



DELHI AVIATION FUEL FACILITY PRIVATE LIMITED

**DELHI AVIATION FUEL FACILITY PRIVATE LIMITED
AVIATION FUELLING STATION
SHAHBHAD MOHAMMADPUR
IGI AIRPORT
NEW DELHI-110061**



TENDER NO: DAFFPL/MOD/FF/2018-19/14

INVITING TENDER FOR MAINTENANCE FREE EARTHING WORKS

BID DUE DATE & TIME: 1500 Hrs. IST on 27th December 2018

OPENING OF TECHNICAL BIDS: 1200 Hrs. IST on 28th December 2018



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PRICE BID FORMAT

NOTE: BIDDERS ARE REQUESTED TO SIGN AND STAMP ALL THE PAGES OF THE TENDER DOCUMENT AND SEND THE SAME BACK IN THEIR OFFER AS A TOKEN OF UNCONDITIONAL ACCEPTANCE OF TENDER FIRMS.

THE DEVIATIONS, IF ANY, SHOULD BE MENTIONED SEPARATELY ON BIDDER'S LETTER HEAD IN TECHNICAL BID. THE DEVIATIONS MENTIONED ANYWHERE ELSE SHALL NOT BE CONSIDERED. IN ABSENCE OF DEVIATION SHEET IT WOULD BE CONCLUDED THAT BIDDER HAS ACCEPTED THE TENDER TERMS WITHOUT ANY DEVIATIONS. CORRECTIONS IN TENDER DOCUMENT WILL NOT BE ACCEPTED.



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TENDER NOTICE DELHI AVIATION FUEL FACILITY PRIVATE LIMITED

INVITING TENDER FOR MAINTENANCE FREE EARTHING WORKS AS PER SPECIFICATIONS AS REQUIRED

TENDER NO: DAFFPL/MOD/FF/2018-19/14

Delhi Aviation Fuel Facility (P) Ltd (DAFFPL) invites sealed bids under single stage two bid system from eligible bidders for supply, installation, shifting, testing, commissioning of maintenance free earthing works near dyke area.

Brief Scope of work:

We intend to provide maintenance free earthing, replacement of damaged earthing strips for ATF storage tanks, motor operated valves etc. in dyke area with existing, new/shifted earth pits. Scope includes supply, construction, installation, shifting, testing and commissioning of maintenance free earth pits, earth strips and earthing wires including all required material and works along with required dismantling & shifting at our DAFFPL facility.

Bid Security (EMD):	As mentioned in the Tender document
Date, Time & Venue for Voluntary Pre-bid Meeting:	19 th December 2018; 1500 HRS (IST) at DAFFPL, Aviation Fuelling Station, Shahabad Mohammadpur, New Delhi-110061
Bid Due Date, Time & Place of Submission:	Upto 15:00 HRS (IST) on 27 th December 2018 at the office of Chief Executive Officer, DAFFPL, Aviation Fuelling Station, Shahabad Mohammadpur.

Detailed Invitation for Bids (IFB) along with Pre-qualification Criteria, Bid Document Corrigenda can be viewed and downloaded from DAFFPL's website: <http://www.daffpl.in>

Chief Executive Officer
DAFFPL, New Delhi
9810081078



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CHAPTER 1: INTRODUCTION (COVERING NOTE)

Delhi Aviation Fuel Facility Private Limited (DAFFPL) is a Joint Venture comprising Indian Oil Corporation Ltd. (IOCL), Bharat Petroleum Corporation Ltd. (BPCL), and Delhi International Airport (P.) Ltd. (DIAL). We provide the infrastructure aimed at ensuring an uninterrupted flow of Aviation Turbine Fuel (ATF) to all type of aircrafts at the Indira Gandhi International Airport, New Delhi (IGI Airport) as per international benchmarking.

The bidder/ contractor shall refer to various sections of this tender document for detailed scope of work. It is contractor's responsibility to execute the job in all respects as per detailed drawings, documents / specification furnished by consultant / owner and as per applicable codes, standards & in line of statutory requirements.

The field circumstances shall also be taken into consideration and methods suitable to the site conditions shall be adopted with concurrence of the Engineer-in-charge and in line with manuals, instructions of respective equipment and specified codes and standards. The successful accomplishment of the project is greatly influenced by the team work, workmanship of the workers and supervisors.

The Contractor shall employ only such workers and supervisors who have considerable experience of similar work and who can work, temperamentally in good harmony and co-operation.

Delhi Aviation Fuel Facility Private Limited (DAFFPL) invites sealed tenders in prescribed tender form under two-bid system. For viewing details including EMD, BID QUALIFICATION CRITERIA etc. please visit our web site www.daffpl.in and go to tender section by clicking the link "Tenders". Tender documents are available on our website.

The bid documents can also be collected from our office and the bids are to be submitted in Physical form in the Tender Box kept at the office of the **Delhi Aviation Fuel Facility Private Limited (DAFFPL)** at Shahabad Mohammadpur, New Delhi-110061, India.



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1. The Tender is floated in Two Bid system consisting of Technical Bids (Bid Qualification Criteria - BQC, Technical plus Commercial) and Price Bids.
2. The bidder should be able to quote the entire size/type/quantity bid by them. Bidders cannot bid for part items or part quantity.
3. Firstly, the Technical bid (BQC & Techno commercial bids) shall be opened. The Bids shall be initially scrutinized by a team as per tender requirements of BQC (Bid qualification criteria). Technical cum commercial bids of only those vendors who qualify the BQC will be processed further. The price bids of only techno-commercially qualified bidders will be opened, evaluated and shortlisted for Placement of Work Order.
4. Each page of bid documents is to be duly signed & stamped by the bidder before submitting the Tender.
5. The bids submitted should be valid for **four months** from the due date of bid submission for Owners acceptance. Once accepted it will remain firm till completion of contracts/orders.
6. We request the bidder to carefully go through all tender documents before submitting the offer. Please note that any exceptions or deviations to the tender document are necessarily to be recorded in the attached deviation statement only. Any exceptions/deviations brought out elsewhere in the bid shall not be considered.
7. The bidders to provide their bank details/ PAN / Sales Tax /WCT Registration numbers/Goods & Service Tax Registration No. / VAT registration No., as applicable for updating vendor master file. You are also requested to keep us informed of any change in address / status of your business / contact details including email address etc.
8. Party can quote with the deviations as referred in Point No.6 above. Please refer query end date / time in tender calendar after which no query posted by bidder shall be considered. However, DAFFPL reserves the right to respond the queries after cutoff date / time mentioned in tender calendar.
9. Please note that queries related to scope of job, tender specifications, terms & conditions etc., should be submitted by means of letter/E mail to reach the owner's office not later than one week before the meeting. It may not be practicable to answer queries received late, but queries and responses/clarifications will be posted in the form letter, E-mail within one week from the date of Pre Bid Meeting. Any modification in the bid document that may become necessary as a result of the Pre-Bid meeting shall be made by the owner exclusively through the issues of corrigendum/ addendum posted at web site and not through the minutes of the pre-bid meeting.



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10. UNSOLICITED POST BID MODIFICATION

Bidders are advised to quote strictly as per terms and conditions of the Bidding Document. After tender submission due date & time/ extended due date & time (as the case may be) the bidders shall not make any subsequent price changes, whether resulting or arising out of any technical / commercial clarifications sought/allowed on any deviations or exceptions mentioned in the bid unless discussed and agreed by DAFFPL in writing.

11. EMD & Techno Commercial bid shall be opened on **28th December 2018 at 12:00 Hrs (IST)** in the presence of authorized representative of bidders (Restricted to one [1] person per bidder only) at the office of DAFFPL. Price Bid of only those bidders whose offer is found meeting both BQC & techno-commercially acceptable, shall be opened on a later date as per convenience of DAFFPL after intimation to the qualified bidders.

12. DAFFPL reserves the right to accept any tender in whole or in part or reject any or all tenders without assigning any reason. Decision of DAFFPL in this regard shall be final and binding on the bidder.

QUERIES AND CLARIFICATIONS: Any query or clarification with regard to this tender may please be referred to below address & phone nos. on any working day during office working hours

Mr. M Vishnu Vardhan Assistant Manager - Projects Vishnu.vardhan@daffpl.in , rakesh.arora@daffpl.in 8826000228	Mr. Manish Kumar Project Officer manish.kumar@daffpl.in , 9810640818
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13. GOVERNING LAWS: The laws of Union of India shall govern all matters concerning the tender. Any issue arising related to the tender or the selection process shall be adjudged by the courts in Delhi alone.

14. A Pre-bid meeting is scheduled for **19th December 2018 at 1500 Hrs IST** at the office of DAFFPL, New Delhi. All prospective bidders can participate in the same. Any clarification with regard to tender shall be sorted out during the pre-bid meeting.

- a. The purpose of the pre-bid meeting is to clarify any doubts of the BIDDER on the interpretation of the provisions of tender.
- b. Bidder(s) are requested to submit their queries, mentioning form name, clause no. & clause, by a letter / e-mail to our office as per schedule in order to have fruitful discussions during the meeting.
- c. All the Bidder(s) are requested to attend the pre-bid meeting to be held at DAFFPL Office as per schedule.

15. **Earnest Money Deposit (EMD) (also referred to as Bid Security):** Bidder shall be required to submit the Earnest Money Deposit (EMD), either in the form of Bank guarantee as per format (provided as Annexure) or PAY ORDER or BANK DRAFT (in favour of Delhi Aviation Fuel Facility Private Limited, payable at New Delhi) at



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our office. The EMD in either form has to be submitted on or before the due date & due time of bid submission of this tender with a covering note mentioning the tender no.

- a. The bidders not submitting EMD by due time & date shall be rejected & their bids shall not be evaluated further.
- b. **The EMD amount shall be Twenty Thousand INR**
- c. Firms registered with National Small Scale Industries (NSIC)/MSME of India are exempted from submission of bid security. Bidders are also requested to submit self-declaration on their letter head to this effect along with a copy of their Valid Registration certificate, specifying limit of volume and other details which should be submitted.

16. Site Restriction: The job must be done in an area which is inside the premises of DAFFPL Fuel Facility. Successful bidder will have to follow all the security norms and procedures for entry and exit to the facility. The job timings will have to change as per the permissions obtained from Operation Dept. All the entry procedures for labours / machinery / raw materials as per the rules of the DAFFPL will have to be followed by the vendor. Contractor shall visit the site and ensure familiarity with the working condition / limitations at the site. Also, the entire works are to be carried out in an operating Location. The contractor may have to follow the timings of the facility and must work under restricted conditions. The normal working hours of facility is 0930 Hrs to 1800 Hrs on Monday to Saturday except holidays. Working beyond above normal working hours /holidays /Sundays are to be with prior permission of Engineer in charge and relevant facility officers. Contractor is required to plan his work within the normal working hours and days and accordingly he has to mobilize the resources to complete the job within the scheduled time. However, all efforts will be made by DAFFPL to give extended working time beyond normal working time in order to help the contractor for early completion of the job. No additional payment / charges shall be payable for such works. Not getting permission for working on holidays/ Sundays or beyond normal working hours will not be considered as reason for delay in work. The contractor and his personnel have to obey all rules and regulations of the plant. Trained and experienced supervisor/ engineer are required to be present at the work spot always.

All hot work like welding, cutting, grinding etc. needs to be done in the closed booth of asbestos cloth. No extra claim on account of the same will be considered. Also the shutdown jobs may get delayed due to operational requirement. Any extra claims on account of the same will not be entertained.

The tenderer must visit the site of the tender and familiarize himself with location, operating / working conditions as well as any other local factors which could influence the working before quoting for the job. His quote should take care of any such restrictions; conditions etc and any claim afterwards will not be entertained. **It**



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is suggested that the Tenderer must visit the site in order to have a better idea of site conditions and factors.

17. **Completion Time:** Time is the essence of the contract. The time period of contract is **30 (Thirty) working days** from the handover of site. **The time includes necessary time required for mobilizations and demobilizations after the execution of work.** Successful bidder is required to provide a bar chart /schedule showing the activities/events with time along with the Technical bid to be scheduled accordingly.
18. The work is required to be done in a working/operating location, the party has to get necessary Hot/cold work permits from the concerned officer in plant as per OISD standards and all workmen should be provided with necessary safety helmet, safety belts, safety shoes and other standard safety equipment's. Any delay on account of non-adherence to safety norms, rules and regulations of plant as well as obtaining work permits from the plant shall not be accounted for the delay in completion of job.
19. **Receipt & storage of material at Site:** Contractor is required to make his own arrangement for unloading and storage of materials at site. Contractor is required to inform us prior to dispatch of materials and his representative required to be available for receipt and unloading of materials at site.
20. If required the successful vendor has to arrange and submit to fuel facility the proper **POLICE VERIFICATION DOCUMENTS** of all the labours, site in charges, supervisors, welders, grinders and all associated workmen who will be coming inside the terminal for carrying out related jobs.
21. For carrying out the jobs inside the depot the vendor must arrange for associated tools, tackles, manpower, machinery of his own and no extra payment will be made to vendor on account of the same.
22. All the debris, scrap, cut pieces, dismantled material etc, excavated earth, area cleaning will have to be shifted by the vendor to a location inside or outside the terminal premises as per the instruction of DAFFPL site in-charge and no extra payment will be done for the same.



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THE FORMS /ATTACHMENTS TO THIS TENDER ARE AS UNDER:

1. Covering Note – CHAPTER: 1
2. Instructions to Bidders - CHAPTER: 2
3. Bid-Qualification Criteria - CHAPTER: 3
4. Performance of Work – CHAPTER: 4
5. General Purchase Conditions- CHAPTER: 5
6. Technical Specification Documents - **(Attached separately as Annexure I)**
7. Annexure attached are as follows:
 - Annexure II – DEVIATION SHEET
 - Annexure III – DECLARATION SHEET
 - Annexure IV – FORMAT FOR DRAFT BANK GUARANTEE IN LIEU OF BID SECURITY (EMD)
 - Annexure V - FORMAT DRAFT COMPOSITE BANK GUARANTEE FOR SECURITY DEPOSIT/PERFORMANCE GUARANTEE
 - Annexure VI – FORM OF LETTER OF UNDERTAKING
 - Annexure VII – DECLARATION TO BE SUBMITTED ALONGWITH Technical BID
 - Price Bid

Thanking you,
Yours faithfully,
For DELHI AVIATION FUEL FACILITY (P) LTD.

Chief Executive Officer
DAFFPL, New Delhi



CHAPTER 2: INSTRUCTIONS TO BIDDERS

1. The bidder shall bear all costs associated with the preparation and submission of the bid and Owner will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.
2. Vendor is requested to submit their bids taking full notice of all the technical specifications, terms and conditions, forms & attachments to this tender. Bids must be submitted in Physical form only.
3. Owner reserves the right to accept / reject any or all bid qualification documents at their sole discretion without assigning any reason whatsoever.
4. Owner is not responsible for any delays from bidder end.
5. Owner reserves the right to make any changes in terms and conditions of purchase before due date of bid submission and to reject any or all bids received incomplete.
6. Undertaking by the bidder:
 - a. I/we hereby undertake that the statements made herein/information given in the bids through Physical Tendering system/annexure/forms referred are true in all respects and that in the event of any such statement or information being found to be incorrect in any particular, the same may be construed to be a misrepresentation entitling DAFFPL to avoid any resultant contract.
 - b. I/we further undertake as and when called upon by DAFFPL to produce, for its inspection, original(s) of the document(s) of which copies have been annexed hereto.
7. Owner, at its discretion reserves the right to verify information submitted by the bidders.
8. Bidder to submit documents/information to satisfy the bid qualification criteria. Bidders should also be in a position to produce further information as and when required by DAFFPL with in a time limit of 15 days.
9. DAFFPL reserves their right to negotiate the quoted prices with lowest bidder.
10. Bidders would be qualified based on data and documents submitted by them.
11. Owner's decision on any matter regarding short listing of vendors shall be final and no corresponding in this regards will be entertained.



