

EVALUATION REPORT
TECHNICAL EVALUATION REPORT
(AS PER RULE 35 OF PPRA 2004).

Subject: - ADV. TENDER NO. Elect./Procurement of PSS for PV/2026 OPENED ON.30-06-2026 FOR
THE SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY
SYSTEM FOR 16 NOS. POWER VANS

1. Name of Procuring Agency: Pakistan Railways, CEE Office.
2. Method of Procurement: Opened Advertised Tender through print media and Websites of Pakistan Railways as well as PPRA.
3. Title of Procurement: Supply, Installation, Testing and Commissioning of Power Supply System for 16 Nos. Power Vans
4. Tender Inquiry No: Elect./Procurement of PSS for PV/2026
5. PPRA Ref No. TS0000006879E
6. Date & time of Bid Closing: 30-06-2026 (10.30 am)..
7. Date & time of Bid Opening: 30-06-2026 (11.00 am).
8. Nos of Bids Received: Four (04)
9. Criteria for Bid Evaluation. According to tender terms & conditions.
10. Details of Bid (s) Evaluation: Attached.

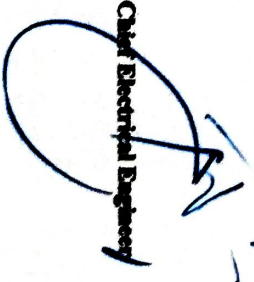
**TECHNICAL EVALUATION
SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY SYSTEM FOR 16 NOS. POWER VANS.**

GRAND SUMMARY

Sr. No.	Name of Bidder	Offered Brand	Technical Score (Minimum qualifying Marks is 70%)	Qualification Status/Remarks
1	M/s Blue Sapphire. (M/s SUMEC, CHINA, LTD JV S.M. Jaffer & Co., LAHORE)	1. Engine Model (350 KVA): Cummins / QSZ13-G7 Alternator Model: Stamford/UK S4L1D-F41 2. Engine Model (100 KVA): Perkins / 1106D-E70TAG3 Alternator Model: Stamford/UK UC1274E	88%	Technically Responsive
2	M/s YFA TECH Merchant (M/s Shandong Supervait Tech CO., LTD, China)	1. Engine Model (350 KVA): Perkins / 2506D-E15TAG2 Alternator Model: Stamford/UK S5L1S-C4 2. Engine Model (100 KVA): Perkins / 1106D-E70TAG2 Alternator Model: Stamford/UK UC1274E	Technically non-responsive	M/s YFA-Tech Merchant is declared technically non-responsive for failing to submit the requisite documents as required under the tender documents. The non-submission of the mandatory documents renders the bid non-compliant with the prescribed tender requirements
3	M/s Magsood Brothers (M/s Orient Energy Systems (Pvt.) Ltd.	1. Engine Model (350 KVA): Cummins / KTA-19 G4 Alternator Model: Stamford/UK S5L1S-F4 2. Engine Model (100 KVA): Cummins / C175D5B Alternator Model: Stamford/UK UC1274F	Technically non-responsive	M/s Magsood Brother is declared technically non-responsive as the firm has offered Cummins KTA19-G4 diesel engine. The offered engine is a mechanically governed fuel system and does not comply with the mandatory technical requirement of an EFI engine. Therefore, the bid fails to meet the prescribed technical specifications as per CEE Specification Part-II clause No.3(b).
4	M/s Malson Group	1. Engine Model (350 KVA): Perkins / 2806A-E18TAG1A Alternator Model: Leroy Somer/France TAL 0473 2. Engine Model (100 KVA): Perkins / 1106A-70TAG3 Alternator Model: Leroy Somer/France TAL 044	Technically non-responsive	M/s Malson Group is declared technically non-responsive as the firm has submitted a PEC Category C-4 registration certificate, whereas the tender documents require a valid PEC Category C-3 registration. Since the firm does not possess the mandatory PEC category prescribed in the tender documents, it fails to meet the basic eligibility criteria of Technical Specifications and Requirements clause No.5 of tender documents.


Chief Controller of Purchase


Chief Mechanical Engineer/C&W


Chief Electrical Engineer

**BID EVALUATION CRITERIA
FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY SYSTEM FOR 16 NOS. POWER VANS**

Description	Marks obtained				
	M/S Blue Sapphire	M/S YFA-TECH MERCHANT	M/S Masgood Brothers	M/S Mathan	
1. MANDATORY DOCUMENTS / REQUIREMENTS (TOTAL MARKS = 390)					
i. The Continuous Operating Power (COP) of the offered DG Sets shall be equal to or greater than the respective ratings of 350 kVA and 100 kVA, in accordance with ISO 8528-1, under the specified climatic conditions and after application of all derating factors	15 marks	15	0	0	0
ii. If Continuous Operating Power (COP) rating of the offered DG Sets is less than 350 kVA and 100kVA (under specified climatic conditions).	0, May lead to disqualification of bid				
iii. The offered Diesel Generator Sets shall have Prime Power (PRP) ratings higher than the respective Continuous Operating Power (COP) requirements of 350 kVA and 100 kVA, in accordance with ISO 8528-1. The DG sets shall be capable of delivering their respective COP ratings of 350 kVA and 100 kVA after application of all derating factors under the specified climatic and site conditions.	15 marks	15	0	0	0
iv. If Prime Power (PRP) rating of the offered DG Set is less than Continuous Operating Power (COP) requirement of (350 kVA) and 100kVA.	0, lead to disqualification of bid				
v. The Standby Power rating of the offered Diesel Generator Sets shall be higher than the Prime Power (PRP) rating for both 350 kVA and 100 kVA Continuous Operating Power (COP) capacities, and shall conform to the ISO 8528-1 classification under the specified operating conditions.	15 marks	15	0	0	0
vi. If Standby Power rating of the offered DG Sets is less than Prime power rating	0, May lead to disqualification of bid				
Electrical System – Power Van (General Requirements) Applicable Standards The electrical works in power vans shall comply with the following latest editions of standards: IEC 60077 (Electrical Equipment for Rolling Stock), IEC 60529 (Degree of Protection – IP Code), EN 50155 (Railway Electronic Equipment), EN 61373 (Shock and Vibration), EN 45545 (Fire Safety), IEC 60332 (Flame Retardant Cables), IEC 61991 (Earthing and Electrical Protection), and IEC 61439 (Panel Construction). Degree of Protection (IP Rating) All electrical equipment shall be suitable for railway service conditions and shall comply with IEC 60529 as follows: The alternator shall have a minimum degree of protection of IP23. All control panels, electrical enclosures, terminal boxes, and junction boxes shall have a minimum degree of protection of IP54. Cable systems including cables (where applicable), conduits, ducts, and cable glands shall be suitably designed and installed to provide protection against dust, moisture, and mechanical damage. Cable termination points and sealing arrangements exposed to harsh conditions shall ensure a minimum effective protection level of IP65 at termination points where applicable. Wall-mounted cable routes and protected wiring installations shall have a minimum degree of protection of IP44. All electrical accessories and components shall be suitable for the service environment and shall have a minimum protection level not less than IP44.	15 marks	15	0	0	0
viii. The DG set does NOT have a minimum degree of protection of IP55 in accordance with IEC 60529 for all exposed and operational components to prevent ingress of dust and water during service.	0, May lead to disqualification of bid				

**BID EVALUATION CRITERIA
FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY SYSTEM FOR 16 NOS. POWER VANS**

Description		Marks obtained			
a. Brand / Country of Origin of DG Set. (100 Marks)					
Sr.	Description	350 KVA	100 KVA		
i.	Offered Diesel Engine is Cummins with USA as country of origin.	100 marks	90 marks		
ii.	Offered Diesel Engine is Perkins with UK, Europe or USA as country of origin.	90 marks	100 marks		
iii.	Offered Diesel Engine is Caterpillar with UK, Europe or USA as country of origin.	90 marks	90 marks		
iv.	Offered Diesel Engine is equivalent to above brands with UK, Europe or USA as country of origin.	80 marks	90 marks	85	0
CONFORMITY WITH CLIMATIC AND OPERATING CONDITIONS (Total Marks = 40)					
i.	Bidder has certified that the Power Supply system is suitable for climatic conditions as indicated in "Environmental" Clause 1& 2 of CEE Specification.	20 marks	20	0	0
ii.	Bidder has NOT certified that the Power Supply system is suitable for climatic conditions as indicated in "Environmental" Clause 1&2 of CEE Specification.	0, May lead to disqualification of bid	20	0	0
iii.	Bidder has certified that the Power Supply system is suitable for operating conditions as indicated in "Environmental" Clause 1& 2 of CEE Specification.	20 marks		0	
iv.	Bidder has NOT certified that the Power Supply system is suitable for operating conditions as indicated in "Environmental" Clause 1& 2 of CEE Specification.	0, May lead to disqualification of bid			
DIMENSIONS OF THE EQUIPMENT (Total Marks = 20)					
i.	The dimensions of the DG Set and all allied fixtures/accessories, including the remote radiator (in case of 350KVA COP) and control panel, shall strictly conform to the prescribed/available dimensional limits of the Power Van layout	20 marks	20	0	0
ii.	The dimensions of the DG Set and all allied fixtures/accessories, including the remote radiator and control panel, do not conform to the prescribed/available dimensional limits of the Power Van layout	0, May lead to disqualification of bid			
REMOTE RADIATORS (FOR 350KVA DG SETS ONLY) (Total Marks = 20)					
i.	Certificate from the OEM confirming that the offered remote radiator is fully compatible with the proposed DG Set and shall not adversely affect the performance, efficiency, reliability, or operational parameters of the DG Set in the prescribed climatic and operating conditions of the Power Van is attached For 100KVA, Skid mounted radiator is only acceptable	20 marks	20	0	0
ii.	Certificate from the OEM confirming that the offered remote radiator is fully compatible with the proposed DG Set and shall not adversely affect the performance, efficiency, reliability, or operational parameters of the DG Set in the prescribed climatic and operating conditions of the Power Van is NOT attached.	0, May lead to disqualification of bid			
iii.	Firm has offered Skid mounted radiators for 350KVA DG set	0, May lead to disqualification of bid			

BID EVALUATION CRITERIA
FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY SYSTEM FOR 16 NOS. POWER VANS

Description		Marks obtained			
		M/S Blue Sapphire	M/S YFA-TECH MERCHANT	M/S Mangood Brothers	M/S Mahesh
INSPECTION OF POWER VANS (Total Marks = 30)					
i.	Undertaking duly signed by DEE/V, C&W Shops to the effect that Power Vans have been inspected covering all relevant technical, operational, and maintenance aspects is attached.	30	0	0	0
ii.	Undertaking duly signed by DEE/V, C&W Shops to the effect that Power Vans have been inspected covering all relevant technical, operational, and maintenance aspects is NOT attached.	0, May lead to disqualification of bid			
SUBMISSION OF TECHNICAL DOCUMENTS (Total Marks = 70)					
i.	Bidder has submitted detailed drawings and design documents for the remote radiator system (for 350k VA DG set) and control panel & Train Lines Panel of both types of offered DG sets.	25	0	0	0
ii.	Bidder has NOT submitted detailed drawings and design documents for the remote radiator system and control panel & Train Lines Panel.	0, May lead to disqualification of bid			
iii.	Bidder has submitted following documents:	25	0	0	0
(i.)	General Arrangement (GA) drawings				
(ii.)	Detailed layout and mounting arrangements of the remote radiator				
(iii.)	Piping/interconnection diagrams				
(iv.)	Electrical schematics of the control panel				
(v.)	Control logic and protection scheme				
(vi.)	General Arrangement (GA) drawings of the Train Line Panel.				
(vii.)	Detailed electrical schematics and wiring diagrams				
(viii.)	Control and interlocking logic				
(ix.)	Protection and safety features				
(x.)	Interface details with DG Set and coach electrical systems				
(xi.)	Technical specifications of all major components				
iv.	Bidder has NOT submitted above documents	0, May lead to disqualification of bid			
v.	All drawings and designs are duly signed and stamped by the authorized representative of the bidder.	10	0	0	0

