

Request for Proposal (RFP)
for
“Design, Supply, Installation, Testing, Commissioning (SITC)
and
Five year CAMC
of
500KwP Roof Mounted Solar PV Power Project
at
Arihant Arden GH07A Sector-1 Greater Noida West

IMPORTANT TIMELINES OF THE RFP

- **23/07/2025** : Issue of notification in newspaper
- **19/08/2025**: Due date for submit techno-commercial bid (extension at discretion of *Arihant Arden Association of Apartment Owners*)
- **24/08/2025**: Completion of bid evaluation and declaration of successful bidder (opening tender) •
- 01/09/2025**: Placement of order / LOI (tentative)

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1. INTRODUCTION

Arihant Arden Association of Apartment Owners is a registered body under Owners Act (Year) and is formed for managing the maintenance and development of common area and amenities of *Arihant Arden Association of Apartment Owners*.

The apartment address is:

Arihant Arden Association of Apartment Owners.

The Request for Proposal (RFP) is floated by *Arihant Arden Association of Apartment Owners* for selection of vendor for **Design, Supply, Installation, Testing, Commissioning and 5 years CAMC for approx. 500 kWp On- grid Rooftop Solar Power Plant** at the residential towers of the *Arihant Arden Association of Apartment Owners*, subject to the bidder satisfying the

eligibility criteria set out in this RFP document.

2. PURPOSE

Rooftop Solar Power Plant is an important source of distributed renewable energy generation and enjoys several benefits including utilization of available vacant roof space, low gestation period, significant reduction in transmission and distribution losses, estimated savings towards electricity consumption and reduction in carbon dioxide emission. This will contribute to climate change mitigation by utilizing renewable energy for electricity production. It is an important element and factor contributing towards sustainable living and reducing GHGs.

3. INVITATION OF TENDER

This RFP is an invitation for bidders' response. **No contractual obligation on behalf of *Arihant Arden Association of Apartment Owners* whatsoever shall arise from the RFP process unless and until a formal PO / LOI is issued by *Arihant Arden Association of Apartment Owners* to the successful bidder.**

Bidders are expected to examine all instructions, terms, specifications, and other information in the RFP document. **Failure to furnish any information required by the RFP document or to submit a bid not substantially responsive to the RFP document in every respect will be at the Bidders' risk and may result in the rejection of its bid.**

Prior to the last date for bid-submission, *Arihant Arden Association of Apartment Owners* may, for any reason, whether at its own initiative or in response to clarification(s) sought from the prospective Bidders, modify the RFP contents/ covenants by amendment. Clarification / amendment, if any, will be notified by email only to bidders who have received the RFP i.e. participating bidders only.

Bidders should inform in their bid clearly if they have any prior personal / family / professional relationship to any member of *Arihant Arden Association of Apartment Owners* board. Any form of canvassing/ lobbying/ influence/query regarding short listing, status etc. shall lead to rejection of offer by *Arihant Arden Association of Apartment Owners*. Decision of *Arihant Arden Association of Apartment Owners* on the matter shall be final and binding to all bidders.

In case, it is found that the bidder has submitted any forged document or false declaration, 5

4. MAJOR SCOPE OF SUPPLY & SERVICES

The successful bidder/vendor shall Design, Supply, Install, liaisons (with State & Central Government for approval & subsidy formalities), Test, Commission a 500 kWp Solar PV (SPV) on-Grid (net metering) Power Generation System at the terrace of the building of *Arihant Arden Association of Apartment Owners*. The 500 kWp is an estimated power supply generation and can change marginally as per actual survey and design of the bidder.

The lists of **major** equipment under scope of supply of this RFP are:

- Solar PV Modules ($\geq 500\text{KWp}$), EL Testing reports need to be hand over by the Vendor.
- Grid Connected inverters of suitable capacity (String , Optimizer technology Solar Edge)
- Necessary designing and construction of elevated Structure (HDGI Structure)
- AC Distribution Board and Metering panel
- Earthing kits and Earthing electrodes
- AC & DC Cables and connectors
- Energy meter & net meter
- All miscellaneous materials

Any other item required for meeting the intent of the specification and required for completeness of the SITC of Solar PV plant.

The services under the RFP shall include, but not limited to:

- Designing of the complete system
- Delivery and storage of all items at *Arihant Arden Association of Apartment Owners* Premises
- Erection and Installation of complete system including civil foundation work
- Commissioning of the complete system
- Operational Training and Hand over to *Arihant Arden Association of Apartment Owners* and its assigned staff
- Liaising with NPCL for all approvals and net meter installation
- Liaising with State/Central Govt of India for release of subsidy on solar PV installation
- 5-year comprehensive AMC

5. PRE-QUALIFICATION REQUIREMENTS

Category	Parameters	Qualifying Criteria	Weightage
Organization	The Bidder must be a Corporate Body / Public or Private Ltd company/Public sector undertaking/ Registered Partnership Firm / LLP / Autonomous body	Mandatory	10%
Workforce	Current number of employees on the payroll of the Bidder	At least 20 employees	10%
Commercials	Average yearly turnover of Bidder for last 3 financial year	- INR 5 crore for last 3 Financial Years - 25x of the contract value upto above Rs. 1 Cr/ 50x of the contract value upto below Rs. 1 Cr (whichever is higher)	25%
Experience	Total number of installed SPV projects on buildings having minimum G+7 floors Across Pan India.	List of those projects	10%
	Total number of SPV projects installed by	At least 5 with at least	10%

	the Bidder under the MNRE DBT scheme (PM Surya Ghar Yojana)	Two in housing society.	
	Cumulative installed capacity of SPV based grid connected power plants SITC by the Bidder under DISCOMs	At least 500kw	10%
	Experience in successfully completing at least 2 years AMC/ CAMC contract of any installation above 100 kWp	At least 2 nos in last 2 years	10%
	Total years of experience of the Bidder in the SITC of SPV based grid-connected power plants	At least 3 years	5%
	Site visit based assessment		10%

6. DETAILED TECHNICAL SPECIFICATION:

i. SYSTEM COMPONENTS:

A Grid connected Solar Rooftop PhotoVoltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, Controls & Protections, interconnect cables, Junction boxes, Distribution boxes and switches. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.

ii. SPECIFICATION OF SOLAR PV MODULES:

The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-1 - requirements for construction & Part 2 requirements for testing, for safety qualification or equivalent IS / BIS and compliant with MNRE's guidelines.

