

Tender No. NHIT/FY25-26/RFE/ SOLAR PV + BESS HYBRID SYSTEM

Request for Empanelment (“RFE”) issued by National Highways Infra Trust (NHIT) for Empanelment of Agency(ies)/Firm(s) for Design, Engineering, Procurement, Supply, Installation, Testing, Commissioning, Operation & Maintenance of Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (including Grid Interactive/Behind the Meter configuration) at Project sites under SPVs of NHIT.

<u>BID SUMMARY</u>		
(i)	Last date and time for receipt of Bidding Documents	14 April 2026 up to 11:00 Hour
(ii)	Date and Time of Opening of Technical Bids	14 April 2026 at 12:00 Hour
(iii)	Place of Opening of Bids	Unit No.: 324, 3rd Floor, D21 - Corporate Park, Sector21, Dwarka-110077, New Delhi.

Note: - Bids will be opened in the presence of bidders who choose to attend as above.

National Highways Infra Trust

Unit No.: 325, 3rd Floor, D21 - Corporate Park,
Sector-21, Dwarka -110077, Delhi
Email: tender@nhit.co.in
Date: 02-04-2026

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DISCLAIMER

The information contained in this Request for Empanelment ("RFE") or subsequently provided to Bidder(s), whether verbally or in documentary or any other form by or on behalf of "NHIT" by persons authorized to do so, is provided to the interested parties on the terms and conditions set out in this RFE and such other terms and conditions subject to which such information is provided.

This RFE is not an agreement and is neither an offer nor an invitation by NHIT to interested parties who submit their quote (henceforth "Bidders") in response to this RFE. The purpose of this RFE is to provide Bidders with information that may be useful to them in preparing and submitting their Proposals (**"Proposal" for Empanelment of Agencies/Firms for Design, Engineering, Procurement, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (including Grid Interactive/Behind the Meter configuration) at Project sites under SPVs of NHIT.**

NHIT makes no representation or warranty and shall have no liability to any person or Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFE or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFE and any assessment, assumption, statement or information contained herein or deemed to form part of this RFE or arising in any way from this process.

A Bidder must warrant that all the information provided by it to NHIT at the time of application & subsequently, is true to the best of its knowledge and belief and specially warrants that it has duly complied with the provisions of laws applicable to it. Bidder indemnifies NHIT from any liabilities arising out of error or default or negligence or contravention in regard to any of the applicable laws, including, but not limited to, submission of statutory forms & other such documents.

The issue of this RFE does not imply that NHIT is bound to select any Bidder(s) for any project/work/ services / transaction. NHIT may accept or reject any Empanelment in its discretion and may ask for any additional information or vary its requirements, add to or amend the terms, procedure and protocol set out in RFE for bona fide reasons, which will be notified to all the Bidders invited to tender. Further NHIT hereby reserves the right to annul the process at any time prior to issuance of Letter of Award/Empanelment/Work Order without incurring any liability towards the Bidders.

The Bidders shall bear all costs associated with or relating to the preparation and submission of its Empanelment including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by NHIT, or any other costs incurred regarding or relating to its Bid. All such costs and expenses will remain with the Bidder and NHIT shall not be liable in any manner for the same or for any other costs or expenses incurred by a Bidders in preparation or submission of the Bid, regardless of the conduct or outcome of this RFE and the related processes.

SECTION 1. NOTICE INVITING TENDER

- 1.1 NHIT invites Bids from eligible parties for Empanelment of Agencies/Firms for Design, Engineering, Procurement, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (including Grid Interactive/Behind the Meter configuration) at Project sites under SPVs of NHIT.
- 1.2 Agency/Firm will be empanelled after technically qualifying criteria as mentioned under section 4 as described in this RFE and in accordance with the practices of NHIT.
- 1.3 The RFE includes the following documents:
 - Section 1 – Notice Inviting Tender
 - Section 2 – Instructions to Bidders
 - Section 3 – Scope of Works
 - Section 4 – Form of Technical Proposal
 - Section 5 – Undertaking
- 1.4 Brief Description of Bidding Process
 - 1.4.1 NHIT has adopted single stage evaluation process for selection of the Bidder(s) for award of the work: the Bid by the Bidders shall be submitted in physical form in the prescribed format (To clarify, the documents should be serially numbered and hard/spiral bound) in the manner and before the date and time specified herein.
 - 1.4.2 After the submission of bids, each of the Bidders may be invited to make a presentation (if required) of their proposal to “NHIT”. The date and time of presentations would be intimated to Bidders separately by email. The Presentation shall be made through either video-conferencing facility or in person meeting at “NHIT” office.
 - 1.4.3 Only those Bidders whose Bids are found to be responsive and meeting the Minimum Eligibility Criteria (hereinafter referred to as Qualified Bidders) in terms of this RFE, shall be eligible to be empanelled vendor. The bidders may send their authorized representatives along with an authorization letter on the letter head of the bidder for participation in the opening of the bid. The date and time of opening of Bids of such Bidders, will be intimated to them separately by NHIT through email or uploaded on NHIT website (<https://nhit.co.in/procurement-tender/>). The Bids will be opened physically at the location provided in this document. Only one representative of the Bidder shall be allowed to attend the opening of the Bids.
 - 1.4.4 The proposal of each bidder shall be opened and evaluated
- 1.5 Any queries or requests for additional information concerning the RFE shall be submitted in writing and/or e-mail to the officer designated below. The envelope / email communication shall clearly bear the following identification/title: "Queries/ Request for Additional Information: **Request for Empanelment (“RFE”) issued by NHIT for Empanelment of Agencies/Firms for Design, Engineering, Procurement, Supply, Installation, Testing, Commissioning, Operation & Maintenance of Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (including Grid Interactive/Behind the Meter configuration) at Project sites under SPVs of NHIT.**
- 1.6 **Address for Communication:**

Shri Sandeep Khosa – GM (Procurement),

NHIT Western Projects Private Limited, SPV under NHIT

Unit No.: 324, 3rd Floor, D21 – Corporate Park,

Sector-21, Dwarka, Delhi – 110077.

E mail: tender@nhit.co.in

1.7 **Schedule of Bidding Process:**

The NHIT shall endeavour to adhere to the following schedule: Any changes to the following schedule shall be informed to the Bidders through Website or email communication.

S. No.	Description of Events	Timeline
1.	Name of Assignment	Request for Empanelment (“RFE”) issued by National Highways Infra Trust (NHIT) for Empanelment of Agency(ies)/Firm(s) for Design, Engineering, Procurement, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (including Grid Interactive/Behind the Meter configuration) at Project sites under SPVs of NHIT.
2.	Date of issue of RFE	02 April 2026
3.	Last date for receiving queries from bidders	07 April 2026
4.	Pre-Bid Queries	No pre-bid meeting. The bidders must submit their queries through email at tender@nhit.co.in which will be replied at NHIT website / through email.
5.	NHIT’s response to queries latest by	09 April 2026
6.	Bid due date (Last date for bid submission)	14 April 2026 up to 11:00 Hour
7.	Opening of Technical Bids	14 April 2026 at 12:00 Hour Corporate Office: Unit No.: 324, 3rd Floor, D21 – Corporate Park, Sector-21, Dwarka, New Delhi-110077

SECTION 2 – INSTRUCTIONS TO BIDDERS

2.1 Introduction

About the company: Please refer to our website www.nhit.co.in

2.2 Empanelment

National Highways Infra Trust (NHIT) seeks Proposals for Design, Engineering, Procurement, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (including Grid Interactive/Behind the Meter configuration) at Project sites under SPVs of NHIT as per scope of work given in Section 3 – Scope of Work of the RFE document.