**BID EVALUATION CRITERIA
FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY SYSTEM FOR 16 NOS. POWER VANS**

Description	Marks obtained			
	M/S Blue Sapphire	M/S YFA-TECH MERCHANT	M/S Megood Brothers	M/S Mahesh
vi. All drawings and designs are NOT duly signed and stamped by the authorized representative of the bidder.				
vii. Complete name, designation, mailing address, telephone number and email of the bidder's focal person for correspondence of the tender has been provided.	10	0	0	0
viii. Complete name, designation, mailing address, telephone number and email of the bidder's focal person for correspondence of the tender has NOT been provided.				
EXPERIENCE RECORD (Total Marks = 50)				
i. Particulars of the customer Railway, its focal person's mail and email address, fax and phone numbers have been provided.	10 Marks	0	0	0
ii. Particulars of the customer Railway, its focal person's mail and email address, fax and phone numbers have NOT been provided.	0, May lead to disqualification of bid			
iii. Year of manufacture / supply and the number supplied, customer wise have been provided.	10 Marks	10	0	0
iv. Year of manufacture / supply and the number supplied, customer wise have NOT been provided.	0, May lead to disqualification of bid			
v. Verified / notarized copies of latest performance certificates from end user Railways duly attested by respective Chambers of Commerce have been provided.	10 Marks	10	0	0
vi. Verified / notarized copies of latest performance certificates from end user Railways duly attested by respective Chambers of Commerce have NOT been provided.	0, May lead to disqualification of bid			
vii. Original Certificate of satisfactory performance with minimum two-year service from the end user / Senior management mentioning the capacity of DG Set along-with the name and email contract of the issuing person has been provided.	20 Marks			
viii. Original Certificate of satisfactory performance with minimum two-year service from the end user / Senior management mentioning the capacity of DG Set along-with the name and email contract of the issuing person has NOT been provided.	0, May lead to disqualification of bid			
2. OEM/Manufacturing Firm Profile (Total Marks = 20)				
S. No	Description	Marks		
i.	The firm shall have a minimum experience of 15 years or more in the design, manufacturing, and supply of Diesel Generating Sets having a capacity of 350 kVA and 100 kVA continuous rating or above.	20 Marks	20	0
ii.	Firm which have experience of 15 but more than 10 years for Design, manufacturing & supply of Diesel Generating Sets, having capacity 350 kVA and 100kVA continuous rating or above.	10 Marks		
iii.	Firm which have experience of 10 but more than 08 years for Design, manufacturing & supply of Diesel Generating Sets, having capacity 350 kVA and 100kVA continuous rating or above.	05 Marks		
iv.	Firm which have experience of 08 but more than 05 years for Design, manufacturing & supply of Diesel Generating Sets, having capacity 350 kVA and 100kVA continuous rating or above.	Disqualified		

**BID EVALUATION CRITERIA
FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY SYSTEM FOR 16 NOS. POWER VANS**

Description		Marks obtained			
		M/S Blue Sapphire	M/S YFA-TECH MERCHANT	M/S Magesood Brothers	M/S Madam
3. Relevant Experience and Past Performance (Total Marks = 15)					
S. No	Description	Marks			
i.	Design, manufacturing & supply of 200 Nos. or above, Diesel Generating Sets, having capacity 350 kVA and 100kVA continuous rating or above	15	0	0	0
ii.	Design, manufacturing & supply of less than 200 but more than 150 Nos. Diesel Generating Sets, having capacity 350 kVA continuous rating and 100kVA or above.	10			
iii.	Design, manufacturing & supply of less than 150 but upto 100 Nos. Diesel Generating Sets, having capacity 350 kVA and 100kVA continuous rating or above.	05			
iv.	Design, manufacturing & supply of less than 100 Nos. Diesel Generating Sets, having capacity 350 kVA and 100kVA continuous rating or above.	Disqualified			
4. OEM of Diesel Generating Sets (Total Marks = 15)					
Sr. No.	Description	Marks			
1	i. The bidder is OEM of the Cummins Diesel Generating Sets.	15			
	ii. The bidder is not OEM of the Cummins Diesel Generating Sets but Renowned Manufacturer of the Diesel Generating Sets.	10	10	0	0
	iii. The bidder is not OEM of the Diesel Generating Sets nor Renowned Manufacturer of the other brands Diesel Generating Sets.	0			
Note:- The marks will be awarded on the basis of documentary evidence submitted by the bidder along-with Technical bid. The bidder must submit company profile and references of completed projects.					
5. FINANCIAL POSITION OF OEM/MANUFACTURER FIRM (Total Marks = 10)					
Average Annual Turnover		Marks			
More than 100 Million USD (or equivalent)		10	10	0	0
Less than 100 Million but upto 75 Million USD (or equivalent)		08			
Less than 75 Million but upto 50 Million USD (or equivalent)		05			
For average turnover of last 3 years less than 50 Million USD (or equivalent).		0			
Note:- The marks will be awarded on the basis of documentary evidence submitted by the bidder along-with Technical bid. The bidder must submit account balance of the manufacturer for last 03 years showing the average turnover for each year. The bidder must submit the annual audit report for last 03 years showing the average turnover is such report has been prepared.					

**BID EVALUATION CRITERIA
FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY SYSTEM FOR 16 NOS. POWER VANS**

Marks obtained

Description		M/S Blue Sapphire	M/S VFA-TECH MERCHANT	M/S Majeed Brothers	M/S Mathan
6. ISO CERTIFICATION (Total Marks = 10)					
Sr. No.	Description	Marks			
1	Valid ISO 9001 Certification of OEM / Manufacturer	05 Marks	5	0	0
2	Compliance of offered DG Set with IEC / ISO 8528 Standards	05 Marks	5	0	0
Note:- The marks will be awarded on the basis of documentary evidence submitted by the bidder alongwith Technical bid. The bidder must submit attested copies of Registration.					
7. Evaluation Criteria for JV with local firm (Total Marks = 40)					
a. For JV with local firm Profile (Total Marks = 40)					
Sr. No.	Description	Technical Requirement			
i.	Legal Status of Firm (Registered with either of the following)	Must required			
	Security Exchange & Commission of Pakistan (SECP)				
	Registrar of Companies				
ii.	ISO Certification	Must required			
iii.	NTN/GST FBR registration certificate	Must required			
iv.	Active Tax payer status with FBR	Must required			
v.	Minimum 10 Years in Business	Must required			
vi.	Certificate to the effect that the applicant / company is not involved in litigation with any Government department nor has ever been black listed by any department.	Must required			
vii.	Affidavit of correctness of information	Must required			
viii.	Certificate having proper quality control unit/testing lab with testing equipment to check the quality of Industrial Diesel Generator Sets having capacity of 350 kVA and 1000kVA Continuous Operating Power (COP) or above as per ISO Standards.				
Major Components of Diesel Generator Sets :-					
ix.	a. Supply of Diesel Generator Sets.	Must required			
	b. Supply and design of Control Panel with all accessories.				
	c. Supply, Design and Manufacturing of Remote Radiators (for 350kVA DG set only). Having experience of Installation, Testing & Commissioning				

**BID EVALUATION CRITERIA
FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY SYSTEM FOR 16 NOS. POWER VANS**

Description		Marks obtained			
		M/S Blue Sapphire	M/S VFA-TECH MERCHANT	M/S Magesood Brothers	M/S Madhavi
Relevant Experience and Test Performance, (Total Marks = 10)					
S. No	Description	Maximum Points			
1	List of lab testing equipment with valid calibration certificate issued by independent laboratory Industrial Diesel Generator Sets having capacity of 350 kVA and 100kVA Continuous Operating Power (COP) or above as per ISO Standards.	05 Marks			
2	List of Tools & Machinery for installation, testing of Industrial Diesel Generator Sets having capacity of 350 kVA and 100kVA Continuous Operating Power (COP) or above as per ISO Standards.	05 Marks	5	0	0
Relevant Experience and Test Performance, (Total Marks = 05)					
S.No	Description	Maximum Points			
A	i. Supply, Installation, Testing & Commissioning of 100 Nos. or above of 350 kVA and 100kVA Continuous Operating Power (COP) Rating alongwith Control Panel and Remote Radiator or above.	05 Marks			
	ii. Supply, Installation, Testing & Commissioning of less than 100 but more than 50 Nos. of 350 kVA and 100kVA Continuous Operating Power (COP) Rating alongwith Control Panel and Remote Radiator (for only 350kVA DG set) or above.	03 Mark			
	iii. Supply, Installation, Testing & Commissioning of less than 50 of 350 kVA and 100kVA Continuous Operating Power (COP) Rating alongwith Control Panel and Remote Radiator (only for 350kVA DG set) or above.	0 Mark			
Note :- The marks will be awarded on the basis of the documentary evidence submitted by the firm along-with Technical Bid					

**BID EVALUATION CRITERIA
FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY SYSTEM FOR 16 NOS. POWER VANS**

FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF POWER SUPPLY SYSTEM FOR 16 Nos. 1000 KVA					Marks obtained			
Description			M/S Blue Sapphire	M/S YFA-TECH MERCHANT	M/S Mangood Brothers	M/S Mahesh		
Personnel Capabilities (Total Marks = 10)								
Sr. No.	Description	Marks Assigned	Explanation for Marks Obtained					
	Graduate Engineer (Must be registered with PEC) Note: - Detail to be provided on Form Tech - 6 & Form Tech - 8.	6	Full Marks will be given, if at least four B.Sc. Electrical/Electronics/Mechanical Engineer with 5 year or above experience in dealing with DG sets and must be in employment of the firm at present applying as Bidder. Each engineer carry Max. 1.5 marks. For engineers having experience less than 5 years but equal or greater than two years: $= 1.5 \times (A/5)$ A = No. of years of experience provided A must be equal or greater than two (2) years. Zero (0) Mark will be given in case B.Sc. Engineer is: a. not in employment of the firm b. his experience is less than two years. Full Mark will be given, if at least Five (05) Associate Electrical/Electronics/Mechanical Engineer with five years or above experience and must be in employment of the firm at present applying as Bidder. Each engineer carry Max. 0.8 marks. For experience less than 5 years but equal or greater than two years: $= 0.8 \times (A/5)$ A = No. of years of experience provided A must be equal or greater than two (2) years. Zero (0) Mark will be given in case Associate Engineer is: a. not in employment of the firm b. his experience is less than two years.					
	Diploma / Associate Engineer in Employment of the Firm Note: - Detail to be provided on Form Tech - 2 & Form Tech - 3.	4	4	0	0	0		
d. Financial Position for Lead Partner (average turnover of last 3 years), (Total Marks = 10)								
Average Annual Turnover			Marks					
Equal or More than Rs. 1000.00 Million			10 Marks	10	0	0	0	
Less than Rs. 1000.00 Million but upto Rs. 750.00 Million			08 Marks					
Less than Rs. 750.00 Million but upto Rs. 500.00 Million			05 Marks					
For average turnover of last 3 years less than Rs. 500 Million			0 Marks					
Note:- (Clause 7)								
In case the OEM/Manufacturer directly participates for the Supply, Installation, Testing & Commissioning (SITC) of the Power Supply System as per CEE specifications, such firm shall be exempted from complete Clause-7, evaluation criteria, which carries a total weightage of 40 marks. However, in all other cases, including those where the OEM provides a supervision certificate or participates through a local firm or Joint Venture (JV) with a local partner for installation, testing, and commissioning, the bidder shall remain subject to Clause-6 evaluation. Marks shall be awarded strictly on the basis of documentary evidence submitted with the Technical Bid								
Total Marks Obtained			440					

Chief Controller of Purchase

23/8/26.
Chief Mechanical Engineer

Chief Electrical Engineer

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 350KVA (CONTINUOUS OPERATING POWER)
TENDER NO. Elect/Procurement of PSS for EV/2026. TENDER OPENED ON 30.06.2026**

