

राष्ट्रीय फाइटोट्रॉन सुविधा  
NATIONAL PHYTOTRON FACILITY  
भा.कृ.अ.प.- भारतीयकृषि अनुसंधान संस्थान  
ICAR - Indian Agricultural Research Institute  
नई दिल्ली - ११००१२  
New Delhi 110 012



पत्र संख्या : NPF/2019-20/ARMO-AC

दिनांक: 22.11.2019

**ई - निविदा सूचना / E-TENDER DOCUMENT**

**Tender ID:** 2019\_DARE\_521126\_1

निदेशक, भारतीय कृषि अनुसंधान संस्थान, नयी दिल्ली की ओर से प्रभारी, राष्ट्रीय फाइटोट्रॉन सुविधा द्वारा निम्नलिखित कार्यों के लिए अनुभवी एवं तथा केंद्रीय लोक निर्माण विभाग में सम्बंधित कार्य हेतु सूची बद्ध / पंजीकृत / अधिकृत ठेकेदारों से ऑन लाइन निविदा आमंत्रित की जाती है।

क्रम सं.	कार्य का नाम/ Name of work	निविदा संख्या
1.	सेंट्रल एयर कंडीशनिंग संयंत्र (40TRX 5 units), अलग अलग क्षमता के 33 पैकेज टाइप एयर कंडीशनिंग यूनिट तथा जल आपूर्ति हेतु पंपों आदि के वार्षिक रखरखाव एवं परिचालन हेतु Job contract for ARMO of Central Air Conditioning Plant(40TRX5 units) including Pump House and other package type air conditioning units (33 units of different capacities) at National Phytotron Facility. IARI, New Delhi-110012	
2.	निविदा जमा करने की अंतिम तारीख <b>Last Date &amp; Time of submission</b>	On 19.12.2019 Up to 1:00 PM
3.	निविदा खोलने की तारीख <b>Date of opening (Technical Bid)</b>	On 20.12.2019 at 3:00 PM
4.	निविदा की वैधता <b>Validity of Tender</b>	180 days

उपरोक्त कार्यों का विस्तृत विवरण, फार्म, नियम एवं शर्तें संस्थान की वेब साइट [www.iari.res.in](http://www.iari.res.in) अथवा [www.eprocure.gov.in](http://www.eprocure.gov.in) पर उपलब्ध है।

Please visit [www.iari.res.in](http://www.iari.res.in) or [www.eprocure.gov.in](http://www.eprocure.gov.in) for online log

प्रशासनिक अधिकारी /AO

**NATIONAL PHYTOTRON FACILITY**  
**ICAR- Indian Agricultural Research Institute**  
**New Delhi - 110012**

No:NPF/2019-20/ARMO-AC

Date: 22.11.2019

**Tender Notice**

1. Online open tenders are invited on behalf of the Director, IARI, from registered, experienced contractors for the job contract for the annual running, operation & maintenance of Central Air Conditioning Plant (5X40TR) including associated components, electrical panels, Pump House (water Supply) and other package type air conditioning units (33 units of different capacities) at National Phytotron Facility. The specifications of the above item are given in Annexure- I & II.
2. **Preparation of tender:**

The bidder should read the schedule and the annexure as well as terms and conditions before filling and submitting the Tender. Such tenders are liable to be ignored if complete information on specifications as required therein, is not filled in. Rates should be quoted in words also. Online Tender should be submitted in two parts: **“Pre-Qualification Bid”** and **“Price Bid”**. Online Pre-Qualification Bid will contain the attested/signed scanned papers related to eligibility and other essential clauses described at **Sr. No. 5 & 6** along with tender document (Technical Bid) by authorized person (checklist Annexure-III) and the Online Price Bid envelope will contain only duly filled rates mentioned in **Schedule of Work**.
3. **Delivery of tenders:**

All tenders should be addressed to the **AO, National Phytotron Facility**, Indian Agricultural Research Institute, New Delhi 110012 and should be submitted online only , therefore, any offline tender received will be considered ineligible . No responsibility, whatsoever, will be accepted with regard to non-receiving of online tender. The tenderers are, therefore, advised to ensure that e-tenders are submitted to the aforesaid site before the last date and hour specified for receipt of tenders.
4. **Earnest Money/Security Deposit:**

Each tender shall be considered only after receipt of an earnest money of the amount **Rs.60000- (Rupees Sixty Thousand Only)** without which no tender shall be valid. The earnest money should be furnished in the form of Bank Draft/FDR/Pay Order drawn in favour of Director, IARI New Delhi, payable at New Delhi . Earnest money deposited in any other form or request for treating any other dues to the tenderers from the Institute as earnest money will not be accepted. The earnest money will be refunded to all the unsuccessful tenderers ,however, the successful tenderer will have to deposit security money of a sum equal to 10% of the quoted price / total contract value in the form of DD/PO as stated above, within 10 days of the award of the work order.The EMD will not carry any interest on it. However, in case of tender accepted for work order, the EMD will be refunded only after final execution of work. The refund of EMD not claimed within three years from the last date of the receipt of tender will stand forfeited.
5. **Eligibility Conditions(scanned copies to be attached):**
  - The firm must be registered with CPWD / MES / DoT / Railways / ICAR or any other central / state Government department for the work & service contract of air conditioning / HVAC installations of large capacities with appropriate class and have experience of similar nature in Government/ semi Government department.
  - The firm must have satisfactory completed minimum three works of similar nature and capacity (Chiller units & industrial packaged type units) in Govt./Semi Govt. organizations during last five years(2014-2019). Scanned copies of **‘satisfactory completion’** reports

must be attached for all the three works, issued by an officer not below the rank of executive engineer or equivalent rank of Government department.