2.3 Clarification and Amendment of RFE Documents

- 2.3.1 Bidders may request clarifications on any of the RFE documents up to the time mentioned in Section 1. Any request for clarification must be sent in writing NHIT address indicated in the RFE or by e-mail to tender@nhit.co.in NHIT will respond in writing, or by e-mail/ uploading responses on website or will send written copies of the response (including an explanation of the query but without identifying the source of inquiry) to all Bidders. Should NHIT deem it necessary to amend the RFE as a result of clarification, it shall do so following the established procedure and inform the Bidders of the same through written communication or by uploading it on the website of NHIT.
- 2.3.2 At any time before the submission of the Bids, NHIT shall have the right to amend the RFE by issuing an addendum/ amendment in writing or by standard electronic means. The addendum/ amendment shall be uploaded to the website of www.nhit.co.in which will be binding on all Bidders. To give Bidders reasonable time for considering the addendum/ amendment in their Bids, NHIT may, if the addendum/ amendment is substantial, at its discretion, extend the deadline for the submission of Bids.
- 2.3.3 It will be the responsibility of the Bidders to keep track of any uploaded addendum/ amendment before submission of the Bid.

2.4 Submission of Empanelment

The Empanelment shall be submitted as indicated below:

- 2.4.1 Sealed Envelope containing the Proposal of the Bidder. The proposal should be in the manner and format as prescribed in RFE Section 4 – Form of Technical Bid. Please note that proposals with any conditionality will be summarily rejected.
- 2.4.2 Your proposal (i.e. the aforesaid sealed envelopes marked as “Bid - Proposal “**Empanelment of Agencies/Firms for Design, Engineering, Procurement, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (including Grid Interactive/Behind the Meter configuration) at Project sites under SPVs of NHIT**” should reach the undersigned, latest by date/time mentioned in the Section 1 – Notice inviting Tender, in hard copies/in original and shall remain valid for 120 days thereafter. The proposal should be signed by the authorized signatory of your entity. No proposal will be entertained after the due time and date, as stated above. NHIT shall not be responsible for any delay whatsoever in nature. The proposals received after the due time and date will be summarily rejected.
- 2.4.3 NHIT reserves the right to accept or reject any or all the offers received without assigning any reason. For any clarification, you may feel free to contact the undersigned.

2.5 Modification/Substitution/Withdrawal of Bids

- 2.5.1 The Bidder may substitute or withdraw its bid after submission prior to the Bid due date. No Bid shall be allowed to be substituted or withdrawn by the Bidder on or after the Bid due date.

- 2.5.2 Any alteration/modification in the Bid or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by NHIT, shall be disregarded.
- 2.5.3 Partial modification of the Bid is not allowed. The Bidder will have to submit the revised bid again in a sealed envelope, as per Clause 2.4 above, mentioning "Revised Bid" on the top of the sealed envelope and the original bid envelope will be returned to the Bidder. No Bid may be modified after the Bid Due Date. Withdrawal or modification of Bids between the Bid Due Date and Expiration of Bid validity shall result in disqualification from the bidding process.

2.6 Opening and Evaluation of the Bids

- 2.6.1 The Bids will be opened after the due date at the time prescribed in the RFE document in the presence of the Bidders who choose to attend. NHIT will subsequently examine and evaluate the Bids in accordance with the provisions set out.
- 2.6.2 After the submission of technical bids, each of the Bidders shall be invited for making presentation (If required) of their proposal to NHIT. The date and time of presentations would be intimated to Bidders separately by NHIT through email. The Presentation shall be made either through video-conferencing facility or in person meeting at NHIT office.
- 2.6.3 Prior to evaluation of the Bids, the NHIT shall determine whether each Bid is responsive to the requirements of this RFE.
- 2.6.4 The Bid of prima-facie non-responsive Bidders shall not be evaluated.
- 2.6.5 To assist in the examination, evaluation, and comparison of Bids, NHIT may, at its discretion, ask any Bidder for clarification of its Bid. The request for clarification and the response shall be in writing or by email, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by NHIT in the evaluation of the Bids.
- 2.6.6 The Bidders would be evaluated on the criteria mentioned in Section 4 of this RFE and shortlisted for the purpose of empanelment.
- 2.6.7 Except in case any clarification is asked by NHIT, no Bidder shall contact NHIT on any matter relating to its Bid from the time of the Bid opening to the time the contract is awarded. If any Bidder wishes to bring additional information to the notice of NHIT, it should do so in writing at the address prescribed in the Notice Inviting Tender.

2.7 Prior to evaluation of the Bids, the NHIT shall determine whether each Bid is responsive to the requirements of this RFE document. A Bid will be declared non-responsive in case:

- 2.7.1 If a Bidder submits more than one Bid against this RFE.
- 2.7.2 The physical bid submissions are incomplete/ inadequate to the requirements of the RFE Documents.
- 2.7.3 Documents are submitted loose. (To clarify, the documents should be serially numbered or to be submitted in bounded form).
- 2.7.4 If in case the Power of Attorney or the Authority Letter is not provided.
- 2.7.5 If a Bidder submits a conditional Bid or makes changes to the terms and conditions given in this RFE document.
- 2.7.6 Failure to comply with all the requirements of RFE document by a Bidder.
- 2.7.7 If the Bid is not submitted in the formats prescribed in the RFE document.
- 2.7.8 If any requisite document/ certificate is not in the prescribed format the same shall not be considered while evaluating the bids and the same may lead to Bid being declared as non-responsive.
- 2.7.9 If the envelope containing physical submission is not sealed and marked as prescribed in the RFE document.
- 2.7.10 A Bid valid for a period of time shorter than prescribed in the RFE document.

2.8 Conflict of Interest:

- 2.8.1 Bidders at all times shall provide professional, objective, and impartial advice and at all times hold the NHIT Entities interest paramount, strictly avoid conflicts with other assignments or their own corporate interests and act without any consideration for future work. No two Bidders can have the same constituents or any such arrangement pursuant to which any third party is in a position to have access to confidential information of each other.
- 2.8.2 NDA clause to be signed between NHIT and the Agency/firm post release of the LOE, if required by NHIT.

2.9 Fraud and Corruption:

- 2.9.1 Bidders would be required to observe the highest standard of ethics during the selection and execution of such work. NHIT defines:
 - 2.9.1.1 "Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the selection process or in contract execution; and
 - 2.9.1.2 "Fraudulent practice" means a misrepresentation of facts in order to influence a selection process or the execution of a contract to the detriment of the NHIT and includes collusive practices among bidders (prior to or after submission of proposals) and to deprive the NHIT of the benefits of free and open competition.
- 2.9.2 NHIT will reject a proposal for Empanelment/Selection if it determines that the bidder recommended for Empanelment has engaged in corrupt or fraudulent activities in competing for the work in question.
- 2.9.3 NHIT will declare a bidder ineligible, either indefinitely or for a stated period of time, to be engaged if at any time determines that the bidder has engaged in corrupt or fraudulent practices in the bidding process for Empanelment for the subject work.
- 2.9.4 The bidder declared ineligible for corrupt and fraudulent practices by NHIT in accordance with the above paras shall not be eligible for selection.

2.10 Consortium of Bidders is not allowed

To be clarified, Bidder must be a single entity (natural person or a private entity), and not a group of entities (the "Joint Venture") coming together to implement the project. Bids from Joint ventures consortium, combination or any sort of arrangement between two or more than two entities, including Sub-Contracting, are not permitted.

2.11 Empanelment Period

NHIT proposes to empanel Agencies/firms for a period of 1 Year. The Empanelment may be further extended for a period of 2 more Year by NHIT/SPVs under NHIT subject to satisfactory delivery of services by Agency/ firm and approval from Competent Authority.

2.12 Termination

Upon finding deficiencies in quality of service/works, NHIT will notify the Agency/firm for rectification. Agency/firm will be given 7 days for rectification in deficiencies in case of nonresponse beyond 10 days, Termination notice may be issued with 10 days of notice.

2.13 Minimum Eligibility Criteria of Qualified Bidders

Eligibility Criteria To be considered for selection by the NHIT, the bidders should meet the following criteria:

- 2.13.1 The Bidder shall have a minimum experience of Five (5) years in execution of Similar Projects as on the Bid Due Date.

