

PART 1A - SETS 1 TO 10

PRICE BID FORMAT FOR WAG-9/WAP-7 LOCOMOTIVES
TENDER NO. E-9070048 DATE OF OPENING.....ATHRS.

To,
Sr.Dy.General Manager (MM),
BHEL, Jhansi

Item no of BOQ	Description	Unit	Qty/loco.	Price per Unit			Total Price			Remarks
				FOB	C&F	CIF	FOB	C&F	CIF	
1	2	3	4	5	6	7	8	9	10	11
LOCO NO. 1 - 5 3 NOS.WAG 9 & 2 NOS. WAP 7										
EQUIPMENT										
			Qty/loco							
1	Main Transformer, along with associated complete Cable Head Termination	Set	1							
2	IGBT based Power Converter / Inverter (Axle drive) & controls	Set	1							
3	IGBT based Auxiliary Converter /Inverter & controls	Set	1							
4	All vehicle controls and train communication network complying to ISO's Open System Interconnection model as per IEC 61375,Train Communication or any other superior System internationally published protocol .	Set	1							
5	IGBT based Hotel Load Converter / Inverter (for WAP7 only) & controls	Set	1							
6	Cooling system including blowers with motors and casing, oil / air pumps, radiators / heat exchangers for item 1 to 5 above.	Set	1							
7	Traction motor along with speed and temperature sensors as per requirement	Nos.	6							
8	Mechanical drive system including Motor Suspension Unit, Gear case, bull gear and TM pinion.	Set	6							
9	Fire detection and alarm system *	Set	1							
10	Any other equipment required (Details to be furnished)**	Set	1							
11	Software tools along-with 2 nos. laptop computers.	Set	1							
12	Synchronous control of locos (Optional Item)**\$	Set	1							
OTHERS										
SL NO	Item Description		Quantity for 10 loco sets							
1	Supply of Drawings & documents for mechanical modifications, if required.	Set	1							
2	Training for 150 man-days on assembly, testing, commissioning, operation & maintenance, trouble shooting and training in software parameter settings, fault diagnostic and analysis to BHEL/IR personnel at Bidder's works	Man day	1							
3	Deputation of Bidder's personnel (60 Mandays) at BHEL/CLW works.	Man day	1							
4	Special tools and tackles, test equipment including S/W, if any, etc.for assembly,testing, commissioning, trouble shooting, opeartion & maintenance etc.	Set	1							
5	Spares for 3 years maintenance during warranty/beyond warranty **	Set	1							

Item no of BOQ	Description	Unit	Qty/loco.	Price per Unit			Total Price			Remarks
				FOB	C&F	CIF	FOB	C&F	CIF	
2	3	4	5	6	7	8	10	11	12	13
LOCO NO. 6 TO 10 SKD 3 NO. WAG 9 AND 2 NOS. WAP 7 (PL REFER TO ANNEXURE 1/TS - STEP 1)										
			Qty/loco							
1	Main Transformer, along with associated complete Cable Head Termination (Supply SKD+Charges for technical information/drawings for Final Assembly & Fully Assembled Eqpt. Testing)	Set	1							
2	IGBT based Power Converter / Inverter (Axle drive) & controls (Supply SKD+Charges for technical information/drawings for Final Assembly & Fully Assembled Eqpt. Testing)	Set	1							
3	IGBT based Auxiliary Converter /Inverter & controls (Supply SKD+Charges for technical information/drawings for Final Assembly & Fully Assembled Eqpt. Testing)	Set	1							
4	All vehicle controls and train communication network complying to ISO's Open System Interconnection model as per IEC 61375,Train Communication or any other superior System internationally published protocol (Supply SKD+Charges for for technical information/drawings for Final Assembly & Fully Assembled Eqpt. Testing)	Set	1							
5	IGBT based Hotel Load Converter / Inverter (for WAP7 only) & controls (Supply SKD+Charges for technical information/drawings for Final Assembly & Fully Assembled Eqpt. Testing)	Set	1							
6	Cooling system including blowers with motors and casing, oil / air pumps, radiators / heat exchangers for item 1 to 5 above(CBU)	Set	1							
7	Traction motor along with speed and temperature sensors as per requirement(Supply SKD+Charegs for technical information/drawings for Final Assembly & Testing)	Nos.	6							
8	Mechanical drive system including Motor Suspension Unit, Gear case, bull gear and TM pinion.(CBU)	Set	6							
9	Fire detection and alarm system *	Set	1							
10	Any other equipment required (Details to be furnished)**	Set	1							
11	Software tools along-with 2 nos. laptop computers per loco.	Set	1							
12	Synchronous control of locos (Optional Item)**\$	Set	1							

