



हरिश-चन्द्र अनुसंधान संस्थान  
Harish-Chandra Research Institute

## **TENDER FOR**

### **REPLACEMENT/RENOVATION OF SOME ELECTRICAL PANELS & OTHER WORKS AT HRI, PRAYAGRAJ -211 019**

**TENDER NOTICE NO. HRI/09/2024**

# Harish-Chandra Research Institute

Chhatnag Road, Jhunsi, Prayagraj

## **INVITING TENDER FOR**

### **“REPLACEMENT/RENOVATION OF SOME ELECTRICAL PANELS & OTHER WORKS AT HRI, PRAYAGRAJ**

Bid Reference No. : NIT – HRI/09/2024  
Last date and time for submission of bids : 09.05.2024 up-to 1100 Hrs.  
Date and time of opening of Bid : 10.05.2024 up-to 1200 Hrs.  
Place of Opening of Bids : Harish-Chandra Research Institute  
Chhatnag Road, Jhunsi,  
Prayagraj-211019

*The dates for submission and opening of the tender mentioned above are final. In case some other dates for these are mentioned elsewhere in the tender document, the above shall prevail over them.*

1. Tenders should be submitted only through CPP portal and obtain the Tender Acknowledgement copy as a proof of successful submission. For instruction of online bid submission, please ref. page – 03.
2. The details of tender notification can be downloaded from “<https://eprocure.gov.in/eprocure/app>”.
3. Tender documents for viewing only are also available on HRI web-site address: [www.hri.res.in/tenders](http://www.hri.res.in/tenders)

Address for any clarification/communication : Mr. Ajay Srivastava SO-C,  
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([ajay@hri.res.in](mailto:ajay@hri.res.in)),  
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*ENGINEERING SECTION,*  
HARISH-CHANDRA RESEARCH  
INSTITUTE, PRAYAGRAJ

***This document contains : 23 Pages***

It will be the responsibility of the bidders to check website [www.hri.res.in](http://www.hri.res.in) & CPP portal for any amendment through corrigendum in the tender document. In case of any amendment, bidders will have to incorporate the amendments in their bid accordingly.

Sd/-  
Seal & Signature  
Acting Registrar, HRI

## **Instructions for Online Bid Submission**

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>

### **REGISTRATION**

Bidders are required to enroll on the E-Procurement module of the Central Public Procurement Portal (**URL: <https://eprocure.gov.in/eprocure/app>**) by clicking on the link “Online bidder Enrollment” on the CPP Portal which is free of charge. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP portal. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III certificates with signing key usage) issued by any certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.) with their profile. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC’s to others which may lead for misuse. Bidder then logs in to the site through the secured log-in by entering their user ID/password and password of the DSC/e-Token.

### **SEARCHING FOR TENDER DOCUMENTS**

There are various search options built in the CPP portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization Name, Form of Contract, Location, Date, other keywords etc. to search for a tender published on the CPP Portal. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS/email in case there is any corrigendum issued to the tender document. The bidder should make a note of the unique tender ID assigned to each tender, in case they want to obtain any clarification/help from the Helpdesk.

### **PREPARATION OF BIDS**

Bidder should take into account any corrigendum published on the tender document before submitting their bids. 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.

**Harish-Chandra Research Institute**  
*Chhatnag Road, Jhunsi, Prayagraj*

Name of work: Replacement/Renovation of some electrical panels and other works at HRI,  
Prayagraj

**Tender Notice No.: HRI/09/2024**

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**SECTION - I**

**NOTICE INVITING TENDERS**

**HARISH-CHANDRA RESEARCH INSTITUTE**  
**CHHATNAG, ROAD, JHUNSI, PRAYAGRAJ – 211 019**

**TENDER NOTICE NO. HRI/09/2024**

E-tender in two bids system are invited on behalf of the Director, Harish-Chandra Research Institute from eligible Contractors up-to **11.00 a.m.** on **09.05.2024** and only technical bid shall be opened on **10.05.2024** at **12.00 p.m.** for the work *“Replacement/Renovation of some electrical panels & other works at HRI, Prayagraj.*

<b>Estimated Cost</b>	<b>EMD</b>	<b>Performance Security</b>	<b>Security Deposit</b>	<b>Time of completion</b>	<b>Tender cost</b>
<b>Rs. 9.2 Lakh</b>	<b>Rs. 18,400/-</b>	<b>@ 3% of order value</b>	<b>@ 5% of order value</b>	<b>02 months</b>	<b>Rs. 590/-</b>

**Director, HRI reserves the right to accept or reject any or all the Tenders without assigning any reason.**

*Sd/-*  
**Acting Registrar**  
HRI, Prayagraj.