“Similar Projects” shall mean projects involving design, engineering, supply, installation, testing, and commissioning (EPC) and/or Operation & Maintenance (O&M) of:

- Solar PV + Battery Energy Storage System (BESS) Hybrid Systems,
OR
- Standalone Solar PV Power Plants (grid-connected / captive / behind-the-meter),
OR
- Standalone Battery Energy Storage Systems (BESS) / energy storage systems integrated with electrical networks.

2.13.2 **Technical Experience**

- The bidder should have successfully executed at least three (3) renewable energy projects, including grid-connected rooftop and/or ground-mounted solar PV projects, with a cumulative installed capacity of more than 1 MWp within the last five (5) years.
- The bidder shall demonstrate relevant experience in the design, engineering, supply, installation, testing, and commissioning (EPC) of renewable energy systems. Preference will be given to entities with prior experience in hybrid energy projects executed for government, infrastructure, or commercial clients.

2.13.3 **Financial Capacity**

- I. The Bidder/ Company should have cumulative revenue/turnover of a minimum of Rs 10 Crore during the last three financial years ending 31/03/2023, 31/03/2024 and 31/03/2025. Certified copies of Financial Statements or certificate of turnover from Statutory Auditor / Chartered Accountant of the Bidder to be submitted along with the bid.
- II. The bidder shall have a positive net worth of not less than INR 5 Crore as on 01.03.2026, supported by audited financial statements. Provisional financial statements shall be accepted. However, subjected to approval

2.13.4 The Bidder shall not be an associate of the Sponsor i.e., NHAI, or NHIT or IDBI Trusteeship Services Limited.

2.13.5 Possession of valid GST, PAN, and other statutory certifications. Compliance with labour, safety, and environmental regulations.

2.13.10 **Legal Entity:** The bidder should be a Legal Entity registered under the Companies Act, 2013 or the Companies Act, 1956 or a Limited Liability Partnership (LLP) registered under the LLP Act, 2008 or Indian Partnership Act 1932.

2.13.11 **Blacklisting:** The bidder should not be debarred/ blacklisted by any Government Agency/ NHIT/Entities of NHIT/PSU in India as on date of submission of the Bid.

2.13.12 **Legal:** The bidder should not be subjected to any legal action for any cause in any legal jurisdiction in the last five years which would materially affect its ability to perform under this RFE.

2.14 Tax Payment – GST Payment Clause: The bidder must have a valid GST Registration and PAN in India. In the case of payment to a GST registered supplier, GST amount as claimed in the invoices by the consultant/contractor/Agency/Firm in terms of provisions mentioned in the Contract Agreement /Purchase Order may be paid along with their invoices subject to:

- 2.14.1 The GST portion that would be released would be proportionate to the amount of work certified as due for payment.
- 2.14.2 If the GST for any previous invoice is not reflected or reflected incorrectly in GSTR-2B after the due date of filing Return under GST Act is over, then for further payments the GST portion will be withheld till the previous GST amount is reflected accurately in GSTR-2B and position to the extent as depicted above is rectified.
- 2.14.3 However, the GST portion for the final invoice will be withheld till the GST of all invoices including the final invoice are accurately reflected in the GSTR-2B.

- 2.14.4 If a consultant/contractor/Agency/Firm abandons their work before completion, the unpaid GST portion of all invoices raised by them shall be withheld until the GST portion for the said invoices are reflected accurately in GSTR-2B.

2.15 Dis-Qualification Criteria:

NHIT may at its sole discretion and at any time during the evaluation of Empanelment, disqualify any respondent, if the respondent:

- 2.15.1 Submitted the Empanelment documents after the bid due date.
- 2.15.2 Made misleading or false representations in the forms, statements and attachments submitted in proof of the eligibility requirements.
- 2.15.3 Failed to provide related clarifications, when sought.
- 2.15.4 Respondent or its directors declared ineligible, debarred by CPSU/ SPSU/ Government companies/ Government organizations/NHIT/Entities of NHIT/ regulatory authorities for corrupt and fraudulent practices or blacklisted.
- 2.15.5 Bidders who submit their bid as JV other than as provided in this document, to meet eligibility criteria will not be considered as qualified bidders. Such, JV bidder will be considered ineligible and summarily rejected.
- 2.15.6 The Bidder had any dispute with NHIT Entities or defaulted in services/works of NHIT.

2.16 Technical Evaluation Criteria:

- 2.16.1 Evaluation shall be based on the Bid submitted by the Bidders as per Section 4 – Form of Technical Proposal.
- 2.16.2 The evaluation of the Technical Proposals shall be carried out with a maximum score of 100 as per the methodology mentioned in Section 4 Form of Technical Proposal. Where Total technical score total would be computed under Section 4.
- 2.16.3 The Technical Proposal shall be submitted in physical form along with all supporting documentation/ information as mentioned along with the criteria.
- 2.16.4 The presentation need not be included in the Technical Proposal. The Presentation shall be made as per schedule communicated by NHIT and a copy of presentation to be submitted on email at the time of presentation (if required). The Bidders would be evaluated on the criteria mentioned in Section – 4 based on their Proposals received and shortlisted for the purpose of empanelment.

2.17 Financial Proposal:

Bidders need not to include any Financial Proposal as part of their Bid, Financial Proposals will be called separately from the empanelled bidders on as and when required basis from the SPVs under NHIT.

2.18 Procedure for Empanelment of Agency/s:

- 2.18.1 Post qualification of the minimum eligibility criteria, the bidder(s) will be selected under the Quality Based Selection method as described in this section and in accordance with the practices of NHIT.
- 2.18.2 NHIT proposed to empanel Three (3) Agencies/Firms. NHIT reserves the right to finalize the number of Agency/Firm to be empanelled at its discretion.
- 2.18.3 Bidder who scores minimum 70 marks as per Technical Criteria mentioned in Section 4 of this RFE, will be considered Technical Qualified Bidders and will be eligible for Empanelment.
- 2.18.4 NHIT retains the authority to determine the award of projects offered to Agency/Firm.

2.19 Payment Schedule:

- 2.19.1 Payment shall be made monthly on submission of the Tax Invoice, duly approved by Project Manager.

2.19.2 GST for all payments would be released after submission of proof of payment of GST.

2.20 Documents to be submitted along with the Bid

- 2.20.1 Either power of attorney or an authority letter from Partner / Board / Managing Committee of the Bidder entity should be provided for authentication of the authorized signatory signing the Bid document.
- 2.20.2 Bid in the form provided in the RFE duly signed by the authorized representative of the bidder on all pages.
- 2.20.3 Detailed profile of the Bidder certified by Authorized Signatory of the Bidder.
- 2.20.4 Documents in support of the claims of Bidder regarding eligibility/ experience duly signed by the authorized representative of the bidder on all pages. NHIT may ask for 3rd party certificates from the Bidder(s), at a later stage.
- 2.20.5 Undertaking in the format provided in the RFE duly signed by the authorized representative of the bidder on all pages.
- 2.20.6 Company profile including Registration certificate, GST Certificate and MSME Certificate if applicable.
- 2.20.7 Experience Certificate self-attested along with copy of Work order/Purchase Orders.

2.21 Financial Bids / Fees

Financial bids will be called from empanelled bidders as per requirements of SPVs under NHIT

2.22 Key Terms and Conditions of Empanelment

NHIT reserves the right to curtail or extend the validity period of the empanelled Agency/firm.

2.23 Commencement of Supply: Within 15 days of issuance of LOA/Work Order by NHIT.

2.24 MSME Agency/Firm:

Bidder shall confirm if they are/are not registered as Micro Enterprise/ Small Enterprise/ Medium Enterprise. The registered Bidder shall submit Registration no. along with Registration Certificate issued. The bidder shall also confirm that any change in Status of their organization under the above Act shall be duly informed by NHIT. Any failure on their part in informing them about the changed status shall be the sole responsibility of Bidder.