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12. The vendors who are on IOCL/BPCL/DIAL holiday list or delisted will not be considered.
13. The bidder is expected to examine all instructions, forms, attachments, terms and specifications in the tender document. The entire tender document together with all its attachments thereto, shall be considered to be read, understood and accepted by the bidder, unless deviations are specifically stated seriatim by the bidder. Failure to furnish all information required in the tender document or submission of a bid not substantially responsive to the tender documents in every respect will be at bidder risk and may result in the rejection of his bid. The bidder scope of supplies as specified in the material requisition shall be in strict compliance with the scope detailed therein and in the bid document.
14. Bidders in their own interest shall ensure that they submit their bid, complete in all respects, well within the specified bid due date and time. No relaxation shall be given for delay due to any unforeseen event in submission of bid.
15. At any time prior to the bid due date, we may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bid document. The amendment will be notified through our portal www.daffpl.in to all prospective bidders and will be binding on them. In order to afford prospective bidder, reasonable time in which to take the amendment into account in preparing their bids, we may, at our discretion, extend the bid due date.
16. The bid prepared by the bidder and all correspondence/ drawings and documents relating to the bid exchanged by bidder and the owner shall be written in ENGLISH language, provided that any printed literature furnished by the bidder may be written in another language so long as accompanied by an ENGLISH translation, in which case, for the purpose of interpretation of the bid, the ENGLISH translation shall govern.
17. Declaration with the bid qualification criteria that bidder has not been banned or delisted by any Government or quasi Government agencies or Public Sector Undertaking (PSU) as per declaration format (provided as annexure) of the tender document should be submitted along with the bid.
18. Bidders are advised to submit bids based strictly on the terms & conditions and specifications contained in the tender document and not to stipulate any deviations. Each Bidder shall submit only one bid. A Bidder who submits more than one bid will be rejected. Alternative bids will not be accepted.
19. The Owner may, at its discretion, extend the bid due date, in which case all rights and obligations of the Owner and the Bidders, previously subject to the bid due date, shall thereafter be subject to the new bid due date as extended. The same will



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be hosted in the web site.

20. Bids shall be kept valid for 4 months from the bid due date. A bid valid for a shorter period shall be considered as non-responsive and rejected by the Owner. Notwithstanding above, the Owner may solicit the Bidder consent to an extension of the period of bid validity. The request and the responses thereto shall be made in writing. The EMD (bid security) shall also be accordingly extended.
21. Telex/ Telegraphic/ Telefax / E-mail offers will not be considered and shall be rejected.
22. No bid shall be modified subsequent to the due date & time or extension, if any, for submission of bids. Bidder(s) to note that Price changes after submission of bid shall not be allowed. In case any bidder gives revised prices/price implication, his bid shall be rejected. No bid shall be allowed to be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder. Withdrawal of a bid during this interval shall result in the forfeiture of Bidder s EMD.
23. Bids that do not meet the Bid qualification criteria as specified in the bid document shall be rejected. A bid with incomplete scope of work and/or which does not meet the technical requirements as specified in the bid document, shall be considered as non-responsive and rejected. Conditional bids will be liable for rejection.
24. The Owner will examine the bids to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed and whether the bids are generally in order.
25. The bids without requisite EMD and/or not in the prescribed Performa and the time limit will not be considered and bids of such bidder(s) shall be rejected.
26. PRICE EVALUATION CRITERIA: As award is on overall landed lowest basis, part offers will be rejected. Bidder has to quote for all items in a lot for us to consider them.
27. Prior to the expiration of period of bid validity, the owner will notify the successful bidder in writing or by e-mail, that his bid has been accepted. The Notification of Award will constitute the formation of the Contract. Delivery Period shall be counted from the date of notification of award (Letter/Fax/e-mail of Intent).
28. Any efforts by a bidder to influence the owner/ in the owner bid evaluation, bid comparison or contract award decisions may result in the rejection of their bid.
29. ISSUE OF CONTRACT/ PURCHASE ORDER: After the successful bidder has been



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notified that his bid has been accepted, DAFFPL will send to such bidder a detailed contract/purchase order incorporating all the terms and conditions agreed between the parties. Within 15 days of receipt of the detailed purchase order, the bidder shall sign and return to the owner the duplicate copy of the order as a token of their acknowledgement.

30. Vigil Mechanism: DAFFPL has developed the Vigil Mechanism to deal with references/ grievances, if any, that is received from bidders who participated / intends to participate in the tender. The details of the same are available on our website www.daffpl.in

31. VERIFICATION BY OWNER: All statements submitted by bidder regarding experience, manpower availability, equipment and machinery availability etc., are subject to verification by the owner either before placement of order or after placement of order. If any data submitted by the bidder at the bid stage is found to be incorrect, the offer is liable to be rejected or the contract/order is liable to be terminated.

32. SEALING & MARKING OF BIDS

A. Bids shall be submitted separately in THREE SECTIONS in sealed envelopes superscribed with the Bid Document number, bid due date and time, item and nature of bid as under:

- **SECTION - I (Envelope No. 1): Bid Security / EMD:**
Bid security in accordance with tender document.
- **SECTION - II (Envelope No. 2): Technical Bid:**
 - a. Information and documentary evidence establishing bidder's claim for meeting qualification criteria as stipulated in IFB. This section/envelope should necessarily contain all the required back-up documents for Bid Qualification.
 - b. Technical bid complete with all technical and commercial details, covering letter and un-priced copy of price Schedule with prices substituted with 'QUOTED' or 'NOT QUOTED' or 'NOT APPLICABLE'. **Deviation sheet duly filled with deviations, if any, shall form part of technical bid.**
- **SECTION - III (Envelope No. 3): Price Bid:**
 - a. PRICE BID WITH FULL PRICE DETAILS. The price bid shall contain prices only in the prescribed price schedule formats, without any technical and commercial details. Technical specifications or commercial terms given in unpriced schedule will only be evaluated



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- and the same will be binding on the Bidder. The bids shall be sealed and kept in a single envelope with marking as Section - III (Price Bid) / Envelope No. 3: "Original"
- b. The bidder shall quote the final prices (excluding taxes, Cess, duties and other levies etc) in the 'PRICE SCHEDULE FORMAT' of bid document ONLY. Prices quoted in any other format shall not be considered for evaluation.
 - c. The Price bid shall be kept in a larger envelope duly sealed and shall bear the name and address of the bidder.
- B. The envelopes containing Section -I, Section -II, Section -III of bid shall be enclosed in a larger envelope duly sealed and pasted and shall bear the name and address of the bidder.
 - C. Bidder to note that if bid security / EMD (in the Proforma attached with these documents) in original and/or bid document fee (if the bid document is downloaded) is kept in any other envelope and not found in envelope no. 1, the offer of the bidder(s) will be REJECTED during opening.
 - D. Bidder to note that prices are to be quoted in the format provided in the price schedule formats provided along with the tender without any conditions. Price bids submitted in any other format and conditional price bids will be liable to be rejected. Price bids received in open condition (not in sealed envelope) or kept in any other Section of the bid (i. e, Section - I or II) will also be liable for rejection.
 - E. If the outer envelope is not sealed and not marked as required, then DAFFPL will assume no responsibility for the bid's misplacement or premature opening.
 - F. Bidders in their own interest shall ensure that they send their bid complete in all respects well in time to reach the specified office within the specified bid due date and time. No relaxation shall be given for delay due to any unforeseen event in submission of bid.
 - G. Central Public Sector Enterprises and Firms registered with NSIC are exempted from submission of Bid Security. Central Public Sector Enterprises are requested to give a self declaration on their letter head to this effect, which should be submitted in a sealed envelope marked as Bid Security.
 - H. Bidders registered with NSIC are also requested to submit self declaration on their letter head to this effect along with a copy of their Valid Registration certificate, specifying limit of volume and other details which should be submitted in a separate sealed envelope no. 1 marked as Bid security.
 - I. Bid Security strictly in the Proforma attached with these documents shall be submitted in Original along with the Bid. Bids received without original bid security, shall not be opened for evaluation.
 - J. Tender document complete in all respects must be submitted in the tender



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box provided at the DAFFPL office before due date and time

33. DOCUMENTS COMPRISING THE BIDS

The bid prepared by the Bidder shall comprise the following components:

- I. **ORIGINAL BID SECURITY (Section - I):** Bidders are advised to instruct their banks not to post Bid Security directly to Owner as the same has to accompany with the bid.
- II. **TECHNICAL BID (Section -II):**
 - Documentary evidence establishing Bidder's claim for meeting qualification criteria as stipulated in the Bid Document.
 - Notarized Audited Annual Report of previous three financial years.
 - Documentary evidence establishing Bidder's eligibility to bid and that the offered Goods conform to the Bid Document.
 - Price Schedule (with Price figures blanked) completed in accordance with the requirements specified in the bid document.
 - Agreed Terms & Conditions duly filled-in.
 - Deviation Sheet, if any.
 - Declaration with the bid qualification criteria that bidder has not been banned or delisted by any Government or quasi Government agencies or PSU's.
 - Any other information/details/documents/data required as per Bid Document.
 - Parent Company Guarantee, if applicable
- III. **PRICE BID (Section -III):** Bid Form and Price Schedule (Both given along with tender) duly filled in.

34. BID FORM & PRICE SCHEDULE

The bidders shall complete the Bid Form and appropriate Price schedule furnished of Bid Document, indicating the required information for all quoted items.

35. FORMAT AND SIGNING OF BID

- a. The Bidder shall prepare required number of copies of the bid, clearly marking each 'Original Bid' and 'Copy of Bid' as appropriate. In the event of any discrepancy between them, the 'Original Bid' shall govern.
- b. The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to sign on behalf of the bidder on all pages of the bid. Such authorization shall be indicated by written Power of Attorney accompanying the bid. The name and position held by each person signing must be typed or printed below the signature. The person or persons signing the bid shall initial all pages of the



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bid, except for unamended printed literature.

- c. The complete bid shall be without alterations, interlineations or erasures, except as may be necessary to correct errors made by the Bidder, in which case such corrections shall be rewritten & initialed by the person or persons signing the bid.
- d. All the pages of the price bid shall be signed by the authorized signatory. In case all the pages of the price bid are not signed, the bid shall be rejected.

36. OPENING OF BIDS

Bids will be opened by Owner at DAFFPL Office, New Delhi, in the presence of bidders/bidders authorized representatives available on the opening date and time (duly authorized by a competent person and having the letter of authority).

a. **BID SECURITY / EMD (SECTION-I) AND TECHNICAL BID (SECTION-II):**

- I. On the day and time of bid opening, Bid security (Envelope 1) and Technical Bid (Envelope 2) shall be opened in presence of bidders.
- II. The Bidder's representatives, who are present, shall sign a register/attendance sheet evidencing their attendance.
- III. The Bidder(s) names, presence or absence of requisite bid security will be announced at the opening.
- IV. Bidder (s), whose bids are not opened for any reason, including non receipt of original bid security, will not be allowed to be present during bid opening.

b. **PRICE BID OPENING (SECTION -III):**

- I. Only those bidders whose bids meet the qualification criteria and are technically/commercially acceptable shall be called for opening of Price bid (Envelope 3) at a later date, informed in advance.
- II. The Bidder's representatives, who are present, shall sign a register/attendance sheet evidencing their attendance.
- III. Bidder(s), whose bids are not opened for any reason, will not be allowed to be present during bid opening.

37. EVALUATION OF BIDS

- a. Qualification of Bidder: The experience details and financial & technical capabilities of the bidder(s) shall be examined to determine whether the bidder(s) meet the Bid Qualification Criteria mentioned in the INVITATION FOR BIDS (IFB).
- b. The Owner will examine the bids to determine whether they are complete, any computational errors have been made, whether the documents have been properly signed and whether the bids are generally in order.
- c. The bids without requisite Bid Security and/or not in the prescribed proforma will not be considered and bids of such bidder Bidder(s) shall be



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rejected.

- d. To assist in the examination, evaluation and comparison of technical bids, the owner/ may, at its discretion, ask the Bidder clarifications on the bid. The request for such clarifications and the response thereto shall be in writing.
- e. Prior to the evaluation and comparison of the bid, the owner will determine the substantial responsiveness of each bid to the bidding documents. For the purpose of this Article, a substantially responsive bid is one, which conforms to all the terms and conditions of the bidding document without material deviations or reservations. A material deviation or reservation is one which affects in any substantial way the scope, quality, or performance of the works or which limits in any substantial way, inconsistent with the bidding document, the DAFFPL's rights or Bidder's obligation under the contract and retention of which deviation or reservation would affect unfairly the competitive position of other bidders presenting substantially responsive bids. The owner's determination of bid responsiveness is to be based on the contents of the bid itself without recourse to the extrinsic evidence.
- f. A bid determined as substantially non-responsive will be rejected by the Owner and shall not subsequently be allowed by the Owner to be made responsive by the Bidder by correction of the non-conformity.

Note:

- 1) The Bid Shall be submitted in English Language Only**
- 2) For any Document submitted in any language other than English, the translation copy in English language shall be submitted.**



CHAPTER 3: BID-QUALIFICATION CRITERIA:

Bidders need to meet following pre-qualification criteria to qualify for short-listing as a successful vendor, who would be considered for tendering process for the job of “Maintenance Free Earthing Works at DAFFPL”

➤ **Technical Criteria:**

The bidder shall have satisfactorily executed either of the following during the last 7 years ending 31/10/2018:

The Bidder should have completed at least **one similar work**, costing not less than **INR 8.0 Lakhs**.

OR

The Bidder should have completed at least **two similar works**, each costing not less than **INR 5.0 Lakhs**.

OR

The Bidder should have completed at least **three similar works**, each costing not less than **INR 4.0 Lakhs**.

Note:

- Similar works mean “Composite Electrical works with Earthing System as part of works”. Bidder to submit complete BOQ and highlight Earthing System part.
- If Bidder submits only one work order w.r.t above criteria then Supply, Installation and Testing of Earthing System should be part of the order.
- If Bidder submits more than one work order w.r.t above criteria then Supply, Installation and Testing of Earthing System should be part of one of the orders and Supply/Installation/Testing shall be part of other orders.
- Work Order will be rejected if bidders don't meet above criteria.
- Bidder shall submit Completion Certificate indicating W.O No & Date from User.

➤ **Financial criteria for Job:**

- Bidder shall have minimum average annual turnover of Rs.15 Lakhs as per financial results in the preceding three financial/calendar years. “Turnover shall mean Consolidated Turnover in case of a Bidder having wholly owned subsidiaries”

Both the above criteria (Technical & Financial) to be met for acceptance of the bid.