- Scanned copy of E.P.F. & E.S.I. Registration number. The proof copies of challan of latest payments made towards EPF and ESI contributions must be attached.
- A list of minimum 30 numbers of employees of the firm registered with ESI & EPF.
- 3 years certified balance sheet for the year 2015-16,2016-17 & 2017-18 having turnover of Rs. 50 lakh minimum.
- Scanned copy of the Income-Tax number (PAN CARD) and GST number.
- The firm/agency must enclose a scan copy certificate indicating that there is no criminal legal suit pending or contemplated against it or blacklisted by Central Govt./State Govt. or autonomous body on a stamp paper of Rs.100/- value.

## **6. Other terms:**

Director, IARI, reserves the right to accept or reject any or all tenders, or part thereof without assigning any reason thereto. The working contractors may be given preference if the rates offered by him and other firm are found same. The firms who have been contracted or subcontracted by NPF earlier and their performance have been found unsatisfactory will not be considered.

The work may be awarded after satisfaction of the IARI authorities that the firm has the necessary facilities / infrastructure to handle the work. The successful firms will allow IARI authorities to inspect their facility/infrastructure, if required so.

If the said requirements in the tender form are not fulfilled, and scanned copy of certificates as asked for issued by the concerned authorities/departments, are not attached with the tender form, the tender will not be accepted.

The tenderer must have to accept all the terms & conditions. Any conditional tender submitted by the firm will not be accepted in any case.

Administrative Officer  
National Phytotron Facility  
IARI, New Delhi 110012

**NATIONAL PHYTOTRON FACILITY**  
ICAR-Indian Agricultural Research Institute  
New Delhi 110012

From:

M/s \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To:

The Admn. Officer  
National Phytotron facility  
IARI, New Delhi 110012.

**Subject: Tender for the job contract of ARMO of central air conditioning plant (5 ×40 TR) including Pump House/ Water Softening Plant and other package type air-conditioning units (33 units of different capacities) at National Phytotron facility.**

Dear Sir:

1. I/we offer to provide services detailed in the schedule hereto or such portion thereof as you may specify in the acceptance of tender at the rates given in the said schedule and agree to hold this letter open till the specified date. I/we shall be bound by a communication of acceptance dispatched within the aforesaid date.
2. I/we have read & understood the instructions, terms and conditions of the contract pertaining to the above mentioned tender and have thoroughly examined the details of job & specification quoted in the schedule thereto and my/our offer is to provide services strictly in accordance with requirements.
3. A Demand Draft/ Pay order bearing no. \_\_\_\_\_ dated \_\_\_\_\_ for Rs. \_\_\_\_\_ in favour of the Director, IARI, New Delhi is enclosed towards the earnest money as required. Scanned copy of the EPF & ESI registration, GST registration, Income Tax PAN, TIN, satisfactorily performance certificate and as asked at SL. No. 5 & 6 are also attached.

This is to certify that we are licensed firm to undertake such work in government departments and have the necessary facilities / infrastructure to handle the work. Copy of the certificate to this effect is enclosed.

Signature of witness:

Full Name \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_

Yours faithfully

Signature of Tenderer or  
Authorized Signatory (with seal)

**TERMS & CONDITIONS (LEGAL)**

Bidders should furnish specific answers to all the questions given below. Tenderers may please note that if the answers so furnished are not clear and /or are evasive, the tender will be liable to be ignored.

1. Tender no. .... Due for opening on..... Offer is open for acceptance till.....
2. Whether the contract / job offered fully conforms to the technical particulars and specifications, specified in the schedule to tender, if not mention here details of deviations.....
3. Name of firm.....
4. Full address: .....
5. Contact details: (a) Phone no..... Mobile no. .... Email address .....  
website: .....
6. Permanent Income-tax a/c No. (PAN):.....
7. GST number (attach photocopies): .....
4. Name & full address of branch of your Bank: .....  
IFSC code: ..... Account number: .....
5. Business name and constitution of the firm. Is the firm registered under:
  - a) The Indian companies act 1956.....
  - b) The Indian partnership act 1932 (please give full names of partners) .....
  - c) Any act, if not, who are the owners (Please give full names and address) .....
6. Whether the tenderer / firm is licensed to undertake the job tendered for & registered with govt. organizations like CPWD / MES / DoT / Railways / ICAR (attach photocopies).....
7. Specify the class/category of the registration and financial limits. (Attach scanned / photocopies) .....
8. State specifically, whether the price quoted by you is to the best of your knowledge and belief, not more than the price usually quoted by you for the same nature of work in any other organization, if not state the reasons thereof, if any, also indicate the margin of difference.....
9. State whether business dealing with you ever have been banned by any Government departments / ICAR / IARI.....
10. **ARBITRATION:**
  - a) In the event of any question /dispute or difference arising under these conditions any special conditions of contract or in connection with this contract, the same shall be referred to the sole arbitration of an officer, appointed to be the arbitrator by the Director, IARI.
  - b) In the event of the arbitrator neglecting or refusing to act or resigning or being unable to act for any reason, or his award being set aside by the court for any reason, shall be lawful for the Director, IARI, to appoint another arbitrator in place of the outgoing arbitrator.
  - c) It is further a term of this contract that no person other than the person appointed by the Director, IARI, as aforesaid should act as arbitrator and that if for any reason that is not possible, the matter not be referred to arbitration at all.
  - d) The arbitrator may from time to time with the consent of all the parties to the contract enlarge the time for making the award.