Clause Name	Sub-Clause Name	Description	M/S Blue Supplier	M/S V/A-TECH MERCHANT	M/S Mayapuri Brothers	M/S Nishan
GENERAL REQUIREMENT						
I.		Bid Security in favor of F&C/AO amounting to Rs. 30,000 million attached?	Yes	Yes	Yes	Yes
II.		CBE's Technical Specification Confirmed?	Confirmed	Confirmed	Confirmed	Confirmed
III.		The bidder must submit the technical literature of all the vital items of offered DG Set	Submitted	Submitted	Submitted	Submitted
IV.		Warranty Certificate / Confirmation.	Yes	Yes	Yes	Yes
V.		02 Years Spare parts quoted?	Yes	Yes	Yes	Yes
VI.		Supply, installation and commissioning of Diesel Generating Sets	Quoted	Quoted	Quoted	Quoted
VII.		The bidder must submit the Letter of Bid (Technical) (Annexure-C) and Letter of Bid (Financial) (Annexure-D) duly filled, signed and stamped by the bidder alongwith Technical and Financial offer respectively.	Submitted	Submitted	Submitted	Submitted
VIII.		The bidder must be registered with Sales Tax and Income Tax department and must be on FBR's Active Tax Payer's list (documentary proof must be submitted alongwith bid)	Yes	Yes	Yes	Yes
IX.		The bidder must indicate brand name, manufacturer name and country of origin of each quoted item.	Provided	Provided	Provided	Provided
TECHNICAL SPECIFICATION AND REQUIREMENTS						
		Only Manufacturers or their duly authorized agents / representatives are eligible to quote against this tender. In case of bid submission by trader/vendor /agent or representative firm, the authority letter in favor of such firm from the Manufacturer must be submitted along with the bid failing which the offer will be liable to be rejected. The authority letter must be on letter head of Manufacturer containing address and contact details along with name and designation of the issuing authority and issued as per the format attached as Annex-I. It will be responsibility of the bidder to make it sure that either Manufacturer participate in the tender or the manufacturer must provide manufacturer's Authority letter to only one bidder. In case of multiple bidders having authority letter from same manufacturer, offers of such bidders shall be rejected.	Yes	Yes	Yes	Yes
2		The bidder must submit the technical literature of the product against all items offered by the bidder failing which the offer will be rejected.	Provided	Provided	Provided	Provided
3		In case of items requiring bidders quote for installation and commissioning, the bidders must visit the site of installation and check all allied requirements for installation and commissioning failing which the onus of responsibility in connection with the installation problems will rest entirely on the bidder.	Complied	Complied	Complied	Complied
4		Offer of the firm which, when awarded the contract for same item previously, fail to supply the correct material within due time is liable to rejection.	N/A	N/A	N/A	N/A
5		Bidder must be registered with PEC in C-3 or above Category, failing which the offer will be liable to rejection. PEC registration certificate must be part of the technical bid.	Provided	Provided	Provided	Not Provided
6		Following Warranty Clause will be applicable on this procurement and bidder must quote their bid accordingly.	Complied	Complied	Complied	Complied
I.		The Seller warrants that the store will be in accordance with the particulars mentioned in the purchase order.	Complied	Complied	Complied	Complied
II.		The Seller warrants that the store will be free from defects in material and workmanship.	Complied	Complied	Complied	Complied
III.		The seller's obligations under the warranties expressed in sub-paragraphs i and ii above shall be limited to replacement DAP Carriage & Wagon Shop Mughalpura or Redi line Karachi (as the case may be) free of cost stores which at the time of receipt by the consignee or under normal use and maintenance prove defective in material/workmanship or fail to comply with the required performance in the normal course of service. The warranty shall be valid for a period of 18 months from date of receipt of material	Complied	Complied	Complied	Complied
IV.		The warranty shall be in addition to the normal inspection.	Complied	Complied	Complied	Complied
V.		The warranty shall be covered against the 10% security deposit which shall be kept valid by the firm till expiry of the warranty period and retained by the Purchaser	Complied	Complied	Complied	Complied
VI.		In case of any discrepancy in drawing or specification, the manufacturer/bidder will get the drawing/ Specification vetted from CBE before start the manufacturing.	Complied	Complied	Complied	Complied
7		All testing where necessary shall be conducted through Pre-Qualified firms, and expense thereof will be borne by the bidder	Complied	Complied	Complied	Complied
8		If the participate is OEM than Third Party Inspection may be not applicable.	Complied	Complied	Complied	Complied

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 398KVA (CONTINUOUS OPERATING POWER)
TENDER NO. E&E/T/Procurement of PSS for EV/2016. TENDER OPENED ON 30.06.2016**

Class Name	Sub-Class Name	Description	M/S Blue Sapphire	M/S VTA-TECH MUMBAI	M/S Megapad Builders	M/S Mahan
PAKISTAN RAILWAYS C&E'S SPECIFICATION						
PART-I						
Pakistan Railways (PR) invites bids for the Supply, Installation, Testing, and Commissioning of Power supply System in 16 Nos. dedicated Power Vans (a specific railway vehicle meant to generate power for air-conditioning, lighting and other electrical appliances equipped on passenger trains) through 350 KVA and 100 KVA Diesel Generating Sets (Continuous Operating Power - COP), 3-phase, 400 volts, 50 Hz, power factor 0.8 lagging, heavy industrial type, suitable for continuous train operation. The Power Supply system shall comprise of Diesel Engines, Alternators, Control Panels, Remote Radiators (to be fitted in another compartment of Power Van away from the diesel engine), Fueling systems, Wiring systems, piping systems, power female sockets, Interlock couplers and other subsystems to be equipped on the Power Vans.			Completed	Completed	Completed	Completed
Diesel Generating (DG) Set Requirements The DG set shall be rated in accordance with ISO 8528-1 and shall have a Continuous Operating Power (COP) rating of not less than 350 KVA, capable of delivering the specified power continuously under the specified site ambient conditions. The Prime Power Rating (PPR) of the DG set shall be higher than the COP rating, as defined in ISO 8528-1. The complete DG set shall be suitable for railway rolling stock (power van) application and intended for continuous operation under severe service conditions across Pakistan, including dusty environment, stormy weather, high vibration, shock, and wide climatic variations. The DG set, including alternator, control panel, and all associated electrical equipment, shall be robustly constructed, weather-resistant, and vibration-proof to ensure reliable mobile operation. (see Environmental, Clause-1&2). The DG set shall have a minimum degree of protection of IP55 in accordance with IEC 60529 for all exposed and operational components to prevent ingress of dust and water during service. All equipment shall be suitably sealed and designed for railway mobile application to ensure safe, reliable, and maintenance-friendly performance under train operating conditions. Note:- Bidders shall quote all ratings of the offered DG Set, including Prime Rating, Standby Rating, and Continuous Operating Power (COP) Rating.			Completed	Completed	Completed	Completed
1. Supply of following equipment and systems suitable for fitment and operation in Railway Power Vans (layout drawings of Power Vans attached at Annexure-A-1 for ready reference): i. Diesel Generating Set ii. Control Panel iii. Remote Radiator iv. Coolant Piping Systems v. Electric Wiring systems vi. Fueling System including Main and Auxiliary fuel Tank vii. Other Sub-systems required for efficient Power generation viii. Consumable items and spares for three years (Annexure-A-6) 2. Installation, testing and Commissioning of equipment and systems in Power Vans. 3. Monitoring and supervision of Power Van for 02 years 4. The contractor shall be responsible for the complete installation, testing, and commissioning of the DG Set, control panel, and remote radiator within the Power Van. The scope of work shall include ensuring complete functionality and integration of all associated accessories and sub-systems, including but not limited to electrical wiring, cabling, fuel bed tank, water tank, fuel piping, exhaust piping, mounting arrangements, safety devices, and all allied works necessary to meet the specified technical requirements and ensure full operational readiness of the system. 5. Following are mandatory requirements for the bidders: i. The dimensions of the DG Set and all allied fixtures/accessories, including the remote radiator and control panel, shall strictly conform to the prescribed/available dimensional limits of the Power Van layout, and no component shall exceed the permissible dimensions. (Drawings of power van including the dimension of frame of DG Set, remote radiator and specification of radiator are attached for reference and better understanding.) ii. The firm shall furnish a certificate from the OEM confirming that the offered remote radiator is fully compatible with the proposed DG Set and shall not adversely affect the performance, efficiency, reliability, or operational parameters of the DG Set in the prescribed climatic and operating conditions of the Power Van. iii. All prospective bidders are required to visit the designated workshop/site and Power Van prior to submission of their bids in order to assess the existing condition, scope of work, and associated requirements. iv. The bidders shall carry out a detailed inspection jointly with DEEW, C&E Shops, Moghalpura, and submit an undertaking that Power Vans have been inspected covering all relevant technical, operational, and maintenance aspects. The said undertaking, duly signed by both parties, shall be submitted along with the bidding documents. (Further in detail, see item No. 28 of this document).			Completed	Completed	Completed	Completed

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 350KVA (CONTINUOUS OPERATING POWER)
TENDER NO. Elect/Procurement of PSS for FY 2026. TENDER OPENED ON 30.06.2026**

Candidate Name		Sub-Candidate Name		Description		M/S Base Supplier	M/S TPA-TECH MERCHANT	M/S Transport Brokers	M/S Medium	
(ENVIRONMENTAL)										
1. Climatic Conditions										
a. Minimum Ambient Air Temperature..... (-) 10oC b. Maximum Ambient Temperature..... 35oC c. Maximum Altitude above Sea Level..... 1000 Mtr. d. Relative humidity..... Min 5% Max 85% e. Environment..... Sandy, stormy & dusty. f. The climatic conditions over a greater part of the country are extremely severe in respect of heat and dust.						Complied	Complied	Complied	Complied	
2. Service and Operational Conditions						DG Set will be mounted in a Chinese Power van which will run maximum at a speed of 140 Kilometer /hour which is subjected to jerks and jolts during run and severe jerk in case of sudden braking.	Complied	Complied	Complied	Complied
PART-1L										
(DIESEL ENGINE)										
3. Engine Specification		a. Type:	Four Stroke, Turbocharged, Intercooled.			Complied	Complied	Complied	Complied	
		b. Fuel System:	Electronic fuel injection (EFI) for precise combustion control.			Complied	Complied	Not Complied	Complied	
		c. Emission Compliance:	The DG Set engine shall comply with EPA Tier 4, EU Stage III, or equivalent international emission standards, as applicable. The engine shall be of proven design and shall meet the specified emission limits through OEM-standard engine technology and emission control measures adopted by the manufacturer for compliance with the applicable emission standard.			Complied	Complied	Not Complied	Not Complied	
		d. Exhaustion Control System:	The engine shall ensure low exhaust emissions, reliable continuous-duty operation, and suitability for installation in Railway power vans.			Complied	Complied	Complied	Complied	
		e. Fuel Type:	The engine must deliver full 350 kVA Continuous Operating Power (COP) after derating for temperature and altitude as per the climatic conditions specified in Clause #1 of Part I. OEM certification is required.			Complied	Complied	Complied	Complied	
		f. Over Fuel Power	The Continuous Operating Power (COP) of the engine shall be evaluated as per the definition given in BS 5514 / Part I / 1982, reproduced below. “The continuous power an engine can deliver between normal maintenance intervals, as specified by the manufacturer, at the stated speed and under the specified site ambient conditions, provided that the prescribed maintenance is carried out accordingly.” The engine shall also be rated in accordance with ISO 8528-1, ensuring that the Continuous Operating Power (COP) is not less than 350 kVA, guaranteed at site ambient conditions. The Prime Power Rating (PPR) shall be higher than the COP, with manufacturer-certified derating applied, wherever applicable, to account for site ambient conditions.			Complied	Complied	Complied	Complied	
		a.	Supply and installation of best-quality Stainless Steel (SS) main fuel tank having total capacity of 5000 liters, comprising two parallel tanks of 2500 liters each, to be mounted underneath the Power Van, complete with fuel level gauge rods, digital fuel level meter/indicator with minimum IP55 protection, and all necessary fittings/accessories to ensure safe and reliable operation under dusty, rainy, and harsh environmental conditions. The successful bidder shall ensure that all fuel pipes, valves, fittings, and the main fuel tank installed under the coach body are adequately protected and suitable in all respects for safe, reliable, and trouble-free operation of the system under service conditions. (As per existing arrangement)			Complied	Complied	Complied	Complied	
		b.	Day/Auxiliary Fuel tank (made of Stainless Steel) shall be of minimum capacity of 300 litres to be provided by the manufacturer along with all accessories.			Complied	Complied	Complied	Complied	
4. Fuel Tank		c.	The fuel gauge indicator/glow rod indicating the quantity of fuel (HSD) in the day/auxiliary tank, as well as the main fuel tank, shall be installed by the manufacturer.			Complied	Complied	Complied	Complied	
		d.	Automatic Fuel filling (from main fuel tank to day/aux fuel tank) device with sensors shall be installed for day/Auxiliary tank, which shall be automatically operated, when the fuel in the day/aux tank remains 1/3 of the full capacity. Besides, manual fuel filling system should be also provided.			Complied	Complied	Complied	Complied	
		e.	The digital Fuel meter shall be installed in control panel and also on both tanks for monitoring of fuel.			Complied	Complied	Complied	Complied	
		Notes:	All such components shall have a minimum IP65 ingress protection rating to ensure dust- and water-proof operation under service conditions.							
		a.	Electrically operated fuel (HSD) lifting pump, equipped with extra fuel filter and water separator arrangement be supplied separately for lifting and filtration of the fuel (HSD) from main tank to day/Auxiliary tank of D.G Set.			Complied	Complied	Complied	Complied	
5. Fuel Supply Pump		b.	Standby manually operated (hand) fuel lifting pump shall also be provided by the manufacturer, for lifting fuel in the day/aux tank in case of emergency.			Complied	Complied	Complied	Complied	
		c.	Manually operated fuel lifting pump be provided in parallel with the main pump (One set).			Complied	Complied	Complied	Complied	
			Fuel pipe lines with relevant accessories like hand valve, no return valve, elbow, tee, unions, sockets etc (make SS) from main fuel tank to aux fuel tank and aux fuel tank to DG set be provided by the manufacturer.			Complied	Complied	Complied	Complied	

