual cost.
- Payment against all chemicals shall be made on actuals but limited to total quoted quantity.
- Landed cost of soda ash quoted in price bid format subject to maximum of 24MT/ per year as per clause 3.2.1 (a).
- c) Any excess consumption of sulphuric acid or chlorine shall be charged at current price. Current price shall mean landed price for the period after vendor has consumed the total quantity of these chemicals as specified in contract. No departmental charges shall be charged for over consumption.
- b) Any chemicals, other than sulphuric acid and chlorine shall not be supplied by NFL. The chemicals like Soda Ash etc. (if required) shall be in the scope of the Contractor.

4.4 Vendor's Scope

Vendor's scope of work, supply and services shall be as described below:

1. Design of suitable cooling water treatment programme to meet the system requirement and technical specifications.
2. Supply of chemicals for initial change over, normal operations, contingencies and extra charge for refilling of cooling tower after annual shutdown.
3. To provide and maintain dosing system inclusive of metering pumps for chemical dosing, including the pumps for chemicals for pH control ; special instruments for monitoring the treatment programme ; Corrosion rack, bio-fouling monitors and scale monitors etc. free of cost to NFL, on returnable basis.
4. Supervision by Vendor's specialist(s) during initial commissioning, change over and stabilization of treatment package followed by round the clock regular supervision during normal operations. Vendor specialist shall be well qualified and experienced. Vendor shall obtain approval of bio data of his specialists from NFL prior to his appointment at site.
5. Training of NFL personnel in the operation and monitoring of cooling water treatment.
6. Chlorine dioxide generator and Spectrophotometer for analyzing Chlorine dioxide along with reagent to be provided by vendor, which shall be taken back after completion of contract.

4.5 Owners Scope

NFL's scope of supply and responsibilities shall include the following:-

1. Sulphuric Acid (98% concentration) shall be made available in the storage tanks near the Cooling Tower
2. Chlorine in One Tonne cylinders shall be placed at the specified locations
3. In general, NFL shall not supply any additional chemical other than chlorine and sulphuric acid. However, in case NFL agrees on emergency basis as a special case, same shall be supplied by NFL on chargeable basis with additional 25% as departmental charges.
4. Power connections shall be provided to all the equipment/ instruments for dosing operations and monitoring.
5. Laboratory assistance, to the extent available, shall be provided.
6. NFL shall make available test coupons manufactured as per IS -8188-1999 specifications.
7. NFL shall operate the system under guidance of Vendor's specialist.
8. Accommodation to site engineers of vendor shall be furnished subject to the availability and on chargeable basis at commercial rates.

4.6 Bidders have to submit the required documents in order as per Annexure-V.

4.7 Contents of Offer

- 4.7.1 Bidder shall furnish details of the treatment programme including the following:-
- a) Descriptions of programme.
 - b) Chemicals used, giving name, code number and function i.e. passivating agent, anti-scaling, dispersant, bio-dispersant, biocide and any other specific chemicals along with active matter, concentration and percentage kill of biocides.
 - c) Dosing rates, monthly consumption as well as yearly consumption of chemicals for each Cooling Tower. This shall include the quantity of sulphuric acid, chlorine as well as soda ash (if required). These shall be supported by design calculations.
- 4.7.2 The treatment program for each cooling tower should be separately indicated for (a) Pre-cleaning and passivation, (b) Normal Treatment, (c) Contingency treatment for each contingency tower wise.
Vendor shall submit complete procedure and time required for the change-over of the new treatment.
- 4.7.3 Detailed description of the philosophy and working of the automatic feed monitoring and dosing system (wherever applicable).
- 4.7.4 Source of supply of the chemicals, including quality control system.
- 4.7.5 Details regarding similar experience in implementing cooling water treatment

programs. These shall include name, location and details of the plant, specification of treatment system, period of operation, analysis / inspection report.

- 4.7.6 Data sheets containing product specifications, special precautions for handling the chemicals, disposal of empty containers, remedial measures to be taken in case of spillage and ingress into human body etc. shall be furnished.
- 4.7.7 The chemicals shall be supplied in good quality containers. Vendor shall take back all the used containers.
- 4.7.8 The chemicals that shall be left over after the contract is closed shall normally be taken back by the vendor. However in case, it is desired by NFL, then full/part of the left over chemicals shall be retained by NFL and the payment against the same shall be made separately.

4.8 Splitting of Contract

All cooling towers in the Unit shall be clubbed in a single package for the purpose of bid evaluation and subsequently placement of order.

4.9 Availability of chemicals without interruption

Bidder shall guarantee supply of chemicals as per agreed schedule without interruption. Normal schedule of supplies shall be every three months, such that the site inventory level does not fall below 2 month's requirement. Additional one month's chemicals are considered during transit. However, during last month of the contract period, the spare inventory of regular chemicals as mentioned above shall not fall below one month's requirement. Further the pre-cleaning, passivation and contingency chemicals leftover at the end of the contract shall be taken back by the vendor and NFL shall recover the corresponding amount from the vendor, if already paid for.

Annexure-IV

Raw Water Analysis w.e.f. Jan.-2023 to Dec.-2023

S.No	Month	pH	Total Hardness	Calcium Hardness	Magnesium Hardness	P value	M value	SO ₄	EMA	Chloride	Turbidity	Free chlorine
1	Jan 2023	8.2	120	90	30	ND	64	34	38	1.6	5.0	ND
2	Feb 2023	8.0	118	88	30	ND	70	33	36	1.5	4.2	ND
3	Mar 2023	8.0	112	86	26	ND	74	34	38	1.5	4.5	ND
4	April 2023	7.9	118	94	24	ND	76	34	38	1.6	4.8	ND
5	May 2023	8.1	120	92	28	ND	78	34	38	1.6	8.2	ND
6	June 2023	8.0	118	90	28	ND	76	34	38	1.6	7.6	ND
7	July 2023	8.0	108	82	26	ND	62	34	38	1.8	17.9	ND
8	Aug 2023	8.2	112	86	26	ND	62	33	37	2.5	10.0	ND
9	Sep 2023	8.1	112	88	24	ND	64	33	38	3.0	6.0	ND
10	Oct 2023	8.0	110	86	24	ND	66	32	38	4.0	3.8	ND
11	Nov 2023	8.0	112	84	28	ND	62	33	38	3.0	3.5	ND
12	Dec 2023	8.0	116	88	28	ND	62	32	38	3.0	2.5	ND

All results are in mg/litre except pH .

GTG Heat Exchangers Data						
S.No	Equipment	CW flow(M3/hr)	CW inlet temp	CW outlet temp	MOC	Fluid circulation
1	Blow down cooler	21.5	33	43	Carbon Steel	Blow down hot water
2	HVAC	108	33	43	Carbon steel	Air
3	Seal air cooler	18	33	43	SS	Air
4	Lube oil cooler	87	33	43	SS	Lube oil
5	Winding cooler	80	33	43	SS	Air
6	SWAS panel	20	33	43	CS	Steam samples/BFW samples

DESIGN DATA FOR HEAT EXCHANGERS (UREA PLANT)

Annexure-II

S.No.	Tag No.	Description	Fluid Type		C.W. Temp. (°C)		Process Fluid Temp. (°C)		Shell Side	MOC
			Shell Side	Tube Side	Inlet	Outlet	Inlet	Outlet		
1	CA-1 1st Stage Intercooler	1st stage Intercoolers	CW	Wet CO2 Gas	33	39.92	142		45 CS	SA 213 TP 304
2	CA-1 2nd Stage Intercooler	2nd Stage Intercooler	CW	Wet CO2 Gas	33	40.11	120		45 CS	SA 213 TP 304
3	K-1 / N : E-1	1st stage Intercoolers	CW	CO2	33	40	156		41 CS	SS
4	K-1 / N : E-2	2nd Stage Intercooler	CW	CO2	33	40	159		41 CS	SS
5	K-1 / N : E-3	3rd Stage Intercoolers	CW	CO2	33	40	155		46 CS	SS
6	C-1 atop HE-2B	1st Washing Column Cooler	CW	A-C Vapor	33	35			70 DIN 17155 H-II	SA-213 Type-316
7	HE-11 A/B	Water Circulation Cooler for HE-2B	Process Cond.	CW	35.8	43.1	80		65.4 SA-516 Gr-60	SA-179
8	HE-4	2nd Stage Condenser	A-C Vapor	CW	35.8	37.8	45		42 SA-240 Type-316	
9	HE-6A	3rd Stage Recirculation Cooler	A-C Solution	CW	33	35.7	41		38 SA-240 Type-316	SA-213 Type-316
10	HE-6B	3rd Stage Condenser	CW	A-C Vapor	35.7	44	125		73 SA-285 Type-316	SA-213 Type-316
11	HE-14	Carbamate Solution Cooler	A-C Solution	CW	33	37	43		49 SA-240 Type-316	SA-213 Type-316
12	HE-8	1st Stage Vacuum Condenser	A-C-H Vapor	CW	33		125		SA-240 Type-316	SA-213 Type-316
13	HE-19	2nd Stage Vacuum Condenser	A-C-H Vapor	CW	33	35.5			35 AISI-316	AISI-316
14	HE-20 A/B/C	2nd Stage Vacuum Condenser	A-C-H Vapor	CW	33	36.5			38/35/52 AISI-316	AISI-316
15	HE-103	Stripper Vapor Condenser	A-C-H Vapor	CW	33		158		70 AISI-316	AISI-316
16	HE-107	Treated Effluent Cooler	Process Cond.	CW	33		80		50 AISI-304L	AISI-304L
17	PA-1A,R & PA-2 A,B,R	Crank case & Gear Box Lube Oil	Lube Oil	CW	33	35			CS	AISI-304L
18	PA-1CN	Gear Box Lube Oil Cooler of New	Lube Oil	CW	40	45	71.4		65 CS	AISI-316
19	PA-2CN	i) CC L.O. Cooler of new Carbamate pump ii) Gear Box L.O. Cooler of New Carbamate pump	Lube Oil	CW		45			A106B	A269 316L
20	CA-1	Crank Case Lube Oil Cooler of Co2	Lube Oil	CW	33				CS	SS
21	K-1N	Crank Case Lube Oil Cooler of New	Lube Oil	CW	33	35.5	57-64	45-62	CS	SS