- e) Upon every and any such reference, the assessment of the costs incidental to the reference and award respectively shall be in the discretion of the arbitration.
  - f) Subject as aforesaid, the arbitration Act-1980 and rules there under and any statutory modification thereof for the time being in force shall be deemed to apply to the Arbitration proceedings under this clause.
  - g) The venue of arbitration shall be the place from which the acceptance note is issued or such other place as the Director, IARI at his discretion may determine.
11. Please confirm that you have read all the instructions & terms & conditions carefully and agree to comply accordingly.

**Signature of witness**

- 1. Full name.....
- 2. Address of Witnesses (Block letters)  
.....  
.....  
.....

**Signature of Tenderer**

- 1.Full name.....
- 2.Address of the person signing (In block letters)  
.....  
.....
- 3.Contact no. & email address: .....
- 4.Whether signing as proprietor / partner /constituted attorney company.....

## **TERMS AND CONDITIONS (TECHNICAL)**

1. The tenderers should get acquainted with scope of work for the operation and maintenance work. They are advised to visit & inspect the site before tendering and study the same carefully and they shall be deemed to have fully acquainted themselves with the same. They should note that the IARI shall bear no responsibility for lack of acquaintance of the site and other conditions or any information relating thereto on their part. The tenderer must have to accept all the terms & conditions. Any conditional tender submitted by the firm will not be accepted in any case.
2. The contractor firm shall depute sufficient number of experienced skilled & semi-skilled man power, with ITI or trade certificate along with Khallasis / helpers (semi-skilled) one in each shift daily round the clock during contract period. Frequent change / transfer of manpower will not be allowed until & unless suitable replacement is made by the firm. No additional payment shall be made on any account for completing the pending work at the site. If the staff is found absent and the site found unattended while on duty during any of the checks carried out by the Officer of NPF authorized for the purpose, a penalty, at the rate of Rs. 3000/- per check will be deducted from the payment of the contractor.
3. The contractor will provide the details of manpower (Aadhaar No / photo ID, EPF, ESI nos etc.) deputed at site for the job contract and shall be fully responsible for implementing required Labour laws in respect of minimum wages, EPF, ESI etc. in full and as made applicable and compensate IARI fully in all lapses as ordered. The contractor has to deposit the amount due in respect of EPF & ESI of the employees employed by them and will attach the copy of proof / challans with the running bills showing deposits. No bills will be accepted without above.
4. The contractor shall take all precautions to avoid all accident by exhibiting necessary caution boards. He shall be responsible for all damages and accidents caused due to negligence on his part. IARI shall not be responsible for any compensation which may be required to be paid to the workmen of the contractor consequent upon any injury / mishap etc. what so ever.
5. The contractor shall indemnify IARI against all losses and claims for injury or damages to any person or any property what so ever which may arise out of or in consequence of the operation and routine maintenance of the work and against all claims, demands, proceedings, damages, costs, charges and expenses what so ever in respect of or in relation thereto; provided always that nothing herein contained shall be deemed to render the contractor liable for or in respect of or to indemnify the IARI against any compensation or damage caused by the excepted risks. IARI shall not be responsible at all for any compensation what- so- ever.
6. The contractor shall deposit the amount @ 10% of contract value as security money. The E.M.D. of the contract shall be adjusted towards security deposit. The security money shall only be refunded to the contractor after all the defect pointed out during the operation and maintenance period get rectified to the entire satisfaction of the engineer-in-charge within one-month time, failing which the security money / performance guarantee may be forfeited.
7. IARI will deduct income tax / work tax at source from all payments to be made to the contractor in accordance with the provisions of Indian Income Tax Laws as applicable from time to time.
8. The payment shall be made on a monthly basis subject to the availability of the funds, after verification of the work done and deductions, if any, by the officer of NPF authorized for the purpose. Any bill submitted on conditional payment terms shall not be accepted by the NPF. The contractor shall submit the bills after the last day of the month.
9. Contractor shall be responsible for any damage to the equipment, machinery or system on account negligence / fault of the contractor 's authorized staff and the same will have to be made good at his risk and cost.
10. All dismantled materials resulting from replacement shall be returned to the engineer in charge or the representative appointed by him.
11. Contractor will be responsible to bring to immediate notice of the engineer in charge any abnormal functioning or faulty operation of any equipment and take timely steps to avoid breakdown / disruption.
12. The tenderer should be the person / agency to execute the contract. No subcontracting shall be allowed under any circumstances.