**SECTION - II**

**TERMS & CONDITIONS**

## TERMS & CONDITIONS

E-tender in two bids system is invited from eligible tenderers for “**Replacement/Renovation of some electrical panels & other works at HRI, Prayagraj**”

**Following instructions should be strictly followed while submitting your tender.**

1. The bid submitted by the bidders should be valid for a period of 90 days from the date of the opening of technical bid. However, the bidder to whom work will be awarded, their bid will be considered valid till execution of contract agreement.
2. Deadline for receipt of tenders (Part-1 & Part-2) is **11.00 a.m.** on or before **09.05.2024**. Late submission will not be entertained on any account.
3. The Part-I of tender will be opened at the above office at **12.00 p.m.** on **10.05.2024** and your authorized representatives can be present at the time when the tenders are so opened and opening time of Part-2 (Price Bid) will be intimated later on to qualified bidder of Part-1 only. If on the day of opening of tender, holiday is declared in HRI then tender will be opened on next working day at same time.
4. Account payee demand draft, fixed deposit receipt, banker’s cheque or Bank Guarantee from any of the Commercial Banks guaranteed by the Reserve Bank of India for the **Earnest Money Deposit of Rs. 18,400/-** in favour of HRI, Prayagraj. No exemption for EMD will be entertained. The tender of parties submitted without EMD shall be rejected. The EMD should be valid for a period 45 days beyond the validity period (90 days) of the tender. Bidder should prepare the EMD as mentioned above. The scanned copy of EMD should be uploaded with tender document. The original should be put in Tender box kept at Reception of Institute building, HRI, 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.
5. Following document/details is to be submitted by tenderer with their technical bid.
  - a. Party should have average annual turnover of not less than Rs. 9.0 lakhs during last three years ending 31.03.2024. They have to submit a proof of that.
    - (i) Year 2021-2022
    - (ii) Year 2022-2023
    - (iii) Year 2023-2024
  - b. Profile of firm including name of owner, official telephone no./ e-mail address:
  - c. Copy of PAN & GST registration certificate
  - d. Experience of having successfully completed works during last seven years ending day before opening of technical bid. The party has to submit work order copy, Performance and completion certificate of the concerned work.
    - (i) **Three (03) similar works completed** costing not less than Rs. 3.7 lakhs each  
OR  
**Two (02) similar works completed** costing not less than Rs. 5.5 lakhs each  
OR  
**One (01) similar works completed** costing not less than Rs. 7.4 lakhs  
and
    - (ii) **One completed similar work** (either part of (i) or a separate one) costing not less than Rs. 3.7 lakhs with some Central/State Government Organization/Central Autonomous Body/Central Public Sector undertaking during last seven years ending day before opening of technical bid.

**Similar work shall mean: Electrical work related to installation/maintenance.** The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to last date of submission of tender. If in a composite work there is portion of painting work of concerned amount then it may also be considered.



6. **If the party does not fulfill the criteria of turnover, work experience and registration under GST as mentioned above in point no. 5 then they will not be considered in this tender.**
7. If the bidders do not submit the required document/details with their bids then Institute may ask the bidders to submit the details/documents after opening of their bids. The concerned documents may be asked to submit on portal/e-mail/ by post etc. However, if three or more bidders are qualifying in the tender then bidders will not be asked to submit the details after opening of their bid.
8. The tenders submitted by fax/email will not be considered. No further correspondence will be entertained on this matter.
9. The applicable labour cess related to this work will be deducted from the bill amount.
10. If the contractor fails to execute and complete the work otherwise fail to comply with any of the terms and conditions of this order, then the Institute shall be at liberty without avoiding this order forthwith, to require the contractor to remove his workmen from the site and to take the work out of the hands of the contractor and to employ any other person to execute and use all materials, tools, scaffolding, plants, implements and things on or about the work, and thereafter neither the contractor nor his workman shall have any power to intervene with any person employed by the Institute. All expenses and damages to property incurred by the institute, consequent on the employment and certified by Engineer-in-charge and shall be paid to the Institute by the contractor or deducted by the Institute from any money due to or to become due to the contractor in this work or any other work done by contractor in HRI.
11. Party should quote their rate in consideration of specification & scope of works including material, labour, tools & plants, scaffolding, etc. and taxes (except GST) in the SOQ. The rate quoted by party will be considered as fixed and no other charges will be paid except GST or any other mentioned in the tender.
12. The quantity mentioned under schedule of quantities is tentative. Hence may vary during execution of work. There will be no limit of % variation on the lower side but on the higher side the limit of % variation will be allowable based on overall executed amount should not be more than 10% of the order value. If this limit crosses then contractor has to take prior approval from the competent authority of the Institute. The payment will be made based on actual quantities which will be utilized during execution of work.
13. Procedure for dealing with ambiguities in rates: That if on check there are differences between the rates given by the contractor in words and in figures or in amount worked out by him, the following procedure shall be followed:
  - (a) When there is a difference between the rates in figures and in words, the rates which correspond to the amounts worked out by the contractor shall be taken as correct.
  - (b) When the amount of an item is not worked out by the contractor, or if it does not correspond with the rates written either in figures or in words, then the rate quoted by the contractor in words shall be taken as correct.
  - (c) When the rate quoted by the contractor in figures and in words tallies, but the amount is not worked out correctly, the rates quoted by the contractor shall be taken as correct and not the amount.
14. If bidder do not quote rate of any item under schedule of quantities or left the rate column blank then their bid will be treated as unresponsive & shall not be considered.
15. The lowest bidder will be finalized based on overall quoted amount in this tender. However, total amount will be considered based on sum of individual items.
16. The time of completion of work is **02 months** and shall be reckoned from 7 days after the date of issue of work order.
17. Neither the security deposit nor the retention money shall bear any interest.
18. If the Government imposes any new taxes on this concerned nature of work after issuing the work order then same may be reimbursed to party if they submit the relevant proof of that.
19. The contractor will have to take all measures at their own cost related to safety of workers during execution of work.