AC- Ammonia CO2

ACH - Ammonia CO2 Water

Design Data of CW HEAT EXCHANGERS (NG Based Ammonia Plant)

Sr. No.	Exchanger Name	Equipment Tag No.	CW Path (Tube/Shell)	CW Temp. °C		Process Fluid °C		Process Fluid	Heat Duty GCal/Hr	MOC of Tubes
				IN	Out	IN	Out			
1	PAC INTERCOOLER-1	101-JC1	Tube	33	43	135	43	Process Air	3.19	SA 213 GR 316 L
2	PAC INTERCOOLER-2	101-JC2	Tube	33	43	142	43	Process Air	2.78	SA 213 GR 316 L
3	PAC INTERCOOLER-3	101-JC3	Tube	33	43	151	43	Process Air	2.42	SA 213 GR 316 L
4	PAC INTERCOOLER-4	101-JC4	Tube	33	43	109	43	Process Air	1.23	SA 213 GR 316 L
5	CO2 LP Flash Overhead Condenser	107-C	Tube	33	43	75.3	38	LP Flash overhead Gas	3.51	Duplex SS
6	Lean Solution Cooler	110-C	Tube	33	43	86.5	50	Lean aNDEA Solution	8.5	316L SS
7	Synthesis Comp. Surface Condenser	E-1701	Tube	33	43	55	55	Steam		SS-304
8	Synthesis Compressor InterCooler-I	E-1702	Shell	33	41.7	101.8	41	Ammonia Syn. Gas	2.15	SS-304
9	Synthesis Compressor InterCooler-II	E-1703	Shell	33	43.2	121.6	42	Ammonia Syn. Gas	2.84	SS-304
10	Synthesis Comp. Final Cooler	E-1704	Shell	33	43	105	45	Ammonia Syn. Gas		SA-179
11	Synthesis Comp. Recycle Cooler	E-1705	Shell	33		100	35	Ammonia Syn. Gas		SA-179
12	Converter Effluent Cooler	E-1804	Tube	33	42.8	59.1	38	Ammonia Converter Effluent	5.88	SS-321
13	Ammonia Condenser	127-C	Tube	33	35.6	175.8	39	Ammonia refrigerant	13.61	316L SS
14	PAC Surface Condenser	101-JTC	Tube	35.6	43	52	52	Steam	38.77	SS-304
15	Feed Gas Compressor Lube oil coolers		Tube	NA	NA	NA	NA	oil	42 KW	SS 300 series
16	PAC Lube oil Coolers		Tube	NA	NA	NA	NA	oil	740 KW	SS 300 series
17	Ammonia Distillation Column effluent cooler	162-C	Tube	33	38	54.8	38	Ammonia Distillation Column effluent	0.02	316L SS
18	Ammonia Distillation Column Reflux	163-C	Tube	33	38	48.1	40	Ammonia Vapors	0.24	316L SS
19	Methanator Effluent Cooler	115-C	Tube	33	43	78.7	38	Methanator Effluent	2.258	316L SS
20	Feed Gas Compressor Kick back cooler	143-C	Tube	33	34.2	73.8	50	Natural Gas	0.264	316L SS

Sr. No.	Exchanger Name	Equipment Tag No.	CW Path (Tube/Shell)	CW Temp. °C		Process Fluid °C		Process Fluid	Heat Duty GCal/Hr	MOC of Tubes
21	Striped Condensate Cooler	174-C	Tube	33	43	80.8	45	Process Condensate	1.45	Duplex SS
22	LTS start Up Cooler (note-1)	173-C	Shell	33	42	230	40	LTS Reduction Gas	1.056	
23	G-2201 Inter cooler	E-2203	Shell	33	38	123	40	CO2 Gas	0.865	SA 213 TP 316L
24	G-2201 After cooler	E-2204	Shell	33	39	154	40	CO2 Gas	1.285	SA 213 TP 316L
25	CO2 Comp. Surface Condenser	E-2205	Tube	33	43	53	53	Steam	0.224	Cu-Zn20Al
26	CO2 compressor L.O. Cooler	E-2207/8	Tube	33	38	61	50	Lube Oil	0.09	
27	Ammonia Condensers	E-2401	Tube	33	39	125	44	Ammonia Vapor	0.25	SA-179
28	IA Dryer Reactivation cooler	202-RAC-101	Tube	NA	NA	NA	NA	Air	NA	SS 304 L
29	IA Dryer After Cooler	202-AC-101	Tube	NA	NA	NA	NA	Air	NA	SS 304 L

Note 1) Existing Nitrogen Compressor Intercooler Exchanger E-1007 has been used as LTS start up cooler 173-C
Note 2) The above data has been prepared from Process datasheets of exchangers submitted by M/s TICB.

निम्नलिखित जानकारी के अनुसार तैयार की गई है।



TENDER DOCUMENT

FOR

COOLING WATER TREATMENT

PACKAGE

COMMERCIAL – SECTION

NATIONAL FERTILIZERS LIMITED

NANGAL UNIT

NATIONAL FERTILIZERS LIMITED
MATERIALS DEPARTMENT, NFL Nangal Unit

Tender Ref. No.: RM/CWT/2025-27

Mode of Tendering

National Fertilizers Limited (NFL), A Govt. of India Undertaking referred to herein as the Owner intends to line up the contract for **COOLING WATER TREATMENT** for its plant located at Naya Nangal (Punjab). Vendors are invited to submit the Techno-commercial proposal and price proposal for the said scope of work through e-tendering Portal www.tenderwizard.com/NFL. The tender submission, bid closing and tender opening will be done electronically.

Special Terms & Conditions

Vendors are invited to submit their online Tender in **"TWO PART BID"** system i.e. **Techno-commercial Bid Proposal and Price Bid Proposal** for the said Scope of Work through e-Tendering. Methodology for submission of proposal has been detailed here under in this document.

1. The procurement shall be made through GeM Portal: <https://gem.gov.in/>. The offers in this process are required to be submitted electronically in place of offers in 'hard copy under sealed envelope' as being done conventionally.
2. In case vendor fails to submit the Requisite EMD, prior to bid opening (as per tender schedule), the offer is liable to be rejected and may not be opened.

3. PREPARATION OF BIDS

- i) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- ii) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- iii) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- iv) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders.

4. SUBMISSION OF BIDS

- i) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- ii) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.

- iii) Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
 - iv) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
 - v) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable.
5. The tenders will be opened electronically by us from our Nangal office.
 6. Tenderers are requested to scrutinize the terms and condition of this tender thoroughly along with the General Terms and condition etc. as given in tender documents.
 7. No amendment to the tender would be admissible under any circumstances, whatsoever after the closing date and time of receipt of tenders.
 8. NFL reserves the right to reject or accept any tender without giving any reason.
 9. **N.F.L. NANGAL - GSTIN No. 03AAACN0189N2ZD & PAN No. AAACN0189N**

TENDER DOCUMENTS FOR COOLING WATER TREATMENT PACKAGE

(COMMERCIAL SECTION)

The Tender Particulars:-

1.	i)	Tender No.	:	PN/RM/CWT/2025-27
	ii)	Requirement	a)	To formulate and specify Non-Chromate Stabilized ortho-phosphate zinc (in single formulation) Cooling Water Treatment programme for Cooling Towers specified in Technical Section & Provide Services for CW Treatment.
			b)	To supply chemicals so as to meet the Performance Guarantees, as specified under Article 3.7 AND 3.8 of Technical Section.
			c)	To provide chemical dosing pumps and monitoring equipment, free of charge on returnable basis.
	iii)	Quantity of offered chemicals	:	To be specified by Vendor.
	iv)	Type of Tender	:	OPEN TENDER UNDER TWO PART BID SYSTEM.
	v)	Earnest Money Deposit	:	Tenderers must submit Earnest money deposit of Rs. 1,00,000/- (Rupees One Lakh only).
	vi)	Security Deposit cum Performance Guarantee		5% of Basic Order value.
	vii)	Tender Opening	:	Price Bids of only those bidders who meets the eligibility criteria and technical & commercial terms & conditions will be opened on a later date.
	viii)	Tender validity		Must be initially valid for 120 days from date of opening of tender.
	ix)	Estimated value		Rs. 166.00 Lakhs (for 2 years)
	x)	Delivery		Please quote your earliest possible delivery schedule.
	xi)	Mode of dispatch	:	By Road
	xii)	Tender shall be addressed to:		DGM (Materials) NFL, NANGAL.
	xiii)	In Technical Section (Section A, B, C), the scope of supply and responsibilities of the supplier have been defined.		
	xiv)	Period of Contract Contract shall be initially valid for a period of one year duration from the date of issuance of LOI which on successful execution may be extended for a period of up to another one year at the sole discretion of NFL. Vendors shall however quote for a period of two years during which the quoted rate shall remain firm and valid.		