13. The scope of work shall also include watch and ward of the equipment under contract with round the clock. Therefore, the contractor will be responsible to maintain the inventory of the machinery, fixture, equipment and associated mobile and immobile parts of the plant/plant room authenticated by the officers of the NPF authorized for the purpose at no extra cost.
14. The Contractor shall be responsible for periodical, preventive and routine maintenance of the equipment under contract including complete servicing to avoid any breakdown of the equipment as and when required or as per directions of the Engineer-in-charge.
15. The scope of work besides operation and maintenance of central air conditioning plant includes routine, preventive and overall maintenance and servicing of the plant growth chambers (23 Nos.), green house packaged type air conditioning units (10 Nos), cooling towers, AHUs, Fan coil units, water pumps, electric motors, condenser and evaporator fan motors, air filters and electrical panels etc. with their accessories installed within NPF premises.
16. The Contractor shall be responsible to keep the equipments in perfect working conditions for providing uninterrupted services and accordingly, is liable to be inspected by NPF authorities time to time. Any malfunction detected in the equipment due to negligent maintenance of the equipment, will be got repaired by NPF and recovered from the contractor at double rate of procurement / purchase. Further, a value of any loss of experimental material due to ill-maintained equipment caused experiment failure as decided and fixed by the Officer of NPF authorized for the purpose shall be payable by the contractor.
17. The contracted firm shall have to ensure good conduct, behavior and responsible attitude towards work of the staff engaged. In case of any member of the staff being found indulging in any unfair practice, he/she shall be immediately reported to the agency concerned or as deemed fit and the contractor notified. An alternate arrangement will have to be made without any loss of time since the work has to continue without any stoppage. In case the alternate arrangement for the operation as well as maintenance of the equipment is made by the NPF, a recovery of Rs. 5000/- per day would be made from the contractor.
18. A recovery at the rate of Rs.5000/- per day will be made if jobs are found unattended partially or completely and the equipment under contract are found under repair and not functioning for more than 48 hours due to negligence on the part of the contractor during any of the checks carried out by the Officer of IARI authorized for the purpose. The recovery amount will be limited to 20% of the contract value beyond which the contract shall stand terminated without any further notice and the termination benefits and security deposit will be forfeited.
19. The cleanliness of the central air conditioning plant room, AHU rooms, Pump room for water supply to NPF building, control panels, etc. as well as other electrical installations, rubber flooring/matting, light fitting, exhaust fans, etc. is the sole responsibility of the firm. All necessary materials required for such cleaning shall be arranged and provided by the contractor without extra cost.
20. The initiatives required for keeping the central A.C. plant and other air conditioning installations in operation even under circumstances which are beyond the terms and conditions agreed upon, shall be prime professional responsibility of the contractor. The cost or item factors of which can be sorted out later with the NPF authorities. The contact number and addresses of the NPF authorities will be made available for 24-hour contact in the event of any major or minor break down of the system. In case of any justifiable communication failure, with proper entries in the logbook, pending decision by the NPF authorities, the contractor shall take the responsibility to run the equipment. The officer of NPF shall review any cost of material involve during office hours on the immediately following working day. The decision of the latter shall be final and binding on the contractor. Under all circumstances, the contractor shall take the professional responsibility of keeping the equipment in working order.
21. Rs. 2000/- per operator / electrician per day and Rs. 1000/- per helper per day will be deducted from the monthly payment of the contractor if any one of above found absent from duty.
22. The standard necessary tools, instruments (clamp tester, multi meter etc.) and equipments (vacuum pump, brazing set etc.) required for the operation and maintenance of the air conditioning equipment will be provided by the contractor. If the same are found missing or not available at site, a recovery at the rate of Rs. 5000/- per month will be deducted from the monthly payment of the contractor.
23. The spare parts, accessories, safety devices (excluding imported components not available in Indian market, electronic controllers & florescent lamps with fittings of plant growth chambers) & consumables required for the maintenance & repairing of the equipment under contract will be supplied/ provided and fixed by the contractor firm free of cost. It will be the responsibility of the contractor to maintain sufficient stock of such spares used frequently in day –to- day maintenance jobs at site. In case of failure of equipment occurs due to



non-availability of the spare parts, the contractor will be held responsible and necessary penalties & recovery will be effective at double of the procurement rate from running bills. The decision of the Officer of NPF authorized for the purpose shall be final and binding on the contractor.