2.25 Safety & Work Practice:

EHS Responsibilities and Requirements – Work on Live Road

- 1. General
- 1.1. Personal Protective Equipment & Safety Appliances
The Contractor / Agency shall provide all the PPE (Personal Protective Equipment) and safety appliances required to carry out the job to all the workmen at its own cost and expenses.
- 1.2. PTW System (Wherever applicable, Sole discretion of – NHIT)
- 1.3. The Contractor / Agency shall adhere to all the provisions of EHS requirements. In case of non-compliance or continuous failure in the implementation of any of EHS provisions. NHIT may impose stoppage of work without any cost or time implications /or impose a suitable penalty for non-compliance.
- 1.4. EHS violation Penalty List in INR

- 1.4.1. Non usage of PPEs – 1000/-
- 1.4.2. Violation of Barricading Requirements 2,000/-
- 1.4.3. Caution boards/signs not displayed.1000/-
- 1.4.4. Work without PTW system 1000/- (EPC, O&M and Work on Live Road)
- 1.4.5. Usage tools & tackles without valid third-party certification 2000/-
- 1.4.6. Deployment and usage of cranes and equipment without valid third-party certification 5000/-
- 1.4.7. Main carriage way blockage without prior permission and PTW 5,000/-
- 1.4.8. Failure to deploy a shadow vehicle: ₹2,000 per instance. However, the requirement for a shadow vehicle may be waived at the sole discretion of the EHS Manager, depending on the duration of the activity and the severity of the hazard.
- 1.4.9. Transportation of manpower using makeshift arrangements or a shadow vehicle: ₹2,000 per instance / per person.
- 1.4.10. Any other unsafe act and condition 2000/-

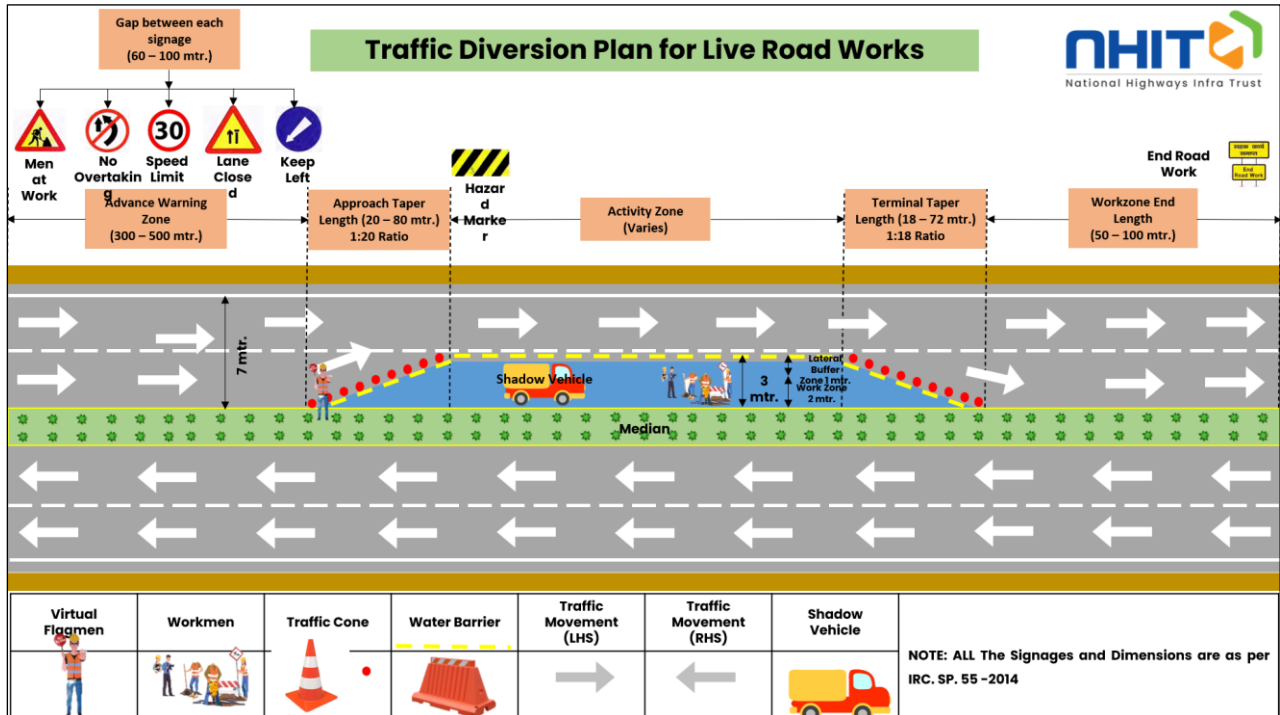
Remarks: Fines & Penalties shall be decided & revised by NHIT project manager. Fines & Penalties amount will be deducted from Contractor / Agency payment. Above penalties are per violation per occasion basis.

Repeated EHS violations will result in escalating disciplinary measures. A third occurrence of the same violation may lead to temporary suspension, while a fifth recurrence may result in permanent contract termination.

2. Method Statement & HIRA (Wherever applicable, Sole discretion of NHIT. The Contractor / Agency shall submit a detailed Work method statement and Hazard Identification & Risk Assessment (HIRA) for review and approval before commencing work.
3. Work on Live Road (Wherever applicable, Sole discretion of NHIT)
 - 3.1. Work Zone – Contractor / Agency shall create and maintain the Traffic control zones as per Section 4 of IRC SP 55 2014 – Advance warning zone, Approach transition zone, Activity zone, Terminal transition zone, Work zone end, ref figure (a) attached as annexure.
 - 3.1.1. Provide MS board with “Arrow marking & Work in progress” display @ 100 meters ahead of the work zone and fix red flags over it for good visibility.
 - 3.1.2. Ensure to provide LED chevron or blinker in case of fog time or working during inadequate illumination.
 - 3.1.3. Display sign boards such as Go Slow, Speed Limit etc.
 - 3.1.4. Deploy flag man along with Red & Green flags with a whistle or virtual flagman to be placed for better visibility and a risk-free approach.
 - 3.1.5. Contractor / Agency should ensure sufficient manpower to provide the safety arrangement on live carriage way.
 - 3.1.6. MS board with display “Men at Work” (900 mm) & Arrow marking should be placed on the live carriageway in particular lane at least 500 m ahead of working place.
4. ISO 14001 and ISO 45001 Requirement
The Contractors and Agencies are encouraged to comply with the requirements of ISO 14001 and ISO 45001.
5. Environment
General – The Contractor/Agency shall be responsible for the storage and disposal of any waste generated as a result of its operations and comply with the respective state / central pollution control board regulations.

Routine maintenance/Initial improvement works – The Contractor/Agency shall obtain Consent to Establish (CTE) and Consent to Operate (CTO) at its own cost and expenses from the respective State Pollution Control Board and comply with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

Annexure - figure (a)



Note - In addition to the above “Men at Work” (900 mm) & Arrow marking should be placed on the live carriageway at least 500 m ahead

2.26 Indemnification:

The Agency shall hold the NHIT/SPVs under NHIT harmless and shall indemnify the same against all claims, penalties, fines, losses, damages, costs and proceedings arising from the breach or contravention of any laws, rules and regulations referred to in this order.

2.27 Anti-Bribery & Corruption (ABC) Policy:

It is our policy to conduct all our business in an honest and ethical manner. We take a zero-tolerance approach to Bribery and Corruption and are committed to acting professionally, fairly and with integrity in all our business dealings and relationships wherever we operate and implementing and enforcing effective systems to counter bribery. Requested to report improper demands from the NHIT Employees. You may address the same through email at whistleblow@nhit.co.in.

2.28 Resolutions of Disputes:

Any dispute arising out of the RFE, which cannot be amicably settled between the parties, shall be referred to arbitration in accordance with the Arbitration and Conciliation Act, 1996 through a panel of three arbitrators, with each of NHIT and the remaining disputing party(s) appointing one arbitrator and the two arbitrators so appointed appointing a third arbitrator. Provided that in the event that any disputing parties fail to appoint an arbitrator within 15 days from the dispute being referred to arbitration, the other parties shall be at liberty to appoint an arbitrator for such disputing party(s) and such

appointment shall be final and binding on the other disputing parties. The venue of the arbitration shall be at New Delhi.