	xv)	<p><u>Staggered supply of Chemicals</u></p> <p>At the commencement of the contract, supply shall be made for three months requirement along with one lot of pre-cleaning, Passivation and contingency chemicals for each tower and payment shall be made as below.</p> <p>Thereafter, against supply of monthly requirement, payment shall be restricted to 1/12th of the Guaranteed overall annual cost.</p> <p>The running inventory of one month's requirement shall be included in the aforesaid inventory on three months. Monthly deliveries will be made in lots of one month's requirement by 15th of every month so as to ensure that inventory at NFL Stores does not fall below 2 months requirement at any given point of time. The reserve stock of 2 months requirement shall be made till the 11th month of the contract.</p>
	xvi)	<p><u>Firm Prices</u></p> <p>Prices offered shall remain firm during the currency of the contract except variation of statutory levies. Vendor should confirm the same specifically in the offer.</p>
	xvii)	<p><u>Payment Terms</u></p> <p>No advance payments are allowed. 100% Payments are made within 30 days of receipt and acceptance of material at site as per following details.</p> <p>At the commencement of the contract, supply shall be made for three months requirement along with one lot of pre-cleaning, Passivation and contingency chemicals for each tower and payment shall be made as above.</p> <p>Thereafter, against supply of monthly requirement, payment shall be restricted to 1/12th of the Guaranteed overall annual cost payment shall be released based on actual consumption of chemicals limited to overall guaranteed cost of all towers taken together on yearly basis.</p> <p>However, during last month of the contract period, spare inventory of regular chemicals as mentioned above shall not fall below one month's requirement.</p> <p>Further, the pre-cleaning, Passivation and contingency chemicals left over at the end of the contract shall be taken back by the vendor and NFL shall recover the corresponding amount from the vendor.</p> <p>Reference of payment in Clause No. 4.1(h) (Stabilization period) of Section C, Clause No. 3.3 of Section B (Contingencies Chemicals), may be read as 'that stated in Clause XVII, above payment term Clause of Commercial Section. However for pre-cleaning, Passivation & contingency chemicals, payment shall be adjusted later on as per the event of actual consumption on the occurrence of these events. Payment for stabilization stated at clause 4.1(h) is for adjustment based on actual consumption but limited to overall cost of all towers taken together on yearly basis.</p> <p>You have the option to receive payment through Electronics Fund Transfer (EFT) / RTGS Process. For this option, you may submit your bank particulars i.e. Name of the Party/Beneficiary, Party's Banker Name and Address, Branch Name, City, Branch Code, IFSC Code of Bank, Bank Account No. (All digits in case of CBS Branches), E-Mail of Beneficiary, Type of Account, MICR No. to enable us to release payment accordingly. All bank charges will be to your account.</p>
	xviii)	<p><u>Transportation</u></p> <p>The responsibility of transportation of cooling water chemicals along with accessories from vendor's works to NFL site shall be entirely of the vendor.</p> <p>Supplier has to ensure that all statutory requirements are fulfilled which are needed for the transportation of cooling water chemicals as per rules.</p>

	<p>xix) <u>Cost of Chemicals Consumed</u> Monthly consumption of the chemicals shall be indicated by the bidder based on the design water analysis and parameters to be maintained as defined in TECHNICAL SECTION.</p> <p>The annual cost of chemicals consumption on the above basis shall be guaranteed by the bidder. Any excess cost due to excess consumption of chemicals over the guaranteed one shall be borne by the supplier. In case, the actual consumption is below guaranteed one, payment will be restricted to actual consumption of chemicals.</p>
	<p>xx) <u>Maintenance of equipment</u> Maintenance of their own equipment supplied to NFL on loan basis required for cooling water treatment shall be done by the vendor and at the end of the contract; same shall be taken back by the vendor. The above will be at the risk and cost of the vendor.</p>
	<p>xxi) <u>Price Bid:</u> Bidder has to quote Price for Total Cooling Water Treatment Package on GeM portal as per Clause 4.2 of Technical Section –C .</p> <p>Bidder shall quote the total landed price on GeM BOQ. However, the successful bidder shall provide item wise price break up before PO placement.</p> <p>In case of any mismatch between Price for Total Cooling Water Treatment Package submitted by bidder on GeM portal & Item wise price breakup of chemicals submitted by the bidder, then Price for Total Cooling Water Treatment Package submitted by bidder on GeM portal shall be final & binding and bidder has to re-submit revised item wise price breakup of chemicals through email. Quantities submitted by bidder as per Annexure-A shall be final & binding.</p>
2.	<p><u>Evaluation of bids</u> Evaluation of bids shall be done as per Clause No. 4.2 of Section C of Technical section.</p>
3.	<p><u>Deviations</u> Any deviation in Technical and Commercial terms of NIT should be highlighted separately.</p>
4.	<p>Any clarifications on procedure, tender specifications both technical & commercial can be had from DGM(Materials) any time before tender closing date and time either personally. Postal delays shall not cause postponement of tender processing dates & tenderers in their own interest shall take all steps that are necessary for them to participate in tender well in time.</p>
5.	<p>All information sought by NFL during tender evaluation shall be provided within the time set out in the communication on the subject. Failure of tenderer to comply with requirements of NFL within stipulated time shall entitle NFL to proceed with the tenders on the basis of information available. No responsibility for postal delays shall rest on NFL.</p>
6.	<p>NFL shall reserve the right to postpone tender opening, withdraw the NIT or reject any or all tenders or accept in whole or part any tender under intimation to the bidders without assigning any reason thereof. No quarry in this regard shall be entertained from tenderers.</p>
7.	<p><u>Earnest Money Deposit (EMD)</u> Tenderers must submit Earnest money deposit of Rs. 1,00,000/- (Rupees One Lakh only).</p>

8.	<p>Security Deposit-cum- Performance Guarantee</p> <p>a) Security deposit -cum-Performance guarantee equivalent to 5% of the Basic Order value shall be deposited/ submitted by successful tenderer as stated in Para (1) vi for faithful performance of the contract Terms & Conditions within 15 days from the date of issue of Order. The order value shall be guaranteed overall annual cost as detailed in Section-C clause 4.3(a). SD-Cum-PBG will be deposited by you on-line through NEFT/ EFT or you may submit Bank Guarantee in prescribed Performa (of NFL) from Indian Nationalized Bank for faithful execution of the contract. Bank Guarantee charges will be to your account. Our Bank account details are as under: -</p> <p style="padding-left: 40px;">Bank Name : State Bank of India, Naya Nangal Account No.: 011070992603 (Cash credit A/c) IFS Code : SBIN0000689 MICR : 140002304</p> <p>Supplier/Contractor may be instructed specially to inform the <u>UTR No. with Name of supplier</u> in order to have hassle free transaction details.</p> <p>The amount deposited/bank guarantee shall be refunded after execution of the contract on entire satisfaction of NFL.</p> <p>b) Bank Guarantees in prescribed form from Nationalized Banks valid till one month after completion of the contract period with further claim period of 6 months.</p> <p>c) The Security-cum-Performance Guarantee shall be retained by NFL till successful completion of the contract.</p> <p>d) In the event of termination of contract as per clause 3.8 of Section-B and 4.6 of Section-C, NFL shall have the right to forfeit Security-cum-Performance Guarantee without assigning any reason thereof.</p> <p>e) The Security Deposit -cum- Performance Guarantee shall not bear any interest.</p> <p>f) Tenderer shall furnish a Bank Guarantee from any of the Scheduled Bank excluding Gramin/ Co-operative Bank in the form specified by NFL against Security Deposit-Cum-Performance for the faithful and proper fulfillment of the Contract.</p> <p>Vendor shall also arrange confirmation of Bank Guarantee (including all amendments) by their issuing bank through SFMS mode directly to the NFL Banker i.e. ICICI Bank Ltd.,K1,Senior Mall, Sector-18, Noida, UP,201301, IFSC Code ICI0000031, as per following details:-</p> <p style="padding-left: 40px;">i) IFN 760 COV for issuance of Bank Guarantee. ii)IFN 767 COV for amendment of Bank Guarantee. iii) Issuing bank shall mention NFL beneficiary code as “NFLNATIONAL04022015’ in filed 7037 COV / IFN 767 COV”.</p> <p>i) The Bank Guarantee should be submitted by your Bank directly to NFL in a sealed cover and not through supplier at following address: DGM(MtIs.) NATIONAL FERTILIZERS LIMITED NANGAL UNIT-140126, DISTT. ROOPNAGAR, PUNJAB</p>	
9.	Destination for Dispatch of Chemicals	By Road ; Door delivery at NFL,NANGAL unit
10.	Consignee	Materials (Stores), NFL, NANGAL
11.	Our Banker	STATE BANK OF INDIA, Naya Nangal (Branch code: 0689).
12.	Transit Insurance will be arranged by Vendor.	
13.	Packing and Forwarding Charges: These shall be included in the price which is on FOR destination basis.	