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 350KVA (CONTINUOUS OPERATING POWER)
TENDER NO. E&E/Procurement of PSS for IV/2025. TENDER OPENED ON 30.06.2025**

Clause Name	Sub-Clause Name	Description	M/S Blue Sapphire	M/S VFA-TECH INTERCHART	M/S Megapool Brothers	M/S Midas
6. Engine Filters.	a. Air Filter:	The engine shall be equipped with an air filtration system capable of effectively cleaning intake air under the expected operating environment. Air filter shall comply with OEM-certified recommendations. The engine shall operate reliably up to the OEM-specified service interval, which shall preferably be 500 hours, but in no case less than 250 hours, under continuous full-load operation.	Completed	Completed	Completed	Completed
	b. Lubricating (Lube) Oil Filter:	Lube oil and filter replacement intervals shall comply with OEM-certified recommendations. The engine shall operate reliably up to the OEM-specified service interval, which shall preferably be 500 hours, but in no case less than 250 hours, under continuous full-load operation.	Completed	Completed	Completed	Completed
	c. Fuel Oil Filter and Water Separator	Fuel oil filters along with a water separator replacement intervals shall comply with OEM-certified recommendations. The engine shall operate reliably up to the OEM-specified service interval, which shall preferably be 500 hours, but in no case less than 250 hours, under continuous full-load operation.	Completed	Completed	Completed	Completed
7. Fuel Oil.		The diesel engine should be suitable to operate on High Speed Diesel oil as per specifications attached as Annexure-A-3.	Completed	Completed	Completed	Completed
8. Speed Control.		The diesel engine should be equipped with Electronic Governor.	Completed	Completed	Completed	Completed
9. Exhaust System	a.	The diesel engine shall be required to be provided with SS flexible exhaust manifold silencer giving vertical outlet for the burnt gases, designed in such a manner to avoid entrance of rainwater. Exhaust manifold silencer be accommodated outside the coach and burnt gases will be exhausted through the roof even when the train is running.	Completed	Completed	Completed	Completed
	b.	A suitable capacity of three phase exhaust fan for cooling the engine room be provided by the manufacturer.	Completed	Completed	Completed	Completed
10. Cooling System	Cooling Media.	The engine should be water cooled suitable to meet with the requirement of cooling under conditions mentioned vide Clause # 1 of Part-I.	Completed	Completed	Completed	Completed
	Radiator	The remote radiator alongwith tank, pipeline etc shall be installed in a separate room as per the arrangement shown in the layout drawings of power vans attached as Annexure-A-2. The system shall operate efficiently and maintain the coolant temperature below 90°C at full load, as per Clause #1 and #2 of Part-I. Relevant drawings are also attached.	Completed	Completed	Completed	Completed
	Note:	Following are mandatory requirements for the bidders: 1. The firm shall furnish a certificate from the OEM confirming that the offered remote radiator is fully compatible with the proposed DG Set and shall not adversely affect the performance, efficiency, reliability, or operational parameters of the DG Set. 2. Solid mounted radiator are not acceptable.	Completed	Not Completed	Not Completed	Not Completed
	a. Auxiliary water make up tank	Firm shall provide and install auxiliary water make up tank (make SS) shall be of minimum capacity of 300 litres along with all accessories. Water gauge indicator/Glow rod indicating quantity of water in the aux tank will be provided by the manufacturer.	Completed	Completed	Completed	Completed
11. Safety and Protection Devices	b. High Temperature Indicating Device.	Sensing device should be provided to indicate the temperature of radiator water and it should shut down the D/G Set in case of attaining over and above the permissible designed temperature.	Completed	Completed	Completed	Completed
	c. Low water level Indicating Device.	Sensing device should be provided on the radiator to indicate the low level of radiator water alongwith acoustic alarm and tripping device.	Completed	Completed	Completed	Completed
	d. Rust Inhibitor and Coolant	Cooling water inhibitor, anti-corrosive and antifreeze compound conforming to applicable international environmental, health, and safety regulations shall be provided. The coolant shall be OEM-recommended and suitable for continuous operation of the diesel engine under specified ambient and load conditions. The successful bidder shall supply complete technical literature, safety data sheets (SDS), and product data sheets of the recommended coolant / anti-corrosive and antifreeze compound at the time of supply.	Completed	Completed	Completed	Completed
12. Starting System		Safety and protection devices shall be provided for shut-down of the engine automatically in the event of: a. Low lube oil pressure. b. High engine temperature. c. Engine over/under speed.	Completed	Completed	Completed	Completed
13. Emergency Supply		It should have the preferably 24 volts (Each cell of 1.2 Volt = 19 cells) Nickel Cadmium (NiCd) Alkaline Battery Set capacity 220AH as per existing arrangements.	Completed	Completed	Completed	Completed
14. Battery Charger (dual arrangement.		Emergency supply in Power Vans, preferably 48 volts (each cell of 1.2 Volt each = 39 cells) Nickel Cadmium (NiCd) Alkaline Battery Set capacity 220AH as per existing arrangements.	Completed	Completed	Completed	Completed
		A static charger (with boost and float charge selection), should be supplied per two DG Sets for charging engine starting batteries in addition to 24 volts dynamo installed on Diesel Engine. Suitable ammeters and voltmeters are required to be provided on input and output of transformer and rectifier type battery charger.	Completed	Completed	Completed	Completed

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 350KVA (CONTINUOUS OPERATING POWER).
TENDER NO. ELEC/TREASUREMENT OF PSS for FY/2026. TENDER OPENED ON 30.06.2026**

Clause Name	Sub-Clause Name	Description	M/S Blue Supplier	M/S YA-TECH MERCHANT	M/S Megapool Brothers	M/S Nabeen
15. Recommended Brands of Diesel Engines.		Following makes preferably Cummins or their equivalents with the country of origin as indicated below will be acceptable:- S.No. Engine Make Origin 1 Cummins United States of America 2 Perkins U.K/Europe/U.S.A. 3 Caterpillar U.S.A, U.K & Europe. In case of equivalent Diesel Engine (DG Set) is offered, then the previous satisfactory supply record of offered Diesel Engine (DG Set) supplied and operated over Pakistan Railways Network OK used in trains under similar operating conditions elsewhere in the World as mentioned in Clause 1 & 2, must be provided.	Complied	Complied	Complied	Complied
PART-III						
(GENERATOR / ALTERNATOR)						
16. Alternator Requirements	a.	The alternator shall be of Continuous Operating Power (COP) rating and fully compatible with an engine speed of 1500 RPM. The alternator shall be capable of withstanding an overload of 10% for one (01) hour in every twelve (12) hours of operation, in accordance with ISO 8528-1 and IEC 60034-1.	Complied	Complied	Complied	Complied
	b.	The alternator shall be capable of delivering a continuous output of not less than 350 kVA, at 400 V, 3-phase, 50 Hz, 4-wire system, under the specified site ambient conditions.	Complied	Complied	Complied	Complied
	c.	The alternator shall be synchronous, brushless, self-excited, and self-ventilated, equipped with a solid-state Automatic Voltage Regulator (AVR) and shall be suitable for continuous duty operation.	Complied	Complied	Complied	Complied
	d.	Voltage regulation shall be $\pm 1\%$ from no-load to full-load, under steady-state conditions.	Complied	Complied	Complied	Complied
	e.	Insulation shall be Class H, with windings tropicalized by VPI (Vacuum Pressure Impregnation) or equivalent, suitable for operation in high-temperature, high-humidity, and dusty environments	Complied	Complied	Complied	Complied
	f.	The alternator shall be capable of retaining its rated continuous output at the declared site conditions, as specified below: • Ambient temperature: up to 35 °C • Minimum ambient temperature: -10 °C • Altitude: up to 1000 meters above mean sea level • Relative humidity: 5% to 85% • Environmental conditions: sandy, stormy, and dusty atmosphere The bidder shall submit OEM-certified derating curves for temperature and altitude in support of the declared rating	Complied	Complied	Complied	Complied
	g.	The alternator shall be suitable for operation under non-linear loads. The bidder shall clearly specify the Total Harmonic Distortion of current (THDI) capability of the alternator. In case THDI performance is not explicitly guaranteed, the bidder shall provide recommended derating factors for operation under non-linear load conditions to ensure safe, reliable, and efficient performance of the equipment. Non-compliance with the above requirements may render the offer non-responsive	Complied	Complied	Complied	Complied
17. Alternator Protections		The following minimum protections shall be provided: a. Stator earth fault b. Open circuit c. Stator over-temp d. Over-speed e. Short-circuit/over-current	Complied	Complied	Complied	Complied
18. Automatic Voltage Regulator (AVR)		Digital/electronic, $\pm 1\%$ regulation, protection for loss of sensing, over/under voltage, failure protection, stability controls, droop, transient response.	Complied	Complied	Complied	Complied
19. Recommended Brands of Alternator		Following makes or their equivalents with the country of origin as indicated below will be acceptable:- S.No. Alternator Make 1 Stamford Newage of UK or any other origin under license from Stamford Newage of UK. 2. Caterpillar U.S.A, U.K & Europe. 3 Siemens 4 Leroy Somer In case of equivalent Alternator is offered, then the previous satisfactory supply record of offered Alternator supplied and operated over Pakistan Railways Network OK used in trains under similar operating conditions elsewhere in the world as mentioned in Clause 1 & 2, must be provided.	Complied	Complied	Complied	Complied

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 339KVA (CONTINUOUS OPERATING POWER)
TENDER NO. EEC/Procurement of PSS for PV/2026. TENDER OPENED ON 30.06.2026**

Class Name	Sub-Class Name	Description	M/S Blue Supplier	M/S YVA-TECH MERCANT	M/S Megapad Brothers	M/S Redline
PART-IV						
(DIESEL GENERATING SET)						
2A Diesel Generating Set		The Diesel Engine shall be directly coupled to an AC Alternator through a flexible coupling and mounted on a common steel base frame, complete with all required accessories and auxiliaries as defined in the specification. The complete Diesel Generating Set (DG Set) shall be skid-mounted, except for the radiator, which shall be installed in a separate room, and shall be provided with suitable anti-vibration mountings for installation on steel-fabricated foundations inside the Railway Power Van. The DG set shall be capable of operating reliably under the environmental and working conditions specified in Clause 2 of Part-I. Power Van shall house three (03) D.G. Sets as shown in the layout drawings. Two (02) DG sets shall be of 330 KVA (COP) and one (01) DG set shall be of 100 KVA (COP). The Power system shall have the provision to operate either of 02 DG sets (330 KVA, COP) independently or collectively in synchronization in dual mode, as required for load sharing and redundancy. The system shall include provisions for automatic/manual changeover through suitably rated switchgear with proper interlocking. Additionally, the D.G. Sets must be capable of synchronization, enabling parallel operation, load sharing, and smooth transfer without power interruption when required.	Complied	Complied	Complied	Complied
2B Diesel Generating Set Control Panel (Operator Room)	a.	All instruments mounted on the panel shall be capable to withstand the conditions mentioned in Clause-2 of Part-I.	Complied	Complied	Complied	Complied
	b.	It shall also be dust proof and protected against water splashing.	Complied	Complied	Complied	Complied
	c.	Control panel shall be of floor mounting type and suitable for mounting in the operator's room which shall be located at a distance as per existing arrangement from the Diesel Generating Set in a Power Van. The gauges / capillaries / meters should be of shock proof designed to indicate the status of D.G Set in the panel.	Complied	Complied	Complied	Complied
	d.	The wiring of panel should be fire retardant.	Complied	Complied	Complied	Complied
	e.	Each D.G Set would be controlled by independent Control Panel.	Complied	Complied	Complied	Complied
	f.	Emergency light DC should be provided in the panel.	Complied	Complied	Complied	Complied
	g.	An advanced fire alarm system shall be provided and installed in the control panel, radiator, and engine room.	Complied	Complied	Complied	Complied
		The control panel shall be equipped with all required indication, measurement, and protection features to ensure safe, reliable, and continuous operation of the Diesel Generating Set. The following indications shall be provided on the control panel:				
	Indications, Measuring Instruments, and Annunciation System	i. Low lube oil pressure ii. High engine temperature iii. Under-voltage iv. Over-voltage v. Bearing temperature vi. Winding fault indication vii. Over-speed viii. Generator on load ix. Generator tripped x. Test push button for verifying annunciation lamps xi. Fuel level indication	Complied	Complied	Complied	Complied
	The Engine Protection and Annunciation Equipment.	The DG Set shall be equipped with an Engine Starting Module (Deep Sea) and shall be provided with vibration-resistant and shock-proof gauges, instruments, monitoring devices, alarms, and protection systems for continuous monitoring and safeguarding of engine operation, including but not limited to the following: a. Lube oil pressure gauge b. High engine temperature gauge c. Battery charging/discharging ammeter d. Battery voltmeter e. Hour counter meter f. Tachometer g. Cranking/Start switch h. Frequency meter i. Fuel tank measuring gauge j. Any additional protection or safety equipment required for safe and efficient operation shall also be installed.	Complied	Complied	Complied	Complied