1. Modules shall comply with M-PERC Half-cut 540 Wp+ DCR specifications.

2. The Original Equipment Manufacturer (OEM) of modules proposed by the bidder shall have at least 1 GW of manufacturing capacity and shall have been established and in operation for a minimum period of 5 years since the date of company registration.
3. The OEM shall preferably have its in-house cell manufacturing capacity to assure backward integrated control on quality and reliability.
4. The bidder shall be liable to provide electroluminescence (EL) and flash test report (FTR) data for 100% of the lot.
5. PV modules must be tested and approved by one of the NABL/ IEC authorized test centers.
6. The rated output power of the supplied module shall have positive tolerance of +5Wp.
7. PV modules should have a minimum product warranty of 12 years and production warranty of 30 years.

The offered make / specification of PV modules should qualify for the subsidy given by Govt. of India on installation of solar PV in apartment (residential) complexes.

iii. INVERTER:

Following shall be the necessary specs for the inverter:

a. Technical parameters:

- Switching devices: IGBT/MOSFET
- Control: Microprocessor /DSP
- Nominal AC output voltage and frequency: 415V, 3 Phase, 50 Hz
- Output frequency: 50 Hz
- Grid Frequency Synchronization range: + 3 Hz or more

- Ambient temperature considered: -20°C to 50 Deg C
 - Humidity: 95 % non-condensing
 - Protection of Enclosure: LP-20(Minimum) for indoor. IP-65(Minimum) for outdoor. → Grid Frequency Tolerance range: + 3 or more
 - Grid Voltage tolerance: -10% to +10%
 - No load losses: Less than 1% of rated power
 - Inverter efficiency(minimum): >93% (In case of 10kW or above)
 - Inverter efficiency (minimum):> 90% (In case of less than 10 kW)
 - THO: <3%
 - PF:> 0.9
- b. The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS- 61683 and IEC 60068- 2(1,2,14,30) /Equivalent BIS Std.
 - c. The PCU/ inverters should be tested from the MNRE approved test centers/ NABL /BIS /IEC accredited testing- calibration laboratories. Type Test certificate to be produced to *Arihant Arden Association of Apartment Owners*.
 - d. The Original Equipment Manufacturer (OEM) proposed by the bidder shall have at least 50GW of manufacturing facility preferably in India and shall have been established and in operation for a minimum period of 10 years since the date of company registration.
 - e. Following shall be the minimum warranty periods for each technology:
 1. String Inverter: 5 Years
 2. Optimizer Technology: 12 Years (Inverter)/ 25 Years (Optimizer)
 3. Microinverter: 15 Years

iv. MODULE MOUNTING STRUCTURE (MMS):

- a. Hot dip galvanized iron/ galvalume MMS to be used for mounting the modules. Each 10 |

structure should have an angle of inclination of ~10 degrees (or as per the site conditions). Average thickness of zinc coating post galvanization shall be 80 microns on the HDGI components and ~45 microns for galvalume components.

- b. The MMS shall be so designed to withstand the speed for the wind zone of the location as per IS 875 (III), i.e. 170 kmph, where the PV system is proposed to be installed i.e. on the terrace of G+ 19,G+ 18and G+ 16 floors of the apartment located in the city of . It may be

ensured that the structural design has been certified by a recognized lab/ institution in this regard and wind load calculation calculations and STAAD report shall be submitted *Arihant Arden Association of Apartment Owners* if requested.

- c. The fasteners used should be made up of SS304. Fasteners for grouting should be HDGI of grade upto 4.6. The structures shall be designed to allow easy replacement of any module and should not lead to any sacrifice in the output from the SPV panels.
- d. Regarding civil structures, the bidder needs to take care of the load bearing capacity of the

roof and need to arrange suitable structures based on the quality of roof.

Structures – Technical specification		
#	Specification	Requirement/Threshold
1	Height of the structure from floor	Minimum 6/8 feet or as required by bidder
2	Raw Material Steel Make	Tata/ Jindal/ Essar/ JSW
	Wind Load Bearing Capacity	170 kmph (Need Proper certification on this)
4	Min. Structure Tonnage	33 kg/kW*
5	Column Steel Grade	E300
6	Zinc Coating Thickness	Hot Dipped Galvanized (HDG): Average 80 microns; Galvalume: Average 45 microns
7	Cold Rolled Steel Raw Material	Galvalume
	Cold Rolled Steel Grade	E550
	STAAD utilization ratio for every joint	<1
	Loading conditions in STAAD	Eccentric loading as per IS 875-III
11	Dead load (per kW) including self-weight of the system and civil foundations (only applicable for non-penetrative design)	Min. 700 kg/ kW for 6' high MMS. Weight is distributed across the roof.
Structures – Compliances		
#	Specs	Compliance Standard/Specs
1	Structural components	IS 800/IS 801/IS 2062
2	Wind load calculations	IS 875-III
3	Cold formed light gauge structural steel sections	IS 811
	Galvalume raw material	IS 14246
	Steel tubes for structural purposes	IS 1161

6	Hollow steel sections for structural use	IS 4923
7	Light gauge structural steel or structural aluminum sections other	IS 811

	than specified	
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* In case the building qualifies as high-rise as per the [definition by the MoHUA \(GoI\)](#), the min.structural tonnage shall be 33 kg/kW.

v. BALANCE OF SYSTEM (BOS):