OTHER INFORMATION OF PQC

1. Parties who are affiliates of one another can decide which affiliate will make a bid. Only one affiliate may submit a bid. Two or more affiliates are not permitted to make separate bids directly or indirectly. If 2 or more affiliates submit a bid, then any one or all of them are liable for disqualification. However up to 3 affiliates may make a joint bid as a consortium, and in which case the conditions applicable to a consortium shall apply to them. "Affiliate" of a Party shall mean any company or legal entity which:
 - a. Controls either directly or indirectly a Party, or
 - b. Which is controlled directly or indirectly by a Party; or
 - c. Is directly or indirectly controlled by a company, legal entity or Partnership which directly or indirectly controls a Party. "Control" means actual control or ownership of at least a 50% voting or other controlling interest that gives the power to direct, or cause the direction of, the management and material business decisions of the controlled entity.
2. Bids may be submitted by:
 - a. A single person/ entity (called sole bidder);
 - b. A newly formed incorporated joint venture (JV) which has not completed 3 financial years from the date of commencement of business;
 - c. A consortium (including an unincorporated JV) having a maximum of 3 (three) members;
 - d. An Indian arm of a foreign company.
3. Fulfillment of Eligibility criteria and certain additional conditions in respect of each of the above 4 types of bidders are stated below, respectively:
 - a. The sole bidder (including an incorporated JV which has completed 3 financial years after date of commencement of business) shall fulfill each eligibility criteria.
 - b. In case the bidder is a newly formed and incorporated joint venture and which has not completed three financial years from the date of commencement of business, then either the said JV shall fulfill each eligibility criteria or any one constituent member/ promoter of such a JV shall fulfill each eligibility criteria. If the bid is received with the proposal that one constituent member/ promoter fulfils each eligibility criteria, then this member/promoter shall be clearly identified and he/it shall assume all obligations under the contract and provide such comfort letter/guarantees as may be required by Owner. The guarantees shall cover inter alia the commitment of the member/ promoter to complete the entire work in all respects and in a timely fashion, being bound by all the obligations under the contract, an undertaking to provide all necessary technical and financial support to the JV to ensure completion of the contract when awarded, an undertaking not to withdraw from the JV till completion of the work, etc.
 - c. In case the bidder(s) is/are a consortium (including an unincorporated JV), then the following conditions shall apply:



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- I. Each member in a consortium may only be a legal entity and not an individual person;
 - II. The Bid shall specifically identify and describe each member of the consortium;
 - III. the consortium member descriptions shall indicate what type of legal entity the member is and its jurisdiction of incorporation (or of establishment as a legal entity other than as a corporation) and provide evidence by a copy of the articles of incorporation (or equivalent documents);
 - IV. One participant member of the consortium shall be identified as the "Prime member" and contracting entity for the consortium;
 - V. This prime member shall be solely responsible for all aspects of the Bid/ Proposal including the execution of all tasks and performance of all consortium obligations;
 - VI. The prime member shall fulfill each eligibility criteria;
 - VII. a commitment shall be given from each of the consortium members in the form of a letter signed by a duly authorized officer clearly identifying the role of the member in the Bid and the member's commitment to perform all relevant tasks and obligations in support
 - VIII. Prime/lead member of the Consortium and a commitment not to withdraw from the consortium;
 - IX. No change shall be permitted in the number, nature or share holding pattern of the Consortium members after pre-qualification, without the prior written permission of the Owner.
 - X. No change in project plans, timetables or pricing will be permitted as a consequence of any withdrawal or failure to perform by a consortium member;
 - XI. No consortium member shall hold less than 25% stake in a consortium;
 - XII. Entities which are affiliates of one another are allowed to bid either as a sole bidder or as a consortium only;
 - XIII. Any person or entity can bid either singly or as a member of only one consortium.
- d. In case the bidder is an Indian arm (subsidiary, authorized agent, branch office or affiliate) of a foreign bidder, then the foreign bidder shall have to full fill each eligibility criteria. If such foreign company desires that the contract be entered into with the Indian arm, then a proper back to back continuing (parent company) guarantee shall be provided by the foreign company clearly stating that in case of any failure of any supply or performance of the equipment, machinery, material or plant or completion of the work in all respects and as per the warranties/ guarantees that may have been given, then the foreign company shall assume all obligations under the contract. Towards this purpose, it shall provide such comfort letter/guarantees as may be required by Owner. The guarantees shall cover



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inter alia the commitment of the foreign company to complete the entire work in all respects and in a timely fashion, being bound by all the obligations under the contract, an undertaking to provide all necessary technical and financial support to the Indian arm or to render the same themselves so as to ensure completion of the contract when awarded, an undertaking not to withdraw from the contract till completion of the work, etc.

CHAPTER 4: PERFORMANCE OF WORK

1. EXECUTION OF WORKS:

- a. All the works shall be executed in strict conformity with the provisions of the contract documents and with such explanatory detailed drawings, specifications, and instructions as may be furnished from time to time to the contractor by the Engineer-in-Charge whether mentioned in the contract or not. The contractor shall be responsible for ensuring that works throughout are executed in the most substantial, proper and workman like manner with the quality of material and workmanship in strict accordance with the specifications following all safety requirements of DAFFPL and as stipulated in work permits as per the directions and to the entire satisfaction of the Engineer-in-Charge.
- b. Wherever it is mentioned in the specifications that the Contractor shall perform certain work or provide certain facilities/materials, it is understood that the contractor shall do, so at his cost unless otherwise specified.
- c. The materials, design and workmanship shall satisfy the relevant Indian Standards, the Job specification contained herein and codes referred to. Where the job specification stipulate requirements in addition to those contained in the standards codes and specifications, these additional requirements shall also be satisfied.

2. COORDINATION AND INSPECTION OF WORK:

The coordination and inspection of the day-to-day work under the contract shall be the responsibility of the Engineer-in-Charge. The written instructions regarding any particular job will be normally be passed by the Engineer-in-Charge or his authorized representative. A work order book / logbook will be maintained by the Contractor for each job in which the aforesaid written instructions will be entered. These will be signed by the contractor or his authorized representative by way of acknowledgment within 12 hours. The non-maintaining of the order book or non-signing by the contractor shall not preclude the contractor from complying with the instructions.

3. WORK IN MONSOON AND DEWATERING:

- a. The completion of the work may entail working in the monsoon also. The contractor must maintain a minimum labour force as may be required for the job and plan and execute the construction and erection according to the



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prescribed schedule. No extra rate will be considered for such work in monsoon.

- b. During monsoon and other period, it shall be the responsibility of the contractor to keep the construction work site free from water at his own cost.

4. WORK ON SUNDAYS AND HOLIDAYS:

For carrying out work on Sundays and Holidays if needed, the contractor will approach the Engineer-in-Charge or his representative at least two days in advance and obtain permission in writing. No special compensation on this account will be payable.

5. GENERAL CONDITIONS FOR CONSTRUCTION AND ERECTION WORK:

- a. Place of Work: The work has to be executed at specified premises as per the tender. Contractor should apprise himself of all the conditions prevailing in such location and the restrictions placed on movement of personnel and equipment, types of equipment and tools permitted, working methods allowed etc. in the light of security and safety regulations operative in the area. The safety regulations to be complied with, by the contractor will also be provided along with the tender. No idle time wages or compensation for temporary stoppage of work or restrictions would be paid, and the rate quoted for the various items of work should cover the cost of all such contingencies and eventualities. Substantial structures and utilities exist both above ground and underground, adjacent to the work site. (The construction activity gets restrained by the existence of such structures and utilities). Special care is necessary in transportation, storage, working on equipment's and other construction activities to protect the existing features and prevent damage to any facility. Necessary protective structures barricades etc. have to be erected at various places as directed by Engineer-in-Charge. No extra payment of such protective works will be made unless specially provided in the tender.
- b. The working time or the time of work is 48 hours per week normally. Overtime work is permitted in cases of need and the Owner will not compensate the same. Shift working at 2 or 3 shifts per day may become necessary and the contractor should take this aspect into consideration for formulating his rates for quotation. No extra claims will be entertained by the Owner on this account.
- c. The contractor must arrange for the placement of workers in such a way that the delayed completing of the work or any part thereof for any reasons whatsoever will not affect their proper employment. The Owner will not entertain any claim for idle time payment whatsoever.



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- d. The contractor shall submit to the Owner reports at regular intervals regarding the state and progress of work. The details and preforma of the report will mutually be agreed after the award of contract.

6. DRAWINGS TO BE SUPPLIED BY THE OWNER:

- a. Where drawings are attached with tender, these shall be for the general guidance of the contractor to enable him to visualize the type of work contemplated and scope of work involved. The contractor will be deemed to have studied the drawings and formed an idea about the work involved.
- b. Detailed working drawings on the basis of which actual execution of the work is to proceed will be furnished from time to time during the progress of the work. The contractor shall be deemed to have gone through the drawings supplied to him thoroughly and carefully and in conjunction with all other connected drawings and bring to the notice of the Engineer-in-Charge, discrepancies, if any, therein before actually carrying out the work.
- c. Copies of all detailed working drawings relating to the works shall be kept at the contractor's office of the site and shall be made available to the Engineer-in-Charge at any time during the contract. The drawings and other documents issued by the Owner shall be returned to the Owner on completion of the works.

7. SETTING OUT WORKS:

- a. The Engineer-in-Charge shall furnish the contractor with only the four corners of the work site and a level bench mark and the contractor shall set out the works and shall provide efficient staff for the purpose and shall be solely responsible for the accuracy of such setting out.
- b. The contractor shall provide, fix and be responsible for the maintenance of all stacks, templates, level marks, profiles and other similar things and shall take all necessary precaution to prevent their removal or disturbance and shall be responsible for the consequence of such removal or disturbance should the same take place and for their efficient and timely reinstatement. The contractor shall also be responsible for the maintenance of all existing survey marks, boundary marks, distance marks and centre line marks, either existing or supplied and fixed by the contractor. The work shall be set out to the satisfaction of the Engineer-in-Charge. The approval thereof or joining in setting out the work shall not relieve the contractor of any of his responsibilities.
- c. Before beginning the works, the contractor shall at his own cost, provide all necessary reference and level posts, pegs, bamboos, flags, ranging rods, strings and other materials for proper layout of the work in accordance with the scheme, for bearing marks acceptable to the Engineer-in-Charge. The centre, longitudinal or face lines and cross lines shall be marked by means of small masonry pillars. Each pillar shall have distinct marks at the centre to enable theodolite to be set over it. No work shall be started until all these



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points are checked and approved by the Engineer-in-Charge in writing but such approval shall not relieve the contractor of any of his responsibilities. The contractor shall also provide all labour, material and other facilities, as necessary, for the proper checking of layout and inspection of the points during construction.

- d. Pillars bearing geodetic marks located at the site of work under construction should be protected and fenced by the contractor.
- e. On completion of works, the contractor must submit the geodetic documents according to which the work was carried out.

8. RESPONSIBILITY FOR LEVEL AND ALIGNMENT:

The contractor shall be entirely and exclusively responsible for the horizontal and vertical alignment, the levels and correctness of every part of the work and shall rectify effectually any errors or imperfections therein. Such rectifications shall be carried out by the contractor, at his own cost, when instructions are issued to that effect by the Engineer-in-Charge.

9. MATERIALS TO BE SUPPLIED BY CONTRACTOR:

- a. The contractor shall procure and provide the whole of the materials required for construction including tools, tackles, construction plant and equipment for the completion and maintenance of the works except the materials which will be issued by Owner and shall make his own arrangement for procuring such materials and for the transport thereof. The materials procured by the contractor shall be DAFFPL approved/specified quality.
- b. All materials procured should meet the specifications given in the tender document. The Engineer-in-Charge may, at his discretion, ask for samples and test certificates for any batch of any material procured. Before procuring, the contractor should get the approval of Engineer-in-Charge for any material to be used for the works.
- c. Manufacturer's certificate shall be submitted for all materials supplied by the contractor. If, however, in the opinion of the Engineer-in-Charge any tests are required to be conducted on the materials supplied by the contractor, these will be arranged by the contractor promptly at his own cost.

10. MATERIALS SUPPLIED BY OWNER:

- a. If the specifications of the work provides for the use of any materials of special description to be supplied from the Owner's stores, price for such material to be charged therefore as herein after mentioned being so far as practicable for the convenience of the contractor but not so as in any way to control the meaning or effect of the contract. The contractor shall be bound to purchase and shall be supplied such materials as are from time to time required to be used by him for the purpose of the contract only. The sums due from the contractor for the value of the actual materials supplied by the Owner will be recovered from the running account bill on the basis of the actual consumption of materials in the work covered and for which the



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running account bill has been prepared. After the completion of the works, however, the contractor has to account for the full quantity of materials supplied to him as per relevant clauses in this document.

- b. The value of the materials as may be supplied to the contractor by the Owner will be debited to the contractor's account at the rates shown in the schedule of chargeable materials and if they are not entered in the schedule, they will be debited at cost price, which for the purpose of the contract shall include the cost of carriage and all other expenses whatsoever such as normal storage supervision charges which shall have been incurred in obtaining the same at the Owner's stores. All materials so supplied to the contractor shall remain the absolute property of the Owner and shall not be removed on any account from the site of the work, and shall be at all times open for inspection to the Engineer-in-Charge. Any such materials remaining unused at the time of completion or termination of the contract shall be returned to the Owner's stores or at a place as directed by the Engineer-in- Charge in perfectly good condition, at contractor's cost.

11. CONDITIONS FOR ISSUE OF MATERIALS:

- a. Materials specified to be issued by the Owner will be supplied to the contractor by the Owner from his stores/location. It shall be the responsibility of the contractor to take delivery of the materials and arrange for its loading, transport and unloading at the site of work at his own cost. The materials shall be issued between the working hours and as per the rules of the Owner framed from time to time.
- b. The contractor shall bear all incidental charges for the storage and safe custody of materials at site after these have been issued to him.
- c. Materials specified to be issued by the Owner shall be issued in standard sizes as obtained from the manufacturer.
- d. The contractor shall construct suitable godown at the site of work for storing the materials safe against damage by rain, dampness, fire, theft etc. He shall also employ necessary watch and ward establishment for the purpose.
- e. It shall be duty of the contractor to inspect the material supplied to him at the time of taking delivery and satisfy himself that they are in good condition. After the materials have been delivered by the Owner, it shall be the responsibility of the contractor to keep them in good condition and if the materials are damaged or lost, at any time, they shall be repaired and/ or replaced by him at his own cost, according to the directions of the Engineer-in-Charge.
- f. The Owner shall not be liable for delay in supply or non-supply of any materials which the Owner has undertaken to supply where such failure or delay is due to natural calamities, act of enemies, transport and procurement difficulties and any circumstances beyond the control of the Owner. In no case, the contractor shall be entitled to claim any compensation or loss suffered by him on this account.



- g. It shall be the responsibility of the contractor to arrange in time all materials required for the works other than those to be supplied by the Owner. If, however, in the opinion of the Engineer-in-Charge the execution of the work is likely to be delayed due to the contractor's inability to make arrangements for supply of materials which normally he has to arrange for, the Engineer-in-Charge shall have the right, at his own discretion, to Issue such materials If available with the Owner or procure the materials from the market or elsewhere and the contractor will be bound to take such materials at the rates decided by the Engineer-in-Charge. This, however, does not in any way absolve the contractor from responsibility of making arrangements for the supply of such materials in part or in full, should such a situation occur, nor shall this, constitute a reason for the delay in the execution of the work.
- h. None of the materials supplied to the contractor will be utilized by the contractor for manufacturing item, which can be obtained from standard manufacturer in finished form.
- i. The contractor shall, if desired by the Engineer-in-Charge, be required to execute an indemnity bond for safe custody and accounting of all materials issued by the Owner.
- j. The contractor shall furnish to the Engineer-in-Charge sufficiently in advance a statement showing his requirements of the quantities of the materials to be supplied by the Owner and the time when the same will be required by him for the works, so as to enable the Engineer-in-Charge to make necessary arrangement for procurement and supply of the material.
- k. A daily account of the materials issued by the Owner shall be maintained by the contractor indicating the daily receipt, consumption and balance in hand. This account shall be maintained in a manner prescribed by the Engineer-in-Charge along with all connected papers viz. requisition, issues etc. and shall be always available for inspection in the contractor's office at site.
- l. The contractor should see that only the required quantities of materials are got issued. The contractor shall not be entitled to cartage and incidental charges for returning the surplus materials, if any, to the stores/location where from they were issued or to the place as directed by the Engineer-in-Charge.
- m. Materials/ Equipment supplied by Owner shall not be utilized for any other purpose(s) than issued for.

12. MATERIALS PROCURED WITH ASSISTANCE OF OWNER:

Notwithstanding anything contained to the contrary in any or all the clause of this document where any materials for the execution of the contract are procured with the assistance of Owner either by issue from Owner's stock or purchase made under orders or permits or licences issued by Government, the contractor shall hold the said materials as trustee for the Owner and use such materials economically and solely for the purpose of the contract and not dispose them off without the permission of the owner and return, if required by the Engineer-in-Charge, all



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surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason, whatsoever on his being paid or credited such prices as the Engineer in-Charge shall determine having due regard to the condition of the materials. The price allowed to the contractor however, shall not exceed the amount charged to him excluding the storage charges if any. The decision of the Engineer-in- Charge shall be final and conclusive in such matters. In the event of breach of the aforesaid condition, the contractor shall in terms of the licenses or permits, and/or for criminal breach of trust, be liable to compensate the Owner a double rate or high rate, in the event of those materials at that time having higher rate or not being available in the market, then any other rate to be determined by the Engineer-in-Charge and his decision shall be final and conclusive.

13. MATERIALS OBTAINED FROM DISMANTLING:

If the contractor in the course of execution of the work is called upon to dismantle any part for reasons other than those stipulated in clauses 64 & 68 hereunder, the materials obtained in the work of dismantling etc. will be considered as the Owner's property and will be disposed off to the best advantage of the Owner.

14. ARTICLES OF VALUE FOUND:

All gold, silver and other materials, of any description and all precious stones, coins, treasure relics, antiquities and other similar things which shall be found in, under or upon the site, shall be property of the Owner and the contractor shall duly preserve the same to the satisfaction of the Engineer-in-Charge and shall from time to time deliver the same to such person or person indicated by the Owner.