20. The contractor shall, at all times, take due and proper precautions against accidents or injury to the workers or any person or property, and shall indemnify the company for all motions suits or any damage or compensation payable in consequence of any accident or injury sustained by any workman or other person whether in the employment of the contractor or not.
21. Any condition imposed by the party in this tender at their own will not be considered. There will no liability of HRI to take any clearance from party in that regard.
22. Incomplete tenders are liable to be rejected.
23. The contractor shall not assign or sublet the contract for the work of any part thereof.
24. The contractor shall allow the Engineer-in-charge or their representative to inspect and supervise the work during its prepress.
25. The contractor shall, at his own expenses, within one week from the completion date, remove all tools, plants, scaffoldings, implements and unused materials from the site and leave the same in a clean and proper state, to the satisfaction of the Engineer-in-charge.
26. The Contractor shall agree and undertake to totally indemnify HRI against all expenses, claims, payments, dues, fines, penalties, compensations, liabilities, and losses whatsoever which the HRI may suffer due to the default, violations, omissions thefts, or non-compliance of the statutory and/or contractual obligations committed by the Contractor or its employed. The HRI shall also have the right to deduct and recover all such losses and expenses etc. from any payments due to the Contractor besides seeking appropriate legal remedies for the balance amount or relief, if any.
27. **Payment terms:** Party may submit RA bill after completion of 50% of work for payment and final bill after completion of work. The party may claim GST if applicable in this work with their bill. Institute will pay the amount for GST. However, the liability of depositing tax (GST) to concerned Department will be totally on the contractor.
28. No escalation clause related to price hike of material & manpower is applicable in this work.
29. The defect liability period of the work is for six months. During this period if any problem comes related to executed work then party will have to repair the work at their own cost.
30. An amount equal to 5% of tendered value towards Security Deposit shall be recovered. This amount will be recovered @ 10% from your each bill till the amount deducted is equal to concerned security deposit amount. The security money will be returned after 06 months from the date of completion of work and submission of certificate by contractor that there is no statutory liability (taxes etc.) due on him for this work. In addition the contractor shall be required to deposit an amount equal to 3% of the tendered value of the contract as performance security (in the form of Demand Draft/FDR/B.G. of scheduled Bank guaranteed by the Reserve Bank of India) in favour of HRI, Prayagraj within the period prescribed in the letter of award issued to contractor. If the performance security is not submitted by the contractor within stipulated period then a penalty @0.1% per day of performance security will be imposed. The performance security will be released after completion of work alongwith the final bill. A draft of B.G. for performance security is given (ref. page no. 15, however, some changes in this format may be made by Competent authority of HRI at time of award of LOI).
31. If it is found that quote of lowest party is less than 10% value of estimated cost than party has to submit an additional security money (90% estimated cost – order value) to insure quality of work. This additional security money will be released with the final bill. If it is found that party is delaying the work without justified reason or doing inferior work deliberately then this security money will be forfeited. This security money will have to be submitted in the form of Demand Draft/FDR of scheduled Bank guaranteed by the Reserve Bank of India) in favour of HRI, Prayagraj within seven days after the date of issue of work order.
32. If the party delays the work without any justified reasons, the penalty would be imposed on them. This will be @0.25% of the order value per day from the end of stipulated period/ (extended the period if any) of contract till the actual completion of work. However, penalty amount will not be more than 10% of order value. If it is found that party is not taking interest during delay period for completing the work then competent authority of Institute may also take decision for terminating the order/contract of concerned work. In this case, EMD & Security money of the party will be forfeited. In addition party may be debarred to participate in any tender of HRI for a minimum period of two years or decided by competent authority, HRI.