Component	Specifications
DC Cables	6 sq.mm. UV Protected Copper cable to Unarmored, UV Protected & Flame retardant Compliance: EN-50618 certification is mandatory
Communication Cable	As per Detailed Design & Engineering
Miscellaneous	UV Grade Black Nylon Cable Ties, SS-316 Cable Ties, Safety Boards, Project Board, etc
Earthing Cable	For Module to Module: 4 sq mm Cu Cable For Inverter, LT Panel: Cu 10-16 sq mm
Earth Pits and LA	Specs: Maintenance Free Chemical Earth pits with Earth rods 1m long 17.2mm dia, Copper Bonded Earth Electrode with min 250 microns coating.
Earth strip	25 x 3 mm GI Strip
Cable Tray	HDPE DWC UV Protected Conduits for DC Cables , GI Cable Tray for AC Cables
AC Cables	Inv to ACDB : Al XLPE Ar Cable with Bimetallic Washer/Lugs ACDB to Spare Feeder: Al Ar XLPE Cable Spare Feeder to Client Panel: Al Ar XLPE Cable (Overall AC loss shall not exceed 2%)
AC Junction Box	MCCB: Thermal Magnetic Type Powder coating done with 7 -Tank Process. RAL 7035 colour with overload, short circuit, earth leakage protections.
AC Termination	Glands: Double compression weather proof glands from Comet/ Dowells/COSMOS Lugs: Aluminum/ Copper Lugs – Ring / Pin type
Water Pipeline	UPVC Pipes & fittings up to 1 inch on ridge line and branches of up to 0.75 inch, both based on

	the requirement.
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Water Pump	0.5 hp 1 Ph-Booster Pump with Starter
Project Compliance	Approved FQP compliance to be adhered to w.r.t. quality of project installation.
Lightening	ESE-type IS 3043 compliant copper-bonded/ stainless steel

arrestors	rod
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vi. **RCC FOUNDATION:**

- Foundation type: Penetrative type
- Concrete Grade: M20 RCC (cement/sand/coarse aggregate in 1:1.5:3 ratio)
- Reinforcement tonnage: D8/D10 rebars to be used as reinforcements
- Anchoring methodology (applicable for penetrative foundation type): Hilti chemical with M10/M12 GI 4.6 grade fastener

vii. **PLANNING AND DESIGNING:**

- The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labour.
- The bidder should submit the array layout drawings along with a year-long Shadow Analysis Report (along with specific mentions of shadows on 21st Jun and 21st Dec at 10 am and 3 pm for each date for detailed analysis) to *Arihant Arden Association of Apartment Owners* for approval. Locations, as approved by *Arihant Arden Association of Apartment Owners* shall only be used for installation of PV panels even if it results in reduction of total installed capacity of the solar PV plant.
- The bidder shall mandatorily provide a SketchUp report of the entire plant's design.
- Arihant Arden Association of Apartment Owners* reserves the right to modify/change the site and specification of sub- systems and components at any stage as per local site conditions/ requirements.
- The bidder shall submit a preliminary drawing for approval. The bidder submits hard and soft copy of final drawing to *Arihant Arden Association of Apartment Owners* for formal approval to proceed with procurement and installation work

viii. **WARRANTIES:**

- Following shall be the minimum warranty periods to be offered by bidder for the respective product:

Module	12 Years for Manufacturing Defect quality 30 Years for Performance
Inverter	5 Years (String) or Solar Edge Inverter (12 Years) with Optimizer (25 years)
Structures	5 Years warranty

Balance of Systems	5 years till completion of CAMC
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- g. Performance ratio warranty: “Performance Ratio” (PR) means the ratio of plant output versus installed plant capacity at any instance with respect to the radiation measured. In addition to the PR value for project start-up performance tests, EPC is required to submit long term PR values along with the techno-commercial bid. Plant performance evaluation during the defect’s liability and O&M period of five years shall be one of the key criteria for evaluation of bidders.

Guaranteed performance values provided by the Bidder shall comply with:

- Solar GIS/NASA/Meteonorm software for solar resource data and PVSYST 6.68 or a higher version for simulation of energy yields & PR values for 25 years considering

module / panel degradation value. PR values as obtained shall include all AC losses up to the point of utility metering.

- The first performance test shall be conducted immediately after 7 days of physical acceptance of the plant. Subsequent PR comparisons will be made from the data logger's data obtained based on real time measurement.
- Bidder has to commit an absolute PR value within tolerance limits defined in IEC standards. No deviation will be allowed to the absolute PR value committed.
- Committed PR value for Noida city: Atleast 76%

The Bidder shall furnish following drawings within 10 days of PO / LOI:

- h. Layout of solar Power Array, General arrangement and PV plant layout drawing
- i. Schematic drawing showing PV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.
- j. STAAD report and structural drawing along with foundation details
- k. Itemized bill of material for complete PV plant covering all the components and associated accessories.
- l. Shadow analysis report

Bidders shall obtain approval of above document by *Arihant Arden Association of Apartment Owners* prior to commencing erection / installation work.

Following document are to be submitted after completion of SITC

- a. Two sets of hard copy of all Engineering, electrical drawings and Installation and O&M (Operation & Maintenance) manuals and document mentioned above.
- b. Warranty certificate in name of Arihant Arden Association of Apartment Owners after commissioning.
- c. Test certificate and report of all major items like PV module, inverters, DCDB/ACDB, structures etc

x. TOOLS & TACKLES:

After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the bidder for maintenance purpose.

xi. SAFETY MEASURES:

- a. The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.
- b. The bidder has to provide fix poly-vinyl stickers/ embossing on structures) on every tower terrace mentioning Plant Name, Capacity, Location, Date of commissioning, estimated

Power generation in a year.

- c. The size and type of sticker/ embossing shall be appropriate and subject to approval. d. It shall be bidder's responsibility for adhering to safety guidelines of workmen. Any claim arising out of any accident while working at Arihant Arden Association of Apartment Owners shall be complete responsibility and onus of the bidders and shall not have any onus or liability of *Arihant Arden Association of Apartment Owners*.

xii. INSURANCE OF PLANT:

The Bidder shall bear the responsibility to arrange marine transit and erect all risk insurance for the entire contract period encompassing all the probable risks associated with the PV plant until commissioning. All the expenses in relation to such insurance of the project will have to be borne by the Bidder until commissioning.