15. DISCREPANCIES BETWEEN INSTRUCTIONS:

Should any discrepancy occur between the various instructions furnished to the contractor, his agents or staff or any doubt, arise as to the meaning of any such instructions or should there be any misunderstanding between the contractor's staff and the Engineer-in-Charge's staff, the contractor shall refer the matter immediately in writing to the Engineer-in-Charge whose decision thereon shall be final and conclusive and no claim for losses alleged to have been caused by such discrepancies between instructions, or doubts, or misunderstanding shall in any event be admissible.

16. ALTERATIONS IN SPECIFICATIONS AND DESIGNS AND EXTRA WORK:

- a. The Engineer-in-Charge shall have power to make any alterations in, omissions from, additions to or substitutions for, the schedule of rates, the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work and the contractor shall be bound to carry out such altered / extra / new items of work in accordance with any instructions which may be given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall not invalidate the contract and any altered



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additional or substituted work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respect on which he agree to do the main work. The time for completion of work may be extended for the part of the particular job at the discretions of the Engineer-in-Charge, for only such alteration, additions or substitutions of the work, as he may consider as just and reasonable. The rates for such additional, altered or substituted work under this clause shall be worked out in accordance with the following provisions:

- If the rates for the additional, altered or substituted work are specified in the contract for the work, the contractor is bound to carry out the additional, altered or substituted work at the same rates as are specified in the contract.
 - If the rates for the additional, altered or substituted work are not specifically provided in the contract for the work, the rates will be derived from the rates for similar class of works as specified in the contract for the work. The opinion of the Engineer-in-Charge as to whether the rates can be reasonably so derived from items in the contracts will be final and binding on the contractor.
 - If the rates for the altered, additional or substituted work cannot be determined in the manner specified in sub-clause (a) and (b) above, then the contractor shall inform the Engineer-in-Charge of the rate which is his intension to charge for such class of work supported by analysis of the rate or rates claimed, and the Engineer-in-Charge shall determine the rates on the basis of the prevailing market rates of materials, labour cost at schedule of labour plus 10% to cover contractor's supervision, overheads and profit and pay the contractor accordingly. The opinion of the Engineer-in-Charge as to the current market rates of materials and the quantum of labour involved per unit of measurement will be final and binding on the contractor.
 - Provisions, contained in sub-clause mentioned above shall not, however, apply: Where the value of alterations / additions / deletions or substitutions exceeds beyond plus or minus 25% of the estimated contract value (i.e. quoted item rates of contractor shall hold good for variations etc. within plus or minus 25% of estimated contract value)
- b. In the event and as a result of such alternatives / additions / substitutions / deletion, the scope of contract work exceed the value stipulated in the contract by more than the limits given in clause above, the Contractor shall claim revision of the rates supported by the proper analysis in respect of such items for quantities in excess of the above limits, notwithstanding the fact that the rates for such items exist in the tender for the main work or can be derived in accordance with the provision of sub-clause (b) of Clause 61 A, and the Engineer-in-Charge may revise their rates having regard to the prevailing



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market rates, and the contractor shall be paid in accordance with the rates so fixed. But, under no circumstances the contractor shall suspend / stop / slowdown the work on the plea of non-settlement of rates of items falling under this clause.

17. ACTION WHERE NO SPECIFICATIONS ISSUED:

In case of any class of work for which there is no such specification given by the Owner in the tender documents, such work shall be carried out in accordance with Indian Standard Specifications and if the Indian Standard Specifications do not cover the same the work should be carried out as per standard Engineering Practice subject to the approval of the Engineer-in-Charge.

18. ABNORMAL RATES:

The contractor is expected to quote rate for each item after analysis of cost involved for the completion of item/work, considering all specifications and conditions of contract. This will avoid loss of profit or gain, in case of curtailment or change of specification for any item. In case it is noticed that the rates for any item, quoted by the tenderer unusually are high or unusually low it will be sufficient cause for the rejection of the tender unless the Owner is convinced about the reasonableness of the rates on scrutiny of the analysis for such rate to be furnished by the tenderer on demand.

19. INSPECTION OF WORK:

- a. The Engineer-in-Charge will have full power and authority to inspect the works at any time wherever in progress either on the Site or at the contractor's premises / workshop where situated premises /workshops of any person, firm or corporation where work in connect with the contract may be in hand or where materials are being or are to be supplied, and the contractor shall afford or procure for the Engineer-in-Charge every facility and assistance to carry out such Inspection. The contractor shall at all time during the usual working hours and at all other time for which reasonable notice of the intention of the Engineer in-Charge or his representative to visit the works have been given to the contractor, either himself be present to receive order and instructions or post a responsible agent duly accredited in writing for the purpose. Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself. The contractor shall give not less than seven days, notice in writing to the Engineer-in-Charge before covering up or placing any work beyond reach of inspection and measurement any work in order that the same may be inspected and measured. In the event of breach of above the same shall be uncovered at contractor's expense carrying out such measurement or inspection.
- b. No materials shall be dispatched by the contractor before obtaining the approval of Engineer-in-Charge in writing. The contractor is to provide at all



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times during the progress of the work and the maintenance period, proper means of access with ladders, gangways, etc. and the necessary attendance to move and adopt as directed for inspection or measurement of the works by the Engine in-Charge.

20. ASSISTANCE TO THE ENGINEERS:

The contractor shall make available to the Engineer-in-Charge, free of cost necessary instruments and assistance in checking of setting out of works and taking measurement of work.

21. TESTS FOR QUALITY OF WORKS:

- a. All workmanship shall be of the respective kinds described in the contract documents and in accordance with the instructions of the Engineer-in-Charge and shall be subjected from time to time to such test at contractor's cost as the Engineer-in-Charge may direct at place of manufacture or fabrication or on the site or at all or any such places. The contractor shall provide assistance, instruments, labour and materials as are normally required for examining, measuring and testing any workmanship as may be selected and required the Engineer-in-Charge.
- b. All the tests necessary in connection with the execution of the work as decided by Engineer-in-Charge shall be carried out at the field testing laboratory of the Owner by paying the charges as decided by the Owner from time to time. In case of non-availability of test facility with the Owner, the required test shall be carried out at the cost of contractor at government or any other testing laboratory as directed by Engineer-in-Charge.
- c. If any tests are required to be carried out in connection with the work or materials workmanship not supplied by the contractor, such tests shall be carried out by the contractor as per the instructions of Engineer-in-Charge and cost of such tests shall be reimbursed by the Owner.

22. SAMPLES:

The contractor shall furnish to the Engineer-in-Charge for approval when requested or if required by the specifications, adequate samples of all materials and finishes to be used in the work. Such samples shall be submitted before the work is commenced and in ample time to permit tests and examinations thereof. All materials furnished and finishing applied in actual work shall be fully identical to the approval samples.

23. ACTION AND COMPENSATION IN CASE OF BAD WORK:

If it shall appear to the Engineer-in-Charge that any work has been executed with unsound, imperfect or unskilled workmanship or with materials of any inferior description, or that any materials or articles provided by the contractor for the execution of the work are unsound or of a quality inferior to that contracted for, or otherwise not in accordance with the contract, the contractor shall on demand in writing from the Engineer-in-Charge or his authorized representative, specifying the work, materials or articles complained of, notwithstanding that the same have been



inadvertently passed, certified and paid for forthwith shall rectify or remove and reconstruct the works specified and provide other proper and suitable materials or articles at his own charge and cost, and in the event of failure to do so within a period to be specified by the Engineer-in-Charge in his demand aforesaid, the contractor shall be liable to pay compensation at the rate of 0.5% of the estimated cost of the whole work, for every week limited to a maximum of 10% of the estimated cost of the whole work, while his failure to do so shall continue and in the case of any such failure the Engineer-in-Charge may on expiry of notice period rectify or remove and re-execute the work or remove and replace with others, the materials or articles complained of as the case may be at the risk and expenses of the contractors in all respects. The decision of the Engineer-in-Charge as to any question arising under this clause shall be final and conclusive.

24. SUSPENSION OF WORKS:

The contractor shall, if ordered in writing by the Engineer-in-Charge or his representative, temporarily suspend the works or any part thereof for such period and such time as so ordered and shall not, after receiving such written order, proceed with the work therein ordered to be suspended, until he shall have received a written order to proceed therewith. The contractor shall not be entitled to claim/compensation for any loss or damage sustained by him by reason of temporary suspension of the works aforesaid. An extension of time for completion, corresponding with the delay caused by any such suspension of the works as aforesaid will be granted to the contractor, should he apply for the same, provided that suspension was not consequent to any default or failure on the part of the contractor.

25. OWNER MAY DO PART OF WORK:

Upon failure of the contractor to comply with any instructions given in accordance with the provisions of the contract, the owner has the alternative right, instead of assuming charge for entire work to place additional labour force, tools, equipments and materials on such parts of the work, as the owner may designate or also engage another contractor to carry out the work. In such cases, the owner shall deduct from the amount which otherwise might become due to the contractor, the cost of such work and materials with ten percent added to cover all departmental charges and should the total amount thereof exceed the amount due to the contractor, the contractor shall pay the difference to the owner.

26. POSSESSION PRIOR TO COMPLETION:

The Engineer-in-Charge shall have the right to take possession of or use any completed or partially completed work or part of the work. Such possessions or use shall not be deemed to be an acceptance of any work completed in accordance with the contract agreement. If such prior possession or use by the Engineer-in-Charge delays the progress of work, suitable adjustment in the time of completion will made and contract agreement shall be deemed to be modified accordingly.



27. PERIOD OF LIABILITY FROM THE DATE OF COMPLETION OF WORK:

- a. The contractor shall guarantee the installation/site work for a period of 12 (twelve) Months from the date of completion of work, unless otherwise specified. Any damage that may lie undiscovered at the time of issue of completion certificate, connected in any way with the equipment or materials supplied by him or in the workmanship shall be rectified or replaced by the contractor at his own expense as deemed necessary by the Engineer-in-Charge or in default, the Engineer-in-Charge may cause the same made good by other workmen and deduct expenses (for which the certificate of Engineer-in-Charge shall be final) from any sums that may be then or at any time thereafter, become due to the contractor or from his security deposit.
- b. If the contractor feels that any variation in work or in quality of materials or proportions would be beneficial or necessary to fulfill the guarantee called for, he shall bring this to the notice of the Engineer-in-Charge in writing. The work will not be considered as complete and taken over by the Owner until all the temporary works etc., constructed by the contractor is removed and work site cleaned to the satisfaction of Engineer-in-Charge.
- c. Care of Works:
From the commencement to completion of works, the contractor shall take full responsibility for the care of all works including all temporary works, and in case any damage, loss or injury happens to the works or to any part thereof or to any temporary work, from any cause whatsoever, he shall at own cost repair and make good the same, so that at completion, the work shall be in good order and in conformity in every respect with the requirements of the contract and the Engineer-in-Charge's instructions.
- d. Effects prior to taking over: If at any time, before the work is taken over, the Engineer-in-Charge shall
 - Decide that any work done or materials used by the contractor or any sub-contractor is defective or not in accordance with the contract or that the works or any portion thereof are defective or do not fulfill the requirements of contract (all such matters being herein after called 'Defects' in this clause) and
 - As soon as reasonably practicable, notice given to the contractor in writing of the said decisions specifying particulars of the defects alleged to exist or to have occurred, then the contractor shall at his own expenses and with all speed make good the defects so specified. In the case contractor shall fail to do so, the Owner may take, at the cost of the contractor, such steps as may in all circumstances, be reasonable to make good such defects. The expenditure, so incurred by the Owner shall be recovered from the amount due to the contractor. The decision of the Engineer-in-Charge with regard to the amount be recovered from the contractor will be final and binding on the contractor. As soon as the works have been completed in



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accordance with the contract and have passed the tests on completion, the Engineer-in-Charge shall issue a certificate (hereinafter called completion certificate) in which he shall certify the date on which the work have been so completed and have passed the said tests and the Owner shall be deemed to have taken over the works on the date so certified. If the works have been divided into various groups in the contract, the Owner shall be entitled to take over any group or groups before the other or others and thereupon the Engineer-in-Charge shall issue a completion certificate which will however, be for such group or groups as taken over only.

- e. Defects after taking over: In order that the contractor could obtain a completion certificate, he shall make good with all possible speed, any defect arising from the defective materials supplied by the Contractor or workmanship or any act of omission of the contract that may have been noticed or developed after the works or group of the works has been taken over. The period allowed for carrying out such work will be normally one month. If any defect be not remedied within a reasonable time, the Owner may proceed to do the work at the contractor's risk and expense and deduct from the final bill such amount as may be decided by the Owner. If by reason of any default on the part of the contractor a completion certificate has not been issued in respect of every portion of the work within one month after the date fixed by the contract for the completion of the works, the Owner shall be at his liberty to use the works or any portion thereof in respect of which a completion certificate has been issued provided that the works or the portion thereof so used as aforesaid shall be afforded reasonable opportunity for completing these works for the issue of completion certificate.
- f. The Security Deposit/retention money deducted / furnished shall be retained for the period of liability as given in clause above. This Retention amount or Bank Guarantee furnished against Security Deposit/retention money shall be released only on expiry of the period of liability and also based on the certification of the Engineer-in-charge that no defect/damage has been reported / observed during the stipulated period of liability for the contract.
- g. Performance of contractor shall be evaluated on each job by Engineer-in-Charge and recorded. Review of performance will be carried out at appropriate intervals by DAFFPL.



CHAPTER 5: GENERAL TERMS & CONDITIONS:

1. General:

The materials and workmanship shall satisfy the relevant Indian Standards, the job specifications contained herein & codes referred to. Where the job specifications stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied.

In the absence of any standard / specification / codes of practice for detailed specifications covering any part of the work covered in this tender document, the instruction / direction of consultant engineer will be binding on the contractor.

Wherever it is stated in this tender document that a particular supply is to be effected or that a particular work is to be carried out, it shall be understood that the same shall be affected / carried out by the contractor at his cost, unless a different intention is specifically and expressly stated herein or otherwise explicit from the context.

2. Safety Rules and Regulations:

All Safety rules and regulations of the terminal operator have to be followed by the contractor without fail. If any damage occurs due to negligence of safety, contractor will be held responsible for the same.

3. Tests and Inspection:

The contractor shall carry out the various tests as enumerated in the technical specifications of this tender document and the technical documents that will be furnished to him during the performance of the work. No separate payment shall be made.

The contractor shall carry out at his cost, all the tests either on the field or through external institutions / laboratories, concerning the execution of the work and supply of materials by the contractor.

Any work not conforming to the execution drawings, specifications or codes shall be rejected forthwith and the contractor shall carry out the rectification at this own cost. Results of all inspection & tests shall be recorded in the inspection reports, test reports, etc., which will be approved by the Engineer-in-charge. These reports shall form part of the completion documents.

Inspection & Acceptance of works shall not relieve the contractor from any of his responsibilities under this contract.



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4. Site Cleaning:

The contractor shall take care to clean the working site from time to time for easy access to work site and for safety. Working site should be always kept cleared to the entire satisfaction of DAFFPL.

Before handing over any work to the owner, the contractor in addition to other formalities to be observed as detailed in the document shall clear the site to the entire satisfaction of DAFFPL.

5. Coordination with other Agencies:

Work shall be carried out in such a manner that the work of other agencies operating at the site is not hampered due to any action of the contractor. Proper coordination with other agencies will be the responsibility of the contractor. In case of any dispute, the decision of Engineer-in-charge shall be final and binding on the contractor.

6. BID PRICES:

- a) Prices shall be furnished strictly in the Price Bid format of the tender document.
- b) Bidder should quote their lowest and best offered price. Prices so quoted will remain firm till satisfactory completion of order. The price will not be subjected to escalation for any reason whatsoever.
- c) Bidders quoted prices shall be deemed to include entire Specification of item and all obligations and responsibilities to be carried out / executed by the Bidder as per terms of tender document. It is clearly understood by the Vendor that it is for the Vendor to ascertain and assess the applicable Acts/ Regulations/ Laws etc., entirely of their own. It is also for the Vendor to ascertain and assess the applicability of taxes, duties, levies etc. In case of any difference of opinion between Vendors proposal and interpretation by any tax/assessing (or similar) authorities, on the rate or terms and conditions related to taxes and duties etc., owners liability shall be strictly as per terms/provisions of the contract based on tender document and Vendors offer.
- d) No other charges accept those mentioned in the tender document will be payable to vendor.