2.29 Force Majeure

A Force Majeure (FM) means extraordinary events or circumstance beyond human control such as an event described as an act of God (like a natural calamity) or events such as a war, strike, riots, crimes (but not including negligence or wrong-doing, predictable/seasonal rain and any other events specifically excluded in the clause). In the case of a FM, the contract frees both parties (NHIT & the Agency/Firm) from contractual liability or obligation when prevented by such events from fulfilling their obligations under the contract. However, this does not excuse a party's non-performance entirely, but only suspends it for the duration of the FM. The parties have to give notice of FM as soon as it occurs, and it cannot be claimed ex-post facto. If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of FM for a period exceeding 90 (Ninety) days, NHIT may at its option terminate the contract without any financial repercussion on the other side.

Notwithstanding the punitive provisions contained in the contract for delay or breach of contract, the Agency/Firm would not be liable for imposition of any such sanction so long as the delay and/or failure of the supplier in fulfilling its obligations under the contract is the result of an event covered in the FM clause.

2.30 Governing Law and Jurisdiction

This RFE and the subsequent agreement between the parties shall be interpreted by and shall be governed and construed in accordance with the laws of India. The Courts at New Delhi, India shall have sole jurisdiction over all matters arising out of or relating to this agreement.

2.31 Ethics & integrity:

The selected agency/firm is/are expected to maintain a high level of professional ethics and will not act in any manner, which is detrimental to NHIT's Interest.

2.32 Matter of Confidentiality:

Each agency/firm Agency/firm will maintain confidentiality on matters disclosed.

2.33 LOA/LoE/WO Acknowledgement:

After Empanelment Letter of Empanelment/LOA/WO will be issued to successful bidder. As a token of acceptance, you are requested to acknowledge the receipt of this letter with official seal & sign form the authorized signatory along with all Annexures (if any) - within 3 working days and initiate the process for the signing of the Agreement.

2.34 Right of Removal:

NHIT will have the right to remove any selected Agency/firm from the selection list without assigning any reason whatsoever and without any cost & compensation therefore NHIT also reserves the right to replace/remove/ Empanel any new agency/firm as the Agency/firm for an ongoing or future Requirements at any stage.

2.35 GENERAL TERMS AND CONDITIONS:

- 2.35.1 The agency/firm is solely responsible for ensuring the timely submission of their Bids at our office.
- 2.35.2 The agency/firm shall not sublet, subcontract, transfer or assign the package and should offer Terms with 100% Carrying Capacity.
- 2.35.3 The undersigned reserve the right to reject any or all bids without assigning any reason or whatsoever.
- 2.35.4 Bidders are advised to visit site before submission of Bids.

2.36 GENERAL INFORMATION

- 2.36.1 Profile of the Agency/Firm with full particulars of the constitution, ownership, and business activities of the prospective Agency/Firm shall be provided along with the Bid/Empanelment.
- 2.36.2 Commitment(s) which shall act either as a constraint or as a conflicting interest in the proposed assignment (if any) shall be provided along with the Bid/Empanelment.
- 2.36.3 The Bidder shall visit the site before submission of Bid/Proposal.

SECTION 3 – SCOPE OF WORKS

DARODA TOLL PLAZA – ENERGY OPTIMIZATION PROJECT

Scope of Work

The selected bidder shall be responsible for the design, engineering, procurement, supply, installation, testing, commissioning, and operation & maintenance of a Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (including Grid Interactive/Behind the Meter configuration) at Project sites under SPVs of NHIT.

The proposed system shall be designed to ensure maximum utilization of solar energy generated on-site, provide uninterrupted and reliable power supply to critical toll plaza operations, enable peak load management, and minimize dependency on both grid and DG power, while maintaining the utility grid as a contingency power source under abnormal or emergency operating conditions. All works shall be carried out in compliance with applicable provisions of the Central Electricity Authority (CEA), relevant State Electricity Regulatory Commission regulations, BIS/IEC standards, and all other statutory, safety, and regulatory requirements.

The capacity of the Solar PV system shall include installation of a minimum 60 kW solar PV system along with integration of the existing 40 kW solar PV system. The bidder may propose enhancement of the solar PV capacity beyond 60 kW, if technically feasible, based on detailed site assessment, available installation area, load requirements, and system optimization considerations, subject to approval by the Employer.

The capacity of the Battery Energy Storage System (BESS) shall be determined and optimized by the bidder based on detailed load analysis, backup requirements, and operational considerations, ensuring compliance with specified performance requirements. For the purpose of system design and BESS sizing, the peak load shall be considered based on the maximum recorded demand of the toll plaza (33.4 kVA as per available records). The bidder shall independently verify the load profile, assess and define the critical load requirements, and may propose appropriate system sizing based on detailed technical analysis.

However, under all circumstances, the proposed system shall, at a minimum, be capable of providing a continuous backup duration of sixteen (16) hours, or equivalent non-solar period based on site conditions, at the recorded peak load or the validated critical load, whichever is higher, subject to approval by the Employer. The BESS shall be designed to ensure reliable operation during non-solar hours and grid outage conditions through optimal utilization of stored energy. The BESS capacity proposed by the bidder shall be optimized and commensurate with the defined load profile and backup requirements, taking into account the availability of the grid as a contingency source without compromising the minimum backup requirements. Any over-sizing beyond reasonable technical requirements shall not be permitted. The bidder shall submit detailed sizing calculations, including load assumptions, depth of discharge, efficiency, and autonomy considerations, clearly justifying the proposed BESS capacity. The Employer reserves the right to review, rationalize, and standardize the BESS capacity during technical evaluation.

The bidding process shall be carried out through a two-stage approach. In Stage 1, bidders shall submit detailed technical proposals including system design, configuration, solar PV layout, integration of existing and proposed capacity, and battery sizing calculations demonstrating compliance with the defined backup duration and performance requirements. The technical proposals shall be evaluated by the Employer to assess compliance with project requirements, performance criteria, and applicable standards.

Based on the evaluation of technical proposals, the Employer shall finalize and standardize the system configuration, technical specifications, performance requirements, and scope of work, which shall form the basis for financial bidding.

Only those bidders whose technical proposals are found compliant shall be considered technically qualified and shall be invited to participate in Stage 2. In Stage 2, financial bids shall be invited from technically qualified bidders, and all bidders shall quote strictly based on the finalized and standardized design, specifications, and Bill of Quantities (BoQ) issued by the Employer.

Project Details

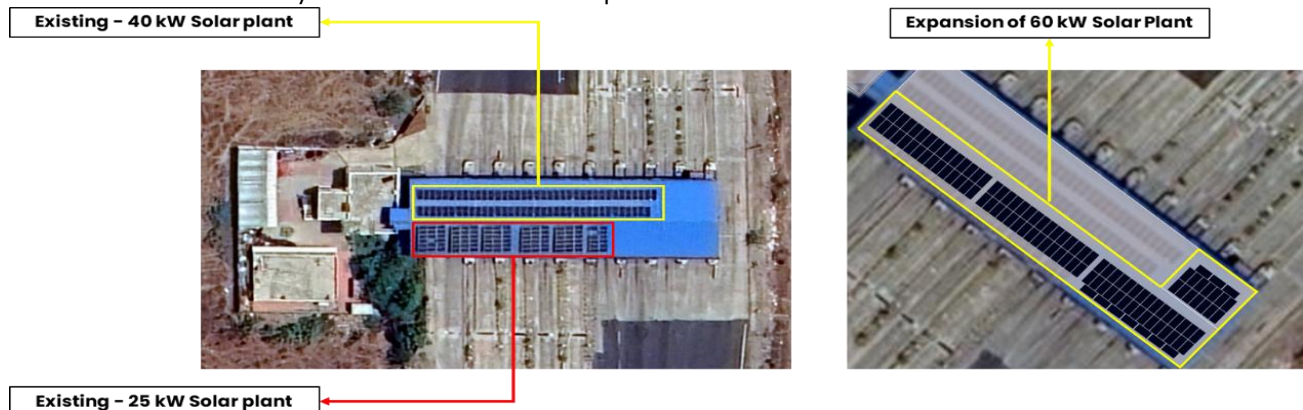
The project pertains to the implementation of a Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (Including Grid Interactive/Behind the meter) at the following location:

- The project site is located at Project sites under SPVs of NHIT, under the jurisdiction of the respective electricity distribution utility (DISCOM), and all system design and integration shall be carried out in accordance with applicable utility regulations and technical standards.
- The toll plaza currently has an existing solar PV installation comprising approximately **25 kW of aging solar PV modules** and **40 kW of relatively new solar PV modules** installed on the canopy structures. **The existing 25 kW solar PV system is proposed to be dismantled and replaced as part of this project.**

Plaza Code	340020
Plaza Name	Daroda Toll Plaza
City	Wardha
State	Maharashtra
Sanctioned Load	75 kW
Contract Demand	84 kVA
Billed Load	34 kVA
Maximum Demand	33.4 kVA
Average electricity consumption	8050 kWh
Average Daily DG operation	1 Hrs

Note: The above data has been derived from historical electricity bills and operational records of the toll plaza. Bidders may refer to the detailed electricity bills attached as **Annexure – Electricity Consumption Records** and shall verify and consider the values appropriately while carrying out load analysis, system sizing, battery backup calculations, and overall system design optimization. electricity bills for the period **April 2025 to February 2026** are attached as Annexure – Electricity Consumption Records for reference. Bidders are required to review these records and verify the values while carrying out load analysis, system sizing, battery backup calculations, and overall system design optimization.

- The Solar PV + Battery Energy Storage System (BESS) Hybrid System shall be installed only on the available toll plaza canopy structures, which constitute the sole identified installation area at the site, ensuring optimal utilization of structurally safe and shadow-free spaces.



- The project includes dismantling and **replacement of the existing 25 kW aging solar PV system** installed at the toll plaza. The bidder shall be responsible for the design, supply, installation, testing, and commissioning

of a solar PV plant with a **minimum capacity of 60 kW utilizing the available canopy area** as indicated in the figure.

- The bidder may propose enhancement of solar PV capacity beyond 60 kW based on site feasibility, available installation area, load requirements, and system optimization considerations, subject to approval by the Employer, while ensuring seamless integration of the existing 40 kW solar PV system into the overall system configuration.
- The bidder shall verify all site conditions, including available canopy area as shown in the figure, structural feasibility of canopy structures, electrical infrastructure, and load requirements prior to finalizing system design and capacity.
- The bidder shall assess the structural integrity and load-bearing capacity of the existing canopy structures and shall design suitable mounting arrangements, supports, and reinforcements, if required, in accordance with applicable structural and safety standards.
- The system capacity of BESS shall not be pre-fixed and shall be determined and optimized by the bidder based on detailed load analysis, energy consumption patterns, backup requirements, peak demand characteristics, and available installation area indicated in the figure.
- The BESS shall be designed and sized to provide a minimum backup duration of sixteen (16) hours at the recorded peak load or the validated critical load, whichever is higher, in accordance with the design basis defined in the Scope of Work.
- The bidder shall design and provide all necessary inverters, battery systems, control systems, protection systems, and balance of system components required for safe, reliable, and efficient operation of the complete Solar PV (40 kW existing + 60 kW proposed) + BESS Hybrid Energy System, including integration of the existing and newly installed solar PV capacity.
- The system shall be designed to operate in a Grid Interactive/Behind the meter configuration with minimal dependency on grid power, ensuring reliable power supply to critical toll plaza operations through optimal utilization of solar generation and battery storage.
- The bidder shall prepare and submit detailed engineering drawings, including system layout, single line diagrams (SLD), equipment specifications, and installation plans clearly indicating the utilization of the available canopy area as shown in the figure.

1. Design & Engineering

The bidder shall undertake comprehensive design and engineering of the complete Solar PV + BESS Hybrid System, ensuring safety, reliability, optimal performance, and long-term durability.

1.1 Site Survey, Assessment & Data Collection

- The bidder shall conduct a detailed site survey of the toll plaza, including rooftops, canopies, electrical rooms, and surrounding infrastructure, to assess suitability for installation of solar PV modules, battery systems, and associated equipment.
- The bidder shall assess the existing solar PV installations, identify modules and associated components to be replaced, and evaluate available areas for installation of the minimum required 60 kW solar capacity and any additional capacity proposed by the bidder based on site feasibility and system optimization requirements.
- The survey shall include identification and measurement of shadow-free areas, assessment of shading losses due to nearby obstructions, and evaluation of site conditions such as access, working space, and safety constraints.
- The bidder shall carry out a structural assessment of the existing canopy/roof, including inspection of trusses, purlins, connections, and corrosion levels, to determine load-bearing capacity and suitability for mounting solar structures.

- Detailed electrical data shall be collected, including sanctioned load, contract demand, historical energy consumption, peak load patterns, and identification of critical loads that require backup power support.

1.2 Load Analysis & System Sizing

- The bidder shall perform a comprehensive load analysis based on available consumption data to understand the daily and seasonal demand patterns at the toll plaza.
- Critical loads such as toll collection systems, lighting, surveillance systems, communication infrastructure, and control equipment shall be identified and prioritized for uninterrupted power supply.
- Based on the load profile, the bidder shall design the Solar PV system considering the specified installation of a minimum 60 kW solar PV capacity, with provision for enhancement of capacity based on load requirements, site conditions, and system optimization along with integration of the existing 40 kW solar PV system and shall optimize the capacity of the BESS to maximize solar energy utilization, reduce grid dependency, and ensure adequate backup during grid outages.
- The battery system shall be designed considering required backup duration, depth of discharge, cycle life, and operational strategy, including charging from solar and discharging during peak demand or outage conditions.
- All required inverters, power conditioning systems, and associated electrical equipment shall be sized appropriately to support the total installed solar PV capacity and operational load requirements of the toll plaza.

1.3 Detailed Engineering & Documentation

- The bidder shall prepare and submit detailed engineering drawings and documents, including General Arrangement (GA) drawings, Single Line Diagrams (SLD), cable routing layouts, earthing layouts, and equipment placement drawings.
- The engineering design shall include detailed calculations such as cable sizing, voltage drop analysis, short-circuit analysis, and protection coordination studies.
- The bidder shall submit a solar generation simulation report using standard tools (such as PVSyst or equivalent), including expected annual energy yield and system losses.
- Detailed battery sizing calculations, including capacity, autonomy, and operational parameters, shall be provided.
- All designs shall comply with applicable IS/IEC standards and shall be subject to approval by the Employer.

1.4 System Architecture & Control Philosophy

- The bidder shall design an integrated hybrid system comprising the existing 40 kW solar PV system, the new solar PV installation with a minimum capacity of 60 kW replacing the existing 25 kW system, BESS, Power Conditioning System (PCS), and an Energy Management System (EMS).
- The system shall prioritize solar energy utilization during daytime and utilize excess solar energy for battery charging.
- The battery system shall discharge during peak demand periods, night-time operation, or grid outages to ensure uninterrupted power supply.
- The EMS shall provide intelligent control of energy flow between solar, battery, and grid sources, enabling optimal system performance and efficiency.
- The system shall operate with priority sequence: Solar PV → BESS → Grid → DG, with DG acting as the last-resort backup.

2. Supply, Installation & Commissioning

The bidder shall be responsible for complete supply, installation, testing, and commissioning of the Solar PV + BESS Hybrid System.

2.1 Supply of Solar PV System

- The bidder shall supply high-efficiency solar PV modules conforming to BIS and IEC standards, along with grid-tied or hybrid inverters suitable for the system configuration, including dismantling and replacement of

the existing 25 kW solar PV system and installation of a new solar PV system with a minimum capacity of 60 kW, with provision for capacity enhancement based on approved system design.

- Module mounting structures shall be corrosion-resistant and designed for long-term outdoor use, considering wind loads and environmental conditions.
- All associated components, including DC and AC cabling, junction boxes, connectors, and protection devices, shall be supplied as part of the system.