14.	<p><u>Price</u></p> <p>The tenderer shall state item wise and total prices as under</p> <p>i) FOR destination price(Landed Rate) inclusive of Basic Price of Chemicals + P&F Charges (if any) + Freight Charges (if any) + GST</p> <p>The supply shall be made of FOR destination basis.</p>
15.	<p><u>Delivery</u></p> <p>Deliveries shall be made in such a way that inventory at NFL stores does not fall below 2 months requirement at any point of time.</p>
16.	<p><u>Taxes Etc.</u></p> <p>Shall be payable extra on actual. The rates as prevailing on the date of submitting tender shall be specified.</p>
17.	<p><u>Package</u></p> <p>All cooling towers in the unit shall be clubbed in a single package for the purpose of bid evaluation and subsequently placement of order. However, NFL shall have right to vary quantities and split order wherever considered necessary without any liability of any kind whatsoever.</p>
18.	<p><u>Clear understanding:</u></p> <p>The tenderers shall acquaint themselves fully with all the terms and conditions, limitations, local conditions, scope, requirements and official / statutory regulations and rules, confirming and subject to which services are to be performed. Failure to understand / comply with those requirements will not absolve the tenderers of their obligations and duties under the contract in the event of their tenders being accepted. No claim whatsoever on the plea of ignorance shall be entertained.</p>
19.	<p><u>Acceptance / Rejection of Tender</u></p> <p>NFL reserves the right to accept or reject, at its sole discretion, any bid / all bids, in whole or in part without assigning any reasons thereof.</p>
20.	<p><u>Award of contract</u></p> <p>Award of contract will be made at the sole and obsolete discretion of National Fertilizers Limited., which shall not be disputed. The terms & conditions as embodied in the purchase order shall be final and shall supersede any other terms & condition that might have been indicated in the tender submitted by the tenderers.</p>
21.	<p><u>Subletting of contract</u></p> <p>The successful tender shall not sublet or assign the contract or any part of it without obtaining the written permission of NFL in advance. In the event of successful tenderer's subletting or assigning the contract or any part thereof without such permission, NFL shall be entitled to cancel the contract and to purchase the goods/ award the contract elsewhere and successful tenderer shall be liable to the National Fertilizers Ltd., for any loss or damage which NFL may sustain in consequence or arising out of such purchases. Even in case subletting is permitted by NFL, NFL shall not recognize any contractual obligation with the person or party to whom subletting is permitted and shall hold the successful tenderer responsible for satisfactory and due & proper fulfillment of the contract.</p>

22	<p>Force-Majeure:</p> <p>Neither party shall be liable for any claim on account of any loss, damage or compensation whatsoever arising out of any failure to carry out the terms of this contract where such failure is caused due to war, rebellion, mutiny, civil commotion, fire, riot, earthquake, draught, floods crop failure, strike or act of God or due to any restraint or regulation of the State or Central Government or a local authority/authorities. The party so affected shall give a notice of such occurrence to the other party in writing within 10 days from the date of occurrence of the force-majeure condition furnishing therewith a documentary evidence supporting the invoking of force-majeure. On cessation of the force-majeure the party invoking force-majeure shall inform the other party of the period for which force condition continued and shall also give documentary evidence thereof to this effect. Should one or both the parties be prevented from fulfilling their contractual obligations by a state of force majeure lasting continuously for a period of 3 months, both the parties shall meet and decide about the future course of action for implementation of the contract.</p>
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ARBITRATION

The contract shall be governed by and construed in accordance with the laws of India.

- (a) "Any dispute or difference whatsoever arising between the parties out of or relating to the construction, meaning, scope, operation or effect of this contract or the validity or the breach thereof shall be resolved amicably through negotiations by the Parties. A "Notice of Dispute" shall be given by the party seeking resolution of a dispute to other party. If the dispute is not resolved within Thirty (30) days from the notice, the dispute shall be referred to arbitration as per the procedure mentioned herein below:

A written notice shall be given by the contractor invoking arbitration to National Fertilizers Limited through designated Authority.

Where the claim including determination of interest, if any, being claimed upto the date of commencement of arbitration does not exceed Rs. Five Crore, the reference shall be made to a sole arbitrator. The parties shall mutually agree on the name of sole arbitrator. In case of disagreement upon the name of the sole arbitrator, the appointment of Sole Arbitrator shall be done in accordance with the provisions of Arbitration & Conciliation Act, 1996.

Where the claim including determination of interest, if any, being claimed, upto the date of commencement of arbitration exceeds Rs. Five Crore, the reference shall be made to arbitral tribunal consisting of three arbitrators. Each party shall nominate one arbitrator each within 30 days from the date of receipt of notice of invocation of arbitration and two nominated arbitrators shall appoint the presiding arbitrator within 30 days thereafter. If a Party to the dispute refuses or neglects to nominate an arbitrator on its behalf within the period specified, or the two arbitrators fails to nominate Presiding arbitrator, appointment of Arbitrators(s) shall be done in accordance with the provisions of Arbitration & Conciliation Act, 1996.

The Arbitration proceeding shall be governed by the Arbitration & Conciliation Act 1996 and any further statutory modification or re-enactment thereof and the rules made there under. It is agreed by and between the parties that in case a reference is made to the Arbitrator for the purpose of resolving the disputes/ differences arising out of the contract by and between the parties hereto the Arbitrator shall not award interest on the awarded amount more than the rate SBI PLR/Base Rate applicable to NFL on date of award of contract.

The seat and venue of arbitration shall be Nangal Unit.

The cost of the proceedings shall be equally borne by the parties, unless otherwise directed by the arbitral tribunal. The decision of the arbitral tribunal shall be final and binding on all parties."

For CPSEs and Government Department:

- (b) All commercial disputes between CPSEs inter se and CPSE(s) and Govt Department(s) Organization(s) shall be settled through Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD) as provided vide DPE OM No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22-05-2018 and DPE-GM-05/0003/2019-FTS-10937 Dated 20.02.2020. Following clause in all commercial contracts between CPSEs inter se and CPSEs and Government Departments/ Organizations shall be included as under: "In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (Other than those related to taxation), such dispute or difference shall be taken up by either party for resolution through AMRCD as mentioned in DPE OM No. 4(1)/2013- DPE(GM)/FTS-1835 dated: 22-05-2018".

24.	<p><u>JURISDICTION</u></p> <p>All actions at law or suits arising out of or in connection with the contract or the subject matter thereof shall be instituted in a court of competent jurisdiction at Nangal Dam in Ropar District of Punjab.</p>
25.	<p><u>PENALTY FOR LATE DELIVERY</u></p> <p>Time shall be deemed to be essence of the contract. In case of delay in supplies, unless extension of delivery has been granted, in writing by NFL on application by the supplier. NFL may at their option:-</p> <ul style="list-style-type: none"> i) Recover from the supplier as liquidated damages a sum of equal to half percent per week or part thereof the value of stores not delivered subject to a maximum of 5% of value of the order OR ii) Purchase elsewhere on account of and at the risk and cost of the supplier the stores not delivered OR iii) Cancel the order without prejudice to the rights of NFL under (i) and (ii) above.
26.	<p><u>SECRECY</u></p> <p>Any information delivered or otherwise communicated by NFL to supplier in connection with the contract shall be regarded as secret and confidential and shall not without the written consent of NFL be published or disclosed to any third party or made use of by the supplier except for the purpose of implementing the contract.</p>
27.	<p>The tenderer shall indemnify NFL with all Statutory requirements and laws in performing the contract. The responsibility for action / safety of his employees during the contract period shall be solely his.</p>
28.	<p>The tenderer shall indemnify NFL against any infringement of trademark or title to goods by him and shall be solely responsible for the goods offered for sale.</p>
29.	<p>Should a tenderer or contractor have a relations or in firm case of company or contractors, one or more of its shareholders or relations of shareholders employed in the NFL. The tenderer must disclose the names of such relation(s) while submitting his offer, failing which NFL may in its own discretion reject the tender or rescind the contract.</p>
30.	<p><u>Laws Governing Purchase Order</u></p> <p>The purchase order shall be governed by the Laws of Union of India for the time being in force.</p>
31.	<p>The bid shall be signed by the authorized / Principal offer(s) of the bidder. Power of Attorney granted in favour of any other person for such purpose shall accompany the bid.</p> <p>Vendor must confirm that none of the NFL employee is related to owners/directors. (In case any relative is working in NFL, furnish details separately).</p> <p>Vendor must confirm that none of NFL's ex-employee is employed with us. (In case any ex-employee of NFL is employed, furnish details separately).</p> <p>Vendor must confirm that None of blood relation of the owners/directors is participating in this tender in the name of other firm.</p> <p>Bidder to confirm that they have not been debarred by any Government Department/ or Public Sector Undertaking/ or Co-operative Sector.</p>
32.	<p>NFL reserves the right to demand from the tenderers any information / clarifications related to and incidental to the tender.</p>

33.	Bidder will be responsible for any compensation/insurance as per Compensation Act-1923 of the persons engaged for carrying out the job. Bidder will be solely responsible for any liability of any person engaged for carrying out the job at NFL Site. Bidder will ensure compliance of Indian Labour Laws and NFL shall be under no obligation to accept/admit any claim on this behalf.
34.	<p><u>NO COMPENSATION FOR SUBMISSION OF TENDERS :</u></p> <p>The tenderer shall not be entitled to claim any cost, charges or incidentals for or in connection with the preparation of and submission of their tenders, though NFL may withdraw invitation to tenders, or reject any or all tenders without assigning any reason whatsoever.</p>
35.	<p><u>MSMED ACT 06:</u></p> <p>In case you are registered as MICRO, SMALL or MEDIUM Enterprise under 'The Macro, Small & Medium Enterprise Development Act, 2006 (MSMED Act)' promulgated by Government of India and vide Notification dated 01/06/2020.</p> <p>Please indicate the relevant category in your Offer enclosing the following documents, if applicable:</p> <p>a) Declaration of Udyog Adhar Memorandum (UAM) No. by the vendors on CPPP is mandatory from 01.04.2018. Vendors registered with MSME ensure that their UAM number should appear on CPPP, failing which they shall not be entitled to enjoy the benefit of Public Procurement Policy MSMEs Order, 2012. Vendor shall submit a copy of UAM (Udyog Aadhar Memorandum) / Relevant certificate as applicable under MSMED.</p> <p>b) Please also indicate whether the MSE owned by SC/ST Entrepreneurs. If yes, attach relevant category certificate issued by authorities concerned.</p> <p>c) MSE owned by women entrepreneurs shall upload valid certificate issued by concerned authorities failing which it will be presumed that MSE firm is not owned by women entrepreneurs.</p> <p>d) All MSE Vendors registered with CPSEs are also required to be registered on "TReDS" platform (www.rxil.in) and "MSME-SAMADHAAN" portal of M/o. MSME. As per Department of Public Enterprises office memorandum No. DPE/7(4)/2017-Fin. Dated 17.10.2018.</p>
36	<p><u>PUBLIC PROCUREMENT POLICY (Under Make in India)</u></p> <p>Provisions of Public Procurement (Preference to make in India) order 2017 notified vide order no.P-45021/2/2017 BE-II dated 15th June 2017 of Ministry of Commerce and Industry, Department of Industrial Policy and Promotion (DIPP) shall be applicable.</p> <p>Bidders seeking benefits under Purchase Preference to Make in India (linked with local content) shall have to comply with the provisions specified under the Public Procurement (Preference to Make in India) order 2017.</p> <p>Bidder shall be required to submit Self-Certification Form- Make In India (Local Content) on their Letter Head as per Annexure-Y.</p>
38.	If a Tenderer resorts to any frivolous, malicious or baseless complaints/ allegations with an intent to hamper or delay the tendering process or resorts to canvassing/ rigging/ influencing the Tendering process, NFL reserves the right to debar such Tenderer from participation in the present/ future Tenders up to a period of 2 years.