7. The materials should be properly packed so as to withstand all transit hazards. Materials are required to be dispatched by the vendor to the locations, on freight paid DOOR- DELIVERY CONSIGNEE COPY ATTACHED basis along with copies of Inspection release note & internal test certificates & other documents as mentioned elsewhere in this tender document.

8. All shipment shall be under deck unless carriage on deck is unavoidable.



9. TAXES & DUTIES:

- a) Bidder(s) quoted prices shall be exclusive of all taxes, duties, cess, levies etc.,
- b) The invoice should clearly mentioned that applicable Excise Duty, Education Cess or any other taxes charged and paid / payable on quoted item to enable the owner to claim MODVAT / Input credit.
- c) The statutory variation in Excise duty, Education Cess and Sales tax / VAT on finished goods and introduction of new tax, from bid due date till the contractual completion period shall be to owner account against submission of the documentary evidence. However, any increase in the rate of these taxes and duties beyond the contractual delivery period shall be to Seller account. Any decrease in the rate of these taxes and duties shall be passed on to the owner. Any additional excise duty due to increase in turn-over would be to seller account.
- d) It is for the Bidder to assess and ascertain the rate of excise duty, education Cess and sales tax/VAT applicable on quoted items. It is clearly understood that Owner will not have any additional liability towards payment of Excise Duty, Education Cess, GST and Sales Tax/VAT which is based on Bidders wrong assessment / interpretation of applicability of such Excise Duty and/or education cess and / or Sales Tax/VAT.
- e) Successful bidder shall carry out its obligations towards services at site as mentioned in technical specifications without any extra charges.
- f) Octroi/Entry tax, if any, in the any state of India shall be directly paid by the vendor, if applicable.
- g) DAFFPL shall not be liable, in case the tax authorities assess the tax elements in a different way on account of any reason, whatsoever.
- h) Taxes and duties other than those specified in this document, if any, shall be included in the quoted prices and no separate reimbursement shall be made by DAFFPL.

10. Income Tax / Corporate Tax :

- a) As regards Income Tax, Surcharge on Income Tax or any other Corporate Tax payable by the Bidder for reason of the contract awarded, and / or on their expatriate personal, the Owner shall not bear any Tax liability whatsoever, irrespective of the mode of construction of contract / order. The Bidder shall be liable and responsible for payment of such tax, if attracted under the provision of Indian Income Tax Act.
- b) Bidder may note that if any tax is deductible at source as per Indian Income Tax Law, the same will be so deducted before releasing any payment to the Bidder and a TDS (Tax deducted at source) certificate will be furnished to the Bidder.
- c) Accordingly, Bidder shall have the responsibility to check and include such provision of taxes in the prices.



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- d) In case of delay in delivery due to reasons attributable to Bidder, any new or additional taxes or duties levied by Statutory authorities during this period shall be borne by the Bidder.

11. EMD / BID SECURITY

- a) The bidder shall furnish, as part of his bid, a bid security in original for the amount specified in the tender document by way of pay order, bank guarantee on Rs.100/-value non-judicial stamp paper or demand draft.
- b) The bid security is required to protect the Owner against the risk of Bidders conduct, which would warrant the security forfeiture.
- c) If bid Security / EMD is in the form of bank guarantee, it shall be in the form of irrevocable bank guarantee (in the format attached) issued by any Indian Scheduled Bank (other than Co-operative Bank) will be accepted.
- d) Bid Security / EMD shall be issued in favour of M/s Delhi Aviation Fuel Facility (P) Limited, New Delhi. .
- e) Unsuccessful bidders bid security without any interest will be discharged/ returned as promptly as possible, but not later than 60 days after the expiry of the period of bid validity prescribed by the Owner.
- f) The successful bidder bid security without any interest will be discharged, upon the Bidder accepting the Contract/ Purchase Order and furnishing the Contract performance bank guarantee to DAFFPL.
- g) The bid security may be forfeited:
- i. If a bidder withdraws his bid during the period of bid validity or
 - ii. In the case of a successful bidder, if the bidder fails or refuses to:
 - Accept the Purchase/Work Order in accordance with agreed terms and conditions.
 - Furnish Contract performance bank guarantee as per bid document/ Purchase/Work Order.
 - iii. Detection of submission of false / forged documents and fraud.
- h) Bid Security / EMD should be in favour of “Delhi Aviation Fuel Facility Private Limited”, payable at New Delhi and submitted to the relevant office of DAFFPL as mentioned in covering note of the tender document. Covering letter to bid Security / EMD must indicate the tender number. This is essential to have proper co-relation at a later date. The bid security / EMD shall be strictly in the form provided in the bid document before the due date & time of bid submission.
- i) Central Public Sector Undertaking of Govt. Of India are exempted from furnishing the bid security. Firms registered with NSIC/ MSME are also exempted from furnishing bid security, provided they are registered for the tendered items and up to the monetary limit they intend to quote. Provided further that they submit a copy of the current and valid registration certificate for the quoted item and monetary value along with their bid(s). Owner reserves right to verify the registration certificate provided, with



relevant authorities.

12. CONTRACT PERFORMANCE BANK GUARANTEE [CPBG]

- a) As a Performance security, the successful Bidder, to whom the work is awarded by, shall be required to furnish within 30 days of notification of award of contract (Letter/ Fax/e-mail of Intent) a Performance Bank Guarantee on RS.100/- VALUE non-judicial stamp paper in favour of the Owner (M/S DAFFPL).
- b) The Bank Guarantee amount shall be equal to TEN PERCENT (10%) of the Total Order Value and it shall guarantee the faithful performance of the Order in accordance with the Terms and conditions specified in the documents and specifications.
- c) CPBG shall be in the form of an irrevocable Bank Guarantee (in the format attached) issued by any Indian Scheduled Bank (other than Co-operative Bank).
- d) The Bank Guarantee shall be valid for the entire period of the Contract, namely, till the end of the guarantee / warranty period. The guarantee amount shall be payable on demand to the Owner.
- e) In case, the Contract Performance Bank Guarantee stated above gets reduced/ deducted for reasons of non-fulfillment of any Contractual obligations upto the completion of guarantee period, the bidder shall immediately take action to increase the value of Bank Guarantee to TEN PERCENT (10%) of the Contract price, to cover his guarantee/warranty obligations.
- f) The Performance Guarantee will be returned to the bidder without any interest at the end of the warranty / guarantee period subject to fulfillment of all contractual obligations by the Bidder. The bank guarantee shall have a claim period of 3 months beyond the contractual guarantee period.
- g) The proceeds of performance security shall be appropriated by the owner as compensation for any loss resulting from vendor's failure to complete his obligations under the contract to the prejudice to any of the rights or remedies the owner may be entitled to as per terms and conditions of contract. The proceeds of this performance security shall also govern the successful performance of goods and services and vendors all obligations during the entire period of contractual warranty / guarantee.

13. PRICE REDUCTION FOR DELAY IN DELIVERY:

- a) The completion period quoted must be realistic & specific. The inability of successful bidder to execute orders in accordance with the agreed completion schedule will entitle DAFFPL, at its options, to:
- b) Accept delayed delivery at prices reduced by a sum equivalent to half percent (0.5%) of the value of any goods/work not delivered for every week of delay or part thereof, limited to a maximum of 10% of the total order value. Date of completion of work shall be considered for calculation of price reduction



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- c) The price reduction clause shall become applicable for works done beyond the schedule completion period.

14. INSURANCE

Supplier shall carry and maintain any and all statutory insurance(s) required under Indian Laws and Regulations, including Workmen compensation Act/ESI/Third party liabilities etc. and insurances for their personnel engaged in performance of the work at their own cost.

15. INSPECTION:

- a) Material / construction shall be inspected by owner or its representative. Charges other than third party inspection, is entirely vendor responsibility and in no way should affect the completion schedule.
- b) OWNER may, at its own expense, witness any test or inspection. In order to enable OWNER to witness the tests/inspections OWNER will advise the bidder in advance whether it intends to be present at any of the inspections.
- c) Even if the inspection and tests are fully carried out, the Vendor shall not be absolved from its responsibilities to ensure that the Material(s), raw materials, components and other inputs are supplied strictly to conform and comply with all the requirements of the Contract at all stages, whether during manufacture and fabrication, or at the time of Delivery as on arrival at site and after its erection or start up or consumption, and during the defect liability period. The inspections and tests are merely intended to prima-facie satisfy OWNER that the Material(s) and the parts and components comply with the requirements of the Contract. The Vendor s responsibility shall also not be anyway reduced or discharged because OWNER or OWNER s representative(s) or Inspector(s) shall have examined, commented on the Vendor s drawings or specifications or shall have witnessed the tests or required any chemical or physical or other tests or shall have stamped or approved or certified any Material(s).
- d) Although material approved by the Inspector(s), if on testing and inspection after receipt of the Material(s) at the location, any Material(s) are found not to be in strict conformity with the contractual requirements or specifications, OWNER shall have the right to reject the same and hold the Vendor liable for non-performance of the Contract.

16. GUARANTEE/WARRANTY:

- a) Materials shall be guaranteed against manufacturing defects, materials, workmanship and design for a period of 12 months from the date of commissioning. Warranty for replacement of material / accessories should be provided free of charges at our premises. The above guarantee/warranty will be without prejudice to the certificate of inspection or material receipt note issued by us in respect of the materials.



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- b) All the materials including components and sub contracted items should be guaranteed by the vendor within the warranty period mentioned above. In the event of any defect in the material, the vendor will replace / repair the material at DAFFPL concerned location at vendor risk and cost on due notice.
- c) Alternatively, DAFFPL reserves the right to have the material repaired / replaced at the locations concerned, at the vendors risk, cost and responsibility, in case, vendor does not replace / repair the material.
- d) The Vendor shall provide similar warrantee on the parts, components, fittings, accessories etc. so repaired and / or replaced.
- e) Vendor shall guarantee that the performance of the EQUIPMENT supplied under the CONTRACT shall be strictly in conformity with the specifications and shall perform the duties specified under the CONTRACT.
- f) **RISK PURCHASE CLAUSE:** We reserve the right to curtail or cancel the order either in full or part thereof if bidder fails to comply with delivery schedule and other terms & conditions of the order. DAFFPL also reserves the right to procure same or similar materials/equipment through other sources at vendor's entire risk, cost and consequences.

17. **TEST & PERFORMANCE CERTIFICATES:** Bidder shall furnish Material test and Performance Certificates for the materials along with the challans and invoice.

18. **PAYMENT TERMS:** Advance Payment is not permissible in the contract.

- Payment will be released within 30 Days from the date of receipt of Invoice
- Payment terms shall be applicable:
 - 90% payment (for both supply & installation) will be released within 30th day from the completion of work and receipt of invoice adjusting deductible if any.
 - 10% (Retention Amount) after completion of guarantee/warranty period or after submission of Bank Guarantee. The Bank Guarantee (equal to TEN PERCENT (10%) of the Total Order Value) shall be valid for the entire period of the Contract, namely, till the end of the guarantee / warranty period.

19. Only in the event of causes of Force Majeure occurring within the contractual delivery period and if they impede the performance of contract, the delivery dates shall be extended on receipt of application from the bidder / Owner without imposition of penalty. Only those causes which depend on natural calamities, civil wars, fire and national strikes which have duration of more than seven consecutive calendar days are considered the causes of force Majeure. The decision of Owner shall be final and binding on vendor.

20. The Vendor must advise the Owner by a registered letter duly certified by Local Chamber of Commerce or statutory authorities and Owner must advise the Vendor



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by a letter, the beginning and the end of the delay immediately, but in no case later than within 10 days of the beginning and end of such causes of Force Majeure condition as defined above. Provided further that if the performance in whole or part of any obligation under this contract is prevented or delayed by reason of any such event for period exceeding 60 days either party may at its option terminate the contract.

21. Repeat Order: DAFFPL reserves the right to place repeat order up to the order quantity within ONE YEAR from the date of original order on mutual agreement basis.
22. Any reference to the Govt. Acts /Regulations etc. in the Bid Document is only indicative, and it is entirely for the bidder to ascertain the applicable Acts/Regulations.
23. Rejected material lying in Owner premises must be replaced within 60 days from date of final report on rejection of material.
24. RECOVERY OF SUMS DUE: Whenever, any claim against bidder for payment of a sum of money arises out of or under the contract or in any other form, the owner shall be entitled to recover such sums from any sum then due or when at any time thereafter may become due from the vendor under this or any other form and should this sum be not sufficient to cover the recoverable amount of claim(s), the vendor shall pay to DAFFPL on demand the balance remaining due.
25. PATENTS & ROYALTIES: The vendor shall fully indemnify owner and users of materials specified herein/supplied at all times, against any action, claim or demand, costs and expenses, arising from or incurred by reasons of any infringement or alleged infringement of any patent, registered design, trademark or name, copy right or any other protected rights in respect of any materials supplied or any arrangement, system or method of using, fixing or working used by the vendor. In the event of any claim or demand being made or action sought against Owner in respect of any of the aforesaid matter, the vendor shall be notified thereof immediately and the vendor shall at his/its own expense with (if necessary) the assistance of Owner (whose all expense shall be reimbursed by the vendor) conduct all negotiations for the settlement of the same and/or litigation which may arise thereof.
26. LIABILITY CLAUSE: In case where it is necessary for employees or representatives of the Vendor to go upon the premises of owner, vendor agrees to assume the responsibility for the proper conduct of such employees/representatives while on said premises and to comply with all applicable Workmen s Compensation Law and other applicable Government Regulations and Ordinances and all plant rules and regulations particularly in regard to safety precautions and fire hazards. If this order



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requires vendor to furnish labour at site, such vendors workmen or employees shall under NO circumstances be deemed to be in owner s employment and vendor shall hold himself responsible for any claim or claims which they or their heirs, dependent or personal representatives, may have or make, for damages or compensation for anything done or committed to be done, in the course of carrying out the work covered by the purchase order, whether arising at owner s premises or elsewhere and agrees to indemnify the owner against any such claims, if made against the owner and all costs of proceedings, suit or actions which owner may incur or sustain in respect of the same.

27. **COMPLIANCE OF REGULATIONS:** Vendor warrants that all goods/Materials covered by this order have been produced, sold, dispatched, delivered and furnished in strict compliance with all applicable laws, regulations, labour agreement, working condition and technical codes and statutory requirements as applicable from time to time. The vendor shall ensure compliance with the above and shall indemnify owner against any actions, damages, costs and expenses of any failure to comply as aforesaid.

28. **REJECTION, REMOVAL OF REJECTED GOODS AND REPLACEMENT:** In case the testing and inspection at any stage by inspectors reveal that the equipment, materials and workmanship do not comply with specification and requirements, the same shall be removed by the vendor at his/its own expense and risk, within the time allowed by the owner. The owner shall be at liberty to dispose off such rejected goods in such manner as he may think appropriate. In the event the vendor fails to remove the rejected goods within the period as aforesaid, all expenses incurred by the owner for such disposal shall be to the account of the vendor. The freight paid by the owner, if any, on the inward journey of the rejected materials shall be reimbursed by the vendor to the owner before the rejected materials are removed by the vendor. The vendor will have to proceed with the replacement of the equipment or part of equipment without claiming any extra payment if so required by the owner. The time taken for replacement in such event will not be added to the contractual delivery period.

29. **NON-WAIVER :** Failure of the Owner to insist upon any of the terms or conditions incorporated in the Purchase Order or failure or delay to exercise any rights or remedies herein, or by law or failure to properly notify Vendor in the event of breach, or the acceptance of or payment of any goods hereunder or approval of design shall not release the Vendor and shall not be deemed a waiver of any right of the Owner to insist upon the strict performance thereof or of any of its or their rights or remedies as to any such goods regardless of when such goods are shipped, received or accepted nor shall any purported oral modification or revision of the order by DAFFPL act as waiver of the terms hereof. Any waiver to be effective must be in writing. Any lone incident of waiver of the any condition of this agreement by DAFFPL shall not be considered as a continuous waiver or waiver for other condition by DAFFPL.



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30. NEW & UNUSED MATERIAL: All the material supplied by the vendor shall be branded new, unused and of recent manufacture.