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 350KVA (CONTINUOUS OPERATING POWER).
TENDER NO. Elec/Procurement of PSS for FY 2026. TENDER OPENED ON 30.06.2026**

Clause Name	Sub-Clause Name	Description	M/S Blue Supplier	M/S Y/A-TECH MERCHANT	M/S Mapasad Brothers	M/S Mahesh
	Measuring Instruments on the Control Panel	The following measuring instruments/meters and other accessories, as suitable, shall be provided on the DG set control panel: i. Ammeter (0-800 A) ii. Frequency meter (45-55 Hz) iii. Volt meter (0-450 V) iv. Kilowatt meter (0-500 kW) v. Energy analyzer meter vi. Power factor meter vii. RPM meter viii. kWh meter: with capability to record and display energy consumption, providing data monitoring on hourly, daily, monthly, and yearly basis for accurate tracking and analysis of electrical usage. ix. Fuel meter: For measuring fuel consumption of the generator/DG set, interlocked with the kWh meter to enable accurate calculation of fuel consumed per kWh, with provision to monitor and retrieve data on an hourly, daily, monthly, and yearly basis. x. The successful bidder shall provide and install a 1.5 ton split DC inverter air conditioner in the control panel room of power van.	Completed	Completed	Completed	Completed
22. Incoming Control and Protection	a. Air Circuit Breaker	The each 350 kVA DG Set shall be equipped with a 630A Air Circuit Breaker (ACB) complete with Micrologic Control 2.0 or the latest available equivalent electronic trip unit with following details: - len 65kA - lcs= 100% icu - Uimp. 12kV - Ui. 1000V Set B The ACB shall incorporate the following protection functions: - Short-Circuit Protection (Instantaneous Release) - Earth Leakage Protection - Instantaneous and Inverse-Time Overcurrent Protection - Ground Fault Protection - Overload/Overcurrent Protection The ACB shall have a rated breaking capacity of not less than 65 kA at 41.5V AC, 50 Hz, and shall be suitable for the prospective fault level of the system.	Completed	Completed	Completed	Completed
	b. Starting/Stopping	Manually operated key /push button should be provided on the panel for starting/stopping the engine. Push button may also be provided for emergency stop.	Completed	Completed	Completed	Completed
PART-V						
(TRAIN LINE)						
	a.	Power van shall have Three (03) Gen-sets. (02 No. of 350 kVA and one of 100kVA)	Completed	Completed	Completed	Completed
	b.	Output of the diesel generating set shall be controlled through ACB's for train line control and distribution panel.	Completed	Completed	Completed	Completed
	c.	Two train lines on either sides of the coaches are laid down to feed the power from the output of D/G Sets to load.	Completed	Completed	Completed	Completed
	d.	D/G Sets shall have a train line cubical having provision for feeding two train lines in such a way that the generator either feeds independently train line 'A' only or train line 'B' feeds both the train lines 'A' & 'B' simultaneously under only special arrangement through ACB.	Completed	Completed	Completed	Completed
	e.	The power feeding arrangements shall be such that it should not be able to connect the already energized train line from any other sources of power supply line or lines as defined in Clause 'd' above	Completed	Completed	Completed	Completed
	f.	Panel shall be dust proof and water splash proof, it should be mounted on anti-vibration isolators to avoid jerking and jolts.	Completed	Completed	Completed	Completed
	g.	All components provided in the panel shall be vibration & shock proof and able to withstand jolts and jerks at a speed of 140 km of train and sudden braking.	Completed	Completed	Completed	Completed
	h.	Additionally, the firm shall provide and install all required lights, fans, top/exhaust fans (with each DG set), the control panel in the guard room, and all related accessories at designated points in the power van.	Completed	Completed	Completed	Completed
23. Train Line Control and Distribution Panel.	i.	The control panel cabin should be air-conditioned	Completed	Completed	Completed	Completed

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 350KVA (CONTINUOUS OPERATING POWER)
TENDER NO. Elec/Procurement of PSS for FY/2026. TENDER OPENED ON 30.06.2026**

Ques Name	Sub-Ques Name	Description	M/S Blue Sapphire	M/S VTA-TRICE MERCHANT	M/S Rajagopal Brothers	M/S Madana
		Note: Successful firm has shall ensure the following standards and Degree of protection. 1. Electrical System – Power Van (General Requirements Applicable Construction) The electrical works in power vans shall comply with the following latest editions of standards: IEC 60077 (Electrical Equipment for Rolling Stock), IEC 60529 (Degree of Protection – IP Code), EN 50155 (Railway Electronic Equipment), EN 61373 (Shock and Vibration), EN 45545 (Fire Safety), IEC 60332 (Flame Retardant Cables), IEC 61991 (Earthing and Electrical Protection), and IEC 61439 (Panel Construction). 2. Degree of Protection (IP Rating) All electrical equipment shall be suitable for railway service conditions and shall comply with IEC 60529 as follows: The alternator shall have a minimum degree of protection of IP23 All control panels, electrical enclosures, terminal boxes, and junction boxes shall have a minimum degree of protection of IP54 Cable systems including cables (where applicable), conduits, ducts, and cable glands shall be suitably designed and installed to provide protection against dust, moisture, and mechanical damage. Cable termination points and sealing arrangements exposed to harsh conditions shall ensure a minimum effective protection level of IP65 at termination points where applicable. Wall-mounted cable routes and protected wiring installations shall have a minimum degree of protection of IP44 All electrical accessories and components shall be suitable for the service environment and shall have a minimum protection level not less than IP44.	Complied	Complied	Complied	Complied
PART-VI (GENERAL)						
24. Tool Kits	a. Routine Maintenance Tool Kit	One set of routine maintenance tool kit shall be supplied per DG Set.	Complied	Complied	Complied	Complied
	b. Overhauling Tool Kit	One set of tool kit for major overhauling shall be supplied per 04 DG Set	Complied	Complied	Complied	Complied
25. Routine Maintenance Spares	a.	List & Cost for routine /weekly /fortnightly / monthly maintenance spare parts required for the period of three years should accompany the offer.	Complied	Complied	Complied	Complied
	b.	List & Cost of spare parts required for first top overhauling and major overhauling.	Complied	Complied	Complied	Complied
	a.	The successful tenders shall supply one set per D/G Set of operation / maintenance manual, spare parts catalogues and drawings indicating the maintenance schedules to maintain the diesel engine and alternator and their auxiliaries etc in good working condition.	Complied	Complied	Complied	Complied
	b.	Two sets of workshop manuals per lot shall be supplied by the successful bidder along with two copies of literature/manual of special tools for complete overhauling, servicing and calibrations for: i). Diesel Engine. ii). Fuel Injection Pump & Governor. iii). Alternator	Complied	Complied	Complied	Complied
26. Drawings and Manuals	c.	Following Drawings and Diagrams shall be supplied by the successful bidder at the time of supply with each DG Set:- i). ECM & Control Module Units functioning on the D/G Set, Software to operate of ECM shall be provided with each power van ii). Working drawing for qualifying engine block. iii). Schematic diagrams of control / power circuits including train-line panel.	Complied	Complied	Complied	Complied
	d.	Diagrams and drawing of electric control / power circuits/fuel pipeline, water pipeline and lube oil pipeline properly framed and laminated shall also be supplied one per DG Sets for displaying in operators cabin by the successful bidders.	Complied	Complied	Complied	Complied
	e.	Drawings showing the overall dimensions and installation mounting of D/G Sets & Panels may be supplied with the tender documents.	Complied	Complied	Complied	Complied
27. Compliance to Specifications, ISO, BSS & IEC		The whole equipment specified above shall have to comply with the requirement of latest relevant ISO, BSS & IEC besides CEE's Specification # PR-350KVA-DG Set-2026.	Complied	Complied	Complied	Complied

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 3290KVA (CONTINUOUS OPERATING POWER)
TENDER NO. Elec/Procurement of PSS for PV/2026. TENDER OPENED ON 30.06.2026**

Clause Name	Sub-Clause Name	Description	M/S Blue Sapphire	M/S VFA-TECH MERCHANT	M/S Maprood Brothers	M/S Mahesh
		The Manufacturer / Bidder must submit the following documents alongwith Technical Proposals.	Complied	Complied	Complied	Complied
	a)	All prospective bidders are required to visit the designated workshop/site and Power van prior to submission of their bids to assess the existing conditions, scope of work, and any associated requirements. The bidders shall conduct a detailed inspection alongwith DEEW, C&W Shops, Mogalipura and prepare a joint/comprehensive assessment report covering all relevant technical and operational aspects. This report must be duly signed and submitted along with the bidding documents. Failure to undertake the site visit and submit the required report may result in disqualification of the bid. The firm shall furnish a certificate from the OEM confirming that the offered remote radiator is fully compatible with the proposed DG Set and shall not adversely affect the performance, efficiency, reliability, or operational parameters of the DG Set.	Complied	Complied	Complied	Complied
28. Mandatory Documents		The bidder shall mandatorily submit detailed drawings and design documents for the remote radiator system and control panel & Train Lines Panel as part of the bidding documents. The submission shall include, but not be limited to: i. General Arrangement (GA) drawings ii. Detailed layout and mounting arrangements of the remote radiator iii. Piping/interconnection diagrams iv. Electrical schematics of the control panel v. Control logic and protection scheme vi. General Arrangement (GA) drawings of the Train Line Panel vii. Detailed electrical schematics and wiring diagrams viii. Control and interlocking logic ix. Protection and safety features x. Interface details with DG Set and coach electrical systems xi. Technical specifications of all major components All drawings and designs must be duly signed and stamped by the authorized representative of the bidder. Incomplete submissions or failure to provide the required drawings and design details may lead to rejection of the bid	Complied	Complied	Complied	Complied
	e)	Complete name, designation, mailing address, telephone number and email of the bidder's focal person for correspondence of the tender.	Complied	Complied	Complied	Complied
	d)	Particulars of the customer Railway, its focal person's mail and email address, fax and phone numbers.	Complied	Not Complied	Not Complied	Not Complied
	e)	Year of manufacture / supply and the number supplied, customer wise.	Complied	Complied	Complied	Complied
	f)	Verified / notarized copies of latest performance certificates from end user Railways shall be acceptable at the time of bid duly attested by respective Chamber/s of Commerce. Original copy / copies shall be required at the time of finalization of evaluation by technical / tender committee. Further to that the technical evaluation committee for the tender has full mandate to verify the performance record directly from end user and from the respective Pakistan Embassy upto the entire satisfaction of PR. Original Certificate of satisfactory performance with minimum two-year service from the end user / Senior management mentioning the capacity of DG Set alongwith the name and email contact of the issuing person.	Complied	Not Complied	Not Complied	Not Complied
29. CLAUSE TO COMMENTARY		The Bidder is required to offer comments, Clause to Clause, either confirming acceptance of the Clause or elaborating in detail any deviations there from. The Bidder should be specific about deviations required by him for decision by P.R. The bidder's offer of DG Set must comply with PR specifications.	Complied	Complied	Complied	Complied

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 390KVA (CONTINUOUS OPERATING POWER)
TENDER NO. Elect./Procurement of PSS for PV/2026. TENDER OPENED ON 30.06.2026**