NOTES

- Details of existing Fire detection of alarm system shall be provided to successful bidder. In case the existing can be integrated in the bidders system the same shall be used
- **Shall not be considered for evaluation of offers.
- \$ Bidder to quote the price. However, purchaser reserves the right to purchase or not.
- No change in the proforma is permissible and the bidders are required to quote in the proforma only.
- Prices in Col 6,8 & 13 are to be mentioned both in figures & words.
- The tender documents should be read thoroughly before submitting the prices.
- Itemised Prices for WAG-9 and WAP-7 to be separately indicated for both CBU and SKD/CKD options
- Bidder not to include taxes duties, levies etc. payable in Indian Territory which shall be borne by BHEL
- Indian portion of the price if any should be quoted separately on ex-works basis in Indian Rupees

PART 1B - SETS 11 TO 100

ANNEXURE 5/ITT

PRICE BID FOR WAG-9/WAP-7 LOCOMOTIVES
TENDER NO. E-9070048 DATE OF OPENING.....ATHRS.

To,
Sr.Dy.general Manager (MM),
BHEL, Jhansi

LOCO NO. 11 TO 40 STEP 2 OF ANNEXURE 1/TS

Item no of BOQ	Description	Unit	Qty/loco	Price per Unit			Total Price		
				FOB	C&F	CIF	FOB	C&F	CIF
1	2	3	4	5	6	7	8	9	10
1	Main Transformer, along with associated complete Cable Head Termination	No.							
1a	General Assembly								
i	Assembling								
ii	Testing								
1b	Core Assembly								
i	Core Material								
ii	Core Assembly								
iii	Core Insulation								
iv	Core Clamping								
v	Core to Coil Insulation								
1c	Windings								
i	Winding Material								
ii	Insulation								
iii	Type of Winding and winding method								
iv	Winding Clamping and pressure								
1d	Core to coil assembly								
i	Assembly procedure								
ii	Drying and Processing								
1e	Tank								
i	Tank, cover, conservator etc Material								
ii	Fabrication								
iii	Tank Assembly and painting								
iv	Gasket								
1f	Terminal Gear (HV-LV Connections)								
i	LV Connection								
ii	HV Connection								
iii	HV and LV Bushings								
iv	HV and LV Terminal Box								
v	Marshalling Box								
1g	Fittings and components								
i	Oil Pump								
ii	Cooler								
iii	Pipe Work								
iv	Valves								
v	OTI, WTI, Relays, sensors, etc								
vi	Wiring								
2	IGBT based Power Converter / Inverter (Axle drive) & controls	No.							
2a	Final Assembly & Fully Assembled Eqpt. Testing								
2b	General Assembly, Wiring								
	Special Assembly Jigs and Fixtures								
2c	Different Sub Assemblies								
	Box & Frames								
	Busbar & Other Mechanical Systems								
	Cooling Systems								
	Converter								
	Inverter								
	Bought out items of Converter/Inverter								
2d	Power Supply & Interfacing Units (For Power Modules)								
2e	Control Cards including S/W								
	Electronic Rack,Housing								
	Back Plane, Wiring & testing								
	Analog/Digital I/O Cards								
	Signal Conditioning/Processing Cards								
	Processor Based Cards								

Item no of BOQ	Description	Unit	Qty/loco	Price per Unit			Total Price		
				FOB	C&F	CIF	FOB	C&F	CIF
1	2	3	4	5	6	7	8	9	10
	Power Supply								
	Individual Card Testing S/W and tools								
	Individual card test jig manufacturing and testing information incl. test software and hardware								
	Information on ICT jig for individual cards.								
3	IGBT based Auxiliary Converter /Inverter & controls	No.							
3a	Final Assembly & Fully Assembled Eqpt. Testing								
3b	General Assembly, Wiring								
	Special Assembly Jigs and Fixtures								
3c	Different Sub Assemblies								
	Box & Frames								
	Busbar & Other Mechanical Systems								
	Cooling Systems								
	Converter								
	Inverter								
	Bought out items of Converter/Inverter								
3d	Power Supply & Interfacing Units (For Power Modules)								
3e	Control Cards including S/W								
	Electronic Rack,Housing								
	Back Plane, Wiring & testing								
	Analog/Digital I/O Cards								
	Signal Conditioning/Processing Cards								
	Processor Based Cards								
	Power Supply								
	Individual Card Testing S/W and tools	No.							
	Individual card test jig manufacturing and testing information incl. test software and hardware								
	Information on ICT jig for individual cards.								
4	All vehicle controls and train communication network complying to ISO's Open System Interconnection model as per IEC 61375,Train Communication or any other superior System internationally published protocol .								
4a	Final Assembly & Fully Assembled Eqpt. Testing								
4b	General Assembly, Wiring								
	Special Assembly Jigs and Fixtures								
	Different Sub Assemblies								
	Electronic Rack,Housing								
	Back Plane, Wiring & testing								
	Bought out components of Electronic cards								
4d	Power Supply & Interfacing Units								
4e	Control Cards including S/W								
	Analog/Digital I/O Cards								
	Signal Conditioning/Processing Cards								
	Processor Based Cards								
	Power Supply								
	Individual Card Testing S/W and tools								
5	IGBT based Hotel Load Converter / Inverter (for WAP7 only) & controls	No.							
5a	Final Assembly & Fully Assembled Eqpt. Testing								
5b	General Assembly, Wiring								
	Special Assembly Jigs and Fixtures								
5c	Different Sub Assemblies								

Item no of BOQ	Description	Unit	Qty/loco	Price per Unit			Total Price		
				FOB	C&F	CIF	FOB	C&F	CIF
1	2	3	4	5	6	7	8	9	10
	Box & Frames								
	Busbar & Other Mechanical Systems								
	Cooling Systems								
	Converter								
	Inverter								
	Bought out items of Converter/Inverter								
5d	Power Supply & Interfacing Units (For Power Modules)								
5e	Control Cards including S/W								
	Electronic Rack,Housing								
	Back Plane, Wiring & testing								
	Analog/Digital I/O Cards								
	Signal Conditioning/Processing Cards								
	Processor Based Cards								
	Power Supply								
	Individual Card Testing S/W and tools								
6	Individual card test jig manufacturing and testing information incl. test software and hardware								
6a	Information on ICT jig for individual cards.								
6b	Cooling system including blowers with motors and casing, oil / air pumps, radiators / heat exchangers for item 1 to 4 above.	No.							
7	Traction motor along with speed and temperature sensors as per requirement	No.							
7a	GENERAL ASSEMBLY								
	ASSEMBLING								
	TESTING								
7b	STATOR ASSEMBLY								
	FRAME								
	STATOR CORE								
	STATOR COIL								
	INSULATION MATERIAL								
	BIND RING								
	WEDGE								
	STATOR PLATE LOCK								
	COIL INSERTION								
	IMPREGNATION								
7c	ROTOR ASSEMBLY								
	SHAFT								
	ROTOR CORE								
	ROTOR PLATE LOCK								
	END RING								
	ROTOR BAR								
	SHRINK RING								
7d	PARTS								
	BEARING								
	BEARING PARTS								
	SPEED SENSOR								
	SENSOR GEAR								
	SENSOR COVER								
	TERMINAL BOX								
8	Mechanical Drive Systemincluding motor suspension unit, gear case, bull gear & TM pinion								
8a	SUSPENSION ARRGT.								
8ai	TUBE								
8aii	MACHINED ITEMS								
8aiii	BEARINGS								
8b	GEAR								
8c	PINION								

Item no of BOQ	Description	Unit	Qty/loco	Price per Unit			Total Price		
				FOB	C&F	CIF	FOB	C&F	CIF
1	2	3	4	5	6	7	8	9	10
8d	GEAR CASE								
8e	LUBRICANT								
9	Fire detection and alarm system	No.							
10	Any other equipment required (Details to be furnished)	No.							
11	Software tools along-with 2 nos. laptop computers per loco.	Set							
12	Synchronous control of locomotives.	No.							