31. CANCELLATION:

- a) DAFFPL reserves the right to cancel the contract/purchase order or any part thereof through a written notice to the vendor if –
 - i. The vendor fails to comply with the terms of this purchase order/contract.
 - ii. The vendor becomes bankrupt or goes into liquidation.
 - iii. The vendor fails to deliver the goods on time and/or replace the rejected goods promptly.
 - iv. The vendor makes a general assignment for the benefit of creditors.
 - v. A receiver is appointed for any of the property owned by the vendor.
 - vi. Any other conditions where owners commercial interest get affected.
- b) Upon receipt of the said cancellation notice, the vendor shall discontinue all work on the purchase order matters connected with it. DAFFPL in that event will be entitled to procure the requirement in the open market and recover excess payment over the vendor s agreed price if any, from the vendor and also reserving to itself the right to forfeit the security deposit if any, made by the vendor against the contract. The vendor is aware that the said goods are required by DAFFPL for the ultimate purpose of materials production and that non-delivery may cause loss of production and consequently loss of profit to the DAFFPL. In this-event of DAFFPL exercising the option to claim damages for non delivery other than by way of difference between the market price and the contract price, the vendor shall pay to DAFFPL, fair compensation to be agreed upon between DAFFPL and the vendor. The provision of this clause shall not prejudice the right of DAFFPL from invoking the provisions of price reduction clause mentioned aforesaid.

32. ANTI –COMPETITIVE AGREEMENTS/ABUSE OF DOMINANT POSITION: The Competition Act, 2002 as amended by the Competition (Amendment) Act, 2007 (the Act), prohibits anti- competitive laws and aims at fostering competition and at protecting Indian markets against anti- competitive practices by enterprises. The Act prohibits anti- competitive agreements, abuse of dominant position by enterprises, and regulates combinations (consisting of acquisition, acquiring of control and M&A) wherever such agreements, abuse or combination causes, or is likely to cause, appreciable adverse effect on competition in markets in India. DAFFPL reserves the right to approach the Competition Commission established under the Act of Parliament and file information relating to anti-competitive agreements and abuse of dominant position. If such a situation arises, then Vendors are bound by the decision of the Competitive Commission and also subject to penalty and other provisions of the Competition Act.



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33. **ASSIGNMENT:** The Vendor can / does not have any right to assign his rights and obligations under these general purchase conditions without the prior written approval of DAFFPL.
34. **GOVERNING LAW:** These General Purchase Conditions shall be governed by the Laws of India.
35. **AMENDMENT:** Any amendment to these General Purchase Conditions can be made only in writing and with the mutual consent of the parties to these conditions.
36. The following expressions used in these terms and conditions and in the purchase order shall have the meaning indicated against each of these:
- a) **OWNER,** Client, Purchaser, buyer : means DAFFPL
 - b) **VENDOR,** tenderer, Bidder, Contractor, Seller, Supplier, manufacturer stated anywhere in the tender document carry the same meaning: It means the person, firm or the Company / Corporation to bidding and shall include its successors and assigns.
 - c) **INSPECTOR/ TPIA:** Person/agency deputed by Owner for carrying out inspection, checking/testing of items ordered and for certifying the items conforming to the purchase order specifications..
 - d) **GOODS / MATERIALS:** means any of the articles, materials, machinery, equipments, supplies, drawing, data and other property and all services including but not limited to design, delivery, installation, inspection, testing and commissioning specified or required to complete the order.
 - e) **SITE / LOCATION:** means any Site where DAFFPL desires to receive materials anywhere in India as mentioned in tender
 - f) **CONTRACT,** Order or Purchase Order/CALL-OFF means the agreement for supply of goods/ materials for required quantity between Owner and Vendor, for a fixed period of time on mutually agreed terms and conditions.
 - g) The term MR means Material Requisition containing technical requirements and scope of work (technical), GPC means General Purchase Conditions containing commercial terms & conditions, PO means Purchase order issued after award of contract incorporating agreed deviations in MR, ATC means Agreed Terms & Conditions , RFQ means Request For Quotation.
 - h) For the purpose of contract, the trade terms FOB, CFR and CIF, DAP shall have the meanings as assigned to them by INCOTERMS 2010 published by ICC, Paris.

37. REFERENCE FOR DOCUMENTATION :

The number and date of Collective Request for Quotation (CRFQ) must appear on all correspondence before finalization of Contract / Purchase Order.

After finalization of Contract / Purchase Order: The number and date of Contract /Purchase Order must appear on all correspondence, drawings, invoices, dispatch



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advices, (including shipping documents if applicable) packing list and on any documents or papers connected with this order.


38. ARBITRATION

- a) Any 'dispute or difference of any nature whatsoever, any claim, cross-claim, counterclaim or set off of the Owner against the Consultant or regarding any right, liability, act, omission or account of any of the parties hereto arising out of or in relation to this agreement shall be referred to the Sole Arbitration of the nominated Director of the Owner or of some Officer of the Owner who may be nominated by the nominated Director. The consultant will not be entitled to raise any objection to any such arbitrator on the ground that the arbitrator is an officer of the Owner or that he has dealt with the matters to which the contract relates or that in the course of his duties as an Officer of the Owner, he had expressed view on all or any other matters in dispute or difference. In the event of the arbitrator to whom the matter is originally referred being transferred or vacating his office or being unable to act for any reason, the nominated Director as aforesaid at the time of such transfer, vacation of office or inability to act may in the discretion of the nominated Director designate another person to act as arbitrator in accordance with the terms of the agreement to the end and intent that the original Arbitrator shall be entitled to continue the arbitration proceedings notwithstanding his transfer or vacation of office as an officer of the Owner if the nominated Director does not designate another person to act as arbitrator on such transfer, vacation of office or inability of original arbitrator. Such person shall be entitled to proceed with the reference from the point at which it was left by his predecessor. It is also a term of this contract that no person other than the nominated Director of the Owner or a person nominated by such nominated Director as aforesaid shall act as arbitrator hereunder. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to the agreement subject to the provisions of the Arbitration & Conciliation Act, 1996 or any statutory modification or reenactment thereof and the rules made there under for the time being in force shall apply to the arbitration proceedings under this clause.
- b) The arbitrator shall have power to order and direct either of the parties to abide by, observe and perform all such directions as the arbitrator may think fit having regard to the matters in difference i.e. dispute, before him. The arbitrator shall have all summary powers and may take such evidence oral and/or documentary, as the arbitrator in his absolute discretion thinks fit and shall be entitled to exercise all powers under the Indian Arbitration & Conciliation Act 1996 including admission of any affidavit as evidence concerning the matter in difference i.e. dispute before him.



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- c) The parties against whom the arbitration proceedings have been initiated, that is to say, the Respondents in the proceeding, shall be entitled to prefer a cross claim, counter claim or set off before the Arbitrator in respect of any matter in issue arising out of or in relation to the Agreement without seeking a formal reference of arbitration to the nominated Director/officer for such counter-claim, or set off and the Arbitrator shall be entitled to consider and deal with the same as if the matters arising therefore has been referred to him originally and deemed to form part of the reference made by the nominated Director/officer.
- d) The arbitrator shall be at liberty to appoint, if necessary any accountant or engineering or other technical person to assist him, and to act by the opinion so taken.
- e) The arbitrator shall have power to make one or more awards whether interim or otherwise in respect of the dispute and difference and in particular will be entitled to make separate awards in respect of claims of cross claims of the parties.
- f) The arbitrator shall be entitled to direct any one of parties to pay the costs to the other party in such manner and to such extent as the arbitrator may in his discretion determine and shall also be entitled to require one or both the parties to deposit funds in such proportion to meet the arbitrators expenses whenever called upon to do so.
- g) The parties hereby agree that the courts in the city of Delhi alone shall have jurisdiction to entertain any application or other proceedings in respect of anything arising under this agreement and any award or awards made by the Sole Arbitration hereunder shall be filed (if so required) in the concerned courts in the city of Delhi only.


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Document No.		Rev	0		

Project Name:	Basic Design and Detailed Engineering and Other Related Work for the Project, IGI Airport, New Delhi				
Client:	DAFFPL				
Location:	IGI Airport, New Delhi	Document No.:			


TECHNICAL SPECIFICATIONS FOR MAINTENANCE FREE EARTH FOR ELECTRICAL INSTALLATION

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Rev	Date	Description	Prepared	Reviewed	Approved	Client Review


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TECHNICAL SPECIFICATIONS FOR MAINTENANCE FREE EARTH FOR ELECTRICAL INSTALLATION

FOREWORD

Earthing is essential in any electrical installation to provide safety. The conventional GI pipe earthing system employing charcoal & salts are provided for various applications as per IS:3043. Corrosion of metallic parts is comparatively fast besides maintenance by way of watering of earth pits and chiselling of corrosion prone parts & their replacement require monitoring which may not always be feasible in certain crowded and inaccessible areas.

This document is intended to provide guide lines for installation & testing of long lasting earthing system for various applications to meet requirement of rules 51, 61 of Indian Electricity Rule, 1956.

1.0 SCOPE

This specification covers components, enhancing material & jointing used and procedure for constructing the earth pit for maintenance free earthing system to ensure that the resistance to earth is near zero consistent throughout the year.


2.0 REFERENCES

This specification requires the reference to the following documents:

IS 3043-1987	Indian standard code of practice for earthing
IEEE 80	IEEE guide for safety in AC sub-station grounding
IEEE 837	Standard for qualifying permanent connections used in substation grounding.

Indian Electricity Rules 1956 with latest amendments

Wherever, reference to any specification appears in this document, it shall be taken as a reference to the latest version of that specification unless the year of issue of the specification is specifically stated.

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3.0 APPLICATIONS

Earthing systems covered in this document shall be for providing effective grounds for

- i. Sub-Stations
- ii. RTUs, supply control posts
- iii. Transformer and Generator neutral earths
- iv. Lightning arrester earths
- v. Equipment earths including panels
- vi. In applications for PRS, UTS, FOIS, COIS, ATMs and data processing centre etc.

4.0 SELECTION OF EARTH SYSTEM

S. N.	Installations / Current Capacity	IR Value Required	Soil Type / Resistivity	Earth System
1.	House hold earthing / 3 kA	8 ohm	Normal Soil / upto 50 ohm - mtr	Single Electrode
			Sandy Soil / between 50 to 2000 ohm - mtr	Single Electrode
			Rocky Soil / More than 2000 ohm - mtr	Multiple Electrodes
2.	Commercial premises Office buildings / 5 kA	2 ohm	Normal Soil / upto 50 ohm - mtr	Single Electrode
			Sandy Soil / upto 2000 ohm - mtr	Multiple Electrodes
			Rocky Soil / More than 2000 ohm - mtr	Multiple Electrodes
3	Transformers, substation earthing, LT line equipment / 15 kA	1 - 2 ohm	Normal Soil / upto 50 ohm - mtr	Single Electrode
			Sandy Soil / upto 2000 ohm - mtr	Multiple Electrodes
			Rocky Soil / More than 2000 ohm - mtr	Multiple Electrodes
4	Transformers, substation earthing, HT line equipment / 40 kA	less than 1 ohm	Normal Soil / upto 50 ohm - mtr	Single Electrode

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S. N.	Installations / Current Capacity	IR Value Required	Soil Type / Resistivity	Earth System
			Sandy Soil / upto 2000 ohm - mtr	Multiple Electrodes
			Rocky Soil / More than 2000 ohm - mtr	Multiple Electrodes
5	Lightning arresters, extra high current applications etc. / 50 kA	less than 1 ohm	Normal Soil / upto 50 ohm - mtr	Single Electrode
			Sandy Soil / upto 2000 ohm - mtr	Multiple Electrodes
			Rocky Soil / More than 2000 ohm - mtr	Multiple Electrodes
6	PRS, UTS, RTUs, FOIS, COIS, ATMs and data processing centre etc. / 5 KA	less than 0.5 ohm	Normal Soil / upto 50 ohm - mtr	Single Electrode
			Sandy Soil / upto 2000 ohm - mtr	Multiple Electrodes
			Rocky Soil / More than 2000 ohm - mtr	Multiple Electrodes

Note: Single / multiple electrode in above earth system shall be either rod earth electrode or concentric pipe earth electrode as per clause 8.1.


5.0 TYPE OF SOILS

Soil can be classified in to various types, though based on the size of the particles it contains:

5.1 NORMAL SOIL

Black cotton soil, vegetable soil, garden soil, loamy garden, soil shallow black, soil medium black soil, deep black soil and marshy soil etc. having low soil resistivity value (up to 50-ohm meter)

5.2 SANDY SOIL

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This type has the big particles and the size of the particles does determine the degree of aeration and drainage that the soil allows. It is granular and consists of rock and mineral particles that are very small. Therefore, the texture is gritty and sandy soil is formed by the disintegration and weathering of rocks such as limestone, granite, quartz and shale, thus resulting in over-drainage. It warms very fast in the spring season. Coastal area, silt soil, red sandy soil, sandy clay and coastal alluvium etc having soil resistivity up to 2000 ohm-meter are considered as sandy soil.

5.3 ROCKY SOIL

The area containing rocks, pebbles, uneven hard surface laterite soil, lime stone, sand stone, gravel, granite and chalk etc having soil resistivity more than 2000 ohm-meter is considered as rocky soil. This type of soil does not absorb moisture and are extremely poor conductor.

6.0 LOCATION OF EARTH ELECTRODE


Where there is option, site should be chosen in one of the following types of soil in the order of preference given:

- a. Wet marshy ground;
- b. Clay, loamy soil, arable land.
- c. Clay and loam mixed with varying proportions of sand, gravel and stones;
- d. Damp and wet sand, peat.

Dry sand, gravel chalk, limestone, granite, very stony ground and all locations where virgin rock is very close to the surface should be avoided,

7.0 MEASUREMENT OF EARTH ELECTRODE RESISTANCE

The earth resistance shall be measured using fall of potential method as per para 37 of IS:3043.

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8.0 EARTHING SYSTEM

The earthing system includes earth electrode, installation of earth electrode in suitable pit size, construction of earth pit with cover for the installation, connection of earth electrode with equipotential earth bus and connection of equipment to equipotential earth bus.


8.1 EARTH ELECTRODE

The earth electrode is the main component of the earthing system which is in direct contact with the ground and thus provides a means of releasing or collecting any earth leakage currents. The material should have good electrical conductivity and should not corrode in a wide range of soil conditions. For an effective earthing system, two types of earth electrodes can be used as described here:

8.1.1 Rod earth electrode

8.1.1.1 High tensile-low carbon steel rod having diameter not less than 17mm complying with requirements of BS 4360 Grade 43A or EN10025:2-004 S275JR, molecularly bonded by 99.99% pure high conductivity copper on outer surface with copper coating thickness 250 micron or more, Length 3000 mm (minimum). Length of the electrode may be increased in multiple of 1 meter to reduce earth resistance if required. To increase the length, pieces of similar rod shall be either exothermally welded to basic 3-meter electrode or connected using socket of suitable size. These sockets shall also be molecularly bonded by 99.99% pure high conductivity copper on inner & outer surface with copper coating thickness 250 micron or more.

8.1.1.2 Copper bus bar of size 250 mm x 50 mm x 6 mm having electrical conductivity of 101% IACS, minimum 99.9% copper content shall be exothermally welded to rod with 4 holes of 12 mm dia. (2 on each side) for connecting earthing conductor.

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8.1.1.3 Current carrying capacity: The design of the electrode should be such as to have more than 15 kA current carrying capacity for 1 second.

8.1.2 Concentric pipe earth electrode:

8.1.2.1 Primary conductor

MS pipe with 25 - 50 mm diameter, class B, ISI mark as per IS-1239, Length 2000 or 3000 mm as per table at para 8.1.2.7.


8.1.2.2 Secondary conductor

MS pipe with 40-100 mm diameter, class B, ISI mark as per IS-1239, Length 2000 or 3000 mm as per table at para 8.1.2.7.

8.1.2.3 Conductive mixture

For hermetically filling inside the cavity i.e. between secondary conductor & primary conductor, crystalline compound is to be injected in the electrode assembly. It is a combination of high conductivity metal alloys, copper & aluminium powder, conductive carbon / cement and bonding material etc. mixed in different proportion. The mixture is forced (pressurized) filled inside the earth electrode in the paste form and after solidification of the same, the end caps are welded. The metal alloys shall help in conducting the current and conductive carbon gives anti corrosive property. Bonding material should provide strength to the mixture. Resistivity of the mixture shall be less than 0.2 ohm-meter. Resistivity shall be tested by making a 20cm cube of the material and checking resistance across the opposite face of the cube.

8.1.2.4 Complete electrode shall be molecularly bonded by 99.99% pure, high conductivity copper on outer surface with copper coating thickness 300 micron or more.