24. In addition, other minor/hardware items to be used for routine repair & maintenance like ‘V’ belts for AHUs, drier filters, oil seal for compressors, rubber seals, gasket kits, gland packing, PVC tape, flare nuts, copper pipe joints and bends, dead nuts, grease, lubricating oil & can, nitrogen gas, brazing / gas welding set with brazing rod, PVC insulated copper wires, insulation tape, thimbles and ferrules, extension board with wire, nut & bolts, screws, washers, fuses & relays, torch, hand lamps accessories, incandescent lamp, registers, log books etc. and the cleaning materials like soap & detergents, brooms, dusters, muslin cloth, shall be supplied by the contractor at their own cost as required for use at site and shall be kept stored in sufficient quantities at the site. The Officer of NPF authorized for the purpose will check and in case of non-availability of above the same will be procured and necessary penalties & recovery will be effective at double of the procurement rate from running bills.
25. All repairing, maintenance and servicing jobs for the equipment under contract are covered under AMC /ARMO. Besides the operation and maintenance work, the Contracted firm (referred to as “firm” hereafter) will check and also carry out the following jobs free of cost:
  - a. Providing & fixing of spare parts & safety devices of all equipment under ARMO
  - b. Repairing, Servicing & overhauling of chiller units including cooling towers, AHUs, water pumps, fan coil units, butterfly valves
  - c. Checking & repairing of refrigerant leakage. Providing & Replacement of leaky / defective pipe line (condenser & chiller) up to 5 meter each in central air conditioning plant and packaged type units.
  - d. Checking the oil level & replace oil in the compressors (oil to be provided by NPF)
  - e. Supply & charging of refrigerant gas in all units under ARMO. Checking the suction & discharge pressure in all units & maintain it up to recommended level, if found low after testing and repairing the leakages.
  - f. Checking and replacement of all spares & safety devices like Fuses, MCBs, relays, air break contactors, indicators, amperemeters, voltmeters and accessories of electrical panels
  - g. Providing and Replacement of pressure gauges & temperature gauges of chiller units.
  - h. Descaling of water cooled condensers and cleaning of water strainers with chemical.
  - i. Washing / cleaning of air cooled condensers of the plant growth chamber units & greenhouse units once in a month or as and when require
  - j. Pump down, leak testing, leakage repairs, pressure testing with nitrogen gas, flushing, vacuumizing and charging/makeup/ top up the refrigerant up to recommended/ required pressure in the system and restart the same.
  - k. Cleaning of cooling towers, strainers & air filters of AHU and AHU rooms. The firm will provide chemicals for cooling tower to reduce chocking of PVC fills.
  - l. Servicing, repairing & replacement of motorized valves/modulating valves of FCUs & AHUs.
  - m. Servicing, repairing, rewinding of all electric motors, air cooled condenser fan motors, FCUs’ fan motors, water pumps of central air conditioning plant and pump room.
  - n. Repairing & operation of water pump installed to maintain humidity within plant growth chambers.
  - o. Checking and repairing/replacing the cooling towers’ spares, PVC fills, belts, motors for noise and operation
  - p. Checking and filling of all the water tanks (underground and overhead tanks) of NPF for water supply to NPF building
  - q. Repairing and cleaning job of the drainpipes and other conveyer lines of the green houses/AHUs / FCUs.
  - r. Checking and cleaning all water filters /strainers
  - s. Check and tighten all mounting bolts

26. The firm will follow the schedule given below and take necessary steps in advance for proper maintenance:
- a. Cleaning & dusting of all the equipment under contract- AC-plant room, AHU rooms, pump room, fan coil units clean and keep the equipment in proper functioning - Daily
  - b. Checking the refrigerant pressure in all units (plant growth chambers, green houses and central A.C. Plant) and charging after leak testing and repairing following all procedures - Daily
  - c. To check the pressure, temperature of condenser, chillers, compressors and temperature of air-conditioned space on hourly basis or as directed by NPF officials and record it in the log book – each day
  - d. Checking & repairing/rewinding of all drive motors, water pumps
  - e. Replacement/repairing of all pumps, motors, blowers and condenser fan motors for all defects
  - f. Replacement of broken belts & adjustment the belt tension in equipment if necessary
  - g. To check and repair the leakage of refrigerant gas, oil and water – each day
  - h. Attend excessive vibration and either similar mechanical transmission problem
  - i. Clean the air filters of AHUs –once in a month
  - j. Cleaning of cooling towers once in a week by taking care of the time of cleaning so that the temperature in the building is least affected
  - k. The water cooled condensers of central A.C. plant should be cleaned, descaled with chemical twice in a year and brushed once every year or as and when required or as desired by NPF authorities
  - l. The air cooled condensers of greenhouse package units and plant growth chambers should be washed, cleaned periodically once in a month or as and when required or as desired by NPF authorities
27. The gases Nitrogen (for leak testing), Oxygen (for brazing / gas welding) and Refrigerant gas (R-22) required for repair & maintenance of air conditioning installations (central air conditioning plant, plant growth chambers and greenhouse cooling units) shall be supplied by the firm, free of cost. It will be the responsibility of the contractor to maintain sufficient stock of refrigerant (minimum one cylinder of 61 Kg) at site and monitor/check the pressure and leakages regularly and repair the same and keep the suction and discharge pressures appropriate. NPF shall not bear any loss in the supplied refrigerant due to negligence of the firm.
28. The new hermetically sealed compressors of plant growth chambers & greenhouse units (packaged type A.C. units) will be provided by the firm against payment and installed by the firm at free of cost. The rates for the compressors will be invited with this tender. **The lowest quoted rates in the tender by any of the participating firm for the compressors will have to be accepted by the lowest quoted / accepted firm for ARMO. If the lowest quoted firm for the ARMO of the equipment fails to accept the lowest quoted rates for the new compressors, then the EMD will be forfeited by the NPF authorities.** The payment for the compressors will be made with the running bills. The firm will provide the documents as a proof of purchase of new compressor along with valid guarantee/warranty cards.
29. In case of failure of equipment due to non-availability of the refrigerant, the contractor will be held responsible and necessary recovery will be effective at double of the procurement rate of the same. The decision of the Officer of NPF authorized for the purpose shall be final and binding on the contractor.
30. The lubricating oil for compressors of chiller units shall be arranged and supplied by NPF free of cost and that will be replaced in compressors by the contractor free of charge once in a year or as and when required.
31. The spares and components of the equipments under contract which are imported and not available in India or not repairable will be provided by NPF and fixed by the firm free of cost.
32. The firm will have to operate and maintain all the electrical panels associated with equipment under contract without any extra cost paid towards it.
33. The defective spares / components like condenser fan motors and pumps must be repaired in advance and kept ready in stock to replace and to minimize the break down period.
34. Only those spare parts and accessories which are not available in Indian market shall be made available to the firm by the NPF and will be replaced/fixed by the firm free of charge. If any substitute and compatible spare part / component is available in local market, will be supplied and fixed by the firm free of cost.