7. COMPREHENSIVE AMC

i. GENERAL

The scope of work stipulates bidders to provide comprehensive operations and maintenance (O&M) for five years from entering into the handover agreement of the system after SITC.

The scope of CAMC shall be as detailed but not limited to below:

- a. Regular operation and maintenance of the plant as well as the evacuation infrastructure/ infrastructure for interconnection with the electricity distribution system. Bidder shall be responsible for operating the plant at the performance indices mentioned by the bidder in their technical offer.
- b. CAMC scope shall include all PV plant components including spares and consumables as required for successful continuous operation of the plant up to and including point of interconnection and metering.
 - c. CAMC shall include wet cleaning methods (cleaning with water). The bidder shall provide a detailed write up on the adhered standard operating procedure (SOP). *Arihant Arden Association of Apartment Owners* shall provide treated water for the purpose of wet cleaning.
- d. Only soft nylon-bristle brush shall be used for wet cleaning.
- e. The operation & maintenance of the plant would include any repair / replacement due to wear & tear, overhauling, machine breakdown, defective modules/ invertors/ PCU's, consumables & all other parts for a period of five years.
- f. Monitoring of plant performance and supply of all technical, production/operation data and information through a monthly report. Down time analysis data shall be made available to *Arihant Arden Association of Apartment Owners* as and when requested.
- g. Undertake inspection of the meter towards faultiness at regular intervals, report to the concerned department and replace the meter with a meter of similar specification complying with the requirements of Central Electricity Authority/NPCL.
- h. The bidder shall replace any faulty product/ component with the same/ equivalent make and model as installed in the plant available at the concerned point in time. In case the OEM has upgraded to new model, the same to be used after approval of *Arihant Arden Association of Apartment Owners* for ascertaining its technical features vis-à-vis the original product.

ii. Term of CAMC

The Bidder shall be

- a. responsible for undertaking the O&M of the plant for five (5) years from the date of 18 |

entering into the hand-over agreement of the plant to *Arihant Arden Association of Apartment Owners* with a commitment of at least 18 cycles per year.

- b. The term for O&M maintenance of the plant may be extended for another five years on mutually agreed terms, conditions and charges between *Arihant Arden Association of Apartment Owners* and the Bidder. *Arihant Arden Association of Apartment Owners* and

the Bidder can agree to extend the contract on a year-on

year basis via a prior intimation at least before six months from the termination of the existing contract with payments terms as per mutual agreement.

iii. Electricity Generation

The Bidder shall be solely responsible for the performance of the plant(s) and shall undertake

all necessary work to ensure the output, performance and efficiency of solar PV plant is as per bidder's claim in technical bid / this RFQ conditions.

iv. Completion of Term of Operation and Maintenance Contract.

On completion of the five-year CAMC term, the Bidder shall arrange for a transfer certificate of all equipment in *Arihant Arden Association of Apartment Owners* name, which shall happen after the Arihant Arden Association of Apartment Owners gives a completion certificate and seeks approval from the Bidder. All the formalities shall be completed within one (1) month in all respects. After verifying from the documents & tests and satisfying himself that the Operation & Maintenance has been completed in accordance with details set out in the control documents & Prudent Utility Practices at end of 5 year's period, the CAMC shall be considered as closed.

7. Contact Details of Bidder - SPOC

Head of the Bidder's organization shall appoint a single point of contact (SPOC) representing the bidder for the entire RFP process and evaluation. *Arihant Arden Association of Apartment Owners* will direct any communication regarding the process to this SPOC. Any change in the single point of contact of Bidder must be informed to *Arihant Arden Association of Apartment Owners* by email immediately. The SPOC shall be Authorized to submit Bid and Sign the entire bid document on behalf of the bidder

All questions relating to the RFP, technical or otherwise, must be in writing and addressed to The President, *Arihant Arden Association of Apartment Owners* will endeavor to reply to every reasonable query raised by the Respondents. However, all such queries should be sought within 3 days of receipt of RFP.

8. GUIDELINE ON PREPARATION AND SUBMISSION OF TECHNO-COMMERCIAL BID

i. General Guidelines:

The bidders have to submit a single part bid (having both technical and commercial offer) bid by submitting it physically before the due date and time. The techno- commercial bid should be submitted in a pdf file also..

ii. Technical Bid

a) Pre-Qualification requirements (PQR) documents

The Bidder should submit all documents, as mentioned below, to ascertain that the bidder is meeting all the PQR criteria. Incomplete submission of document may result in rejection of the offer of the bidder.

PQR Criteria	Document to be submitted
The Bidder must be a Corporate Body/ Public or Private Ltd company/PSU/ Registered Partnership Firm / LLP / Autonomous body	Company Registration certificate / certificate of incorporation, of the bidder
Average yearly turnover of either: - INR 20 crore for last 3 Financial Years - 25x of the contract value upto above Rs. 1 Cr/ 50x of the contract value upto below Rs. 1 Cr (whichever is higher)	Last three year Audited Financial Statements alongwith Turnover certificate signed by Practising Chartered Accountant.
At least 10 number of projects installed by the Bidder under the MNRE DBT scheme and at least Two in high rise housing society	Tabular list of such projects on company letterhead, duly signed by MD
Experience in successfully completing minimum 2 projects each for at least 2 years AMC / CAMC contract of any installation above 100 kWp	Unpriced PO/LOI copy of the projects and address / contact detail of each such project

b) The Technical Bid should be complete in all respects and contain all information as detailed below.

i. Company Profile, having minimum following details

1 Name of the firm

Address:

Telephone: E-Mail:

2(a) Whether proprietary/partnership/ Pvt. Ltd./Public Ltd.:

(Certificate of registration / partnership deed to be enclosed)

2(b) Name of the proprietor: Partners / Directors

I)

II)

2(c) Year of establishment

3 Registration with Tax Authorities

I) Income-tax (PAN) No.:

II) GST No.:

III) EPF Regn. No:

IV) ESI Regn. No:

(Copies of certificates of registration with relevant authorities to be enclosed)

4 Names of the Bankers with address & telephone numbers:

I)

II)

5 Registration with Govt./ Public Sector / Banks (certificates of Registration to be enclosed)

Name of the Organization	Year since empanelled

6 Give Details if at present involved in litigation in similar type of contracts:

Sr. no	Name of Project	Name of Employer	Nature of work	Work order dated	Date of completion of work	Value Rs.