Clause Name	Sub-Clause Name	Description	M/S Blue Sapphire	M/S VTA-TECH MERCHANT	M/S Maprood Brothers	M/S Madhu
30. Testing and Inspection.		Testing and inspection shall be carried out in accordance with relevant ISO, BSS, or IEC standards, including CEE's Specification. The successful bidder shall arrange for inspection and testing by select the two representative of the Chief Electrical Engineer at the manufacturer's premises. All costs associated with such inspection and testing shall be borne by the bidder.	Complied	Complied	Complied	Complied
31. Deviations		Any deviation to Railway specification shall be given by the bidder indicating the details on Annexure-A4.	Complied	Complied	Complied	Complied
32. List of Material		The list of material/items proposed to be installed in the Power Van is attached for reference at Annexure A5. However, if any item/accessory/sub-system required for complete installation, commissioning, and operational readiness of the system is found missing or not specifically mentioned in the list, the same shall be deemed to be included in the scope of supply and shall be provided and installed by the firm without any additional cost.	Complied	Complied	Complied	Complied
33. Guaranteed/ Warranty	a.	Bidders shall also provide the warranty /guarantee certificate from the OEM of diesel engine and alternator (D/G Set) that equipment is brand new and genuine	Complied	Complied	Complied	Complied
	b.	The Bidders shall furnish guaranteed/warranty certificate for satisfactory working of the Diesel Generator Set under conditions specified in the foregoing clauses for a period of 24 months from the date of supply or 18 months from the date of putting Diesel Generating Set into actual service whichever is earlier.	Complied	Complied	Complied	Complied
	c.	The supplier shall be responsible to repair/replace free of cost any part/parts, found defective under normal working conditions during the warranty period.	Complied	Complied	Complied	Complied
	d.	For compliance of above clauses, successful bidder will furnish the irrevocable performance bond equivalent to 10% of total value of the contract in the shape of bank guarantee from scheduled bank.	Complied	Complied	Complied	Complied
	e.	Supplier shall make his own arrangement to keep a close liaison and devise his own monitoring system to watch the performance of the equipment during warranty period to avoid any confusion or complication.	Complied	Complied	Complied	Complied
	f.	Railway reserves the right to claim and recover the loss due to design defects/faults of any part or assembly during the warranty period from the firm.	Complied	Complied	Complied	Complied
	g.	Railway reserves the right to forfeit the performance bond guarantee in case of breach of any clause of the contract.	Complied	Complied	Complied	Complied

[Signature]
Chief Controller of Purchase

[Signature]
Chief Mechanical Engineer (C&W)

[Signature]
Chief Electrical Engineer

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 160KVA (CONTINUOUS OPERATING POWER)
TENDER NO. E&C/Procurement of PSS for FY 2025. TENDER OPENED ON 20.06.2025**

Order Name	Sub-Order Name	Description	M/S Blue Supplier	M/S VYA-TECH MERCHANT	M/S Integrated Brokers	M/S Saksham Corp
GENERAL REQUIREMENT						
i.	Bid Security in favor of F&C&O amounting to Rs. 30,000 million attached?		Yes	Yes	Yes	Yes
ii.	CBE's Technical Specification Confirmed?		Yes	Yes	Yes	Yes
iii.	The bidder must submit the technical literature of all the vital items of offered DG Set		Yes	Yes	Yes	Yes
iv.	Warranty Certificate / Confirmation.		Yes	Yes	Yes	Yes
v.	02 Years Spare parts quote?		Yes	Yes	Yes	Yes
vi.	Supply, installation and commissioning of Diesel Generating Sets		Yes	Yes	Yes	Yes
vii.	The bidder must submit the Letter of Bid (Technical) (Annexure-C) and Letter of Bid (Financial) (Annexure-D) duly filled, signed and stamped by the bidder alongwith Technical and Financial offer respectively.		Yes	Yes	Yes	Yes
viii.	The bidder must be registered with Sales Tax and Income Tax department and must be on FBR's Active Tax Payer's list (documentary proof must be submitted alongwith bid.)		Yes	Yes	Yes	Yes
ix.	The bidder must indicate brand name, manufacturer name and country of origin of each quoted item.		Yes	Yes	Yes	Yes
TECHNICAL SPECIFICATION AND REQUIREMENTS						
1	Only Manufacturers or their duly authorized agents / representatives are eligible to quote against this tender. In case of bid submission by trader/vendor /agent or representative firm, the authority letter in favor of such firm from the Manufacturer must be submitted along with the bid failing which the offer will be liable to be rejected. The authority letter must be on letter head of Manufacturer containing address and contact details along with name and designation of the issuing authority and issued as per the format attached as Annex-1. It will be responsibility of the bidder to make it sure that other Manufacturer participate in the tender or the manufacturer must provide manufacturer's Authority letter to only one bidder. In case of multiple bidders having authority letter from same manufacturer, offers of such bidders shall be rejected.		Yes	Yes	Yes	Yes
2	The bidder must submit the technical literature of the product against all items offered by the bidder failing which the offer will liable to be rejected.		Provided	Provided	Provided	Provided
3	In case of items requiring bidders quote for installation and commissioning, the bidders must visit the site of installation and check all allied requirements for installation and commissioning failing which the onus of responsibility in connection with the installation problems will rest entirely on the bidder.		Completed	Completed	Completed	Completed
4	Offer of the firm which, when awarded the contract for same item previously, fail to supply the correct material within due time is liable to rejection.		N/A	N/A	N/A	N/A
5	Bidder must be registered with PEC in C-3 or above Category, failing which the offer will be liable to rejection. PEC registration certificate must be part of the technical bid.		Provided	Provided	Provided	Provided
6	Following Warranty Clause will be applicable on this procurement and bidder must quote their bid accordingly,		Completed	Completed	Completed	Completed
i.	The Seller warrants that the store will be in accordance with the particulars mentioned in the purchase order.		Completed	Completed	Completed	Completed
ii.	The Seller warrants that the store will be free from defects in material and workmanship.		Completed	Completed	Completed	Completed
iii.	The seller's obligations under the warranties expressed in sub-paragraphs i and ii above shall be limited to replacement DAP General Stores Mughalpura or Reet Inn Karachi (as the case may be) free of cost stores which at the time of receipt by the consignee or under normal use and maintenance prove defective in material/workmanship or fail to comply with the required performance in the normal course of service. The warranty shall be valid for a period of 18 months from date of receipt of material		Completed	Completed	Completed	Completed
iv.	The warranty shall be in addition to the normal inspection.		Completed	Completed	Completed	Completed
v.	The warranty shall be covered against the 10% security deposit which shall be kept valid by the firm till expiry of the warranty period and retained by the Purchaser		Completed	Completed	Completed	Completed
vi.	In case of any discrepancy in drawing or specification, the manufacturer/bidder will get the drawing/ Specification vetted from CBE before start the manufacturing.		Completed	Completed	Completed	Completed
7	All testing where necessary shall be conducted through Pre-Qualified firms, and expense thereof will be borne by the bidder		Completed	Completed	Completed	Completed
8	If the participate is OEM than Third Party Inspection may be not applicable.		Completed	Completed	Completed	Completed

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 100KVA (CONTINUOUS OPERATING POWER)
TENDER NO. P&T/Procurement of PSS for FY/2016. TENDER OPENED ON 29.06.2016**

Owner Name	Sub-Owner Name	Description	MS Blue Suppliers	MS VTA-TECH INTERCALANT	MS Insulated Breakers	MS Isolator Comp
PAKISTAN RAILWAYS CEE'S SPECIFICATION						
PART-I						
Pakistan Railways (PR) invites bids for the Supply, Installation, Testing, and Commissioning of Power supply System in 16 Nos. dedicated Power Vans (a specific railway vehicle meant to generate power for air-conditioning, lighting and other electrical appliances equipped on passenger train) through 350 KVA and 100 kVA Diesel Generating Sets (Continuous Operating Power – COP), 3-phase, 400 volts, 50 Hz, power factor 0.8 lagging, heavy industrial type, suitable for continuous train operation. The Power Supply system shall comprise of Diesel Engines, Alternators, Control Panels, Remote Reducers (to be fitted in another compartment of Power Van away from the diesel engine for 350KVA DG sets), Fueling systems, Wiring systems, piping systems, power frame sockets, Interstar couplers and other subsystems to be equipped on the Power Vans.			Completed	Completed	Completed	Completed
Diesel Generating (DG) Set Requirements This specification covers the supply, installation, testing, and commissioning of a Diesel Generating set 100 KVA (Continuous Operating Power – COP), 3-phase, 400 volts, 50 Hz, power factor 0.8 lagging, heavy industrial type, suitable for continuous train operation. The DG set shall be rated in accordance with ISO 8528-1 and shall have a Continuous Operating Power (COP) rating of not less than 100 KVA, capable of delivering the specified power continuously under the specified site ambient conditions. The Prime Power Rating (PPR) of the DG set shall be higher than the COP rating, as defined in ISO 8528-1. The complete DG set shall be suitable for railway rolling stock (power van) application and intended for continuous operation under severe service conditions across Pakistan, including dusty environment, stormy weather, high vibration, shock, and wide climatic variations. The DG set, including alternator, control panel, and all associated electrical equipment, shall be robustly constructed, weather-resistant, and vibration-proof to ensure reliable mobile operation. (see Clause -1, Climatic Condition). The DG set shall have a minimum degree of protection of IP55 in accordance with IEC 60529 for all exposed and operational components to prevent ingress of dust and water during service. All equipment shall be suitably sealed and designed for railway mobile application to ensure safe, reliable, and maintenance-friendly performance under train operating conditions.			Completed	Completed	Completed	Completed
Note:- Bidders shall quote all ratings of the offered DG Set, including Prime Rating, Standby Rating, and Continuous Operating Power (COP) Rating.						
1. Supply of following equipment and systems suitable for fitment and operation in Railway Power Vans (layout drawings of Power Vans attached at Annexure-B1 for ready reference): I. Diesel Generating Set II. Control Panel III. Electric Wiring systems IV. Fueling System including Auxiliary Fuel Tank, if needed V. Other Sub-systems required for efficient Power generation VI. Consumable items and spares for three years (Annexure-B4) 2. Installation, testing and Commissioning of equipment and systems in Power Vans. 3. Monitoring and supervision of Power Van for 02 years 4. The contractor shall be responsible for the complete installation, testing, and commissioning of the DG Set, and control panel within the Power Van. The scope of work shall include ensuring complete functionality and integration of all associated accessories and sub-systems, including but not limited to electrical wiring, cabling, fuel fuel tank, fuel piping, exhaust piping, mounting arrangement, safety devices, and all allied works necessary to meet the specified technical requirements and ensure full operational readiness of the system. 5. Following are mandatory requirements for the bidders. i. The dimensions of the DG Set and all allied fixtures/accessories and control panel, shall strictly conform to the prescribed/available dimensional limits of the Power Van layout, and no component shall exceed the permissible dimensions. (Drawings of power van including the dimension of frame of DG Set, are attached for reference and better understanding.) ii. The firm shall furnish a certificate from the OEM confirming that the offered DG Set shall not adversely affect the performance, efficiency, reliability, or operational parameters of the DG Set in the prescribed climatic and operating conditions of the Power Van. iii. All prospective bidders are required to visit the designated workshop/site and Power Van prior to submission of their bids in order to assess the existing condition, scope of work, and associated requirements. iv. The bidders shall carry out a detailed inspection jointly with DEEW, C&W Shops, Moghalpura, and submit an undertaking that Power vans have been inspected covering all relevant technical, operational, and maintenance aspects. The said undertaking, duly signed by both parties, shall be submitted along with the bidding documents. (Further in detail, see item No. 23 of this document).			Completed	Completed	Completed	Completed

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 100KVA (CONTINUOUS OPERATING POWER).
TENDER NO. PSC/Procurement of PSS for FY 2024. TENDER OPENED ON 20.06.2024**