39	<p>Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 as per office IOM no. 6/18/2019-PPD dated 23rd July 2020 & 8th Feb, 2021 and amendment dated 23.02.2023 shall be applicable.</p> <p>Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with Competent Authority.</p> <p>Bidder shall be required to submit certification regarding compliance with this order on their Letter Head as per Annexure-Z.</p>
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Eligibility Criteria

S. No.	Eligibility Criteria	Supporting Documents required
1.	The bidder shall submit the status (i.e. Name and complete address) of the Firm/ Company along with its constitution such as Sole Proprietorship/ Partnership Firm or Limited/ Private Company, Year of Establishment and place of business etc.	<ul style="list-style-type: none"> • In case of sole proprietorship, the bidder shall submit affidavit on Non-Judicial stamp paper of appropriate value in original, duly attested by Notary regarding status/ style of the business entity as per Annexure-B • Partnership firm submit a copy of Partnership Deed attested by notary. • Company shall submit a Notarized/ certified copy of the Certificate of Registration/ Incorporation and a copy of Articles of Association and Memorandum of Association. • Registered Society & Registered Trust shall submit certified copy of the Certificate of Registration and Deed of Formation/ MOA.
2.	The bidder should have valid Permanent Account Number(PAN), GST Registration Number, PF Registration Number and ESI Registration Number.	<p>The bidder shall submit declaration I, II & III with self-attested copy of related documents wherever required like</p> <ul style="list-style-type: none"> i. PAN ii. GST Registration Certificate iii. PF Registration Number issued by PF Authorities. iv. ESI Registration Number issued by ESI Authorities.
3.	Power of Attorney/ Authorization	The bidder shall submit Notarized/ Certified copy of Power of Attorney on Non-Judicial stamp paper of appropriate value duly attested by Notary/ Magistrate in case of Sole Proprietor/ Partnership Firm/ Company or Authorization (backed by Board Resolution) in case of a Company in favour of a person who has signed the Tender documents on behalf of Tenderer/ Firm/ Company.

	<p>The bidder shall submit the Purchase Orders of “Similar Works” with Performance Certificate, during last seven years ending last day of previous month in which NIT has been issued.</p> <p><u>Definition of “Similar Works”:</u></p> <p>“Similar Work” means Cooling Water Treatment Package i.e. design of Cooling Water Treatment, preparation of formulations, supply of chemicals, operation, monitoring and trouble-shooting of treatment.</p>	<p>The bidder shall submit copies of Work Order/ Purchase Orders for at least one of the following:</p> <p>a) Three similar Work Order/ Purchase Order each costing not less than ₹24.90 lakhs (inclusive of GST)</p> <p style="text-align: center;">OR</p> <p>b) Two similar Work Order/ Purchase Order each costing not less than ₹31.13 lakhs (inclusive of GST)</p> <p style="text-align: center;">OR</p> <p>c) One similar Work Order/ Purchase Order each costing not less than ₹49.80 lakhs (inclusive of GST)</p> <p>Copies of Work Order/ Purchase Orders in support of the above with full Technical scope of work & Commercial details including Work Order/ Purchase Order value, contract period and value with satisfactory performance as indicated below at point No. 4.</p> <p>(In case, the Work Order/ Purchase Order is for a period of more than one year, relevant experience i.e. value of Work Order/ Purchase Order is to be taken for one year period. Accordingly, if period of the Work order/ Purchase Order, for completed work, submitted by the bidder is more than one year than value of the contract shall be interpolated for one year).</p>
4.	<p>The bidder should have successful experience of package cooling water treatment i.e. design of cooling water treatment, preparation of formulations, supply of chemicals, operation, monitoring and trouble-shooting of treatment.</p> <p>I. Party should have successful experience of non-chromate cooling water treatment in at least 4 cooling towers (Ammonia/Urea Plants) of minimum 5000 m3/hr capacity each, in fertilizer industry, at least at two</p>	<ul style="list-style-type: none"> • Performance Certificate for the work of Cooling Water Treatment package executed against the Work Order/ Purchase Order submitted by the bidder as per point No. 3 above from the End user (at least at two different sites in India) regarding the satisfactory performance of the offered Cooling Water Treatment w.r.t. Guaranteed parameters for the complete Work Order. In case Work Order/ Purchase Order is for more than one year, the partial satisfactory performance will not

	<p>different sites in India, during the last 7 years ending last day of month previous to the one in which NIT has been issued.</p> <p>II. The minimum term of operation for consideration of successful experience for each tower shall be one year.</p>	<p>be accepted. The performance certificate shall be for whole Work Order/ Purchase Order.</p> <ul style="list-style-type: none"> • In case bidder is not able to submit Performance Certificate from end User, then bidder shall submit Name, Address, Phone Number and e-mail ID's of all the concerned persons of end User Plant. In that case, decision of NFL will be final.
5.	<p>Party should have full-fledged R&D set up and/or technical collaboration with a reputed institute/laboratory/Internationally renowned company/organization providing cooling water treatment package for trouble shooting of the problems associated with cooling water treatment.</p>	<p>The requisite supporting documents regarding full-fledged R&D set up etc. shall be enclosed.</p> <p>Requests from parties not meeting these criterion shall not be considered for qualification.</p>
6.	<p>The average annual financial turnover of the bidder during the last three financial years i.e. 2021-22, 2022-23 and 2023-24 should be not less than ₹24.90 Lakhs.</p>	<p>Bidder shall submit self-attested copies of Audited Profit & Loss Account and Balance Sheet for the last three financial years i.e. FY 2021-22, 2022-23 and 2023-24.</p> <p>In case, audited Balance sheet/Profit & Loss Account statement not available, turnover certificate duly certified by Chartered Accountant with UDIN as documentary evidence in support thereof.</p>

AFFIDAVIT

I, _____ S/o Shri _____ resident of _____ do hereby solemnly affirm and declare as under:-

- 1) That _____ (date of start of business), I the deponent has started the business under the name and style of M/s. _____ as Sole Proprietor and at present M/s. _____ is a Sole Proprietorship Firm.
- 2) That the deponent is holding documents like PAN No. _____, GST No. _____, Provident Fund No. _____, ESI No. _____, Bank Account No. _____, etc. in the name of Sole Proprietorship Firm.
- 3) That my above declarations are true and correct to the best of my knowledge and in case of any declaration found to be incorrect in that even my bid / tender may be rejected.

DEPONENT

VERIFICATION

Verified that the above contents of my affidavit are true and correct to the best of my knowledge and belief and nothing has been concealed therein.

DEPONENT

Place :-----

Dated :-----

Annexure –‘D’

The DGM (Mtls.),
National Fertilizers Limited,
Nangal Unit,
Naya Nangal – 140 126,
Distt. Ropar (Pb.)

UNDERTAKING

Sub: Tender No. _____

With reference to above we hereby confirm / submit following declaration: -

- E- Tender documents have been read, understood with all clarifications pertaining to various clauses provided therein.
- 2- Conditions laid out are fully acceptable to us.
- 3- There is no condition/deviation in our quotation from the conditions of your NIT.
- 4- Earnest Money Deposit has been submitted as per Tender Terms and Conditions.
- 5- Rates quoted shall remain firm till completion of the order.
- 6- This is to certify that none of the NFL employees is related to us. (In case any relative is working NFL, furnish details separately).
- 7- That no other firm/ sister concern / associate belonging to the same group is participating / submitting this tender.
- 8- That not have been debarred by any Government Department/ or Public Sector Undertaking/ or Co-operative Sector. In case of concealment of any fact, if detected later on such tenderer will be debarred from all future dealing with NFL.