7. Details of civil suit, if any, that arose during execution of contract in the past 10 years 8.

Specify maximum valued single value project executed during the past 3 years

9. Details of work executed during the last 3 years:

Type of work	End user name	Nature of work (in brief)	Location	Value Rs.	Duration of work	Reason if work left incomplete or terminated

Type Of work	Work executed for (name of the institution /body)	Nature of work (in brief)	Location	Value Rs	Duration of work stipulated time	Present Stage of work

ii. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.

iii. List of tools and tackles to be supplied by the bidder, shall be submitted to *Arihant Arden Association of Apartment Owners* for approval of its specifications and make

iv. Payback period calculation, as per below table

Energy Savings(kWh/year) (Year 1) No. of Days of Operations	
Unit Rate (Rs/kWh)	
Expected Annual Gains in INR Lacs	
Yearly cost of CAMC	
Payback period in months	

v. Commitment towards engaging a Third-party Consultant for technical due diligence of the concerned grid-connected Solar Photovoltaic (SPV) project

12.2 Commercial Bid

- The commercial offer must not contradict the Technical offer in any way and should include the cost of all the items & services mentioned in this RFP.
- The vendors should not offer any options or any conditional offers to *Arihant Arden Association of Apartment Owners* while giving the price information. The offer should strictly be in conformity with the items & services as mentioned in this RFP. Any deviations may lead to disqualification of the bid.
- The amounts mentioned in the commercial bid should be in INR including all taxes and GST.
- The rates quoted shall include all costs, allowances, levies, Duties, Charges, freight, insurance, packing, loading / unloading, any other charges including any enhanced labour rates etc. which may become effective for any reason including those due to acts of Government/ Statutory Bodies enacted from time to time by the State and/or the Central Government. Under no circumstances, shall *Arihant Arden Association of Apartment Owners* be held responsible for compensation or loss to the Bidder due to any increase in the cost of labour or materials etc.
- Arihant Arden Association of Apartment Owners* will not pay any labour charges for transportation, installation of plant, miscellaneous charges separately. All such costs, if any, should be included in the total cost quoted. Any change in law / rules leading to change (high

or low) in duty / tax / levy shall be settled at actuals.

- f. The Bidder shall be liable to pay all applicable corporate taxes and income tax that shall be levied according to the laws and regulations applicable from time to time in India

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- g. No change / impact in price bid will be accepted until there is a change in technical specification / scope of supply / scope of service intimated by *Arihant Arden Association of Apartment Owners* to all participating bidder after opening of techno-commercial bid.
Commercial bids shall be submitted in the following format.

9. GENERAL TERMS AND CONDITIONS

- a. All terms and conditions, payments schedules, delivery schedule, expected service levels as per this RFP will remain unchanged unless explicitly communicated by *Arihant Arden Association of Apartment Owners* in writing to the bidder. *Arihant Arden Association of Apartment Owners* shall not be responsible for any judgments made by the bidder with respect to any aspect of the Service. The bidder shall at no point be entitled to excuse themselves from any claims by *Arihant Arden Association of Apartment Owners* whatsoever for their deviations in confirming to the terms and conditions, payments schedules, expected service levels etc. as mentioned in this RFP document.
- b. Time allowed for carrying out the work as mentioned in the Purchase order / LOI (as per technical bid / RFP terms, whichever is lower) shall be strictly adhered to by the Bidder.
- c. This RFP document may undergo change by either additions or deletions or modifications before the actual award of the contract by the *Arihant Arden Association of Apartment Owners*. *Arihant Arden Association of Apartment Owners* also reserves the right to change any terms and conditions including eligibility criteria of the RFP document and its subsequent addendums as it deems necessary at its sole discretion.
- d. Prices shall be firm from the date of first advance receipt from the Client as confirmed by the Bidder. Impact of change in law resulting in changes in tax/duty/levy/cess will have to be settled at actuals. In addition, any changes in USD-INR and metal indices like aluminium/silicon/copper/zinc/etc. to be settled at actuals.
- e. The tender price quoted by a bidder shall be kept strictly confidential and shall not be divulged to any other party even approximately before the time limit for submission of bid. The only exception can be for obtaining an insurance quotation, for which the bidder may give to their insurance company or agent any essential information they ask for, so long as it is done in strict confidence. No information about other's tender price should be obtained and no arrangement with anyone else should be made whether or not they submit the tender.
- f. The Bid amount shall be exclusive of all charges for clearing of site before commencement as well as after completion, water, electrical consumption, meters, double-scaffolding, centering, boxing, staging, planking, timbering and pumping out water, including bailing, fencing, planking, timbering and pumping out water, including bailing, fencing, hoarding, plant and equipment, storage sheds, temporary plumbing and electric supply, protection of the public and safety of adjacent roads, streets, cellars, vaults, open pavements, walls, houses, buildings and all other erections, matters or things and the Bidder shall take down and remove any or all such centering, scaffolding, staging, planking, timbering, strutting, shoring, etc. as occasion shall require or when ordered so to do, and fully reinstate and make good all matters and things disturbed during the execution of the

work and to the satisfaction of the Arihant Arden Association of Apartment Owners. Water required for construction, electricity, and power shall be provided by the Arihant Arden Association of Apartment Owners.

- g. The working time shall be 9 am to 6pm daily. Any obstruction in the stated hours due to whatsoever reason shall be compensated via additional buffer in the proposed project timeline.
- h. In case of any discrepancy in the technical specification or services between different sections of this RFP, the stringent one is to be considered offered and supplied.