Class Name	Sub-Class Name	Description	M/S Blue Supplier	M/S VTA-TECH MERCHANT	M/S Bhagwati Brothers	M/S Madan Group
(ENVIRONMENTAL)						
1. Climatic Conditions		a. Minimum Ambient Air Temperature..... (c) 10oC b. Maximum Ambient Temperature..... 35oC c. Maximum Altitude above Sea Level..... 1000 Mtr. d. Relative humidity..... Min 5% Max 85% e. Environment..... Sandy, stormy & dusty. f. The climatic conditions over a greater part of the country are extremely severe in respect of heat and dust.	Completed	Completed	Completed	Completed
2. Service and Operational Conditions		DG Set will be mounted in a Chinese Power van which will run maximum at a speed of 140 Kilometer /hour which is subjected to jerks and jolts during run and severe jerk in case of sudden braking.	Completed	Completed	Completed	Completed
PART- II (DIESEL ENGINE)						
3. Engine Specification	a. Type:	Four Stroke, Turbocharged, Intercooled.	Completed	Completed	Completed	Completed
	b. Fuel System:	Electronic fuel injection (EFI) for precise combustion control.	Completed	Completed	Completed	Not Completed
	c. Emission Compliance:	The DG Set engine shall comply with EPA Tier 4, EU Stage III, or equivalent international emission standards, as applicable. The engine shall be of proven design and shall meet the specified emission limits through OEM-standard engine technology and emission control measures adopted by the manufacturer for compliance with the applicable emission standard.	Completed	Completed	Completed	Completed
	d. Emission Control Systems:	The engine shall ensure low exhaust emissions, reliable continuous-duty operation, and suitability for installation in Railway power vans.	Completed	Completed	Completed	Completed
	e. Fuel Type:	The engine must deliver full 100 kVA Continuous Operating Power (COP) after derating for temperature and altitude as per the climatic conditions specified in Clause #1 of Part I. OEM certification is required.	Completed	Completed	Completed	Completed
	f. Out Put Power	The Continuous Operating Power (COP) of the engine shall be evaluated as per the definition given in BS 5514 / Part I / 1982, reproduced below:- "The continuous power an engine can deliver between normal maintenance intervals, as specified by the manufacturer, at the stated speed and under the specified site ambient conditions, provided that the prescribed maintenance is carried out accordingly." The engine shall also be rated in accordance with ISO 8528-1, ensuring that the Continuous Operating Power (COP) is not less than 100 kVA, guaranteed at site ambient conditions. The Prime Power Rating (PPR) shall be higher than the COP, with manufacturer-certified derating applied, wherever applicable, to account for site ambient conditions.	Completed	Completed	Completed	Completed
4. Fuel Tank	a.	Automatic Fuel filling (from main fuel tank to day/aux fuel tank) device with sensors shall be installed for day/Auxiliary tank, which shall be automatically operated, when the fuel in the day/aux tank remains ¼ of the full capacity. Besides, manual fuel filling system shall also be provided, if required. Note: All such components shall have a minimum IP65 ingress protection rating to ensure dust- and water-proof operation under service conditions.	Completed	Completed	Completed	Completed
5. Fuel Supply Pump	a.	Fuel pipe lines with relevant accessories like hand valve, no return valve, elbow, tee, unions, sockets etc (male SS) from main fuel tank to aux fuel tank and aux fuel tank to DG set shall also be provided by the manufacturer.	Completed	Completed	Completed	Completed
6. Engine Filters.	a. Air Filter:	Manufacturer's recommended Lubricant oil, Fuel filters and air filters etc should be provided for working of D.G. Set at full load without any damage to any part or equipment of an engine. The engine shall operate reliably up to the OEM-specified service interval, which shall preferably be 500 hours, but in no case less than 250 hours, under continuous full-load operation.	Completed	Completed	Completed	Completed
7. Fuel Oil		The diesel engine should be suitable to operate on High Speed Diesel oil as per specifications attached as Annexure-B2.	Completed	Completed	Completed	Completed
8. Speed Control		The diesel engine should be equipped with Electronic Governor.	Completed	Completed	Completed	Completed
9. Exhaust System	a.	The diesel engine shall be required to be provided with SS flexible exhaust manifold silencer giving vertical outlet for the burnt gases, designed in such a manner to avoid entrance of rainwater. Exhaust manifold silencer be accommodated outside the coach and burnt gases will be exhausted through the roof even when the train is running.	Completed	Completed	Completed	Completed

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 166KVA (CONTINUOUS OPERATING POWER)
TENDER NO. Elect/Procurement of PSS for FY/2026. TENDER OPENED ON 29.06.2026**

Clause Name	Sub-Clause Name	Description	MSB Basic Supplies	MSB TPA-TRCB RECREANT	MSB Integrated Batteries	MSB Medium Capacity
10. Cooling System	a. Cooling	The engine should be water cooled suitable to meet with the requirement of cooling under conditions mentioned vide Clause # 1 of Part-I.	Complied	Complied	Complied	Complied
	b. Radiator	The engine shall be water cooled suitable to meet with the requirement of cooling of engine as per requirement mentioned vide Clause # 1 and 2 of Part-I. Only original solid mounted radiator and radiator fan alongwith D.G. set shall be accepted.	Complied	Complied	Complied	Complied
	c. High Temperature	Sensing device shall be provided to indicate the temperature of radiator water and it should shut down the D.G. Set in case of attaining over and above the permissible designed temperature.	Complied	Complied	Complied	Complied
	d. High Pressure	Sensing device shall be provided on the radiator to indicate the low level of radiator water alongwith acoustic alarm and tripping device.	Complied	Complied	Complied	Complied
	e. Rust Inhibitor and Coolant	Cooling water inhibitor, anti-corrosive and antifreeze compound conforming to applicable international environmental, health, and safety regulations shall be provided. The coolant shall be OEM-recommended and suitable for continuous operation of the diesel engine under specified ambient and load conditions. The successful bidder shall supply complete technical literature, safety data sheets (SDS), and product data sheets of the recommended coolant / anti-corrosive and antifreeze compound at the time of supply.	Complied	Complied	Complied	Complied
11. Safety and Protection Devices		Safety and protection devices shall be provided for shut-down of the engine automatically in the event of: a. Low lube oil pressure. b. High engine temperature. c. Engine overspeed.	Complied	Complied	Complied	Complied
12. Starting System		The D.G. set shall be provided with a 12 V or 24 V Nickel-Cadmium (Ni-Cd) alkaline battery set of minimum 220 Ah capacity, or as required in accordance with the D.G. set capacity and OEM recommendations.	Complied	Complied	Complied	Complied
13. Battery Charger and arrangement.		A static charger (with boost and float charge selection), should be supplied per two DG Sets for charging engine starting batteries in addition to 24 volts dynamo installed on Diesel Engine. Suitable ammeters and voltmeters are required to be provided on input and output of transformer and rectifier type battery charger.	Complied	Complied	Complied	Complied
14. Recommended Brands of Diesel Engine.		Following makes or their equivalents with the country of origin as indicated below will be acceptable:- 1. S.No. Engine Make Origin 1 Cummins United States of America 2 Perkins U.K./Europe/USA 3 Caterpillar USA, U.K & Europe. In case of equivalent Diesel Engine (DG Set) is offered, then the previous "satisfactory" supply record of offered Diesel Engine (DG Set) supplied and operated over Pakistan Railways Network for use in train under similar operating conditions as mentioned in Clause No.1 & 2 must be provided.	Complied	Complied	Complied	Complied
PART-III						
(GENERATOR / ALTERNATOR)						
	a.	The alternator shall be of continuous Power Rating (PRP) and fully compatible with an engine speed of 1500 RPM, with an overload capacity of 10% for one (01) hour in every twelve (12) hours of operation, as admissible under ISO/IEC standards.	Complied	Complied	Complied	Complied
	b.	The alternator shall be capable of producing a continuous output of 100 kVA, 400 V, 3-Phase, 50 Hz, 4-wire system.	Complied	Complied	Complied	Complied
	c.	The alternator shall be synchronous, brushless, self-excited, and self-ventilated, equipped with a solid-state Automatic Voltage Regulator (AVR) suitable for continuous duty.	Complied	Complied	Complied	Complied
	d.	Voltage Regulation: $\pm 1\%$ from no-load to full-load.	Complied	Complied	Complied	Complied
	e.	Insulation System: Class H, with windings tropicalized (VPI or equivalent) for operation in high-temperature, high-humidity, and dusty environments.	Complied	Complied	Complied	Complied
15. Alternator Requirement	f.	The alternator shall retain its rated output at the declared site conditions: • Ambient temperature up to 55°C • Ambient Air Temperature (+) 100°C • Altitude up to 1000 meters • Humidity 5-85% • Sandy, stormy, dusty environment	Complied	Complied	Complied	Complied
	g.	The alternator shall be suitable for operation under non-linear loads. The bidder shall clearly specify the Total Harmonic Distortion of current (THDc) capability of the alternator. In case THDc performance is not explicitly guaranteed, the bidder shall provide recommended derating factors for operation under non-linear load conditions to ensure safe, reliable, and efficient performance of the equipment. Non-compliance with the above requirements may render the offer non-responsive.	Complied	Complied	Complied	Complied

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 16MVA (CONTINUOUS OPERATING POWER)
TENDER NO. PEST/Procurement of PSS for FV/2016. TENDER OPENED ON 29.06.2016**

Clause Name	Sub-Clause Name	Description	MSB Bidder Supplier	MSB VTA-TECH MERCHANT	MSB Integrated Bidder	MSB Bidder Company
16. Alternator Protection		The following minimum protections shall be provided: a. Stator ground (earth) fault protection b. Stator open-circuit protection. c. Stator over-temperature protection (via embedded RTDs or thermistors). d. Over-speed protection (if alternator-compatible). e. Short-circuit/over-current protection as per AVR capability.	Completed	Completed	Completed	Completed
17. Automatic Voltage Regulator (AVR)		The AVR shall be solid-state, digital/electronic type with the following features: a. AVR shall maintain voltage within $\pm 1\%$ under all load conditions. b. AVR shall ensure that alternator voltage drops to zero under the following abnormal conditions: • Over-excitation • Over-voltage • Under-voltage c. AVR shall include protections against loss of sensing, short-circuit, and internal AVR failure. d. AVR shall have adjustable voltage setting, stability control, droop setting (if synchronizing), and fast transient response suitable for motor starting loads. e. AVR must be suitable for operation in ambient 55°C and dusty, high-vibration environments	Completed	Completed	Completed	Completed
18. Recommended Brands of Alternator		Following makes or their equivalents with the country of origin as indicated below will be acceptable:- S.No. Alternator Make 1. Stamford Nengage of UK or any other origin under license from Stamford Nengage of UK. 2. Caterpillar USA, UK & Europe. 3. Siemens 4. Leroy Sommer In case of equivalent alternator (DG Set) is offered, then the previous satisfactory supply record of offered alternator (DG Set) supplied and operated over Pakistan Railways Network for use in train under similar operating conditions as mentioned in Clause 1 & 2, must be provided.	Completed	Completed	Completed	Completed
PART-IV						
(DIESEL GENERATING SET)						
19. Diesel Generating Set		The Diesel Engine shall be directly coupled to an AC Alternator through a flexible coupling and mounted on a common steel base frame, complete with all required accessories and auxiliaries as defined in the specification. The complete Diesel Generating Set (DG Set) shall be skid-mounted on suitable anti-vibration mountings for installation on steel-fabricated foundations inside a Railway Power Van and shall be capable of operating reliably under the environmental and working conditions specified in Clause 2 of Part-I. Power Van shall house three (03) D.G. Sets as shown in the layout drawings. Two (02) DG sets shall be of 350 kVA (COP) and one (01) DG set shall be of 100 kVA (COP). The Power system shall have the provision to operate either of 02 DG sets (350 kVA, COP) independently or collectively in synchronization in dual mode, as required for load sharing and redundancy. The system shall include provisions for automatic/manual changeover through suitably rated switches with proper interlocking. Additionally, the D.G. Sets must be capable of synchronization, enabling parallel operation, load sharing, and smooth transfer without power interruption when required.	Completed	Completed	Completed	Completed
20. Diesel Generating Sets Control Panel (Operator Room).	a.	All instruments mounted on the panel shall be capable to withstand the conditions mentioned in Clause-2 of Part-1.	Completed	Completed	Completed	Completed
	b.	It shall also be dust proof and protected against water splashing.	Completed	Completed	Completed	Completed
	c.	Control panel shall be of floor mounting type and suitable for mounting in the operator's room which shall be located at a distance as per existing arrangement from the Diesel Generating Set in a Power Van. The gauges / indicators / meters should be of shock proof designed to indicate the status of D.G Set in the panel.	Completed	Completed	Completed	Completed
	d.	The wiring of panel should be fire retardant.	Completed	Completed	Completed	Completed
	e.	Each D.G Set would be controlled by independent Control Panel.	Completed	Completed	Completed	Completed
	f.	Emergency light DC should be provided in the panel.	Completed	Completed	Completed	Completed
	g.	An advanced fire alarm system shall be provided and installed in the control panel, radiator, and engine room	Completed	Completed	Completed	Completed

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 1000KVA (CONTINUOUS OPERATING POWER).
TENDER NO. EED/Procurement of PSS for FY/2025. TENDER OPENED ON 20.06.2024**