33. All labour regulation applicable by the central Labour Commissioner of Govt. of India shall be adhered to strictly.
34. The word party or tenderer or contractor mentioned in the tender documents will be considered for those who are participating in this tender.
35. In case the party shows unwillingness to do work after opening of their tender then their EMD, will be forfeited to HRI. In addition party may be debarred to participate in any tender of HRI for a minimum period of two years or decided by competent authority, HRI.
36. Party has to ensure gate entry (at Security gate, HRI) for any material before bringing at site. In the schedule of quantities under Price bid, if make of any item is not specified then before procurement of that item, party has to get approved the sample of that item from the Engineer-in-charge, HRI or from his authorized representative. In this connection, if they do not bring approved material/item and also do not submit challan copy of materials in Engineering office then they will not be allowed to do the work at the site.
37. For any information/clarification in this tender, you may contact Engineering Section, HARISH-CHANDRA RESEARCH INSTITUTE, during office hrs. (9.00 a.m. to 5.30 p.m.) on any working days.
38. Decision of the Director of the Institute will be final & binding for all concerned.
39. Director, Harish-Chandra Research Institute reserves the right to reject any or all tenders without assigning any reason whatsoever. He may take decision also in any case for terminating the contract after awarding the work. Institute (HRI) would not be under any obligation to give any clarifications to those contractors whose tenders have been rejected.
40. All disputes will be subject to Allahabad jurisdiction.
41. The party has to depute one supervisor during execution of work at HRI site.
42. The party will have to do work as per given specification and also to follow relevant IS code related to the concerned work.
43. The contractor will have to supply new and good quality of materials as per given specification under schedule of quantities (Price bid). In case of doubt related to any supplied material by the contractor, testing of material may be get done by any agency and for this the cost involved will be borne by contractor. If it is found that contractor has deliberately supplied the defective/wrong material then their tender may be cancelled. In this case, EMD & Security amount of contractor will be forfeited and they also be debarred for minimum period of five year (or as decided by the competent authority, HRI) to participate in any tender of HRI

**Note: The contractor acknowledge that he has satisfied himself as to the nature and location of the work before submitting the tender.**

#### **DECLARATION BY THE CONTRACTOR**

It is hereby declared that I/We the undersigned, have read and examined all the terms and conditions etc. of the tender document for which I/We have signed and submitted the tender under proper lawful Power of Attorney. It is also certified that all the terms and conditions of the tender document are fully acceptable to me/us and I/We will abide by the conditions from serial no. 1 to 43. This is also certified that I/We/our principal manufacturing firms have no objection in signing the contract if the opportunity for the items against this tender is given to me/us.

Date:

Signature:

Address:

Name:

Designation:

On behalf of company Seal:

<b>Party should sign this page alongwith stamp and attach scan copy of this with their technical bid</b>
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## Scope of work

### 1.0 M.V. Panels

- 1.1 This section covers the detailed requirements of medium voltage switch panel for 430V, 3phase, 50Hz, 4 wire systems. These shall be branded and/or assembled/fabricated from a factory of repute. All switchgears shall be fully rated at an ambient of 47 degree.
- 1.2 The panel shall be indoor type having incoming sectionalisation and outgoing switch gears as specified rating. The design shall be cubical type. The degree of enclosure protection shall be IP 42 as per IS: 13947(part – I).
- 1.3 (a) **General construction:** The switchboard shall be of floor mounted free standing totally enclosed. The switch board shall be dust & vermin proof and shall be suitable for the climate conditions as specified. The design shall include all provisions for operation and maintenance personnel.
- 1.4 Cubical type panels shall be fabricated out of sheet steel not less than 2.0 mm thick. Wherever necessary, such sheet shall be stiffened by angle iron frame work. General construction shall employ the principle of compartmentalization and segregation for each circuit. Unless otherwise approved, incomer and bus section panels or section shall be separate and independent and shall not be mixed with sections required for feeders. Each section of the front accessible type panel shall have hinged access doors at the rear. Multi – tier mounting of feeder is permissible. The general arrangement for multi-tier and aesthetic look. The general arrangement shall be approved before fabrication. Cable entries for various feeders shall be either from top or bottom (arrangement should be made available in both sides). Through cable alleys located in between two circuit sections in the front of the panel. All cable terminations shall be through gland plates, glands and suitable size copper/aluminium lugs. There shall be provision for separate gland hole for each cable entry so that there will not be dislocation of already wired circuits when new feeders are added.
- 1.5 The incoming and outgoing cables should not be damaged during this work and all the safety precautions shall be taken carefully. The complete work including replacement of switch and accessories will be taken care by the skilled manpower who knows about the panel work etc.
- 1.6 The panel enclosure shall be fabricated from CRCA mild steel sheets of 16 SWG sheet.
- 1.7 The panel enclosure shall have 3 phases indicating lamps for incomer panel.
- 1.8 The panel enclosure shall be totally enclosed and should be dust, vermin & weather proof with appropriate arrangement to dissipate the heat generated inside the panel.
- 1.9 The panel shall have Incomer chamber, bus bar chamber, outgoing chamber and cable alleys as per requirement.
- 1.10 Feeder Pillar should have door locks with keys.
- 1.11 There shall be hinged door on each compartment for mounting operating switches and instruments. Compartment door shall be interlocked against opening when the switch is in ‘ON’ position.
- 1.12 There shall be bottom entry for the cable. All bolts, nut and washers used shall be of S.S.304 quality steel.
- 1.13 The complete panel shall be powder coated after seven-tank treatment as per the standard practice. Entire panel shall be painted with Siemens powder coat.
- 1.14 The contractor shall ensure that the new panel fits properly at its place of installation.

- 1.15 All phase bus bars shall be of uniform cross-section throughout the length of the panel and shall be sized to carry continuously the expected current.
- 1.16 Bus bar shall be covered with Red, Yellow, Blue & Black insulating PVC sleeves to identify the 3 phases & neutral.
- 1.17 All connection bolts and nuts shall be accessible in such a manner that they can be checked with normal tools.
- 1.18 Bus bar supports shall be made of high quality non-hygroscopic, non-flammable insulators i.e. epoxy resin insulators or any best product.