10. EVALUATION OF PROPOSALS

Evaluation Phases: The bid would be first evaluated for the eligibility criteria and technical soundness and then for the commercials. All bids shall be evaluated at the sole discretion and determination of the ***Arihant Arden Association of Apartment Owners***.

The evaluation will be a three-phase process: -

Phase 1- Evaluation of Pre-Qualification requirement

Phase 2- Technical Evaluation (only for bidder qualifying phase-1)

Phase 2 -Financial Bid Evaluation (only for bidder qualifying phase-1 & 2)

The standing of vendor will be arrived only among the vendors who have been declared of meeting the PQR and Technical requirements of this RFP.

For arriving at successful bidder decision, the concept of L1Q1 bid will be generally considered. However, in exceptional cases, *Arihant Arden Association of Apartment Owners* reserves right to reject L1 bid if L1 bid is found to be abnormally lower or higher than approximate market price or *Arihant Arden Association of Apartment Owners* does not find L1 bidder suitable (on the basis of stability, capabilities, track records, reputation among users, etc.) for executing the contract. In such a case, the other bidder in ascending order from least bid value will be considered.

Arihant Arden Association of Apartment Owners reserves the right to negotiate with the selected bidder and place the order only after *Arihant Arden Association of Apartment Owners* is satisfied with the technical offer, suitability of the bidder and reasonability of price quoted.

Arihant Arden Association of Apartment Owners further reserves the right to reject any or all offers based on its own evaluation of the offers received, or.

***Arihant Arden Association of Apartment Owners* reserves the right to cancel the RFP if a suitable bidder or commercial offer is not received.**

11. TAXES AND DUTIES

The Bidder shall solely be responsible for all payments (including any statutory payments) to its employees and shall ensure that at no time shall its employees, personnel or agents hold themselves out as employees or agents of the *Arihant Arden Association of Apartment Owners*, nor seek to be treated as employees of *Arihant Arden Association of Apartment Owners* for any purpose, including claims of entitlement to fringe benefits provided by the *Arihant Arden Association of Apartment Owners*, or for any kind of income or benefits. The Bidder alone shall

file all applicable tax returns for all of its personnel assigned hereunder in a manner consistent with its status as an independent Bidder of services; and the Bidder will make all required payments and deposits of taxes in a timely manner.

Payment of all taxes i.e. GST (CGST/SGST/IGST) will be made at actuals, on production of suitable evidence of payment by the Bidder. However, proforma invoices of net amount shall be raised and GST (CGST/SGST/IGST) reconciliation shall be done on a monthly basis. After the completion of the project, a single tax invoice shall be raised.

The Bidder shall be liable to pay all applicable corporate taxes and income tax that shall be levied as and when eligible according to the laws and regulations applicable from time to time in India.

Arihant Arden Association of Apartment Owners reserves the right to deduct taxes under the applicable provisions of the Income tax Act, 1961 and such deduction shall be construed as a valid payment to the bidder. *Arihant Arden Association of Apartment Owners* will deposit such an amount to the Government as taxes and provide the certificate to the bidder.

12. PAYMENT TERMS

The payment will be released in phases as under, within 10 days of completion of milestones:

Sl No	Milestone	Payment (% of total cost including taxes)
1	Advance along with Purchase Order/ LOI	20%
2	Before dispatch of module and inverter	20%

3	Pro rata material delivery	25%
4	Post installation	25%
5	Post commissioning	10%

- a. TDS as per prevailing income tax rules will be deducted.
- b. Bidder has to show the bifurcation/details of GST (CGST/SGST/IGST) in every invoice.
- c. All the payments will be made to the bidder through cheque in Indian Rupees only.
- d. All running account payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and accepted.
- e. The final bill shall be submitted by the Bidder within one month of completion of the work; failing which the *Arihant Arden Association of Apartment Owners's* certificate of the assessment and appropriate amount payable for the work accordingly shall be final and binding on all parties.
- f. Payment Terms: Bidder must accept the payment terms proposed by the *Arihant Arden Association of Apartment Owners*. The financial bid submitted by the Bidders must be in conformity with the payment terms proposed by the *Arihant Arden Association of Apartment Owners*. Any deviation from the proposed payment terms would not be accepted.
- g. *Arihant Arden Association of Apartment Owners* shall have the right to withhold any payment due to the Bidder, in case of delays or defaults on the part of the Bidder. Such withholding of payment shall not amount to a default on the part of the *Arihant Arden Association of Apartment Owners*.
- h. In case the installation is more/less than 500 kWp, due to site conditions identified during installation, payment shall be made on a pro rata basis at the unit rate per kWp basis for both supply & services including CAMC.
- i. Comprehensive Operation & Maintenance Charges.
- j. The Running payments for the work done shall be released quarterly by *Arihant Arden Association of Apartment Owners*. The following documents as applicable shall be produced and self-attested photo copy shall be submitted by the Bidder during each running bills:

- i) Delivery challan /copy of invoice of all the material supplied (if any).
- ii) Signed Test Certificate to confirm that the materials meet the Contract specification and relevant standard in all respects.
- iii) Log Books & Attendance Register.

13. CONFIDENTIALITY

- a. This RFP document is confidential and is not to be disclosed, reproduced, transmitted, or made available by the bidder to any other person. This RFP document is provided to the

bidder on the basis of the undertaking of confidentiality given by the bidder to the *Arihant Arden Association of Apartment Owners*. The

Arihant Arden Association of Apartment Owners may update or revise the RFP document or any part of it. The Recipient accepts that any such revised or amended document will be subject to the same confidentiality undertaking.

- b. The Recipient will not disclose or discuss the contents of the RFP document with any office bearer of *Arihant Arden Association of Apartment Owners* residents & owners of *Arihant Arden Association of Apartment Owners* or staff engaged by *Arihant Arden Association of Apartment Owners* for O&M of the apartment or other person associated or affiliated in any way with *Arihant Arden Association of Apartment Owners*, without the prior written consent of the *Arihant Arden Association of Apartment Owners*.
- c. Unauthorized disclosure of any such confidential information will amount to breach of contractual terms and in such cases *Arihant Arden Association of Apartment Owners* may pre-maturely terminate the contract and initiate any legal action as deemed suitable.