Queue Name	Sub-Queue Name	Description	MSB Bids Supplier	MSB VTA-Tech Merchant	MSB Integrated Merchant	MSB Midsize Group
	Indication, Measurement, Instruments, and Annunciation System	The control panel shall be equipped with all required indication, measurement, and protection features to ensure safe, reliable, and continuous operation of the Diesel Generating Set. The following indications shall be provided on the control panel: i. Low lube oil pressure ii. High engine temperature iii. Under-voltage iv. Over-voltage v. Bearing temperature vi. Winding fault indication vii. Over-speed viii. Generator on load ix. Generator tripped x. Test push button for verifying annunciation lamps xi. Fuel level indication	Completed	Completed	Completed	Completed
	The Engine Protection and Annunciation Equipment	The DG set shall be provided with vibration- and shock-proof gauges, instruments, and protection devices for monitoring and safeguarding engine operation, including: a. Lube oil pressure gauge b. High engine temperature gauge c. Battery charging/discharging ammeter d. Battery voltmeter e. Hour counter meter f. Tachometer g. Cranking/Start switch h. Frequency meter i. Fuel tank measuring gauge j. Any additional protection or safety equipment required for safe and efficient operation shall also be installed.	Completed	Completed	Completed	Completed
	Measuring Instruments on the Control Panel	The following measuring instruments/meters and other accessories, as suitable, shall be provided on the DG set control panel: i. Ammeter ii. Frequency meter iii. Volt meter iv. Kilowatt meter v. Energy analyzer meter vi. Power factor meter vii. RPM meter viii. kWh meter: with capability to record and display energy consumption, providing data monitoring on hourly, daily, monthly, and yearly basis for accurate tracking and analysis of electrical usage. ix. Fuel meter: For measuring fuel consumption of the generator/DG set, interlocked with the kWh meter to enable accurate calculation of fuel consumed per kWh, with provision to monitor and retrieve data on an hourly, daily, monthly, and yearly basis.	Completed	Completed	Completed	Completed
21. Incoming Control and Protection	a. Air Circuit Breaker	The 100 kVA DG set shall also be equipped with 250A Air Circuit Breaker (ACB), but not with MCCB, should comply with Micrologic Control 2.0 or the latest available equivalent electronic trip unit with following details: ACB Rated current (In): 250 A Long-time pickup (Ir): 0.8-1.0 x In (200-250 A) Width (Std), (H), (Hb) protection Isca 50ka Iscap 100% Isca Uimp 10kV Ue 690V Cat B The ACB shall incorporate the following protection functions:	Completed	Completed	Completed	Completed

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 100KVA (CONTINUOUS OPERATING POWER)
TENDER NO. ENR/Procurement of PSS for FY/2026... TENDER OPENED ON 30.06.2025**

Ques Name	Sub-Ques Name	Description	M/S Blue Supplier	M/S VTA-TECH MERCHANT	M/S Integrated Brokers	M/S Madras Group
		Short-Circuit Protection (Instantaneous Release) Earth Leakage Protection Instantaneous and Inverse-Time Overcurrent Protection Ground Fault Protection Overload/Overcurrent Protection				
	b. Starting /Stopping.	The ACB shall have a rated breaking capacity of not less than 50 kA at 415V AC, 50 Hz, and shall be suitable for the prospective fault level of the system Manually operated key /push button should be provided on the panel for starting/stopping the engine. Push button may also be provided for emergency stop.	Completed	Completed	Completed	Completed
PART-V						
(TRAIN LINE)						
	a.	Power van shall have Three (03) Gen-sets, (02 No. of 350 kVA and one of 100kVA)	Completed	Completed	Completed	Completed
	b.	Output of the diesel generating set shall be controlled through ACB's for train line control and distribution panel.	Completed	Completed	Completed	Completed
	c.	Two train lines on either sides of the coaches are laid down to feed the power from the output of D/G Sets to load.	Completed	Completed	Completed	Completed
	d.	D/G Sets shall have a train line cubical having provision for feeding two train lines in such a way that the generator either feeds independently train line 'A' only or train line 'B' feeds both the train lines 'A' & 'B' simultaneously.	Completed	Completed	Completed	Completed
	e.	The power feeding arrangements shall be such that it should not be able to connect the already energized train line from any other sources of power supply line or lines as defined in Clause 'c' above	Completed	Completed	Completed	Completed
	f.	Panel shall be dust proof and water splash proof, it should be mounted on anti-vibration isolators to avoid jolting and jolts.	Completed	Completed	Completed	Completed
	g.	All components provided in the panel shall be vibration & shock proof and able to withstand jolts and jerks at a speed of 140 km of train and sudden braking.	Completed	Completed	Completed	Completed
	h.	Additionally, the firm shall provide and install all required lights, fans, top/exhaust fans (with each DG set), the control panel in the guard room, and all related accessories as designated points in the power van	Completed	Completed	Completed	Completed
	i.	The control panel cabin should be air-conditioned.	Completed	Completed	Completed	Completed
22. Train Line Control and Distribution Panel	Note: Successful firm has shall ensure the following standards and Degree of protection.		Completed	Completed	Completed	Completed
	1. Electrical System - Power Van (General Requirements Applicable Standards)	The electrical works in power vans shall comply with the following latest editions of standards: IEC 60077 (Electrical Equipment for Rolling Stock), IEC 60529 (Degree of Protection - IP Code), EN 50155 (Railway Electronic Equipment), EN 61373 (Shock and Vibration), EN 45545 (Fire Safety), IEC 60332 (Flame Retardant Cables), IEC 61991 (Earthing and Electrical Protection), and IEC 61439 (Panel Construction).	Completed	Completed	Completed	Completed
	2. Degree of Protection (IP Rating)	All electrical equipment shall be suitable for railway service conditions and shall comply with IEC 60529 as follows: The alternator shall have a minimum degree of protection of IP23 All control panels, electrical enclosures, terminal boxes, and junction boxes shall have a minimum degree of protection of IP54 Cable systems including cables (where applicable), conduits, ducts, and cable glands shall be suitably designed and installed to provide protection against dust, moisture, and mechanical damage. Cable termination points and sealing arrangements exposed to harsh conditions shall ensure a minimum effective protection level of IP65 at termination points where applicable. Wall-mounted cable routes and protected wiring installations shall have a minimum degree of protection of IP44 All electrical accessories and components shall be suitable for the service environment and shall have a minimum protection level not less than IP44.	Completed	Completed	Completed	Completed
PART-VI						
(GENERAL)						
23. Tool Kits	a. Routine Maintenance.	One set of routine maintenance tool kit shall be supplied per DG Set.	Completed	Completed	Completed	Completed
	b. Overhauling Tool Kit	One set of tool kit for major overhauling shall be supplied per 04 DG Set.	Completed	Completed	Completed	Completed
24. Routine Maintenance Spares	a.	List & Cost for routine /weekly /fortnightly / monthly maintenance spare parts required for the period of three years should accompany the offer	Completed	Completed	Completed	Completed
	b.	List & Cost of spare parts required for first top overhauling and major overhauling.	Completed	Completed	Completed	Completed

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 100KVA (CONTINUOUS OPERATING POWER)
TENDER NO. E&C/Document of PSS for FY 2026. TENDER OPENED ON 29.06.2026**

Class Name	Sub-Class Name	Description	M/S Blue Sapphire	M/S VYA-TECH MERCHANT	M/S Maheshwari Brothers	M/S Siddhant Group
25. Drawing and Manuals	a.	The successful tenders shall supply one set per D G Set of operation / maintenance manual, spare parts catalogues and drawings indicating the maintenance schedules to maintain the diesel engine and alternator and their auxiliaries etc in good working condition.	Complied	Complied	Complied	Complied
	b.	Two sets of workshop manuals per lot shall be supplied by the successful bidder along with two copies of literature/manual of special tools for complete overhauling, servicing and calibrations for: i). Diesel Engine. ii). Fuel Injection Pump & Governor. iii). Alternator	Complied	Complied	Complied	Complied
	c.	Following Drawings and Diagrams shall be supplied by the successful bidder at the time of supply with DG Set:- i) Control Module Units functioning on the D.G Set. ii). Working drawing for qualifying engine block. iii). Schematic diagrams of control / power circuits including train-line panel.	Complied	Complied	Complied	Complied
	d.	Diagrams and drawing of electric control / power circuits /fuel pipeline, water pipeline and tube oil pipeline properly framed and laminated shall also be supplied one per DG Sets for displaying in operators cabin by the successful bidders	Complied	Complied	Complied	Complied
	e.	Drawings showing the overall dimensions and installation mounting of D.G Sets & Panels may be supplied with the tender documents	Complied	Complied	Complied	Complied
26. Compliance to Specifications, ISO, BSS & IEC		The whole equipment specified above shall have to comply with the requirement of latest relevant ISO, BSS & IEC besides CEE's Specification # PR-100 kVA-DG Set-2026.	Complied	Complied	Complied	Complied
27. Testing and Inspection.		Testing and inspection shall be carried out in accordance with relevant ISO, BSS, or IEC standards, including CEE's Specification # PR-100 kVA-DG Set-2026. The successful bidder shall arrange for inspection and testing by atleast the two representative of the Chief Electrical Engineer at the manufacturer's premises. All costs associated with such inspection and testing shall be borne by the bidder.	Complied	Complied	Complied	Complied
		The Manufacturer / Bidder must submit the following documents alongwith Technical Proposals.	Complied	Complied	Complied	Complied
	a)	All prospective bidders are required to visit the designated workshop/site and Power van prior to submission of their bids to assess the existing conditions, scope of work, and any associated requirements. The bidders shall conduct a detailed inspection alongwith DEEW/ C&W Shops, Mogalpur and prepare a joint/comprehensive assessment report covering all relevant technical and operational aspects. This report must be duly signed and submitted along with the bidding documents. Failure to undertake the site visit and submit the required report may result in disqualification of the bid. The firm shall furnish a certificate from the OEM confirming that the offered DG Set shall not adversely affect the performance, efficiency, reliability, or operational parameters of the DG Set.	Complied	Complied	Complied	Complied

**TECHNICAL EVALUATION OF
POWER SUPPLY SYSTEM FOR TRAINS THROUGH DIESEL GENERATING SET 166KVA (CONTINUOUS OPERATING POWER).
TENDER NO. P&T/Procurement of PSS for FY 2016. TENDER OPENED ON 29.06.2016**

Owner Name	Sub-Owner Name	Description	MS Blue Supplier	MS T/A-TRICE MERCHANT	MS Integrated Bidders	MS Isolation Camp
		The bidder shall mandatorily submit detailed drawings and design documents for control panel & Train Line Panel as part of the bidding documents. The submission shall include, but not be limited to: i. General Arrangement (GA) drawings ii. Detailed layout and mounting arrangements iii. Electrical schematics of the control panel iv. Control logic and protection scheme v. General Arrangement (GA) drawings of the Train Line Panel. vi. Detailed electrical schematics and wiring diagrams vii. Control and interlocking logic viii. Protection and safety features ix. Interface details with DG Set and coach electrical systems x. Technical specifications of all major components All drawings and designs must be duly signed and stamped by the authorized representative of the bidder. Incomplete submissions or failure to provide the required drawings and design details may lead to rejection of the bid				
23 Mandatory Documents	b)		Completed	Completed	Completed	Completed
	c)	Complete name, designation, mailing address, telephone number and email of the bidder's focal person for correspondence of the tender.	Completed	Completed	Completed	Completed
	d)	Particulars of the customer Railway, its focal person's mail and email address, fax and phone numbers	Completed	Completed	Completed	Completed
	e)	Year of manufacture / supply and the number supplied, customer wise.	Completed	Completed	Completed	Completed
	f)	Verified / notarized copies of latest performance certificates from end user Railway shall be acceptable at the time of bid duly attested by respective Chamber/s of Commerce. Original copy / copies shall be required at the time of finalization of evaluation by technical / tender committee. Further to that the technical evaluation committee for the tender has full mandate to verify the performance record directly from end user and from the respective Pakistan Embassy upto the entire satisfaction of PK. Original Certificate of satisfactory performance with minimum two-year service from the end user / Senior management mentioning the capacity of DG Set alongwith the name and email contact of the issuing person	Completed	Completed	Completed	Completed
29 Deviations		Any deviation to Railway specification shall be given by the bidder indicating the details on Annexure-B3.	Completed	Completed	Completed	Completed
30 Guaranteed Warranty	a.	Bidders shall also provide the warranty / guarantee certificate from the OEM of diesel engine and alternator (D/G Set) that equipment is brand new and genuine.	Completed	Completed	Completed	Completed
	b.	The Bidders shall furnish guarantee/warranty certificate for satisfactory working of the Diesel Generator Set under conditions specified in the foregoing clauses for a period of 24 months from the date of supply or 18 months from the date of putting Diesel Generating Set into actual service whichever is earlier.	Completed	Completed	Completed	Completed
	c.	The supplier shall be responsible to repair/replace free of cost any part/parts, found defective under normal working conditions during the warranty period.	Completed	Completed	Completed	Completed
	d.	For compliance of above clauses, successful bidder will furnish the irrevocable performance bond equivalent to 10% of total value of the contract in the shape of bank guarantee from scheduled bank.	Completed	Completed	Completed	Completed
	e.	Supplier shall make his own arrangement to keep a close liaison and devise his own monitoring system to watch the performance of the equipment during warranty period to avoid any confusion or complication	Completed	Completed	Completed	Completed
	f.	Railway reserves the right to claim and recover the loss due to design defects/faults of any part or assembly during the warranty period from the firm.	Completed	Completed	Completed	Completed
	g.	Railway reserves the right to forfeit the performance bond guarantee in case of breach of any clause of the contract.	Completed	Completed	Completed	Completed

Chief Controller of Purchase

Chief Mechanical Engineer (CAW)

Chief Electrical Engineer