## **2.0 Renovation of Panel**

- 2.1 After disconnection of all power and control cables, the contractor shall dismantle and remove the switchgears from existing panels. During this dismantling and removal, care shall be taken that there shall be no undue damage to the any appliances provided therein.
- 2.2 Dismantling and removal of old switchgears with wiring from existing panel.
- 2.3 Supply & installation of switchgears/DOL Starter/Star Delta starters.
- 2.4 Testing & commissioning of starter panel.
- 2.5 The incoming and outgoing cables should not be damaged during this work and all the safety precautions shall be taken.
- 2.6 The successful contractor shall check the dimensions of the switchgears with protection to fit in panel and accordingly shall fabricate the panel compartments door as per approved drawing.
- 2.7 All terminals should tie suitably tighten with proper Lugs and sleeves.
- 2.8 The successful bidder shall provide indicating lamps on panel to indicate 'ON', 'OFF' & 'TRIP' position in all the pump feeder & 3 phases indicating lamps for incomer panel.
- 2.9 The control circuit wiring in the panel shall be provided with 660V/1100 V grade of standard ISI grade & reputed make wire using identification ferrules on either side. The wires shall not be tied or joined between terminal points. Also 10% spare terminals shall be provided on each contact block. While carrying out the wiring work the contractor shall maintain phase sequence and colour coding throughout.
- 2.10 The insulation grade for these control wires shall be 660V/1100V.
- 2.11 The wiring shall be neatly bunched and enclosed in plastic wire ways.
- 2.12 Earthing will be taken care for the entire feeder.
- 2.13 All doors and movable parts shall be connected to the earth bus with flexible connections. The panel earthing bus bar shall be connected to the plant earthing grid.
- 2.14 Engraved name plate with mention of specific machine name in 10mm letters size shall be provided.
- 2.15 Danger notice plate with symbol as per Latest I.S. shall be provided on panel.

## **3.0 Ammeter**

- 3.1 Ammeters shall be of Analogue type. The ammeters shall be manufactured and calibrated as per the latest edition of IS: 1248. Ammeters shall be current transformer operated and shall be suitable for 5A secondary of current transformer.
- 3.2 The ammeter shall have sensitivity of 5% minimum.
- 3.3 The scale shall be calibrated to indicate primary current, unless otherwise, specified.
- 3.4 The ammeter shall be capable of carrying substantial overloads up to 120% of ratio current during fault condition without damage or loss of accuracy.

- 3.5 Voltmeter and Ammeter should be of flush type.
- 3.6 All meters used should be of well-known standard quality. The Switch gears connected should be of well-known standard quality make.
- 3.7 The ratings, type and quantity of meters, instruments and protective devices shall be as per the schedule of quantities.

#### **4.0 Voltmeter**

- 4.1 Voltmeters shall be of moving iron type.
- 4.2 The range of 400 Volts, 3 Phase Voltmeter shall be 0 to 500 Volts. Suitable selector switch shall be provided for each voltmeter to read voltage between any two lines of the system. The voltmeter shall be provided with protection fuse of suitable capacity.

#### **5.0 Current Transformer**

- 5.1 Current transformers shall be in conformity with Latest IS codes in all respects. All current transformers used for medium voltage applications shall be rated for 1 KV.
- 5.2 Current transformers shall have rated primary current, rated burden and class of accuracy as specified in the schedule. However, the rated secondary current shall be 5A unless otherwise specified. The acceptable minimum class 0.5 to 1 for measuring purpose.
- 5.3 Current transformers shall be capable of withstanding without damage, magnetic and thermal stresses due to short circuit fault on medium voltage system. Terminals of the current transformers shall be paired permanently for easy identification of poles. Current transformers shall be provided with earthing terminals for earthing chassis frame work and fixed part of the metal casing (if any).
- 5.4 Current transformers shall be mounted such that they are easily accessible for inspection, maintenance and replacement. The wiring for CTS shall be copper conductor, PVC insulated wires with proper termination lugs and wiring shall be bunched with cable straps and fixed to the panel structure in a neat manner.

#### **6.0 Switch Fuse Units**

- 6.1 Renovation of existing switch board panel installed at different places in Institute making some arrangement to fit the new SFU in existing switch board panel. All the required small accessories and modification work will be in the scope of contractor.
- 6.2 SITC of 125/100/63 Amp. 500 V, 4 pole switch fuse unit with solid fuse link will all required mounting accessories.

#### **7.0 Fiddler Pillar Room**

The above feeder pillar will be covered with proper wall, door etc. and will be done by the contractor as per SOQ. All this civil work will be done as per the norm and after clearance from the civil department of the institute.

#### **8.0 MS work/Aluminium Work : Successful bidder will do the following work under this scope:**

- Supply of required MS Angle/Aluminium Frame/Jali/square bar/hinges etc.
- Fabrication as per institute requirement Door/window/fixing jail etc.
- Red oxide painting on MS work : 02 coats
- Enamel Painting: 02 coats as per approved colour by the engineer.
- Providing & fixing Lock and key of good quality/company.