14. REPRESENTATIONS AND WARRANTIES

- i. The Bidder claims and represents that it has obtained appropriate rights to provide/use the Deliverables & Works upon the terms & conditions of this RFP.
- ii. The Bidder represents and warrants that they shall be responsible at their own cost for obtaining all necessary authorizations and consents from third party licensors of Plant used by Bidder in performing its obligations under this Project.
- iii. If a third party's claim endangers or disrupts the *Arihant Arden Association of Apartment Owners's* right to use the system provided by bidder, the Bidder shall at no further expense, fees or cost to the *Arihant Arden Association of Apartment Owners*, obtain a license so that *Arihant Arden Association of Apartment Owners* may continue use of the Deliverables as per this RFP.
- iv. Bidder shall indemnify *Arihant Arden Association of Apartment Owners* and keep it fully and effectively indemnified from all legal actions, claims, or damages from third parties arising out of use of software, designs or processes used by Bidder or with respect to any other services rendered under this RFP. Change in law after placement of PO shall not constitute such claims.

15. NON TRANSFERABLE OFFER

This Request for Proposal (RFP) is not transferable. Only the bidder who has submitted the bid will be eligible for participation in the evaluation process and execute the entire order including CAMC (in case of ordering on bidder).

16. FORCE MAJEURE

- The Bidder shall not be liable for forfeiture of its performance security, liquidated damages 30 or termination for default, if any to the extent that its delay in performance or other failure to perform its obligations under the contract is the result of an event of Force Majeure.
- For purposes of this Clause, "Force Majeure" means an event explicitly beyond the reasonable

control of the Bidder and not involving the Bidder's fault or negligence and not foreseeable. Such events may Include, Acts of God or of public enemy, acts of Government of India in their sovereign capacity and acts of war.

- If a Force Majeure situation arises, the Bidder shall promptly notify *Arihant Arden Association of Apartment Owners* in writing

of such conditions and the cause thereof within fifteen calendar days. Unless otherwise directed by *Arihant Arden Association of Apartment Owners* in writing, the Bidder shall continue to perform Bidder's obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

- In such a case, the time for performance shall be extended by a period (s) not less than duration of such delay and the impact that may be caused due to such event. If the duration of delay continues beyond a period of three months, *Arihant Arden Association of Apartment Owners* and the Bidder shall hold consultations in an endeavour to find a solution to the problem.

17. RESPONSIBILITY FOR COMPLETENESS

Any supplies and services, which might not have been specifically mentioned in this RFP but, are necessary for the installation, Configuration, testing, commissioning, performance or completeness of the order, shall be provided/made available as per the time schedule for smooth and efficient operation and maintenance of the system under Indian conditions.

The bidder shall be responsible for any discrepancies, errors and omissions in the technical details submitted by him/them, irrespective of whether these have been approved, reviewed or otherwise, accepted by *Arihant Arden Association of Apartment Owners* or not. The Bidder shall take all corrective measures arising out of discrepancies, errors and omissions in drawing and other information as mentioned above within the time schedule and without extra cost to the *Arihant Arden Association of Apartment Owners*.

The Bidder holds the right to take away the entire material in case of any delay in payments by >15 days from the stipulated timelines. Also, the transfer of material ownership shall happen only after all the undisputed invoices are cleared.

18. TERMS FOR COMPLETION OF WORK

- The work shall not be considered as completed until *Arihant Arden Association of Apartment Owners* has certified in writing that they have been completed.
- *Arihant Arden Association of Apartment Owners* shall normally issue to the Bidder the completion certificate within one week after receiving, an application thereof from the Bidder and after verifying from the completion documents and satisfying himself that the work has been completed in accordance with and as set out in the construction and erection drawing and contract documents.
- The Bidder, after obtaining the completion certificate, is eligible to present the final bill for the work executed by him under the terms of contract.
- No certificate shall be given nor shall the work be deemed to have been completed until all scaffolding, surplus materials and rubbish is cleared of the site completely. The work will not be considered as complete and taken over by the *Arihant Arden Association of Apartment Owners*, until all the temporary works, labour etc., are removed.
- If the Bidder fails to comply with the requirements of this clause on or before the date fixed for the completion of the work, *Arihant Arden Association of Apartment Owners* may at the expenses of the Bidder remove such scaffolding, surplus materials and rubbish and dispose of the same as he thinks fit and clean up the site and the Bidder shall forthwith pay the *Arihant Arden Association of Apartment Owners* for all expenses

so incurred and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except of any sum actually realized by the sale thereof.

26. PROJECT COMPLETION REPORT AND COMPLETION DRAWINGS

- i. After the work is completed, it shall be ensured that the installation is tested and commissioned. All the test/calibration certificates, detailed operation and maintenance

along with handing over of the System. The bidder must submit a project completion report at the time of handing over the Plant.

- ii. The bidder shall also submit two sets of "As – Built" drawings to *Arihant Arden Association of Apartment Owners* along with handing over the Plant. It should contain the Salient features of the System, detailed write up, equipment specification details, model, makes, name plate details, details of accessories, date of installation / commissioning, Power distribution details, equipment layouts, cables / Panel details, layout of the entire System executed, GA, single line, schematic diagrams, all factory test reports, Pre commissioning test reports, maintenance and operation details of the System / machineries, drawings, BOQ as executed with each item, its rate, amount, total cost etc.
- iii. 1 set of A4 size booklets printed in laser jet printer as hard copy. It shall also include coloured photographs / catalogues of the equipment / Panels / System etc.
- iv. 1 sets of CDs containing the soft copy of the drawings, write ups etc.
- v. All the wiring diagrams of the respective Panels, inverter/control circuits, etc., shall be neatly printed and laminated and to be provided inside the Panels for proper maintenance.
- vi. The Bidder shall also prepare a Standard Operating Procedure (SOP) for the operation and maintenance of the PV Plant. The SOP shall take into consideration the manufacturer's instructions/recommendations and preventive maintenance requirements for their respective products.