35. All the dismantled materials shall be deposited with the NPF. Failure to do so will lead to the recovery made from the contractor at the procurement rate/prevaling market rate whichever is higher. In case the NPF is not able to provide any spares then the firm shall procure the same for the NPF at original price. The payment for such spares and materials so arranged shall be made by the NPF including transportation charges.
36. The firm will follow all the procedures & take precautions during repairing/servicing/maintenance of air conditioning installations:
  - a. Only nitrogen gas will be used for leak testing and flushing
  - b. Proper amount of refrigerant will be charged by the firm to maintain recommended suction & discharge pressures of the units.
37. The firm will maintain a logbook to keep an account of the operations and requirement, which will be retained as a record, and property of the NPF. All relevant readings including breakdowns and service measures with dates should be recorded daily by operating staff in proper logbook. The record should be handed over to NPF.
38. The following items shall be provided to the employed staff on duty by the contractor:
  - i. The identity cards with their photographs and a mention of the date of birth of the person concerned authorizing the person to execute a specific work.
  - ii. The standard tools, equipment and gases required to repair, service, brazing/ gas welding, leak testing and maintain the air conditioning equipment and all electrical panels (internal and external) duly approved by the Engineer concerned of the NPF will be provided by the contractor free of cost.
  - iii. Furniture and safe storage also shall be provided by the contractor as per the space allocated to the contractor by the NPF.
39. The firm will ensure that all overhead tanks and make-up water tank and cooling tower have adequate water all the time. It is the responsibility of the firm to see that there is no short supply of water for the purpose. It is the responsibility of the operating staff to check and fill the overhead tanks through water softening plant and underground sump tanks on a routine basis. At no time on any day, should the tanks be less than half filled to their full capacity.
40. The firm would be responsible for the maintenance and operation of the pumps and water supply system to NPF building including its electrical control panel.
41. The tube well, source of water which is the feeder of water to the underground sump tank (raw water tank) has to be operated by the firm and it will be the responsibility of the firm to operate the tube well to fill the underground water storage tanks.
42. All the major repairs of equipment and replacements of various components shall be got done through the manufacturers / certified authorized agency of the concerned equipment, which shall be duly recorded and brought to the notice of the NPF authorities. Prior approval from NPF authorities will be necessary before going to other agencies. The indent with all necessary documents showing the details shall be maintained in appropriate files, which can be subject to verification by NPF authorities.
43. Any information on the maintenance aspects or malfunctioning or unnatural noise, etc., observed on the panels or other equipment shall be recorded by the staff on duty in a register and brought to the notice of the Officer of NPF authorized for the purpose. Any such fault, which would not be recorded by the contractor and identified by the NPF authorities, would be got repaired at the risk and cost of the contractor without any further correspondence and necessary recovery will be made at double rate of procurement / purchase and penalties shall be made from the running payment due to the contractor. The decision of the Officer of NPF authorized for the purpose will be final and binding on the contractor.
44. After the expiry of the contract, the firm shall hand over the complete charge to the NPF the entire system of all contracted units in proper working order. All defects and deficiencies shall have to be rectified by the firm to the entire satisfaction of the department failing which the work shall be got carried out at the risk and cost of the firm and the decision of the Officer of NPF authorized for the purpose shall be final and binding on the contractor.
45. The installations shall be handed over as-is-where-is basis and nothing extra shall be paid towards pre-maintenance if the equipments are in the working condition.
46. The NPF shall be at the liberty to discontinue the contract if the performance of the firm is found unsatisfactory/and not in accordance with above terms and conditions without assigning any reason thereof.