**Note:** Successful bidder will have to submit the drawing of panels as per required specification for necessary approval before executing the work. After completing work they have to return all the dismantled items of the panels to the department. Final payment will only be released, once the dismantled items received in the Engineering office.

**DRAFT FORMAT OF B.G. FOR PERFORMANCE SECURITY**

To,

**The Director**  
Harish Chandra Research Institute,  
Chhatnag Road, Jhunsi,  
**Prayagraj (Allahabad)-211019**

Dear Sir,

WHEREAS \_\_\_\_\_ <name of the service provider agency / bidder>, represented by its Managing Director (or whatever designation authorized person holds) having administrative Office at \_\_\_\_\_) (hereinafter called "Service Provider Agency") has undertaken a job in pursuance of Work Order No HRI/\_\_\_\_\_ dated \_\_\_\_\_ 2021 and subsequent contract dated \_\_\_\_\_ for "Annual Operation and maintenance of Air-conditioning Package units & Comprehensive maintenance of other individual AC units" at Harish-Chandra Research Institute (HRI), Prayagraj (Allahabad), an Institution under administrative control of Department of Atomic Energy, Government of India herein after called "**the Contract**".

AND WHEREAS it has been stipulated by you in the said Contract that the Service Provider Agency shall furnish you with a bank guarantee by a Nationalised/Scheduled Commercial Bank for the sum specified therein as performance security for compliance with its obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the Service Provider Agency, up to a total of **Rs. ----- (Rs ----- only)** which shall be referred to as '*amount of guarantee*', and we undertake to pay you, upon your first written demand declaring the Service Provider Agency to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee i.e **Rs. -----**) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Service Provider Agency before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract to be performed thereunder or of any of the Contract documents which may be made between you and the Service Provider Agency shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This Guarantee shall be a continuing guarantee and shall not be discharged by and change in the constitution of the Bank or in the constitution of M/s. \_\_\_\_\_.

This guarantee shall be valid until the <dd/mm/yyyy). {This date to be defined as per clause 11 of Terms and Conditions of tender

.....  
(Signature of the authorized officer of the Bank)

.....  
Name and designation of the officer

.....  
Seal, name & address of the Bank and address of the Branch

**SECTION - IV**

**PART-2**

**FINANCIAL BID**



Schedule of quantities

Tender Inviting Authority: Director, Harish-Chandra Research Institute

Name of Work: Replacement/Renovation of some electrical panels & other works at HRI, Prayagraj

Contract No: HRI/09/2024

<b>Name of the Bidder/ Bidding Firm / Company :</b>	
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**PRICE SCHEDULE**

**(This BOQ template must not be modified/ replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only )**

NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
SI. No.	Item Description	Quantity	Units	RATE (without GST) In <b>Figures</b> To be entered by the <b>Bidder</b> in <b>Rs. P</b>	<b>TOTAL AMOUNT</b> Without GST in <b>Rs. P</b>	<b>TOTAL AMOUNT</b> In Words
1	2	4	5	13	53	55
1.0	Disconnection & removing of old (faulty) Voltmeter and Ammeter from substation panel and SITC of new CT based Digital Voltmeter and Digital Ammeter of same rating at same places in existing main switch board panel in substation	22	Nos.		<b>0.00</b>	INR Zero Only
2.0	SITC of following main distribution board in MS encloser including Interconnection, earth connection, painting etc.					
2.1	MDB comprising of one no. 125 Amp, 4 pole SFU for incomming power supply, one no. 100 Amp.4 pole SFU for outgoing power supply, 2 no., 63 Amp, 4 pole MCB, 2 no., 40 Amp, 2 pole MCB, 2 no. 40 Amp 3 phase energy meter, 2 no. 40 Amp 1 phase energy meter, one set of 3 phase & neutral busbar, one no. earth busbar with all phase indicator lamp, Voltmeter, selector switch etc.	1	No.		<b>0.00</b>	INR Zero Only
2.2	MDB comprising of one no. 100 Amp, 4 pole SFU for incomming power supply, 6 no., 40 Amp, 2 pole MCB, 6 no. 40 Amp 1 phase energy meter, one spare compartment for future enhancement, one set of 3 phase & neutral busbar, one no. earth busbar with all phase indicator lamp, Voltmeter, selector switch etc	1	No.		<b>0.00</b>	INR Zero Only

NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	RATE (without GST) In Figures To be entered by the Bidder in Rs. P	TOTAL AMOUNT Without GST in Rs. P	TOTAL AMOUNT In Words
1	2	4	5	13	53	55
3.0	Renovation of existing Starter panel with following works:					
3.1	Disconnection & removing of old (faulty) panel mounted DOL Starter from existing panel and renovate the panel cover & prepare for installation of new panel mounted starter as per given below.	4	Nos.		0.00	INR Zero Only
3.2	SITC of new DOL Starter for upto 7.5 HP monoblock pump & Submersible pump in existing switch board panel with required accessories like 63 Amp MCB 4 pole, single phasing preventer, earth fault preventer, over load relay, over current protection, voltmeter, Ammeter, RUN, OFF & TRIP indicator etc. In this work cable connection are also included.	5	Kg.		0.00	INR Zero Only
3.3	SITC of Automatic Star Delta Starter for upto 15 HP/11 KW Submersible pump in existing switch board panel with required accessories like 63 Amp MCB 4 pole, single phasing preventer, earth fault preventer, over load relay, over current protection, voltmeter, Ammeter, RUN, OFF & TRIP indicator etc. In this work cable connection are also included.	2	Nos.		0.00	INR Zero Only
4	Removing cable from existing Feeder pillar of 10 way of 3 phase supply with all cable connections and SITC of new feeder pillar comprises of one no. 250 amp.500 V, 4 pole switch fuse unit with solid fuse link, 36 nos. 63 amp rewirable kit kat type fuse link, Voltmeter, Ammeter for entire load, selector switch, 3 phase indicator and all connection of existing cable with required accessories.	1	No.		0.00	INR Zero Only
5	Renovation of existing switch board panel installed at different places in Institute like- Guest house, Hostel-1 & 2, AC plant & Sub station and SITC of 63 amp., 500 V, 4 pole switch fuse unit with solid fuse link, in that switch board panel with all required accessories. board panel with all required accessories.	12	Nos.		0.00	INR Zero Only

<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>NUMBER #</b>	<b>TEXT #</b>
<b>Sl. No.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Units</b>	<b>RATE (without GST) In Figures To be entered by the Bidder in Rs. P</b>	<b>TOTAL AMOUNT Without GST in Rs. P</b>	<b>TOTAL AMOUNT In Words</b>
<b>1</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>13</b>	<b>53</b>	<b>55</b>
6	Dismantling of Pole/ Security light standard strut embedded in cement concrete foundation etc including excavation & refilling etc. as required, and shifting the waste materials to the desired location as directed by Engineer-in-Charge .	2	Nos.		0.00	INR Zero Only
7	Supply & transport of Hot Dip Galvanized octagonal pole of 3 mm thickness 5 Mtr. Long pole with top dia 70 mm and bottom dia 130 mm with base plate of size 220 x 220 x 12 mm, including cost of nut and bolts and all accessories including 4 arms for fixing 4 LED lights as supplied by the manufacture including cost of foundation accessories etc. the foundation bolts as per manufacturer design should be hot dipped galvanized pole complete with door locking arrangement, Terminal plate consisting of 1 nos. 20 A, 2 pole MCB with neutral links including connection etc. with suitable connecting arrangement for 2 nos. 10 A, SP MCBs.	1	No.		0.00	INR Zero Only
8	Erection of Octagonal/Metallic/GI tubular poles length of 5.0 meter long (suitable for four light fitting), in cement concrete 1:3:6 ( 1 cement : 3 coarse sand : 6 graded stone aggregate nominal size) for foundation of size 0.7 m x 0.7 m x 1.8 m with minimum 4 nos. 12 mm dia longitudinal MS reinforcement rods of 1 meter long with rings of 8 mm dia not more than 200 mm C.C. for fixing the pole with all labour & material required to complete the job in all respect upto the entire satisfaction of Engineer - In - Charge of the work including excavation & refilling etc. as required, embedment of ERW conduits for cable entry, MS box of size 250mm x 300mm x 100 mm deep metal box.	1	No.		0.00	INR Zero Only
9	Laying of one number PVC insulated and PVC sheathed/XLPE power cable of 1.1 KV grade of size up to 35 sq.mm direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.	60	Mtrs.		0.00	INR Zero Only

<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>NUMBER #</b>	<b>TEXT #</b>
<b>Sl. No.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Units</b>	<b>RATE (without GST) In Figures To be entered by the Bidder in Rs. P</b>	<b>TOTAL AMOUNT Without GST in Rs. P</b>	<b>TOTAL AMOUNT In Words</b>
<b>1</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>13</b>	<b>53</b>	<b>55</b>
10	Laying of one number PVC insulated and PVC sheathed/XLPE power cable of 1.1 KV grade of size up to 35 sq.mm clamped with 1mm thick saddle on wall, surface as required.	10	Meter		<b>0.00</b>	INR Zero Only
11	Supply, installation, testing and commissioning of size 4C x 10 Sqmm, 1100 V grade PVC insulated PVC sheathed/XLPE and armoured aluminium conductor power cable to IS 1554. Laying of cable will be paid separately under relevant items	70	Meter		<b>0.00</b>	INR Zero Only
12	End termination of cables with brass compression glands and aluminium lugs for 4.0 C x 10 sq.mm size of PVC insulated and PVC sheathed / XLPE armoured aluminium conductor cable of 1.1 kV grade as required.	6	Nos.		<b>0.00</b>	INR Zero Only
13	Supplying & drawing of 2.5 sq.mm., 3 core size copper conductor, PVC insulated flexible cable from junction box to lighting fixture, earthing,	15	Meter		<b>0.00</b>	INR Zero Only
14	SITC of LED light fitting 90 watt with lens, supply voltage: 180-240V, Beam angle: 120 to 170 degree, PF: 0.9, Luminaire efficiency: more than 85%, CRI: more than 70, surge: up to 3 KV or above, Photometric Distribution: Suitable for street/path light, Housing: Diecast, Luminaire efficacy: The luminaires should have a system efficacy of greater than 60 lm/w, correlated color temperature (CCT): High power LED with correlated color temperature of 6500 K (+_ )500K, operating temp: -10 to +50 deg centigrade, ingress protection: IP65 or above , THD: Less than 20%, Average Life span of LED : more than 50000 hours.	4	Nos.			
15	Earthing with G.I. earth Pipe 4.5 meter long, 40 mm dia including accessories, and providing masonry encloser with cover plate having locking arrangement and watering pipe etc. with chorcoal/Cock and salt as required	1	No.		<b>0.00</b>	INR Zero Only

NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	RATE (without GST) In Figures To be entered by the Bidder in Rs. P	TOTAL AMOUNT Without GST in Rs. P	TOTAL AMOUNT In Words
1	2	4	5	13	53	55
16	Providing & fixing of 25mm x 5 mm G.I. strip on surface or recess for loop earthing as required,	20	Meter		0.00	INR Zero Only
17	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out of the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.	3	Cum		0.00	INR Zero Only
18	Brick work with common burnt clay F.P.S. (non modular) brick of class designation 7.5 in foundation and plinth in:					
18.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	3	Cum		0.00	INR Zero Only
18.2	1:04:08 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)	1	Cum		0.00	INR Zero Only
19	15 mm Cement plaster on rough side of single or half brick wall finished with a floating coat of neat cement of mix: 1:4 (1 cement : 4 fine sand)	20	Sqm.		0.00	INR Zero Only
20	Finishing walls with water proofing cement paint of required shade: New work (Two or more coats applied @ 3.84 kg/10sqm)	20	Sqm.		0.00	INR Zero Only
21	Providing and laying cement concrete in retaining walls. Return walls, walls (any thickness) including attached pilasters, columns, piers abutments, pillars posts, struts, buttresses, string or lacing courses parapets, coping, bed blocks, anchor blocks, plain window sills, fillets sunken floor etc, upto floor five level, excluding the cost of centering, shuttering and finishing: 1:1.5:3 (1 cement : 1.5 coarse sand : 8 graded stone aggregate 20 mm nominal size)	0.5	Cum			

<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>NUMBER #</b>	<b>TEXT #</b>
<b>Sl. No.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Units</b>	<b>RATE (without GST) In Figures To be entered by the Bidder in Rs. P</b>	<b>TOTAL AMOUNT Without GST in Rs. P</b>	<b>TOTAL AMOUNT In Words</b>
<b>1</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>13</b>	<b>53</b>	<b>55</b>
22	Centering and shuttering including strutting, propping etc and removal of form work for foundation, footing, bases for column	3	Sqm.		0.00	INR Zero Only
23	Steel reinforcement for R.C.C. work including straightening, cutting, bending all complete upto plinth level. Thermo-Mechanically Treated Bar	40	Kg.		0.00	INR Zero Only
24	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard sections of approved IS: 1285, fixing with dash fasteners of necessary filling up to gaps at junctions, with required EPDM rubber/neoprene shall be smooth, rust free, straight, mitred wherever required including cleat angle, glazing / peneling, C.P. brass / stainless architectural drawings and the directions of panelling and dash fasteners to be paid for: Powder coated aluminium (minimum thickness of powder coating 50 micron)	200	Kg.		0.00	INR Zero Only
25	Steel work welded in built up section/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required . In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.	50	Kg.		0.00	INR Zero Only
26	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete with 12 mm mild steel U beading.	5	Sqm.		0.00	INR Zero Only

<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>NUMBER #</b>	<b>TEXT #</b>
<b>Sl. No.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Units</b>	<b>RATE (without GST) In Figures To be entered by the Bidder in Rs. P</b>	<b>TOTAL AMOUNT Without GST in Rs. P</b>	<b>TOTAL AMOUNT In Words</b>
<b>1</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>13</b>	<b>53</b>	<b>55</b>
27	Providing & fixing in position following type of aluminium fitting with necessary screw, washer etc.					
27.1	Butt Hing 125 x 75 x 4 (anodised) with necessary screws)	24	Nos.		<b>0.00</b>	INR Zero Only
27.2	Tower bolt 150 mm	6	Nos.		<b>0.00</b>	INR Zero Only
27.3	Aluminium Drop	3	Nos.		<b>0.00</b>	INR Zero Only
27.4	Handle 125 mm	6	Nos.		<b>0.00</b>	INR Zero Only
28	Providing and fixing in position 4 mm thick APP sheet above window for sunshed as per requirement and direction of Engineer In Charge.	8	Sqm.		<b>0.00</b>	INR Zero Only
<b>Total in Figures</b>					<b>0.00</b>	INR Zero Only
<b>Quoted Rate in Words</b>			<b>INR Zero Only</b>			