Submission of above mentioned documents to *Arihant Arden Association of Apartment Owners* shall be considered as the start date of CAMC.

27. LIST OF IEC STANDARDS

QUALITY CERTIFICATIONS, STANDARDS AND TESTING FOR GRID-CONNECTED ROOFTOP SOLAR PV SYSTEMS PLANTS

Solar PV Modules/Panels	
IEC 61215/1S 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61701	Salt Mist Corrosion Testing of Photovoltaic (PV) Modules
IEC 61853- Part 1/ IS 16170: Part I	Photovoltaic (PV) module performance testing and energy rating-: irradiance and temperature performance measurements, and power rating
IEC 62716	Photovoltaic (PV) Modules • Ammonia (NH ₃) Corrosion Testing
IEC 61730:1.2	Photovoltaic (PV) Module Safety Qualification – Part 1: Requirements for Construction Part 2: Requirements for Testing
Solar PV Inverters	

IEC 62109-1, IEC62109-2	Safety of power converters for use in photovoltaic power systems - Part I: General requirements, and Safety of power converters for use in photovoltaic power systems Part 2: Particular requirements for inverters. Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting)
IEC/IS 61683 (as applicable)	Photovoltaic Systems - Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75%ft 90-100% Loading Conditions)
IEC 62116/ UL 1741/ IEEE 1547 (as applicable)	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures
IEC 60255-27	Measuring relays and protection equipment - Part 27: Product safety requirements
IEC 60068-2 / IEC 62093 (as applicable)	Environmental Testing of PV System - Power Conditioners and Inverters
Surge Arrestors	
BFC 17-102:2011	Lightening Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD)	Electrical installations of buildings- Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control
IEC 61643-11:2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
Cables	
IEC 60227/IS 694, IEC 60502/IS 1554 (Part I & 2)/ IEC69947 (as applicable)	General test and measuring method for PVC (Polyvinyl chloride) insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables
Earthing /Lightning	

IEC 62561 / IS 3043 Series (Chemical earthing as applicable)	IEC 62561-1 Lightning protection system components (LPSC) - Part 1: Requirements for connection components IEC 62561-2 Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrodes IEC 62561-7 Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds
Energy Meter	
IS 16444 or as specified by the DISCOMs	A.C. Static direct connected watt-hour Smart Meter Class I and 2 - Specification (with Import & Export/Net energy measurements)
MOUNTING STRUCTURE	

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IS 2062/IS 4759	Material for the structure mounting
IS 800/IS 801/IS 2062	Structural components
IS 875-III	Wind load calculations
IS 811	Cold formed light gauge structural steel sections
IS 14246	Galvalume raw material

IS 1161	Steel tubes for structural purposes
IS 4923	Hollow steel sections for structural use
-	Light gauge structural steel or structural aluminum sections other than specified in IS 811

Equivalent standards are acceptable subject to bidder establishing the equivalence of the two standards.

28. APPROVED MAKE AND SPECIFICATION

COMPONENT	SPECIFICATIONS
Module	Technology: Mono PERC (540+ Wp) BIS Compliance: Yes Annual Degradation: 2% in Year 1 and $\leq 0.6\%$ YoY thereafter

Inverter	Technology: Gen-2 String Inverter/ Gen-3 Optimizer Technology Specs: String-level Monitoring with MPPT Technology/ Module-level Monitoring with MLPE Technology
Structure	Type: Pre-Fabricated MS structures HDGI/Galvalume Penetrative and design as per IS-875-2015 (Part-3) Concrete Grade: Min. M20 RCC (cement/sand/coarse aggregate in 1:1.5:3 ratio) Reinforcement Tonnage: D8/D10 rebars to be used as reinforcements Density of the Foundation: ~2500 kg/m3 Wind Load Bearing Capacity: 140 kmph Anchoring Methodology (applicable for penetrative foundation): Hilti chemical with M10/M12 GI 4.6 grade Fasteners: SS-304 A2-70 Fasteners
DC Cables	Specs: 6 sq.mm. UV Protected Copper cable to Unarmored, UV Protected & Flame retardant Compliance: EN-50618 certification is mandatory
Communication Cable	As per Detailed Design & Engineering
Miscellaneous	UV Grade Black Nylon Cable Ties, SS-316 Cable Ties, Safety Boards, Project Board, etc

Earthing Cable	For Module to Module: 4 sq mm Cu Cable For Inverter, LT Panel: Cu 10-16 sq mm
	LA Maintenance Free Chemical Earth pits with Earth rods 1m long 17.2mm dia, Copper Bonded Earth Electrode with min 250 microns coating.
Earth strip	25 x 3 mm GI Strip
Cable Tray	HDPE DWC UV Protected Conduits for DC Cables , GI Cable Tray for AC Cables
AC Cables	Inv to ACDB: Al XLPE Ar Cable with Bimetallic Washer/Lugs ACDB to Spare Feeder: Al Ar XLPE Cable Spare Feeder to Client Panel: Al Ar XLPE Cable

	(Overall AC loss shall not exceed 2%)
AC Junction Box	MCCB: Thermal Magnetic Type Powder coating done with 7 -Tank Process. RAL 7035 colour with overload, short circuit, earth leakage protections.
AC Termination	Glands: Double compression weather proof glands from Comet/ Dowells/COSMOS Lugs: Aluminum/ Copper Lugs – Ring / Pin type
Water Pipeline	UPVC Pipes & fittings up to 1 inch on ridge line and branches of up to 0.75 inch, both based on the requirement.
Water Pump	0.5 hp 1 Ph-Booster Pump with Starter
Project Compliance	Approved FQP compliance to be adhered to w.r.t. quality of project installation.
Lightening arrestors	ESE-type IS 3043 compliant copper-bonded/ stainless steel rod

****End of the Document****