Dated :

Signature of Tenderer: _____

Place :

Name & Address of the Tenderer: _____

Phone No. : _____

E-Mail Address : _____

TECHNO-COMMERCIAL BID TEMPLATE

Tender for COOLING WATER TREATMENT PACKAGE

Sr. No.	Description	NFL requirement as per NIT	Vendors comment (Agreed / if not agreed, please comment)
1	Technical section	All terms & conditions are acceptable. If any deviation please mention separately and upload the same.	
1.1	Address of Outside Labs	Bidder shall furnish Three Address of out side Labs as per NIT Cl. No. 3.1 (m) of Section B	
1.2	List of Alternate Chemicals	Bidder shall furnish List of Alternate Chemicals as per NIT Cl. No. 3.4 of Section B	
1.3	Test Certificate of Chemicals	Bidder shall furnish Test Certificate of Chemicals regarding Bio-degradable of Chemicals as per NIT Cl. No. 3.1 (h) of Section B	
1.4	Qualification & Experience of Supervisor	Bidder shall provide Qualification & Experience of Deputed Supervisor Labs as per NIT Cl. No. 3.6.4 of Section B	
1.5	Analytical Testing Methods	Bidder shall provide Analytical Testing Methods as per NIT Cl. No. 3.1(m) of Section B	
1.6	Active ingredient List	Bidder shall provide Active ingredient List as per NIT Cl. No. 3.1(m) of Section B	
2	Commercial section	All terms & conditions are acceptable. If any deviation please mention separately and upload the same.	
3	General	Bidder may upload any specific procedure or any other information related to this NIT. Please indicate if any such document is being uploaded.	
4	P & F charges per kg.	Vendor to quote P&F charges per kg, if any.	
5	GST	Vendor to intimate the rate of GST in %, if applicable.	
6	Freight	Vendor to quote Freight and rate of GST on Freight charges per kg, if any.	
7	Qualification & Experience of Technical Personal	Vendor should mention the qualification & experience, in fertilizers industry cooling water treatment, of Technical Personal.	
8	Earnest Money Deposit	Rs. 1,00,000/- (Exemption to MSE Vendors to submit EMD, against submitting of valid MSE Registration Certificate along with offer) The tenders submitted without Earnest Money Deposit may be summarily rejected without any further reference.Bid.	
9	SD-cum-PBG	@5% of Total Basic Order Value	

9	Uploading of Documents as per Eligibility Criteria	Bidder shall upload the documents as per Eligibility Criteria with Technical Bid.	
10	Integrity Pact	Integrity Pact duly signed and uploaded	
11	Make In India	<p>Bidders seeking benefits under Purchase Preference to Make in India (linked with local content) under provisions of Provisions of Public Procurement (Preference to make in India) order 2017 notified vide order no. P- 45021/2/2017 BE-II dated 15th June 2017 Revision (Amended on 19.07.2024) of Ministry of Commerce and Industry, Department of Industrial Policy and Promotion (DIPP)</p> <p>Bidder shall be required to submit Self-Certification Form- Make In India (Local Content) on their Letter Head as per Annexure-Y enclosed alongwith offer</p>	
12	RESTRICTION CERTIFICATION (As per Sr. No. 39 of Other Terms & Conditions of NIT)	Bidder shall be required to submit certification regarding compliance with this order on their Letter Head as per Annexure-Z enclosed alongwith offer	
13	Delivery Period	Please quote your earliest possible delivery schedule.	
14	Bank Details	Please provide complete Bank Details	
15	Firm Prices	Prices offered by the bidder shall remain firm during the currency of the contract except variation of statutory levies (if any).	
16	Declaration by the Bidder	<p>Vendor must confirm that none of the NFL employee is related to owners/directors. (In case any relative is working in NFL, furnish details separately).</p> <p>Vendor must confirm that none of NFL's ex-employee is employed with us. (In case any ex-employee of NFL is employed, furnish details separately).</p> <p>Vendor must confirm that None of blood relation of the owners/directors is participating in this tender in the name of other firm.</p> <p>Bidder to confirm that they have not been debarred by any Government Department/ or Public Sector Undertaking/ or Co-operative Sector.</p>	

PROFORMA FOR SCHEDULE OF QUANTITIES

(To be submitted along with Part-I Bid i.e., Techno commercial Bid)

TABLE-1. Regular Treatment Chemicals:-

		Ammonia Cooling Tower	Urea Cooling Tower	
No.	Product	Quantity for 365 days of plant operation in Kg.	Quantity for 365 days of plant operation in Kg	Total Qty (Sum of Columns (1 + 2))
		1	2	
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

TABLE 2. Online Change Over (at the start of treatment prior to commencement of stabilization period)

Description of material	Ammonia Cooling Tower Quantity (Kg.)	Urea Cooling Tower Quantity (Kg.)	Total quantity (Kg)

TABLE 3 Initial Fill (if required refilling) after Shutdown

Description of material	Ammonia Cooling Tower Quantity for one charge (Kg.)	Urea Cooling Tower Quantity for one charge (Kg.)	Total quantity (Kg)

TABLE 4 Pre-cleaning/Biocleaning after Shutdown

Description of material	Ammonia Cooling Tower Quantity for one charge (Kg.)	Urea Cooling Tower Quantity for one charge (Kg.)	Total quantity (Kg)

TABLE 5. Passivation after Shutdown

Description of material	Ammonia Cooling Tower Quantity for one charge (Kg.)	Urea Cooling Tower Quantity for one charge (Kg.)	Total quantity (Kg)

TABLE 6. Contingency Chemicals for Oil

Description of material	For Ammonia Cooling Tower qty. per contingency(kg)	For Urea Cooling Tower Quantity per contingency (Kg.)	Total quantity (Kg)

TABLE 7. Contingency Chemicals for Ammonia

Description of material	For Ammonia Cooling Tower qty. per contingency(kg)	For Urea Cooling Tower Quantity Three contingency (Kg.)	Total quantity (Kg)

TABLE 8. Contingency Chemicals for Urea (If ingress of Urea is more than 10ppm)

Description of material	For Ammonia Cooling Tower qty. per contingency(kg)	For Urea Cooling Tower Quantity per contingency (Kg.)	Total quantity (Kg)

TABLE 9. Free issue chemicals to be supplied by NFL.

Description of material	Ammonia Cooling Tower	Urea Cooling Tower	Total quantity (Kg)
	Quantity for one year (Kg.) based on 365 days(maximum)	Quantity for one year (Kg.) based on 365 days(maximum)	
a) Chlorine			
a) Sulphuric Acid			

NOTE: Please quote maximum quantity required for 365 days of plant operation in Kg

Table 10. Soda Ash (As per Para 3.2.1(b) Of Section B of Technical Section)

CHEMICAL	Quantity
Soda Ash	

*The maximum quantity of Soda Ash permitted per year for all towers taken together will be limited to 24 M.T./year

TABLE 11. Alternative chemicals (as per para 3.4 of Section-B) of Technical Section

Description of alternative chemicals	Quantity for one year (Kg.) based on 365 days

Annexure-E**PRICE BID TEMPLATE****PROFORMA FOR SCHEDULE OF QUANTITIES AND RATES**

Bidder shall quote the total landed price on GeM BOQ. However, the successful bidder shall provide item wise price break up before PO placement

1. Regular Treatment Chemicals:___

Sl. No.	Chemical	Ammonia Cooling Tower			Urea Cooling Tower			Total Amount (Rs.) (Sum of Columns 3 + 6)
		Quantity for 365 days of plant operation in Kg.	Unit Rate (Rs.)/ Kg.(All inclusive i.e. P&F, Freight Charges GST etc.)	Amount (Rs)	Quantity for 365 days of plant operation in Kg	Unit Rate (Rs.)/ Kg.(All inclusive i.e. P&F, Freight Charges GST etc.)	Amount (Rs.)	
		1	2	3	4	5	6	

2 Online Change Over (at the start of treatment prior to commencement of stabilization period)

Chemical	Unit Rate (Rs.)/ Kg.(All inclusive i.e. P&F, Freight Charges GST etc.)	Ammonia Cooling Tower		Urea Cooling Tower		Total quantity (Kg)	Total Value (Rs.)
		Quantity (Kg.)	Amount (Rs.)	Quantity (Kg.)	Amount (Rs.)		

3. (A) Initial Fill (if required refilling) after Shutdown

Chemicals	Unit Rate (Rs.)/ Kg.(All inclusive i.e. P&F, Freight Charges GST etc.)	Ammonia Cooling Tower		Urea Cooling Tower		Total quantity (Kg)	Total Value (Rs.)
		Quantity (Kg.)	Amount (Rs.)	Quantity (Kg.)	Amount (Rs.)		

3. (B) Pre-cleaning/Biocleaning after Shutdown

Chemicals	Unit Rate (Rs.)/ Kg.(All inclusive i.e. P&F, Freight Charges GST etc.)	Ammonia Cooling Tower		Urea Cooling Tower		Total quantity (Kg)	Total Value (Rs.)
		Quantity for one charge(Kg)	Amount	Quantity for one charge (Kg)	Amount		

4. Passivation after Shutdown

Chemicals	Unit Rate (Rs.)/ Kg.(All inclusive i.e. P&F, Freight Charges GST etc.)	Ammonia Cooling Tower		Urea Cooling Tower		Total quantity (Kg)	Total Value (Rs.)
		Quantity for one charge(Kg)	Amount	Quantity for one charge (Kg)	Amount		

5. Contingency Chemicals for Oil

Chemicals	Unit Rate (Rs.)/ Kg.(All inclusive i.e. P&F, Freight Charges GST etc.)	Ammonia Cooling Tower		Urea Cooling Tower		Total quantity (Kg)	Total Value (Rs.)
		Quantity (Kg) for one charge	Amount	Quantity (Kg) for one charge	Amount		

6. Contingency Chemicals for Ammonia

Chemicals	Unit Rate (Rs.)/ Kg.(All inclusive i.e. P&F, Freight Charges GST etc.)	Ammonia Cooling Tower		Urea Cooling Tower		Total quantity (Kg)	Total Value (Rs.)
		Quantity (Kg) for one charge	Amount	Quantity (Kg) for Three charge	Amount		

7. Free issue chemicals to be supplied by NFL.

Description of material	Ammonia Cooling Tower	Urea Cooling Tower	Total quantity (Kg)
	Quantity for one year (Kg.) based on 365 days	Quantity for one year (Kg.) based on 365 days	
a) Chlorine			
a) Sulphuric Acid			

NOTE: Please quote maximum quantity required for 365 days of plant operation in Kg.
 *As per NFL latest procurement price at the time of bidding (i.e. **Rs. 10.74 per kg. for liquid chlorine and Rs. 13.098 per kg. for Sulphuric Acid**). Bidder to use the foresaid mentioned rates in Free issue chemicals row in BOQ to calculate the final free issue chemical Rates).

8. Soda Ash (As per Para 3.2.1(b) Of Section B of Technical Section)

CHEMICAL	BASIC PRICE RS./Kg.	Landed price in Rs./Kg.
Soda Ash		

*The maximum quantity of Soda Ash permitted per year for all towers taken together will be limited to 24 MT/year

Bidder shall quote the total landed price on GeM BOQ. However, the successful bidder shall provide the price break up before PO placement

10. Alternate Chemicals for ACT and UCT

Chemicals	Unit Rate (Rs.)/ Kg.(All inclusive i.e. P&F, Freight Charges GST etc.)