No claim of any sort shall be entertained in this regard. In case the Contractor decides to terminate the contract prematurely for any reason, he / she would give a notice to the effect at least three months in advance. In such an event same conditions detailed in Clause No. 44 would be applicable at the time of takeover of the equipment by NPF.

47. It is the responsibility of the contractor to keep the specification sheet/lot number / chassis number/name plate/brand details etc., on the equipment or their parts intact and not tampered with during servicing or repair.
48. The contractor shall provide and maintain a "First Aid Box" with dressing cotton, sticking plaster roll, antiseptic cream, antiseptic lotion like Dettol or Savlon, pain killer tablets strip, eye cleansing ointment or drops etc.
49. In case of failure of any kind on the part of job contract on the Contractor full earnest money/security deposited by of the Contractor will be forfeited & firm may be black listed also.
50. Any other practical considerations or points, which come to light during initial operation, may also be mutually effected between NPF and the contracted firm and added to the list, which would be at the discretion of NPF.
51. The contract may be extended up to one more year based on the satisfactory services rendered by the firm. The firm will have to give their consent in writing to continue the work on existing terms and conditions. In this case the contract will be continue till the finalization of new tender.

### **SPECIAL TERMS & CONDITIONS**

1. The contractor shall ensure the payments of minimum wages to the workers employed by him as provided under law as may be applicable to the site and nature of work.
2. The contractor shall be responsible for deducting the contribution towards employees' provident fund to its employees and deposit the same along with its contribution to the concerned RPF Commissioner under the Employees Provident Funds and Pension Scheme, Misc. Act 1952 & ESIC as amended from time to time. The contractor shall have to produce the receipt as a proof before every payment.
3. The contractor shall provide prescribed uniform and identity cards to all the workers employed for the work.
4. The contractor shall comply with the provision of the Payment of Wages Act 1936, Minimum Wages Act 1948, Workman Compensation Act 1923, Industrial Dispute Act 1947, RPF Act 1970 or any modification thereof, any other law relating thereto and rules made under.
5. The agreement will be entered into with the successful bidder.

DETAILS OF GREEN HOUSE EQUIPMENT

(Total Green Houses - Ten)

Green house number 1 & 10 are cooled by central air conditioning plant (FCUs with motorised modulating valves). Green houses 2 to 9 are cooled by both independent split packaged type units as well as FCUs with motorized modulating valves connected with central A C plant. The details of units are given below:

<u>1. COMPRESSOR</u>	<u>Greenhouse No.</u>
Make:	
(a) EMERSON, 5.5 TR nominal Capacity, Model- KCG-572 or CR-72 - 4 nos. in each glasshouse	2, 7, 8 & 9
(b) EMERSON, 11 TR nominal Capacity, Model: ZR144KF – TFD – 522 in greenhouse No. 3 (New Unit Hitachi Make)	03
(c) Danfoss, 5.5 TR nominal Capacity, Four A. C. Units in each greenhouse are of Blue star make with one no. Scroll compressor (Danfoss make) in each unit	4, 5 & 6
 <u>2. PROPELLER FANS</u>	
(a) <u>INDOOR UNIT</u> Propeller/ exhaust fan of 24” dia. of GEC make - 2 nos. each - 3 nos. each - two complete units of Hitachi make AHU with blower & motor (Blue Star units)	1, 2 & 10 7-8- 9 3 4-5-6
(b) <u>OUTDOOR UNIT</u> Propeller/ exhaust fan fan of 24” dia. of GEC make - 2 nos. each - 3 nos. each - Two outdoor units of Hitachi make complete in all respect - Four Blue star make Units in each Greenhouse complete in all respect (with one Danfoss make Scroll compressor) in each unit	2 7-8- 9 3  4, 5 & 6
3. Chilled Water Cooling Coil	1 & 10
4. DX Type Cooling Coil	2, 7, 8 & 9
5. Condenser Coil	2, 7, 8 & 9
6. Expansion Valves	2, 7, 8 & 9
7. Refrigeration Circuit For all split units having independent 4 circuit	2, 7, 8 & 9
8. 3- Way Diverting Valve With Modulating Motor - Honeywell Make	No. 1 & 10
9. Temperature Sensor and Controller	No. 1 to 10
10. Power Scanner	No. 2 TO 9
11. Liquid Line Dryer- Sporlan Makes	No. 2 TO 9
12. Accumulator	No. 2 TO 9
13. Sight Glass – Cassel / Sporlan Make	No. 2 TO 9
14. HP / LP switch PS-2 – DANFOSS / JOHNSON make	No. 2 TO 9
15. Finns type strip heaters (3KW) are there for heating during winter	3nos in each GH