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8.1.2.5 Its surface shall be clean and free from any visible oxide layer or foreign material.

8.1.2.6 Copper bus bar of size 250 mm x 50 mm x 6 mm having electrical conductivity of 101% IACS, minimum 99.9% copper content shall preferably be exothermically welded to earth electrode or connected with the help of two number stainless steel nut bolts of appropriate size having 4 holes of 12 mm dia. (2 on each side) for connecting earthing conductor.


8.1.2.7 Current carrying capacity: The design of the electrode should be such as to have more than following current carrying capacity in kA (for 1 second):

S. N.	Current Capacity	Primary Conductor Diameter	Electrode Dimensions (Dia. x Length)
1.	3 kA	25 mm	40 mm x 2000 mm
2.	5 kA	25 mm	40 mm x 3000 mm
3.	15 kA	25 mm	50 mm x 3000 mm
4.	40 kA	40 mm	80 mm x 3000 mm
5.	50 kA	50 mm	100 mm x 3000 mm

Note: For more than 50 KA applications, multiple electrodes of 50 KA capacity shall be installed and connected.


8.2 EARTH ENHANCEMENT MATERIAL:

Earth enhancement material is a superior conductive material that improves earthing effectiveness, especially in areas of poor conductivity (rocky ground, areas of moisture variation, sandy soils etc.). It may contain conductive cement, graphite, hydrous aluminium silicate, sodium montmorillonite etc. and shall not contain bentonite. It improves conductivity of the earth electrode and ground contact area. It shall have following characteristics-

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- i. It should have low resistivity preferably bellow 0.2 Ohm-meters. Resistivity shall be tested by making a 20 cm. cube of the material and checking resistance across the opposite face of the cube.
- ii. It shall not depend on the continuous presence of water to maintain its conductivity.
- iii. It should be a little alkaline in nature with pH value >7 but <9, test certificate from NABL approved laboratory to be provided for the composition so designed.
- iv. It should have better hygroscopic properties to absorb moisture. It should absorb and release the moisture in dry weather condition and help in maintaining the moisture around the earth electrode.
- v. It should have capacity to retain >10% moisture at 105 °C. Test certificate from NABL approved lab to be submitted for the composition so designed.
- vi. It should have water solubility < 5%. Test certificate from NABL approved lab be submitted for the composition so designed.
- vii. It should be granular with granule size 0.1 mm to 3 mm.
- viii. It should be non toxic, non reactive, non explosive & non corrosive.
- ix. It shall be thermally stable between -10 degree centigrade to +60 degree centigrade ambient temperature.
- x. It shall not decompose or leach out with time.
- xi. It shall not pollute the soil or local water table and meets environmental friendly requirement for landfill.
- xii. It should expand & swell considerably and removes entrapped air to create strong connection between earth electrode and soil.
- xiii. It should be diffuses into soil pores and creates conductive roots enlarging conductive zone of earth pit.
- xiv. It shall be permanent & maintenance free and in its “set form”, maintains constant earth resistance with time.
- xv. It shall not require periodic charging treatment or replacement.
- xvi. It shall be suitable for any kind of electrode and all kinds of soils of different resistivity.
- xvii. It shall not cause burns, irritation to eye, skin etc.

- xviii. The Earth enhancement material shall be supplied in sealed, moisture proof bags. These bags shall be marked with Manufacturer’s name or trade name, quantity, batch no & date of manufacture.

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8.2.1 Backfill material

Normally the excavated soil shall be used if it is free from sand, gravel and stones. In case the excavated soil contains sand, gravel and stones these shall be removed by appropriate methods such as hand picking, sieving etc. Small proportion of sand in the soil may be permissible. Material like sand, salt, coke breeze, cinders and ash shall not be used because of its acidic and corrosive nature. If the excavated soil contains sand, gravel and stone in large proportion and it is not feasible to remove these economically, good quality soil from other place may be used for backfilling.

While backfilling the soil shall be thoroughly compacted with at least 5 kg compactor. In case the soil is dry, small quantity of water may be sprinkled only to make it moist enough suitable for compacting. Large quantity of water may make the soil muddy which is not suitable for compacting and after drying the soil may contain voids which may permanently increase earth resistance.

8.3 EQUIPOTENTIAL BUS & EARTHING CONDUCTOR


- i. A copper bus bar of size 300 mm x 25 mm x 6 mm to be installed in the equipment room as equipotential bus and must be connected with preferably copper strip of 25 mm x 3 mm (suitable length) from instrument to the bus bar. The connecting terminal of the earth electrode to the bus bar must be connected by copper strip of 25 mm x 3 mm (suitable length) buried inside a trench of 300 mm width x 600 mm depth (from the earth pit to the nearest wall). It shall be duplicated. However, it shall be ensured that only minimum required length is used and any extra length is cut away to keep the earth impedance minimum.
- ii. It shall be high conductivity copper having electrical conductivity of 101% IACS i.e. minimum 99.9% copper content The maximum specific resistance of the copper strip earthing conductor shall be 17.241×10^{-7} ohm cm at 20 °C.
- iii. At a temperature of 20 °C, its density shall be 8.89 gm/cm³.
- iv. Its surface shall be clean and free from any visible oxide layer or foreign materials.

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- v. It shall preferably be connected to earth electrode and earth bus bar with the help of welding or at least two number stainless steel nut bolts of appropriate size as directed by engineer in-charge.
- vi. Normally a single length of strip shall be used for each duplicate strip earthing conductor and no joint should be used. However, in situation requiring greater length one joint in each strip shall be permitted. The joints shall be made by welding of at least 10mm overlapping portion of the strips.

8.4 CONSTRUCTION OF UNIT EARTH.

- i. Make 5 ft x 5 ft x 10 ft earth pit. If it is not possible to make such a pit due to non-availability of clear space at locations like ATM, High mast lighting tower, Passenger information systems, PRS etc. or in rocky soil, min. 300 mm bore up to 10 ft deep can be made using earth auger or any other method. Earth pit larger than specified size can be made, if required.
- ii. Sleeve the soil digged and remove the gravels and stones. If soil quality is good (without Murum and rocks) then add some quantity of earth enhancement material in the soil for using as backfill.
- iii. If the soil seems unusable (containing large quantity of gravel, stones, murum, sad etc.) then replace the soil with black cotton soil.
- iv. Insert the electrode at the centre of the earth pit and arrange to keep it vertical in the pit.
- v. Arrange for adequate quantity of water supply for the earth pit. (Approx. 600 litres)
- vi. Fill the pit with the backfill and keep on adding the earth enhancement material surrounding the electrode and simultaneously watering the pit.
- vii. With a steel bar or pipe, keep on poking the soil gel and stirring intermittently for removing the air pockets and proper settlement of the pit.
- viii. The procedure to be repeated till completion of the filling of the earth pit along with the packing material and sufficient watering adequate ramming.
- ix. The pit should be very compactly rammed and watering for 2-3 days and addition of soil if required be done.
- x. Make trench of 600 mm (depth) x 300 mm (wide) from the earth pit to the nearest point of connection.
- xi. Construct inspection chamber with cover for the installation.

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- xii. Measure the earth resistance as per IS 3043:1987 code of practice. Earth resistance value shall be less than 1 ohm in non-rocky/non-sandy surface by single electrode Installation and in rocky surface by multiple electrode installation (not more than three electrodes & its individual earth pits). For earthing purpose, if solid rocky layer is found within 10 feet from ground level while digging the earth pit then it is considered rocky surface. Coastal area, silt soil, red sandy soil and sandy clay are considered as sandy surface.
- xiii. If required resistance is lower than the resistance of single earth electrode then multiple earths can be constructed and interconnected.

8.4.1 Construction of ring earth by providing multiple earth pits

- i. Wherever it is not possible to achieve required earth resistance with one earth electrode / pit due to difficult / rocky soil conditions, provision of ring earth consisting of more than one earth pit shall be done. The number of pits required shall be decided based on the resistance achieved for the earth pits already installed. The procedure mentioned above for one earth pit shall be repeated for other earth pits.
- ii. The distance between two successive earth electrodes shall be minimum 3 meters and max. up to twice the length of the earth electrode.
- iii. These earth pits shall then be inter linked using 25 X 3 mm copper strip or 50 x 6 mm GI strip to form a loop preferably using welding or with the help of at least two number of stainless-steel nut bolts of appropriate size as directed by engineer in-charge.
- iv. The interconnecting strip shall be buried no less than 600 mm (0.6 m) below the ground level. This interconnecting strip also be covered with earth enhancing compound if required.

8.4.2 Inspection chamber

- i. A 300 X 300 X 300 mm (inside dimension) concrete box (wall thickness min. 50 mm) with smooth cement plaster finish shall be provided on the top of the pit. A concrete lid 25 to 50 mm. thick, with pulling hooks, painted black shall be provided to cover the earth pit or earth pit cover shall be made of heavy-duty poly plastic of size min 25cm dia and 25cm deep.

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- ii. PVC sleeve of appropriate size shall be provided in concrete wall to take out earthing connections.
- iii. The masonry work shall be white washed inside and outside.
- iv. Care shall be taken regarding level of the floor surrounding the earth so that the connector is not too deep in the masonry or projecting out of it.

9.0 MARKING:

Indicator Plate: A indicator(metallic) of size30cm x 30cm with minimum 50cm long support for fixing in ground shall be provided on each earth pit indicating following:


- (i)Pit no (ii) Earth Pit & max resistance values (iii) Date of testing (iv) Due date of testing (v) Equipment name etc.

10.0 TESTS-

Following tests shall be done on minimum one sample:

10.1 Testing of copper coating shall be done as described below: -


- i. The copper coating mentioned in clause 8.1 shall not be less than the prescribed thickness at any point and shall comply with the adherence requirement in para (ii) & (iii) below.
- ii. Length of the electrode with one end cut to a 45-degree point shall be driven between two steel clamping plates or the jaws of a vise set 0.04 in (1.02 mm)
- iii. less than the diameter of the electrode, so as to shear off sufficient metal to expose the bond between the copper coating and electrode. Peeling of the coating by the steel plates or the jaws of the vise is acceptable, but there shall be no other evidence of separation of the coating from the metal core.
- iv. At room temperature, a length of the electrode is rigidly held in a clamp or vise and the free end is bent by applying a force normal to the electrode at a distance from the clamping device equal to 40 times the diameter. The magnitude of the force and the direction of application of force shall be such that the electrode is permanently bent through a 30-degree angle. While bending of the electrode there shall be no evidence of cracking of the copper coating.

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- 10.2 Material composition of rod shall be tested as per standards mentioned in clause no. 8.1.1.1.
- 10.3 MS pipes shall be tested as per IS:1239.
- 10.4 Copper bus bars of shall be tested for percentage of copper as per IS:14644.
- 10.5 Current carrying capacity test on rod electrode shall be done as per clause no. 8.1.1.3 and for concentric pipe electrode as per 8.1.2.7.
- 10.6 Corrosion Test: As per IS:2119, salt spray test for analysis of effect of corrosion for the specific electrode shall be done through NABL approved testing lab, preferably for 500 hrs. or more.
- 10.7 Exothermic weld material shall be tested as per provisions of IEEE 837.
- 10.8 Electrical properties test on conductive mixture as per clause no. 8.1.2.3.
- 10.9 Physical, chemical & electrical properties test on earth enhancement material as per clause no. 8.2.
- 10.10 Toxic content tests for cadmium, lead, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) & polybrominated diphenyl ethers (PBDEs) on conductive mixture & earth enhancement material.

Certificates from NABL approved laboratories shall be submitted with test results of above tests. Test certificates shall not be more than three years old.

For dimension, weight and specific resistance average of 3 readings shall be taken. Average value shall be within specified limits and individual values shall not go beyond double of tolerances.

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11.0 ACCEPTANCE TESTS

11.1 Following shall constitute acceptance tests and shall be done on 100% sample basis for all the tests mentioned below except where otherwise indicated-

- a. Physical check for earth electrode as per clause no. 8.1.1.1 for rod type electrode and as per clause no. 8.1.2.7 for concentric pipe type electrode.
- b. Physical check for copper bus bar as per clause no. 8.1.1.2 for rod type electrode and as per clause no. 8.1.2.6 for concentric pipe type electrode.
- c. Dimensional and construction feature tests of inspection chamber (Cl. no. 8.4.2)
- d. Earth enhancement material as per clause no. 8.2(xviii) & 8.2(xix).
- e. Earth resistance measurements as per clause no. 7.0.

11.2 REJECTION:


In case the any component tested and inspected in accordance with this specification, fail to pass the tests or comply with the requirement of the specification, another two component from the same lot shall be inspected in accordance with the specification and if one of them also fail to pass the test, the whole lot of that component shall be rejected subject to the discretion of the purchaser or his nominee.

12.0 INSPECTION:

All the gauges / test & measuring instruments shall be under calibration control at the time of inspection and proof to this office shall be produced.

Inspection and testing shall be carried out by the inspecting authority nominated by the purchaser to ensure that all the requirements of this specification are complied with for the acceptance of the materials offered by the supplier for inspection.

The purchaser or his nominee shall have right of free access to the works of the manufacturer and to be present at all reasonable times and shall be given facilities by the manufacturer to inspect the manufacturing process at any stage of manufacture. He shall have the right to reject whole or part of any work or material that does not conform to the terms of this specification or any other specification or requirement

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applicable and may order the same to be removed / replaced or altered at the expense of the manufacturer. All reasonable / complete facilities considered necessary by the inspecting authorities for the inspection shall be supplied by the manufacturer free of cost.

The manufacturer shall at his own cost prepare and furnish the necessary test pieces and appliances for such testing as may be carried out at his own premises in accordance with the specification. Failing the existence of facilities at his own premises for the prescribed tests, the manufacturer shall bear the cost of carrying out the tests in an approved laboratory, workshop or test house.


13.0 COMPLETION REPORT & CERTIFICATION:

13.1 The last documents for the completion of the procedure will be submission of the work completion report to the concern authority. After testing the earth values of the pits and proper recording shall be done, certified grounding self-adhesive certificate shall be provided for all installations and the same will be displayed / pasted at the place of installation.

13.2 The complete layout with dimensions of the earthing & bonding system shall be submitted by the supplier in appropriate size (in three copies) after commissioning showing commissioning date, earth resistance, specification no. and manufacturer’s name.

14.0 SPECIFICATIONS & RECOMMENDED MAKES:

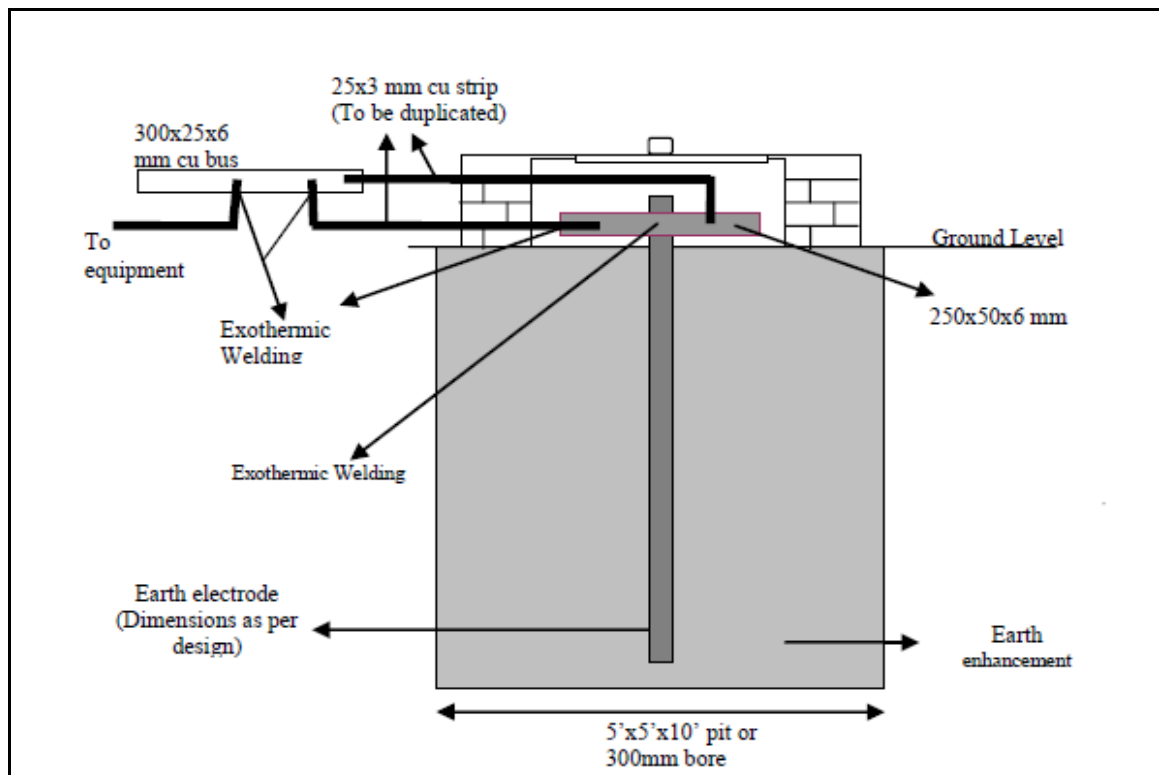
- Earthing Electrode: Strip in pipe electrode - Minimum 3-meter-long, 60 mm dia pipe with inner flat of 40x10 mm strip with minimum galvanization of 80 to 100 microns. Secondary electrode shall be ISI marked and fabricated of class-B, Tata/Jindal/Equivalent make GI pipe. It shall be CPRI Tested.
- Ground Enhancing Material: Minimum 30Kg per earth pit having resistivity not more than 0.12 Ohms as Per IEEE 80 2000 clause 14.5.d (Test report to be submitted) Make-Terragel/Equivalent. It should be thermally stable between (-) 30 degree to (+) 60 degree and should be environment friendly.

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- Earth Pit Cover: Made of heavy-duty poly plastic of minimum size 25cm dia and 25cm deep. Make: Hex/Dhruva Protec/Equivalent
- PVC Flexible cable/wires: Polycab/Havells/Finolex/Avocab
- Welding rod: Essab/Advani/D&H/Honavar/GE//Equivalent make
- All other material/ accessories such as nut bolts, lugs, paint, screws etc shall of reputed makes/ ISI Mark.

15.0 General Arrangements for Earth System

GENERAL ARRANGEMENTS FOR EARTH SYSTEM



EARTH ELECTRODE INSTALLATION



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ANNEXURE II – DEVIATION SHEET

EXCEPTION AND DEVIATIONS STATEMENT				
S.NO.	PAGE NO. OF TENDER DOCUMENT	CLAUSE NO.	SUBJECT	DEVIATIONS

Bidder shall list all the deviations in the following given format only on their Letterhead. The Deviation sheet should be submitted along with technical bid.

In case no deviation sheet is submitted along with technical bid, it would be concluded that bidder has accepted all specifications, terms and conditions.

Sign & Stamp of Bidder



DELHI AVIATION FUEL FACILITY PRIVATE LIMITED

ANNEXURE III – DECLARATION SHEET

Date:

DECLARATION

We, M/s _____ hereby, unconditionally accept all terms & conditions of TENDER NO.: DAFFPL/MOD/FF/2017-18/14 (JOB: MAINTENANCE FREE EARTHING WORKS IN DYKE AREA) including Scope of job, quantities, completion period, terms & condition without any deviations.

Sign & Stamp of Bidder

Note: In case of deviations (whether technical or commercial) the above declaration should not be submitted and the deviations should be mentioned separately on bidders letter head with the heading "DEVIATION SHEET". In absence of "DEVIATION SHEET", it would be concluded that bidder has submitted his offer as per tender specifications, terms & conditions. Corrections in tender booklet will not be accepted.

Sign & Stamp of Bidder



DELHI AVIATION FUEL FACILITY PRIVATE LIMITED

ANNEXURE-IV

PROFORMA OF BANK GUARANTEE (EARNEST MONEY DEPOSIT)

(On Non-Judicial Stamp paper for appropriate value)

BANK GUARANTEE NO. :

BANK GUARANTEE AMOUNT:

CLAIM:

(Till 120 days from date of submission of Proposal)

TENDER NO. /DATE:

JOB DESCRIPTION/

LOCATION:

Tender Security No. [*]

Name and Address of the Beneficiary: Delhi Aviation Fuel Facility (Private) Limited
Aviation Fuelling Station, Shahabad Mohammadpur, IGI Airport, New Delhi – 110 061, India

We [*name and address of the issuing bank*] have been informed that [*Name of the Interested party*] (hereinafter called the “Interested Party”) is submitting a proposal for the Award of the Works in response to a Request for Proposal (“RFP”) by Delhi Aviation Fuel Facility (P.) Ltd. (“DAFFPL” or ‘Beneficiary’) for [*Insert description of work*] (“Works”). The conditions of the RFP, which are set out in a documents entitled Request for Proposal dated [*Please insert*] require its offer to be supported by a Tender Security.

At the request of the Interested Party, we hereby irrevocably undertake to pay you without demur, the Beneficiary, any sum or sums not exceeding Rs. _____ [*Please insert*].

Upon receipt by us of your demand in writing and your written statement (in the demand) stating that:

- 1) The Interested Party has, without written consent of DAFFPL, withdrawn its offer after the latest time specified for its submission and before the expiry of its period of validity; or
- 2) The Interested Party has refused to accept the correction of errors in nits offer in accordance with the instructions to Interested parties contained in the RFP; or

Sign & Stamp of Bidder



DELHI AVIATION FUEL FACILITY PRIVATE LIMITED

- 3) DAFFPL entered in to the contract with the Interested party but the Interested party has failed to deliver the **COMPOSITE BANK GUARANTEE (SECURITY DEPOSIT & PERFORMANCE)** in compliance with the Contract conditions; or
- 4) The Interested Party has failed to enter into the Contract within 30 (Thirty) days of being required to do so by the Tender Officer.

Any demand for payment must contain your signature(s). The demand must be received by us at this office on or before the expiry of the earliest of the following dates, when this security guarantee shall expire and shall be returned to us:

- a) Date of issue of letter communicating to the Interested Party that it has not qualified for the contract or the Proposal submitted by the Interested Party is unsuccessful or the TENDER is withdrawn and/or cancelled by the Beneficiary; or
- b) 7 (seven) days after the date of delivery of an acceptable performance bond complying with the Contract conditions and execution of the Contract after the award of the works to the Interested Party; or
- c) 120 (One hundred twenty) days from the last date of submission of Proposal in accordance with the TENDER.

Date:

Signature:

Designation:

Name of the Branch

Sign & Stamp of Bidder



DELHI AVIATION FUEL FACILITY PRIVATE LIMITED

ANNEXURE-V

PROFORMA OF COMPOSITE BANK GUARANTEE (SECURITY DEPOSIT & PERFORMANCE)

(On Non-Judicial paper of Rs. 100/-value)

To,

DAFFPL

Dear Sirs,

M/shave taken tender for the workfor DAFFPL,.

The tender Conditions of Contract provide that the Contractor shall pay a sum of Rs. (Rupees) as security deposit & performance guarantee in the form therein mentioned. The form of payment of security deposit & performance guarantee includes guarantee executed by Scheduled Bank at New Delhi, undertaking full responsibility to indemnify DAFFPL, in case of default. The said party have approached us at and their request and in consideration of the premises we having our office at have agreed to give such guarantees as hereinafter mentioned.

1. We -----hereby undertake and agree with you that if default shall be made by M/s. -----in performing any of the terms and conditions of the tender or in payment of any money payable to Daffpl. We shall on demand pay to you, without demur, protest or requiring you to seek recourse to M/s _____, in such matter as to you may direct the said amount of Rupees ----- only or such portion thereof not exceeding the said sum as you may from time to time require.
2. You will have the full liberty without reference to us and without effecting this guarantee, postpones for any time or from time to time the exercise of any of the powers and rights conferred on you under the contract with the said -----and to enforce or to forbear from endorsing any powers of rights or by reason of time being given to the said -----which under law relating to the sureties would but for provision have the effect of releasing us.
3. Your right to recover the said sum of Rs. ----- (Rupees -----) from us in manner aforesaid will not be affected or suspended by reason of the fact that any dispute or disputes have been raised by the said M/s. -----

Sign & Stamp of Bidder



DELHI AVIATION FUEL FACILITY PRIVATE LIMITED

- and/or that any dispute or disputes are pending before any officer, tribunal or court.
4. The guarantee herein contained shall not be determined or affected by the liquidation or winding up dissolution or change of constitution or insolvency of the said -----but shall in all respect and for all purposes be binding operative units payment of all money due to you in respect of such liabilities is paid.
 5. Our liability under this guarantee is restricted to Rupees -----our guarantee shall remain in force until -----unless a suit or action to enforce a claim under Guarantee is filed against us within six months from -----(which is date of expiry of guarantee) all our rights under the said guarantee shall be forfeited and we shall be relieved and discharged from all liabilities there under.
 6. NOT WITHSTANDING anything hereinbefore contained our liability under this Bank Guarantee is restricted to Rupees -----(Rupees -----).This Bank Guarantee shall be valid up to -----and we are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before.
 7. This guarantee is to be returned to us within fifteen (15) days from the date it ceases to be in force. If the guarantee is not returned to us within the date of aforementioned it shall be automatically cancelled.
 8. We have power to issue this guarantee in your favour under Memorandum and Articles of Association and the undersigned has full power to do under the Power of Attorney dated -----granted to him by the Bank.

Yours faithfully

-----Bank
By its Constituted Attorney
Signature of a person duly
Authorized to sign on behalf of the bank

Sign & Stamp of Bidder



DELHI AVIATION FUEL FACILITY PRIVATE LIMITED

Annexure- VI

Form of Letter of Undertaking

[On the letterhead of the Interested Party]

Letter of Undertaking

Date:

Delhi Aviation Fuel Facility (Private) Limited
Aviation Fuelling Station, Shahabad Mohammadpur,
IGI Airport, New Delhi – 110 061, India

Re:

The undersigned Interested Party acknowledges that the TENDER issued is confidential and personal to the undersigned Interested Party and hereby undertakes and agrees as follows:

1. **“Confidential Information”** means the TENDER and everything contained therein, all documentation, data, particulars of the Works and technical or commercial information made by (or on behalf of) Delhi Aviation Fuel Facility (Private) Limited or obtained directly or indirectly from Delhi Aviation Fuel Facility (Private) Limited or its representatives by the undersigned Interested Party or which is generated by the undersigned Interested Party or any information or data that the undersigned Interested Party receives or has access to, as a result of the TENDER, as being confidential information of Delhi Aviation Fuel Facility (Private) Limited, provided that such term does not include information that (a) was publicly known or otherwise known to undersigned Interested Party prior to the time of such disclosure, (b) subsequently becomes publicly known through no act or omission by undersigned Interested Party or any person acting on its behalf.
2. The undersigned Interested Party shall maintain the confidentiality of Confidential Information in accordance with procedures adopted by the undersigned Interested Party in good faith to protect confidential information of third parties delivered to it, provided that the undersigned Interested Party may deliver or disclose Confidential Information to its authorized representatives who agree to hold confidential the Confidential Information substantially in accordance with the terms of this Undertaking.
3. The undersigned Interested Party shall not at any time whatsoever:
 - (i) Disclose, in whole or in part, any Confidential Information received directly or indirectly from the Delhi Aviation Fuel Facility (P) Limited to any third party.

Sign & Stamp of Bidder



DELHI AVIATION FUEL FACILITY PRIVATE LIMITED

(ii) Reproduce, publish, transmit, translate, modify, compile or otherwise transfer the Confidential Information.

4. In case the Proposal of the undersigned Interested Party is not accepted and immediately upon the acceptance of the Proposal of any of the other Interested Party, the undersigned Interested Party, shall:

(i) Return all Confidential Information including without limitation, all originals, copies, reproductions and summaries of Confidential Information; and

(ii) Destroy all copies of Confidential Information in its possession, power or control, which are present on magnetic media, optical disk or other storage device, in a manner that ensures that the Confidential Information is rendered unrecoverable.

5. The undersigned Interested Party shall certify to Delhi Aviation Fuel Facility (Private) Limited that it has returned or destroyed such Confidential Information to the Delhi Aviation Fuel (Private) Limited within two (2) days of such a request being made by Delhi Aviation Fuel (Private) Limited.

Name of Interested Party's

Signature of Authorized Representative

Sign & Stamp of Bidder



DELHI AVIATION FUEL FACILITY PRIVATE LIMITED

Annexure VII

DECLARATION to be submitted along with Technical Bid

(M/s. _____) hereby declare / clarify that we have not been banned or delisted by any government or quasi Government agencies or Public Sector Undertakings.

Stamp & Signature of the bidder

NOTE: If a bidder has been banned by any Government or quasi Government agencies or PSUs, this fact must be clearly stated with details. If this declaration is not given along with the technical bid, the tender will be rejected as non-responsive.

Sign & Stamp of Bidder

PRICE BID

PART-A (SUPPLY)					
S.No.	Item Description	Quantity.	Unit	Unit Rate for supply on F.O.R. Basis in (Rs.)	Amount (Rs.)
1	Supply of earthing loop / grid conductors / strips/earthing wires including clamps, lugs and necessary hardware/materials of following sizes				
a	50 x 6 mm GI Strip	2500	Mtrs		
b	16 sq.mm Cu. PVC flexible wires	100	Mtrs		
2	Supply of Advance Earthing System (Maintenance free earthing system)				
a	Three (03) meter long strip in pipe electrode. (Primary electrode 40x10mm strip and secondary electrode 60 mm dia GI pipe) with heavy duty plastic cover, connector & indicator plate for maintenance free earth pits.	8	Nos		
b	Earth enhancing compound (30 Kg for each earth pit)	240	Kg		
Total					
Taxes @ _____%					
Total Amount (A) including taxes					
Total Amount (A) including taxes (in words):					

SIGNATURE OF BIDDER ALONGWITH STAMP

PART-B (INSTALLATION, TESTING & COMMISSIONING)

S.No.	Item Description	Quantity.	Unit	Unit Rate for Installation, Testing and Commissioning & all incidentals cost (Rs.)	Amount (Rs.)
1	Installation, testing and commissioning of earthing loop / grid conductors / strips/ earthing wires of following sizes on the wall, floor or structures / buried in ground including excavation in all types of soil & concrete, back filling & related civil works. Installation shall include the welding at joints, clamping using clamps and necessary hardware/ materials, nut-blots, screws, lugs and consumables as per standard and directions of Engineer-in-charge.				
a	50 x 6 mm GI Strip	2500	Mtrs		
b	16 sq.mm Cu. PVC flexible wires	100	Mtrs		
2	Construction, installation, testing & comissioning of maintenance free earth pits including all required works.				
a	03 meter long strip in pipe electrode. (Primary electrode 40x10mm strip and secondary electrode 60 mm dia GI pipe) with heavy duty plastic cover, connector & indicator plate for maintenance free earth pits.	8	Nos		
b	Treatment of earth pit with 30 Kg of earth enhancing compound	8	Nos		
OPT	Shifting of existing earthpits with heavy duty plastic cover & connector including testing, commissioning & all required works.	U.R.	Nos		
3	Removal of existing earthing strips and wires as is where is basis and shifting of the same to scrap yard within the facility. No Hot work will be permitted for cutting of the above ground/burried strips. Only manual hacksaw cutting allowed in license area.	Lumpsum			
Total					
Taxes @ _____%					
Total Amount (B) including taxes					
Total Amount (B) including taxes (in words):					

SIGNATURE OF BIDDER ALONGWITH STAMP

CONSOLIDATED PRICE BID	
Total Amount (A+B) excluding taxes	
Total Amount (A+B) including taxes	
Total Amount (A+B) including taxes (in words):	

Notes:

1. All supply and work shall be in line with tender specifications, drawings and instructions of the Engineer-in-Charge.
2. Site Storage with watch and ward, receipt, unloading, shifting material to store and internal shifting to site shall be included in Vendor's scope.
3. The Schedule of Rates should be read with all other sections of the tender documents.
4. The tenderer shall be deemed to have studied the drawings, specifications and the details of work to be done within the time schedule and to have acquainted with the conditions prevailing at site.
5. The quantities shown against the various items are only indicative of the quantum of work and it may vary to any extent. Billing will be done as per actual. Vendor to make measurements at site before dispatch of any material.
6. In case of any rework due to faulty workmanship or any defects occur or modifications are required no extra claims for such works/supply shall be entertained.

SIGNATURE OF BIDDER ALONGWITH STAMP