NOTE :

- No other cost shall be admissible other than stated above.
- Transit Insurance shall be arranged by the supplier at their cost.
- Vendor should intimate following considered for arriving 'LANDED PRICE'
 - Basic Rate of Chemical (Rs./Kg.)--_____
 - P&F charges (if any) -----
= _____%
 - Applicable Rate of GST on Material along with HSN code of material
= _____%
 - Freight Charges (including Insurance charges) in Rs/Kg up to NFL Stores Nangal (if any)
= _____%.
- The 'LANDED PRICE' for above price bid format must be calculated as per following on NFL Stores basis:

LANDED PRICE (RS./KG) = (BASIC RATE (RS./KG)+P&F + Rate of GST + FREIGHT UPTO NFL STORES NANGAL(including Insurance charges)+ Rate of GST on Freight

- Any chemical not attracting ' GST' must be clearly confirmed in the quotation & accordingly landed price for said chemical must be calculated without (GST) in the price bid format.
- TDS will be deducted as per prevailing Govt. rules, if applicable.
 - The above quotation has been prepared after taking into account all the terms and conditions of Tender Document Downloaded by us.

ANNEXURE

**BID SECURITY (EMD) FORM
DRAFT OF BANK GUARANTEE FOR BID SECURITY DEPOSIT/EMD**

IN CONSIDERATION OF NATIONAL FERTILIZERS LIMITED (NFL), HAVING ITS REGISTERED OFFICE AT SCOPE COMPLEX, CORE-III, 7 INSTITUTIONAL AREA, LODHI ROAD, NEW DELHI-110003 (HEREINAFTER CALLED NFL WHICH EXPRESSION SHALL UNLESS REPUGNANT TO THE SUBJECT OR CONTEXT INCLUDES ITS SUCCESSORS AND ASSIGNS) HAVING AGREED TO EXEMPT _____ (HEREINAFTER CALLED THE, THE SAID TENDERER(S)' WHICH EXPRESSION SHALL UNLESS REPUGNANT TO THE SUBJECT OR CONTEXT INCLUDES HIS SUCCESSORS AND ASSIGNS) FROM THE DEMAND UNDER THE TERMS AND CONDITIONS OF TENDER NO _____ FOR _____ HEREINAFTER CALLED "THE SAID TENDERER' OF SUCH BID SECURITY DEPOSIT FOR THE DUE FULFILMENT BY THE SAID TENDERER(S) OF THE TERMS AND CONDITIONS CONTAINED IN THE SAID TENDER _____ FOR _____ ON PRODUCTION OF BANK GUARANTEE FOR RS. _____ (RUPEES _____ ONLY).

1. WE _____ BANK HEREINAFTER REFERRED TO AS 'THE BANK' DO HEREBY UNDERTAKE TO PAY TO NFL AN AMOUNT NOT EXCEEDING RS. _____ (RUPEES _____ ONLY) AGAINST ANY LOSS OR DAMAGE CAUSED TO OR SUFFERED BY 'NFL' REASON OF ANY BREACH BY THE SAID TENDERER(S) OF ANY OF THE TERMS AND CONDITIONS CONTAINED IN THE SAID TENDER (THE DECISION OF THE COMPANY AS TO ANY SUCH BREACH HAVING BEEN COMMITTED AND LOSS SUFFERED SHALL BE BINDING ON US.

2. WE _____ BANK DO HEREBY UNDERTAKE TO PAY THE AMOUNTS DUE AND PAYABLE UNDER THIS GUARANTEE WITHOUT ANY DEMUR MERELY OR A DEMAND FROM 'NFL' STATING THAT THE AMOUNT CLAIMED IS DUE BY WAY OF LOSS OR DAMAGE CAUSED TO OR WOULD CAUSE TO OR SUFFERED BY 'NFL' BY REASON OF ANY BREACH BY THE SAID TENDERER(S) OF ANY OF THE TERMS OR CONDITIONS CONTAINED IN THE SAID TENDER OR BY REASON OF THE SAID TENDERER'S FAILURE TO KEEP THE TENDER OPEN. ANY SUCH DEMAND MADE ON THE BANK SHALL BE CONCLUSIVE AS REGARDS THE AMOUNT DUE AND PAYABLE BY THE BANK UNDER THIS GUARANTEE. HOWEVER, OUR LIABILITY UNDER THIS GUARANTEE SHALL BE RESTRICTED TO AN AMOUNT NOT EXCEEDING _____ (RS _____ ONLY).

3. WE _____BANK FURTHER AGREE THAT THE GUARANTEE HEREIN CONTAINED SHALL REMAIN IN FULL FORCE AND EFFECT DURING THE PERIOD THAT WOULD BE TAKEN FOR THE FINALISATION OF THE SAID TENDER AND THAT IT SHALL CONTINUE TO BE ENFORCEABLE TILL THE SAID TENDER IS FINALLY DECIDED AND ORDER PLACED ON THE SUCCESSFUL TENDERER AND/ OR TILL ALL THE DUES OF NFL UNDER/OR BY VIRTUE OF THE SAID TENDER HAVE BEEN FULLY PAID AND ITS CLAIMS SATISFIED OR DISCHARGED OR TILL A DULY AUTHORISED OFFICER OF NFL CERTIFIED THAT THE TERMS AND CONDITIONS OF THE SAID TENDER HAVE BEEN FULLY AND PROPERLY CARRIED OUT BY THE SAID TENDERER(S) AND ACCORDINGLY DISCHARGES THE GUARANTEE. UNLESS A DEMAND OR CLAIM UNDER THIS GUARANTEE IS MADE ON US IN WRITING ON OR BEFORE THE _____TO INCLUDE 3 MONTHS CLAIM OVER AND ABOVE THE PERIOD MENTIONED IN THE PARAGRAPH FOR THE VALIDITY OF THE BANK GUARANTEE IN THE TENDER WE SHALL BE DISCHARGED FROM ALL LIABILITY UNDER THIS GUARANTEE THEREAFTER.
4. WE _____BANK, LASTLY UNDERTAKE NOT TO REVOKE THIS GUARANTEE DURING ITS CURRENCY EXCEPT WITH THE PREVIOUS CONSENT OF 'NFL' IN WRITING.

DATED _____DAY OF _____200

CORPORATE SEAL

FOR BANK.

**SECURITY DEPOSIT-CUM-PERFORMANCE BANK GUARANTEE
FORMAT**

(To be prepared on Stamp paper issued in the name of Bank)

This BANK GUARANTEE No. _____ made this day of _____
_____ between

_____ a bank incorporated and having its registered
office at

_____ (hereinafter called BANK) which expression
shall unless repugnant to the context or contrary to the meaning thereof include its
successors and assigns on the one part and NATIONAL FERTILIZERS LIMITED, a
Company registered in India under Companies Act, 1956 and having its registered
office at Core - III, Scope Complex, 7, Institutional Area, Lodhi Road, New Delhi -
110 003, India to the context or contrary to the meaning thereof include its
successors and assigns on the other part.

WHEREAS in pursuance to the agreement dated
_____ (hereinafter called CONTRACT) entered into between
National Fertilizers Limited (hereinafter called OWNER and
_____ a Company incorporated
in _____ (hereinafter called CONTRACTOR)
which expression shall unless repugnant to the context or contrary to the meaning
thereof include its successors and assigns, for supply
of _____

_____ as envisaged in the Contract, Contractor has to submit a
SECURITY DEPOSIT-CUM-PERFORMANCE Bank Guarantee for Rs. _____.

CONTRACTOR accordingly agrees to furnish SECURITY DEPOSIT-CUM-
PERFORMANCE Bank Guarantee as hereinafter contained towards fulfillment of all
of its obligations under the contract.

NOW THIS DEED WITNESSES AS FOLLOWS:

1. In pursuance of the Contract, the Bank hereby guarantees as a direct
responsibility to
OWNER that the BANK is holding the amount of
Rs. _____ at Owner's disposal and hereby
promises and shall be bound to pay to OWNER, forthwith at Owner's written notice
stating that the contractor has failed to fulfill its obligations under the contract for
reasons for which contractor is liable and without any protest or demur and without
recourse to contractor and without asking for any reasons as to whether the amount
if lawfully asked for by Owner or not, the entire amount or the portion thereof as
mentioned by Owner in the notice.

The decision of the Owner as to whether the terms and conditions of this SECURITY
DEPOSIT-CUM-PERFORMANCE Bank Guarantee have been observed or not shall
be final and binding on the BANK. In any case, however the Bank's responsibility
under this SECURITY DEPOSIT-CUM-PERFORMANCE Bank Guarantee is limited
to Rs. _____
_____.

2. This SECURITY DEPOSIT-CUM-PERFORMANCE Bank Guarantee shall be valid for an initial period of _____ months from the date of this Bank Guarantee No. _____ dated _____ given by the Bank to Owner become effective. Upon issuance of Commissioning / erection / completion certificate according to terms of contract on expiry of _____ months after the issuance of the above mentioned certificate of commissioning / erection / completion certificate, the SECURITY DEPOSIT-CUM-PERFORMANCE Bank Guarantee shall become null and void.

3. This SECURITY DEPOSIT-CUM-PERFORMANCE Bank Guarantee shall be in addition to and shall not affect or be affected by any other security now or hereafter held by Owner on account of money hereby intended to secure and Owner at its discretion and without any further consent from the Bank, and without affecting its rights against the Bank, may compound with, give time or other indulgence to or make any other arrangement with Contractor and nothing done or omitted to be done by Owner in pursuance of any authority or permission contained in this guarantee, shall effect discharge of the liability of the Bank.