2.2 Supply of Battery Energy Storage System (BESS)

- The bidder shall supply a complete Battery Energy Storage System (BESS), including battery banks, Battery Management System (BMS), Power Conditioning System (PCS), and associated control equipment.
- The battery technology shall be proposed by the bidder, with due consideration to safety, performance, cycle life, and operational reliability.
- The BESS shall be designed and sized to provide a minimum backup duration of 16 hours at the maximum recorded peak load/consumption of the toll plaza
- The BESS shall be housed in suitable enclosures with adequate thermal management, ventilation, and environmental protection.

2.3 Supply of EMS & Balance of System

- The bidder shall supply an Energy Management System (EMS) capable of real-time monitoring, control, and optimization of system performance.
- The EMS shall include data acquisition, remote monitoring capability, and user interface for performance tracking.
- All balance of system components, including LT panels, switchgear, earthing systems, lightning protection, and fire protection systems, shall be provided.

2.4 Installation & Integration

- The bidder shall carry out installation of all system components, including mounting structures, modules, inverters, battery systems, and control equipment, including dismantling and replacement of existing aging solar modules and integration of additional solar PV capacity into the overall system.
- Installation shall be executed in a manner that ensures safety, structural integrity, and minimal disruption to toll plaza operations.

2.5 Testing & Commissioning

- The bidder shall perform all necessary pre-commissioning tests, including insulation resistance, continuity, and earthing tests.
- System testing shall include validation of solar generation, battery charge-discharge performance, EMS functionality, and protection systems.
- The system shall be commissioned only after successful completion of all tests and verification of performance.

2.6 Site Housekeeping and Waste Disposal

- The bidder shall be responsible for proper collection, segregation, handling, transportation, and disposal of all waste materials generated during dismantling, installation, testing, commissioning, and maintenance activities at the project site.
- Disposal of all waste materials, including dismantled solar PV modules, electrical components, packaging materials, scrap, and other debris, shall be carried out in accordance with applicable environmental regulations and statutory guidelines through authorized disposal or recycling agencies, wherever required.
- The bidder shall always maintain the project site in a clean and safe condition, and all costs associated with waste management and disposal shall be deemed to be included in the bidder's scope of work.

3. Performance, Safety & Quality Requirements

3.1 Solar Performance

The Solar Photovoltaic (PV) system shall be designed, installed, and commissioned to ensure reliable power generation, operational safety, and long-term performance under site environmental conditions.

- The Solar PV system shall achieve a minimum Capacity Utilization Factor (CUF) of **17%** under standard operating conditions based on site-specific solar resource and system design.
- The Bidder shall guarantee installation of the approved Solar PV capacity as per the finalized system design and shall ensure system performance consistent with approved design assumptions and generation simulations, verified through measured solar irradiance and metered energy generation data.
- The Bidder shall declare the annual degradation rate of the Solar PV modules in the Technical Proposal, and such degradation rate shall be incorporated into long-term performance projections and monitoring during operation.
- Solar PV modules shall be sourced from **Tier-1 / bankable Original Equipment Manufacturers (OEMs)** and shall comply with applicable standards including **IEC 61215, IEC 61730**, relevant **BIS standards**, and other statutory requirements.
- Mounting structures shall be corrosion-resistant and designed to withstand applicable wind loads and environmental conditions at site.
- The Solar PV modules shall be supplied with a minimum operational design life of **twenty (20) years** and shall carry a minimum **twenty (20) year's performance warranty**, including linear performance degradation as per manufacturer specifications.
- All major Solar PV system components, including **inverters, power conditioning units, protection systems, monitoring equipment, and associated electrical components**, shall comply with **IEC 62109** standards and shall be supplied with a minimum **five (5) years comprehensive product warranty** from the date of commissioning. The warranty shall cover defects in design, material, manufacturing, and workmanship and shall include repair or replacement of defective components during the warranty period.
- The Solar PV system shall be equipped with **remote monitoring capability** for continuous performance tracking, fault detection, and operational optimization.

3.2 Battery Performance

The Battery Energy Storage System (BESS) shall be designed, supplied, installed, and commissioned to ensure reliable backup power supply, operational safety, and long-term performance in support of toll plaza operations.

- The Battery Energy Storage System shall utilize **battery technology with proven field history**, suitable for stationary energy storage applications.
- The Battery Energy Storage System shall be designed and sized to provide a minimum backup duration of **sixteen (16) hours** at the maximum recorded peak load of the toll plaza and shall provide sufficient continuous power output to support operational loads during grid outage and peak demand conditions.
- The Battery Energy Storage System shall be equipped with an integrated and certified **Battery Management System (BMS), thermal management system, and compatible fire suppression system** to ensure safe and reliable operation under site environmental conditions.
- The Battery Energy Storage System shall be integrated with **remote monitoring and supervisory control capability** to enable real-time system performance monitoring, fault detection, and operational control.
- The Battery Energy Storage System shall maintain minimum annual availability of **ninety-eight percent (98%)** during the operational period.
- The Battery Energy Storage System shall be supplied with a **minimum operational life of twelve (12) years and shall carry a minimum comprehensive warranty of twelve (12) years**, covering battery modules, BMS, Power Conditioning System (PCS), and associated control and protection equipment.

BESS Performance Parameters

The Bidder shall declare and guarantee the following BESS performance parameters:

- **Round Trip Efficiency:** To be declared by Bidder
- **Depth of Discharge (DoD):** Limits to be declared
- **Degradation Profile:** Year-wise capacity fade declared

- **Annual Availability:** Not lower than project requirement; exact percentage to be stated

All declared values shall be binding commitments subject to **Liquidated Damages (LD)** provisions for non-performance.

3.3 System Availability

- The overall system shall maintain a minimum uptime of 98% during the O&M period.

3.4 System Operational Reliability & Power Continuity

- The Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System shall be designed and operated to ensure reliable and continuous power supply to critical toll plaza operations under all operating conditions.
- The system shall ensure uninterrupted supply to critical loads during grid outage conditions through automatic and seamless transition between available power sources, including Solar PV, Battery Energy Storage System (BESS), and utility grid supply.
- The transition between power sources shall occur without disruption to toll collection systems, communication equipment, lighting, surveillance systems, and other essential infrastructure.
- The system shall be capable of maintaining operational continuity during periods of low or no solar generation through coordinated operation of the Battery Energy Storage System (BESS) and grid supply.
- The Contractor shall demonstrate system operational reliability during commissioning through functional testing, including verification of source transition capability, backup operation, and restoration of normal operating conditions.
- System performance related to operational continuity and reliability shall be monitored through the Energy Management System (EMS) and recorded through system data logs throughout the operational period.

3.5 Safety & Compliance

- The system shall comply with all applicable safety standards, including provision of earthing, lightning protection, surge protection, and emergency shutdown systems.
- Adequate fire protection systems shall be provided for the BESS, including detection and suppression mechanisms.

4. Operation & Maintenance (O&M)

The bidder shall provide comprehensive Operation and Maintenance (O&M) services for a period of five (5) years from the date of commissioning, extendable for a further period of five (5) years at the discretion of the Employer, subject to satisfactory performance and mutually agreed commercial terms.

4.1 Maintenance Scope

- The bidder shall carry out preventive maintenance, including regular inspection, cleaning, and servicing of all system components.
- Predictive maintenance shall be implemented through continuous monitoring using EMS, enabling early detection of faults and performance issues.
- Corrective maintenance shall include timely rectification of faults and replacement of defective components.

4.2 Performance Monitoring & Reporting

- The bidder shall provide remote monitoring of system performance and submit periodic reports detailing energy generation, system performance, battery utilization, and availability.

4.3 Service Levels

- The bidder shall ensure prompt response to system faults and maintain high system availability throughout the O&M period.

5. Financial and Contractual Obligations

- The project shall be executed on a lump sum EPC basis with milestone-based payments.
- The Bidder shall furnish an unconditional and irrevocable Performance Bank Guarantee (PBG) equivalent to five percent (5%) of the Contract Value, to be submitted within 15 days of issuance of the Letter of Award. The PBG shall remain valid until successful commissioning of the project and shall thereafter be maintained for the entire Operation & Maintenance (O&M) period, with an additional claim period of three (3) months.
- Liquidated damages shall be applicable in case of delay, subject to defined limits.