<b>Details of Central Air-Conditioning Plant, Pump House and Plant Growth Chambers</b>		
<b>Sl. No.</b>	<b>Description of Item</b>	<b>Quantity</b>
1.	Reciprocating water chilling machines Make- Voltas Model-05046 Motor Horse power -50 Complete in all respect with 2 nos. of cooling towers, 4 nos. of AHUs, 16 FCUs, five Condenser & five Chiller pumps, all equipped with safety controls, electrical panel etc. (one Unit with microprocessor control Panel)	Five (5) units complete in all respect
2.	Pump House with two stage Water Softening Units complete in all respect with water pumps, safety controls, electrical panel etc	
3.	Plant growth Chambers Make-CONVIRON Models- CG-72, Compressor Make: EMERSON Model: ZR125KC-TFD-522, 3-phase, 50 Hz  PGW-36, Compressor Make: EMERSON Model: ZR94KC-TFD-522  E-15, Compressor Make: EMERSON Model: CR-42, 3-phase, 50 Hz Germinator, Compressor Make: Model: All units are Complete in all respect	CG-72- Two Nos. PGW-36- Eight Nos. E-15-Twelve Nos. Germinator - One } Total 23 Nos.

**National Phytotron Facility**  
ICAR-Indian Agricultural Research Institute  
New Delhi 110012

**(PRICE BID)**

**SCHEDULE OF WORK**

**Name of work:** Job contract for Running, Operations and Maintenance of central air conditioning plant including associated components, fan coil units, Pump house (water supply) & other packaged type air-conditioning units (33 units of different capacities) at National Phytotron Facility, IARI, New Delhi.

S. No.	ITEM DESCRIPTION	QTY.	Rate ( ` ) Per Month	Amount ( ` ) Per Annum
1.	<p>(A). Running operations and maintenance of central air conditioning plant including pump house/ water supply pumps and 32 package units of the NPF building round the clock in three shifts daily (24X7) round the year including all holidays with following staff:</p> <p>(i) Refrigeration &amp; Air Conditioning Technician cum operator - one in each shift</p> <p>(ii) Helper - one in each shift</p> <p>(The agency is responsible for taking care of personnel Labour rules related aspects for making up for relief duty, leave of absence, etc., but by following the instructions mentioned in the tender document about the identification of the employee, dress code, etc.,)</p> <p>(B). Supply &amp; fixing/replacement of spares and components (including hermetic sealed compressors for Plant growth chambers and green house cooling units)* including refrigerant gas &amp; all consumable materials required for maintenance, repairing and services for ARMO of above installations as explained in terms and conditions of the tender document</p>	One Job for 12 Months		
	<p><b>Total Amount for 1 (A&amp;B)</b> Total amount in words: Rupees..... .....</p>			
2	<p>Rates of Compressors for different packaged type units:</p> <p><b>A. Plant growth Chambers</b> Compressor Make: EMERSON Model: ZR125KC-TFD-522, 3-phase, 50 Hz</p> <p>Compressor Make: EMERSON Model: ZR94KC-TFD-522</p> <p>Compressor Make: EMERSON Model: CR-42, 3-phase, 50 Hz</p> <p><b>B. Green house cooling /heating units</b></p> <p>i. Make: EMERSON, Model- KCG-572 or CR-72, 3-phase, 400 Volts, 50 Hz (For greenhouses no.2,7,8 &amp; 9)</p> <p>ii. Make: Danfoss, 5.5 TR nominal Capacity, For Blue Star unit of 5.5 TR capacity, 3-phase, 50 Hz (greenhouse No. 4,5 &amp; 6)</p> <p>iii. EMERSON, 11 TR nominal Capacity, Model: ZR144KF – TFD – 522 in greenhouse No. 3 (New Unit Hitachi Make)</p>	Each  Each  Each  Each  Each		

**Signature of the Tenderer**  
(With seal)

**Note: Please go through the Terms & Conditions including Special Conditions of Tender for the requirement of the job related to manpower and material before quoting the rates.**

## Check List

Bids will not be considered without attaching these scanned documents:

S.NO.	Documents	Yes	No
1.	The firm must be registered with CPWD / MES / DoT / Railways / ICAR or any other central / state Government department for the work & service contract of air conditioning / HVAC installations of large capacities with appropriate class and have experience of similar nature in Government/ semi Government department		
2.	The firm must have satisfactory completed minimum three works of similar nature and capacity (Chiller units & industrial packaged type units) in Govt./Semi Govt. organizations during last five years(2014-2019). Scanned copies of 'satisfactory completion' reports must be attached for all the three works, issued by an officer not below the rank of executive engineer or equivalent rank of Government department.		
3.	Scanned copy of E.P.F. & E.S.I. Registration number. The proof copies of challan of latest payments made towards EPF and ESI contributions must be attached.		
4.	A list of minimum 30 numbers of employees of the firm registered with ESI & EPF.		
5.	3 years certified balance sheet for the year 2015-16, 2016-17 & 2017-18 having turnover of Rs. 50 lakh minimum.		
6.	Scanned copy of the Income-Tax number (PAN CARD) and GST number.		
7.	The firm/agency must enclose a scan copy certificate indicating that there is no criminal legal suit pending or contemplated against it or blacklisted by Central Govt./State Govt. or autonomous body on a stamp paper of Rs.100/- value.		