4. UNLESS PREVIOUSLY CANCELLED BY THE OWNER, this SECURITY DEPOSIT-CUM-PERFORMANCE Bank Guarantee will remain in force initially upto _____ months from the effective date of Bank Guarantee No. _____ dated _____ given by the Bank to the Owner and subject to provisions of paragraph 2 above will stand automatically cancelled on the expiry of the said period. Unless demand or claim under this Bank Guarantee is made on Bank in writing within three months from the date of expiry of this Bank Guarantee, all the rights of Owner against the Bank shall be forfeited and Bank shall be relieved and discharged from all the liabilities hereunder.

5. Any notice by way of request, demand or otherwise hereunder may be sent by post to the Bank, addressed as aforesaid, and if sent by post, it shall be deemed to have been given at the time when it would be delivered in due course of post, and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate, signed by an officer of the owners, to the effect that the envelope was so posted, shall be conclusive.

6. The SECURITY DEPOSIT-CUM-PERFORMANCE Bank Guarantee is to be returned to the Bank after its expiry in terms of Paragraph 4 above.

7. The Bank declares that it has the power to issue this guarantee and the undersigned have full power to do so.

Dated _____ this _____ day of _____.

(Indicate the name of the Bank with stamp)

**Self-Certification Form: Make In India (Local Content)
(On Company's Letter Head)**

Tender Ref. No.:

To

M/s National Fertilizers Limited, Nangal

Sub: Self Certification as per clause 9(a) of Revised Public Procurement (Preference to Make in India Order, 2017 of DPIIT dated:16.09.2020 amended on dated:19.07.2024

Sir,

I.....(authorized signatory) for
M/s.....a 'Class I Local Supplier' / 'Class II Local Supplier' 'at the time of
tender, bidding or solicitation hereby confirm that the item meets the Local Content requirement for
Class I Local Supplier' / 'Class II Local Supplier' (**Tick appropriate option & cut the other one**) and
the Local Content percentage is.....

I also certify that the contractor M/s..... has not been debarred
by any procuring entity from violation of this order.

The address is as below, where the local content/ value addition is made:
[Factory Address]

For M/s.....

Authorized Signatory
(with company seal & Name)

**Model Clause Certificate: Public Procurement No. 1
(On Company's Letter Head)**

Tender Ref. No.:

To
M/s National Fertilizers Limited, Nangal

Sub: Model Clause Certificate as per Annexure-III (Tenders) of Restrictions under rule 144 (xi) of the General financial Rules (GFRs) 2017, dated: 23.07.2020 and amended dated: 23.02.2023

Sir,

I.....(authorized signatory) for
M/s..... have read the clause regarding restrictions on procurement from a contractor of a country which shares a land border with India. We certify that this contractor

M/s.....**[Vendor Name & address]** is not from such a country or, if from such a country **[Tick appropriate option & cut the other one]**, has been registered with the competent authority.

We hereby certify that we fulfil all requirements in this regard and is eligible to be considered **[attach evidence of valid registration certificate with competent authority]**.

For M/s.....

Authorized Signatory
(with company seal & Name)

INTEGRITY PACT

Integrity Pact (IP) is a tool developed by Transparency International (TI) to help governments, businesses and civil society, which are prepared to fight corruption in the field of public contracting and procurement. NFL, as one of its endeavors to maintain and foster most ethical and corruption free business environment, have decided to adopt the Integrity Pact, to ensure that all activities and transactions between the Company (NFL) and its Counterparties (Bidders, Contractors, Vendors, Suppliers, Service Providers/Consultants etc.) are handled in a fair and transparent manner, completely free of corruption. Accordingly, a Memorandum of Understanding (MoU) on Integrity Pact has been signed on 9th May, 2014 by NFL with Transparency International India (Indian chapter of Transparency International).

Integrity Pact is aimed at reducing corrupt practices during procurement and contracts through an agreement between the Principal (NFL) and Counterparties. The agreement seeks commitment from the persons/officials of both the parties not to demand or accept any bribe or gift. Only those vendors/bidders who enter into such an integrity pact with the buyer qualify to participate in the bidding process.

Integrity Pact is implemented through Independent External Monitors who ensure that concerned parties comply with their respective obligations under the Integrity Pact. Independent External Monitors (IEMs) nominated by Central Vigilance Commission (CVC) shall monitor the activities. Any tender related complaint, for tenders covered under Integrity Pact having value of Rs.1 (one) crore and above, may be addressed to the Independent External Monitors (IEMs) as per details given below:

(IEMs)

(1). Shri Hermanprit Singh
12, Bevedre Road, Alipore
Kolkata-700027
E-mail: hermanprit@gmail.com

(2). Shri Rakesh Kumar Agrawal
A-15, Ground Floor
South Extension part-II
New Delhi-110049
E-mail: rkagrawal1958@gmail.com

(3). Shri Rajit Ranjan Okhandiar
House No. 154
Silveroak Resort, Rajnukunte
Bengaluru-560064
E-mail: rajit123@gmail.com

(To be executed on plain paper and submitted along with technical bid/tender documents for tenders having a value of Rs. 1 crore or more. To be signed by the bidder and NFL.)

National Fertilizers Limited (NFL) herein after referred to as "The Principal".

AND

_____ herein after referred to as "The Bidder/Contractor"

PREAMBLE

The Principal intends to award, under laid down organizational procedures, contract/s for Cooling Water Treatment Package ²⁰²³⁻²⁴. The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of and of fairness/transparency in its relations with its Bidder(s) and/or Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor/s (IEM), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal.

1. The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - a) No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the personal is not legally entitled to.
 - b) The Principal will during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the process or the contract execution.
 - c) The Principal will exclude from the process all known prejudiced persons.
2. If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/Contractor(s)

1. The Bidder(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution:
 - a. The Bidder(s)/contractor(s) will not, directly or through any other persons or firm, offer promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person

any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage or during the execution of the contract.

- b. The Bidder(s)/Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
 - c. The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s)/Contractors will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or documents provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d. The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly, the bidder(s)/contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. All the payments made to the India agent/representative have to be in Indian Rupees only.
 - e. The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
2. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3: Disqualification from tender process and exclusion from future contract

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or to terminate the contract, if already signed, for such reasons.

Section 4: Compensation for Damages

1. If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.
2. If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

Section 5: Previous Transgression

1. The Bidder declares that no previous transgressions occurred in the last three years with any other company in any country conforming to the TII's anti-corruption approach or with any other public sector enterprise in India that could justify his exclusion from the tender process.

2. If the bidder makes incorrect statement on this subject, he can be disqualified from the tender process and appropriate action can be taken including termination of the contract, if already awarded, for such reason.

Section 6: Equal treatment of all Bidders/Contractors/Sub-contractors.

1. The Principal will enter into agreements with the identical conditions as this one with all bidders, contractors and sub-contractors.
2. The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 7: Criminal charges against violation Bidder(s)/Contractor(s)/Sub-contractors(s).

If the Principal obtains knowledge of conduct of a Bidder(s)/ Contractor(s) which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 8: Independent External Monitor/Monitors

1. The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
2. The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. It will be obligatory for him to treat the information and documents of bidders /contractors as confidential. He reports to the Chairman & Managing Director, NFL.
3. The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/Subcontractor(s) with confidentiality.
4. The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
5. As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
6. The Monitor will submit a written report to the Chairman & Managing Director,, NFL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should be occasion arise, submit proposals for correcting problematic situations.
7. Monitor shall be entitled to compensation on the same terms as being

extended to/provided to Independent Directors on NFL Board.

8. If the Monitor has reported to the Chairman & Managing Director, National Fertilizers Limited, a substantiated suspicion of an offence under relevant IPC/PC Act, and the Chairman & Managing Director, NFL has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

9. The word "Monitor" word include both singular and plural.

Section 9: Pact Duration


This pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidder 6 months after the contract has been awarded.

If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by Chairman & Managing Director of NFL.

Section 10: Other Provisions

- This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal i.e., New Delhi.
- Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- A person signing IP shall not approach the courts while representing the matters to IEMs and he/she will await their decision in the matter.
- COMPLIANCE WITH LABOUR LAWS/CODES/SCHEMES:

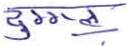
"The bidder (s)/Contractor (s) shall, wherever applicable, comply with all the statutory requirements relating to the contracts such as relevant Labour Laws/Codes/Schemes including but not limited to the EPF & Misc. Provisions Act-1952, the ESI Act-1948, the payment of Bonus Act-1965, the Contract Labour (Regulation & Abolition) Act, 1970, the Minimum Wages Act-1948, etc. as amended from time to time and for the time being in force."


सुशील कुमार बाली / Shishil Kumar Bali
(For & on behalf of the Principal)
नेशनल फर्टिलाइजर्स लिमिटेड / N.F.L.
नंगल यूनिट / Nangal Unit
नया नंगल (पंजाब) / Naya Nangal (Pb.)
(Office Seal)


(For & on behalf of Bidder/Contractor)

(Office Seal)

Place: Naya Nangal
Date: 19/02/2025

Witness 1: 
(Name & Address)
उपेन्द्र दुग्गल / Upender Duggal
उप प्रबन्धक (सागरी) / Dy. Manager (Sagari)
नेशनल फर्टिलाइजर्स लिमिटेड / N.F.L.
नंगल इकाई / Nangal Unit (Pb.)-140128

Witness 1:
(Name & Address)

Witness 2:
(Name & Address) 
प्रविण चहाल / PRAVIN CHAHAL
सहायक प्रबन्धक (सागरी) / Asst. Mgr. (Sagari)
नेशनल फर्टिलाइजर्स लिमिटेड / N.F.L.
नंगल इकाई / Nangal Unit

Witness 2:
(Name & Address)