6. Handover & Completion

- The system shall be handed over in fully operational condition, meeting all specified performance requirements.
- The bidder shall submit all relevant documents, including as-built drawings, test reports, and O&M manuals. Any defects identified shall be rectified prior to final acceptance at no additional cost.

7. General Liability & Insurance

7.1 Liability

The Successful Bidder shall be solely responsible for the safety, security, performance, and reliability of all works executed under this Contract, including design, engineering, procurement, supply, installation, testing, commissioning, and operation & maintenance of the **Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System**.

Any accident, loss, damage, injury, fire, electrical hazard, battery-related incident (including thermal runaway), or other untoward incident during execution or operation of the project shall be entirely at the risk and responsibility of the Successful Bidder, without any liability to the Employer.

7.2 Indemnification

The Successful Bidder shall indemnify and hold harmless the Employer, its employees, officers, and representatives from and against all claims, losses, damages, penalties, or liabilities arising out of:

- Any accident, injury, or loss of life during execution or operation of the project.
- Damage to property, equipment, or third-party assets.
- Non-compliance with statutory, safety, or environmental regulations.
- Failure, defect, or malfunction of the Solar PV system or Battery Energy Storage System (BESS).

7.3 Insurance

The Successful Bidder shall maintain, at its own cost, valid and comprehensive insurance policies throughout the execution period and the O&M duration of the project, including but not limited to:

- a) Contractor's All-Risk (CAR)/Erection All-Risk (EAR) Insurance covering all works, materials, and equipment up to commissioning.
- b) Comprehensive Third-Party Liability Insurance covering bodily injury, loss of life, and property damage to third parties.
- c) Workmen Compensation Insurance in accordance with applicable labour laws.
- d) Plant & Machinery/Asset Insurance covering the Solar PV system and BESS against risks such as fire, theft, natural calamities, electrical faults, and accidental damage.
- e) Insurance coverage for battery-specific risks, including fire hazards, thermal runaway, and associated damages, as applicable.

8. Approvals & Certifications

Employment of qualified engineers and valid Electrical Contractor's License.

9. Deliverables

- Detailed design and engineering report for the proposed Solar PV + BESS Hybrid System.

- Procurement schedule and quality assurance plan. Project implementation plan with timelines and milestones.
- Monthly energy generation, battery performance, and system availability reports during the O&M phase and O&M manual and hands-on training for Employer personnel.

10. Project Completion Timeline

- The bidder shall propose a detailed project completion timeline, including all major milestones, for approval by the Employer.

11. For the purposes of calculation and support for above scope of works, Electricity bills of Daroda Toll plaza are attached herewith as annexure-I.

Note:

NHIT and its SPVs may, at their discretion, consider the vendors empanelled through this RFE for execution of similar projects at other project sites under NHIT/SPVs, as and when required, during the period of empanelment.

SECTION 4 – FORM OF TECHNICAL PROPOSAL

(On the letter head of the bidder)

To,

Shri Sandeep Khosa, GM (Procurement)

NHIT Western Projects Private Limited, SPV under NHIT

Unit No.: 324, 3rd Floor, D21 – Corporate Park, Sector–21,

Dwarka, New Delhi–110077.

E mail: tender@nhit.co.in

Sub: Request for Empanelment (“RFE”) issued by National Highways Infra Trust(NHIT) for Empanelment of Agency(ies)/Firm(s) for Design, Engineering, Procurement, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (including Grid Interactive/Behind the Meter configuration) at Project sites under SPVs of NHIT.

Section A: General Information

- I. Profile of the organization with full particulars of the constitution, ownership and business activities of the prospective Agency/Firm.
- II. Commitment(s) which shall act either as a constraint or as a conflicting interest in the proposed assignment (if any).

Section B: Technical Information

Sl. No.	Evaluation Criteria and Scoring	Maximum Points
1	Minimum 5 years’ experience in similar works	30
	05 Years to less than 7 Years -20 marks	
	07 Years to less than 10 Years -25 marks	
	>10 Years experience -30 marks	
2	Cumulative Turnover for last 3 years	20
	10 Crore to less than 15 Crore: 10 Marks	
	15 Crore to less than 20 Crore: 15 Marks	
	20 Crore or more: 20 Marks	
3	*Similar Projects Completed in last 5 years	25
	3 to 5 Projects -15 marks	
	6 to 10 Projects - 20 marks	
	11 or more Projects - 25 marks	
4	Experience in O&M of Solar Plants / Similar Works	10
	01 year to less than 03 years – 05 marks	
	03 years to less than 05 years – 7 marks	
	05 years or more – 10 marks	
5	Presentation and Methodology of works – 15 Marks	15
Total Marks:		100

* Minimum capacity of Project shall be 100 Kwp

*** Minimum Qualifying marks shall be 70 marks.**

We accept all the terms & conditions mentioned in the RFE. In the event of any contradiction in the terms and conditions mentioned in the RFE and our proposal/ offer to NHIT’s decision shall prevail.

Name & Signature of Bidder’s

Authorized Signatory

Date

Registered Office: NHAI Building, G-5 & 6, Sector-10, Dwarka, New Delhi–110075. Tel: 011-25076536.

Corporate Office (Delhi): Unit No. 324, 3rd Floor, D-21, Corporate Park, Sector–21, Dwarka, New Delhi–110077. Tel: 011-45120397.

SECTION 5 – UNDERTAKING

(On the letter head of the bidder)

From <Name & Address and Complete contact details of the bidder> To

To,

Shri Sandeep Khosa, GM (Procurement)

NHIT Western Projects Private Limited, SPV under NHIT

Unit No.: 324, 3rd Floor, D21 – Corporate Park, Sector-21,

Dwarka, Delhi:110077, India.

E mail: tender@nhit.co.in

Sub: Request for Empanelment (“RFE”) issued by National Highways Infra Trust(NHIT) for Empanelment of Agency(ies)/Firm(s) for Design, Engineering, Procurement, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Solar PV + Battery Energy Storage System (BESS) Hybrid Energy System (including Grid Interactive/Behind the Meter configuration) at Project sites under SPVs of NHIT.

We undertake that: -

- 5.1 The Empanelment submitted hereunder shall remain valid for a period of at least 120 days from the last date for submission of the Empanelment.
- 5.2 No other fees/cost/ expenses/taxes/levies shall be payable by NHIT or any of its associated entities for the Services rendered by Agency/firm except as mentioned in Financial Empanelment as mentioned in the RFE.
- 5.3 The Bidder has not been banned/ blacklisted/ de-listed/ disqualified/ debarred by any organization/ government agency/NHIT/Entities of NHIT/ quasi-government agency/ PSU to participate in their tenders for Empanelment. We further certify that there is no investigation pending against us or the CMD/CEO/Directors of our Company and no action has been initiated against us/ our Directors by CVC/ RBI or any other government/ statutory agency regarding any financial irregularities.
- 5.4 The Bidder does not have any conflict of interest, which is prejudicial to the scope of work. Further, the bidder will ensure that no such business or professional activities will be carried out by it, which may affect the interest of NHIT.
- 5.5 The Bidder has adequate infrastructure, personnel, resources to carry out the required Services and are eligible for acting as Agency/firm. The Bidder has understood the scope of work properly and shall comply with the terms of Empanelment.
- 5.6 No bankruptcy/ liquidation proceedings have been initiated against the Bidder by any entity/ government agency/ quasi-government agency/ PSU and there is no material case/ proceeding against the Bidder/ its directors that is likely to have significant impact on its business as selected Bidder/ empanelled Agency/firm or on its deliverables pursuant to this Bid/RFE.
- 5.7 All the information submitted as part of the Bid is true and correct.

We accept all the terms & conditions mentioned in the RFE. In the event of any contradiction in the terms and conditions mentioned in the RFE and our Empanelment/ offer to NHIT, the NHIT’s decision shall prevail.

Name & Signature and Contact Details of Bidder’s Authorized Signatory

Date: