

Tender No -----

Section VI

Computer controlled, Simultaneous, Bench Top, Atomic Emission Rotating Disc Electrode (AES-RDE) type Spectrometer to Specification No.CR / IR /Spectrometer/RDE/Oil/2025

Table of contents

Item	Contents	Page No.
Section-VI	Format & Drawings	
Annexure-A	Format to be filled up by Bidder for submitting the Technical Bid	2
Annexure- B	Format for Joint Receipt Inspection Note	12
Annexure- C	Format for Joint Commissioning Note	13
Annexure - D	Performance Appraisal Form (Appraisal on Completion of Warranty Period	14
Annexure - E	List of Components to be loaded on the machine & Drawings	15
Annexure - F	Format for Consignee's Certificate for Quarterly Work Done Under CAMC	16
Annexure - G	Format for Technical Suitability Assessment of New Firms	17
Annexure - H	Format of Quality Assurance Plan	22
Annexure - I	Format for Prove Out Test Certificate	23

In case, any of the conditions mentioned here under are contrary to those mentioned elsewhere in the tender document, conditions mentioned in this document shall supersede the corresponding conditions given elsewhere in the tender document.

FORMAT FOR SUBMISSION OF TECHNICAL BID

1. (a) We, M/s. _____ offer our _____ machine, model no. _____ as per the description given in Schedule of Requirements.

(b) We state that, except for the following, for which clause wise brief description and justification for deviation has been indicated, our machine fully complies with all the clauses as given in technical specification Section-V.

(c) We also confirm all the schedules given in the Delivery Schedule at para 7 of Section-IV.

S.No.	Clause/Item	Brief description of Deviation	Justification for deviation

Note 1- In case, there is any contradiction in any information provided (between any parametric values given in the specification and those given in the brochure or some other document enclosed by the tenderer), unless specifically mentioned in the deviation cum confirmation statement under Annexure A of Section VI, the values as given in the specification shall be taken as confirmed by the tenderer and offer evaluated accordingly.

Note 2- We understand that, in case there is a contradiction in any information provided (between any parametric values given in the specification and those given in the brochure or some other document enclosed by the tenderer), unless specifically mentioned in the deviation cum confirmation statement under Annexure-A of Section-VI, the values as given in the specification shall be taken as confirmed by us and offer evaluated accordingly.

Note3- In case of incomplete / sketchy / illegible information, the technical bid may be considered as incomplete and is liable to be rejected. Bidder must furnish clause wise compliances against the individual clauses of Section IV and V clearly indicating 'complied' in case of compliance to the clause, 'non complied' in case of noncompliances to clause. Informative clauses can be indicated as 'noted'. Bidder must provide necessary information as asked for in the relevant clauses. Bidder must provide necessary information as asked in Section VI. Bid will be considered incomplete and liable to be rejected in case of noncompliance to this instruction.

2. We further certify that we are meeting the reference clause as;
- (A) We are the regular manufacturer of this type of machine.
- (B) We have made the following past supplies of similar machines as per Conditions for eligibility of tenderer:

SN	Name of purchaser with postal address	Purchasers' phone, email address, name of contact person	Purchase/ Supply Order number and date (along with a copy of the PO)	Quantity Supplied (with proof of supply) @	Date of Supply (@)	Date of Installation and/or commissioning @	Major Parameter			
							Focal length min. (mm)	Wave length range in mm	Detectors	Number of channels
							0.3 to 1 meter	210 – 800 nm to cover the entire usable spectrum	CCD (Charge Couple Device)	Minimum 32 channels for elements given in Annexure – E' of section VI

@ : Along with copies of relevant documents to establish linkages of documents/ entities as detailed in clause 5 of Qualifying Requirements.

- (C) We are submitting following performance certificate from past users as per Conditions for eligibility of tenderer:

S. No.	Name of the Purchaser with Address	Purchase/ Supply Order number and date (along with a copy of the PO) (It should be the one(s) which are enlisted at clause 2 B above)	Quantity Supplied	Date of Supply	Date of Installation and/ or Commissioning	Date of issue of Performance Certificate	Performance

3. We are having following facilities available with us or our agent for providing adequate after-sales service in India during warranty period. Complete details of after sales service, availability of technically competent engineers and warehousing facilities for spares is indicated below:

- After sales service centers;
- Availability of technically competent engineers;
- Warehousing facilities for spares

4. We have quoted for the following optional accessories as indicated under clause 4.3 of section IV

Sr No.	Description of the optional accessory	Quantity (in Nos.)	Rate (in Rest.)	Indigenous	Shelf Life (in Months)
--------	---------------------------------------	--------------------	-----------------	------------	------------------------

5. We have quoted such spares as per clause 5.1 in the format given below which will be stocked at the consignee end for improving response time and smoother execution of warranty period.

Sr No.	Description of the spares	Part No.	Quantity (In Nos.)	Rate (In Rest.)	Shelf Life (in Months)
--------	---------------------------	----------	--------------------	-----------------	------------------------

6. *We hereby confirm that we are the OEM and undertake to supply spare parts for a period of expected life of machine.

OR

*We hereby confirm that we are not the OEM, but are submitting undertaking from OEM for supply of spare parts for a period of expected life of the machine to provide maintenance spares (as and when ordered) after the expiry of the CAMC for 5 years (life of machine - 15yrs) including the maintenance spares required for the bought out sub-assemblies and parts.

(*Strike out whichever is not applicable)

Current cost of these spares and current labour cost to replace these spares is indicated in the following format.

Sr No.	Description of the spa	Part number	Current cost (In Rest.)	Current Chargers to spares	Labour to replace	Shelf Life (in Months)
--------	------------------------	-------------	-------------------------	----------------------------	-------------------	------------------------

7. We have quoted consumable required as per clause 6.1 of Section V in the format give below

Sr No.	Description of the consumable	Qty		Unit	Rate
--------	-------------------------------	-----	--	------	------

8 It is certified that we are having suitable facilities at our / *our Indian subsidiary / **authorized agent works for carrying out various performance tests on the sub-assembly/assembly/machine and Indigenous accessories, these shall be made available to the inspecting authority.

* ** Strike out whichever is not applicable.

9. **BOUGHT OUT ITEMS:** We hereby furnish a list of all critical items/ sub-assemblies which are bought out by us and proposed to be used, along with the manufacturer's name, brand model etc.

Sr No.	Description	Item no.1	Item no. 2	Item no. 3
1.	Brief description of item			
2.	Model no.			
3.	Make			
4.	Quantity/machine			
5.	Manufacturer's name and complete address			
6.	Whether imported or indigenous			
7.	Country of origin			

10. We have quoted for comprehensive PMC under warranty & comprehensive Annual Maintenance Contract as per clause 16.3 & 17 of Section-V. Details of preventive maintenance services including cleaning of machine to be provided under PMC during warranty and CAMC is given in the following format.

S.No.	TYPE OF PREVENTIVE SCHEDULE	PERIODICITY	ITEMS TO BE CHECKED	ITEMS OF REPLACEMENT	EXPECTED PLANT DOWN TIME

11. We further submit the following information about the offered machine as per the technical specification Section VI and Important Features of the tender section IV. We understand that any omission of any of the below mentioned information will render our offer incomplete to that extent.

The information against leading parameters are as under:-			
Clause 2.2. of Section IV	Actual values of the following major & other parameters of the offered machine should be given:		
1.	Clause 2.2.1 of Section-IV- Major Parameter		
Clause no.	Item Description	As specified	Value/Write-up/ Brochure (as offered)
2.2.1.1	Focal Length	0.3 to 1 metre	
2.2.1.2	Wavelength Range	210 – 800 nm to cover the entire usable spectrum	
2.2.1.3	Detectors	CCD (Charge Couple Device)	
2.2.1.4	Capacity	Minimum 32 channels for elements given in Annexure – E of section VI	
2.	Clause 2.2.2 of Section-IV- Other Parameter		
2.2.2	OTHER PARAMETRS		
2.2.2.1	Grating	Holographic	

2.2.2.2	Productivity per 8-hour shift	120 samples			
2.2.2.3	Power supply	220V+/-10% @ 50 Hz+/-3%			
2.2.2.4	Power Consumptions:	Max. 450 watts during analysis & Max.275 watts on standby			
2.2.2.5	Analytical programme for various elements in oil as per RDSO recommendation (Ref: Ann.-I of MP guide no.6, May 2007, Rev-02 of RDSO/LKO)				
2.2.2.5.1	For Locomotives fitted with 251B/251C/251D Type Diesel Engines (WDM2, WDM3A, WDP1, WDP3A, WDG3A, WDS5, WDS6, YDM4 and YDM4A Diesel Locomotives)				
	Element	Limits (in ppm)		Remarks	
		Abnormal	Critical		
i)	Iron (Fe)	20	50		
ii)	Copper (Cu)	10	20		
iii)	Lead (Pb)	5	10		
iv)	Tin (Sn)	5	10		
v)	Chromium (Cr)	5	10		
vi)	Aluminum (Al)	5	10		
vii)	Sodium (Na)	30	50		
viii)	Silicon (Si)	15	20		
2.2.2.5.2	For Locomotives fitted with General Motors Diesel Engines(WDG4/ WDP4 locomotives)				
	Element	Limits (in ppm)			Remarks
		Normal	Borderline	high	
i)	Iron (Fe)	0-75	75-125	Above 125	
ii)	Copper (Cu)	0-75	75-155	Above 150	
iii)	Lead (Pb)	0-50	50-75	Above 75	
iv)	Tin (Sn)	0-20	20-40	Above 40	
v)	Chromium (Cr)	0-10	10-20	Above 20	
vi)	Aluminum (Al)	-	5	-	
vii)	Zinc (Zn)	0-10	Above 10	Above 20	
viii)	Silicon (Si)	0-15	15-20	Above 20	
ix)	*Boron (B)	0-10	Above 10	Above 20	
2.2.2.5.3	For Locomotives fitted with MAK Diesel Engines (WDS4, WDS4A, WDS4B, WDS4C, WDS4D, ZDM3, and ZDM4A locomotives)				
	Element	Limits (in ppm)		Remarks	
		Abnormal	Critical		
i)	Iron (Fe)	40	100		
ii)	Copper (Cu)	10	20		
iii)	Lead (Pb)	20	40		
iv)	Tin (Sn)	5	10		
v)	Chromium (Cr)	15	30		
vi)	Aluminum (Al)	15	30		
vii)	Nickel (Ni)	5	10		
viii)	Silicon (Si)	15	20		
ix)	*Boron (B)	10	20		

3.	2 of Section V	Technical Details/Particulars of Motors, Control Gears, Voltage Stabilizer & Isolation Transformer	Value /Write up/Brochure
3.1		A.C. Servo & other AC Motors and Control Gears <ul style="list-style-type: none"> • AC SERVO & OTHER AC MOTORS • Manufacturer's Name • Type of enclosure • Type of duty (Ref. IS: 325) (Latest) • Rating-Continuous/intermittent • Output (KW/BHP) • AC voltage across phases, number of phases & frequency. • Speed in RPM • Class of insulation 	

		<ul style="list-style-type: none"> • Normal full load current • Starting current • Maximum current at the time of change over from lower speed to higher speed • Type of motor-Squirrel cage/slipring (wound rotor) • Temperature rise of windings and other parts allowed above an ambient temperature of 50 degree C. • Frame size of motor • End use of motor CONTROL GEARS <ul style="list-style-type: none"> ▪ Manufacturer's Name ▪ Type of control gear (Direct on line/Star Delta/Auto-transformer etc.) ▪ Rating of starting gear in KW & amps. ▪ Short circuit protection (y/n) ▪ No volt trip (y/n) ▪ Overload trip (y/n) ▪ Delayed action current sensitive single phasing preventor (y/n) ▪ Standard specifications to which the motor control gear and its ancillary offered conform to 	
--	--	--	--

3.2	2 of Section V	<p>D.C. Motors and Control Gears</p> <ul style="list-style-type: none"> • DC MOTOR • Manufacturer's Name • Type of enclosure • Type of duty (Ref. IS: 4722) (Latest) • Rating-Continuous/intermittent • Output (KW/BHP) • DC voltage across phases, number of phases & frequency • Method of excitation whether shunts, series, compound or separately excited, if separately excited state excitation voltage. • Speed in RPM • Class of insulation • Normal full load current in amps. • Starting current • Temperature rise of windings and other parts allowed above an ambient temperature of 50 degree C. • Frame size of motor • End use of motor • CONTROL GEARS • Manufacturer's Name • Type of control gear (Direct on line/Resistance type/Thyristor type) □ Rating of starting gear in KW & amps. • Short circuit protection (Y/N) • No volt trip (y/n) • Overload trip (y/n) • Standard specifications to which the motor control gear and its ancillary offered conform to • Standard specification to which control gear conforms to 	Value /Write up/Brochure
3.3	2 of Section V	<p>Voltage Stabilizer & Ultra Isolation Transformer (if required)</p> <p>VOLTAGE STABILISER</p> <ul style="list-style-type: none"> • Manufacturer's Name • Type of voltage stabilizer : <ul style="list-style-type: none"> a) DC servo motor type b) AC servo motor type c) Solid state • Rated capacity in KVA • Nos. Of phases & frequency • Type of input supply unbalanced • Input voltage • Output voltage • Rate of correction • Class of insulation & winding (only copper wound is acceptable) • Type of control circuitry • Class of duty • Type of cooling • Indicating instruments and their ranges • Safety features • ULTRA ISOLATION TRANSFORMER • Manufacturer's Name • Rated capacity • Ratio of input/output voltage • Class of insulation • Arrangement for suppression of power line surges, spikes, transients and noises • Type for cooling. 	Value /Write up/Brochure

4.	2.4.2 & 2.4.4, of Section IV	Process sheet with floor to floor timings and other details of basis of arriving at such timings as relevant should be furnished for operation. <table><tr><td>Sample Loading</td><td>Set up time</td><td>Burning time</td><td>Sample Analysis</td><td>Unloading Time</td><td>Total Cycle time</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Sample Loading	Set up time	Burning time	Sample Analysis	Unloading Time	Total Cycle time							Write-up (tabular sheet)
Sample Loading	Set up time	Burning time	Sample Analysis	Unloading Time	Total Cycle time										
5.	4.2.2 of Section IV	Operating & Maintenance Tools <ul style="list-style-type: none">• Make• Description• Quantity• a) Tool kit list (with Qty) maintenance for mechanical maintenance• b) List with Qty for Electrical & Electronic maintenance Tool Kit with Qty.	Write-up												
6.	4.2.5 Section IV	Details of UPS <ul style="list-style-type: none">- Make- Back up time - RatingOther information, if any.	Write up + Values												
7.	4.2.7 Section IV	Details of set of regents/ materials/ Oil standards for 1000 samples - Technical description. - Concentration <ul style="list-style-type: none">- Source of supply- Qty of bottles in each case.	Write up + Values												
8.	4.2.8 Section IV	Details of standards of electrodes for 1000 samples. <ul style="list-style-type: none">- Technical description.- Size- Source of supply- Qty in each case.	Write up + Values												
9.	4.2.12 Section IV	Details of any other accessories treated as concomitant accessories.	Write up + Values												
10	4.3.1 Section IV	Source frequency test meter <ul style="list-style-type: none">- Make - Capacity- Model no.	Write up + Values												
11.	4.3.2 Section IV	Automatic robotics system with sample charger <ul style="list-style-type: none">- Make - Capacity- Model no.	Write up + Values												
12.	4.3.3 Section IV	Transit case for transportation <ul style="list-style-type: none">- Make - Capacity- Model no.- material	Write up + Values												
13.	4.3.4 Section IV	Reusable sample holder with cover for low flash point <ul style="list-style-type: none">- Make- Capacity- Model no.	Write up + Values												

14.	4.3.5 Section IV	Ultrasonic Cleaner with basket - Make - Capacity - Model no.	Write up + Values
15.	4.3.6 Section IV	Reusable sampling pump - Make - Capacity - Model no.	Write up + Values
16.	4.3.7 Section IV	Sample holder cleaning solution - Details	Write up + Values
17.	4.3.8 Section IV	Sample container - Details - Make - Capacity - Model no.	Write up + Values
18.	4.3.9 Section IV	Additional analytical channels - Details - Make - Capacity - Model no.	Write up + Values
19.	4.3.10 Section IV	Sulphur analysis attachment with set of Reagent/ Material/ Oil Standard for Sulphur - Details - Make - Capacity - Model no.	Write up + Values
20.	4.3.11 Section IV	Details of any other optional accessories, if quoted for	Write up
21.	4.2.7 & 4.2.8 of Section IV	List of operation consumables along with per unit cost and quantity for 1000 samples	Write-up & Values
22.	1.1.3 to 1.1.9 of Section V	Safety features • Nos. & location of emergency switches • Nos. of hardware limit switches • Nos. of interlock switches & overloads • Any other safety feature • Environment conditions	Values & write up
23.	1.2.3 of section-V	Optics i. Focal Length ii. Width of Entrance Slit iii.iv. Width of exit slit v. Wavelength range Resolution (a) Type (b) Grooves/ min. (c)(d) Material vi. Ruled area of grating (width x height) Make and Type	Write-up & 12 values

24.	1.2.4 of Section-V	Sample Excitation Source <ul style="list-style-type: none"> i. Make, model number, type of frequency generator with technical literature ii. Method of voltage stabilization iii. Working principle along with incorporated warning levels. 	Write up + Values
25.	1.2.5 of Section-V	Sample introduction <ul style="list-style-type: none"> i. Make, Model number and full details of the sample stand, sample holders with technical literature ii. Type, make and model numbers of the components of sample introduction system along with their literature 	Write up + Values
26.	1.2.6 of Section-V	Detection <ul style="list-style-type: none"> i. Make and Type of detectors ii. Total number of detectors iii. Signal to noise ratio iv. Instrument detection limit v. Linear dynamic range 	Write up + Values
27.	1.2.7 of Section	Computer and read out unit <ul style="list-style-type: none"> i. CPU & control unit chip ii. Clock frequency iii. RAM iv. Hard disc capacity v. Floppy disc drive no & capacity vi. Printer type and speed vii. Dynamic range of counters viii. System offered with version no ix. Diagnostic system 	Write-up + 9 values
28.	1.2.7.1.1	Details of specification of computer system and its make computer and read out with	Write-up+ Values
29.	1.2.7.1.2	Details like make, model no., technical literature and calculation to prove back up capability for 60 minutes	write-up + 4 values.
30.	1.2.7.2	Software interface libraries and functions to be explained	Write-up
31.	1.2.8.1	Indicate space, air-conditioning and other requirements for optimal performance of the offered machine.	Write-Up +2 Values
32.	1.2.8.2	Consumables like Argon gas required for initial commissioning + technical specification and Qty.	Write-Up +2 Values
33.	1.2.8.3	Details of cooling water requirement if any <ul style="list-style-type: none"> (ii) flow rate (iii) Inlet temperature (iv) Inlet pressure (v) Water quantity 	Write-Up +4 Values
34.	1.2.8.4	Details of electrical power requirements for the machine along with its sub systems	Details + value
35.	1.2.8.5	Details of exhaust system <ul style="list-style-type: none"> - make - diagram - Write up 	Write up + Values

36.	Misc.	<ul style="list-style-type: none"> • Total weight of the machine. • Total weight of machine along with packing • Total connected electrical load and its break up. • Details of quoted machine like brand name, model etc. • Total working area • Maximum floor space area required for installation and commissioning of the machine. <p>Facilities required during commissioning of the machine</p> <ul style="list-style-type: none"> • Overall dimensions of the machine in packed condition. • Maximum size of packing and no. of packages <p>Total consumption of following consumables required to analysis 120 samples in a day of 8 hrs. shift</p> <ul style="list-style-type: none"> (a) pinging gas (N₂ or Ar), if required. (b) Graphite electrodes <ul style="list-style-type: none"> (i) Rod (ii) Disc (c) Sample Holder (d) Cooling water requirement, if any (e) Total power requirement (f) Base oil, re-calibration standards in oil as well as in aqueous. 	Values
-----	-------	---	--------

**Signature of the
authorized representative of the bidder
with company stamp**

JOINT RECEIPT INSPECTION NOTE

Note: With the issue of JRI, payment is released to the contractor, as per the terms of contract.
Consignee shall satisfy themselves that the conditions of contract are met before issue of the JRI.

Date.....

Sub: Receipt of consignment for machine.....

Ref: Central Railway Contract No.....

1.	Name of consignee/Railway	
2.	Machine name	
3.	Quantity	
4.	Name of supplier	
5.	Consignment of the machine received on	
6.	The foundation & associated works essential for "Safe Installation of Machine" are ready (for turnkey contracts only) *	Yes

* If there are Delays on account of Consignee such as clear site is not given, then the condition 6 will not be a valid ground for holding JRI.

It is certified that the consignment of the machine has been received complete and in good condition as per specification shown in the contract.

Tentative plan for installation and commissioning of the machine is as under

1.	Date of clear site provided	
2.	Contract	Turnkey/Non-turnkey
3.	Status of readiness of foundation:	
3(a)	Already constructed on	
3(b)	Under construction & likely date of its completion	
3(c)	Construction yet to be started from and likely date of its completion	
4.	Status of availability of electrical power, water and compressed air etc.	Available/Not-available
5.	Number of components to be proved out on the machine	
6.	Likely date for start of erection/installation	
7.	Likely date for switch-on the machine	
8.	Likely date of completion of commissioning of the machine	

**Representative of firm
Designation**

**Representative of consignee
Designation
(Minimum Gazetted level)**

JOINT COMMISSIONING NOTE

Date:.....

Sub: Commissioning of (name of machine).....**Ref:**Central Railway Contract No.....

1.	Name of consignee/Railway	
2.	Machine name	
3.	Quantity	
4.	Name of supplier	
5.	Machine received on	

6. All the parameters of the machine are found okay. The proving test on the machine was conducted from to and machine is working satisfactorily.
7. Machine has finally been commissioned on..... . The machine has been handed over for regular use and kept under one month observation to watch its performance.
8. Following minor deficiencies (if any) found during joint observation trials are to be attended/rectified by the firm during one month observation and before issuing the PTC for the machine:
 - a.
 - b.
 - c.

Representative of firm
Designation

Representative of consignee
Designation
(Minimum Gazetted level)

PERFORMANCE APPRAISAL FORM
APPRAISAL ON COMPLETION OF ____ YEAR of WARRANTY PERIOD

To, M/s.

Dated

1.	Central Railway Contract No	
2.	Consignee/Railway	
3.	Name of supplier	
4.	Machine Name	
5.	Machine received on	
6.	Machine commissioned on	
7.	PTC issued on	
8.	Warranty period expired on	
9.	Performance during warranty period:	
9(a)	Total number of breakdowns	
9(b)	Total downtime in number of days	
10(a)	Any warranty complaint pending on date	Yes/No
10(b)	If yes, then the date and nature of defect(s)	

11. In case, of the machine with mandatory PMC during warranty period, following details of breakdown hours for preceding eight quarters must also be furnished.

Quarter	Period From -----To-----	Breakdown hours
1		
to		
8		

Signature-----

Name-----

Designation: DY.CME/Sr.DME/Dy.CEE/Sr.DEE
Office Stamp

1. PCME / CENTRAL RAILWAY
2. PCMM / CENTRAL RAILWAY
3. Sr. DFM / WAO / Dy. FA & CAO / PFA / CENTRAL RAILWAY

Note:

- i.) This appraisal may please be sent immediately on completion of first and second year of warranty period. If any extension of warranty period required, may please also be mentioned with details.
- ii.) Sr.Scale Officer having independent charge is also authorised to sign.

LIST OF COMPONENTS TO BE LOADED/ANALISED ON THE MACHINE

ANALYTICAL PROGRAM:- The machine is required to carry out analysis of the following metal/ alloy elements present) in the Oil sample components (lube oil, expresser oil, gear case oil, grease, hydraulic oil, governor oil etc) within the specified ranges which are to be indicated by the bidder as per the following:-

1.2	i.	Aluminum	Al
	ii.	Antimony	Sb
	iii.	Arsenic	As
	iv.	Barium	Ba
	v.	Bismuth	Bi
	vi.	Boron	B
	vii.	Calcium	Ca
	viii.	Cerium	Ce
	ix.	Cadmium	Cd
	x.	Chromium	Cr
	xi.	Cobalt	Co
	xii.	Copper	Cu
	xiii.	Iron	Fe
	xiv.	Indium	In
	xv.	Lead	Pb
	xvi.	Lithium	Li
	xvii.	Manganese	Mn
	xviii.	Magnesium	Mg
	xix.	Molybdenum	Mo
	xx.	Nickel	Ni
	xxi.	Phosphorus	P
	xxii.	Potassium	K
	xxiii.	Silicon	Si
	xiv.	Silver	Ag
	xv.	Sodium	Na
	xvi.	Strontium	Sr
	xvii.	Tin	Sn
	xviii.	Titanium	Ti
	xxix.	Tungsten	W
	xxi.	Vanadium	V
	xxxi.	Zinc	Zn
	xxxii.	Zirconium	Zr
	xxxiii.	Sulphur	S (Optional)
	Refer 1.2.6.5 of Section-V)		

Note:-i) Detection range for all mentioned items should be (0-1000) ppm.

ii) The least count of every element should be 0.01 ppm.

Consignee's Certificate for Quarterly Work Done Under CAMC

1. Name of Plant:
2. Consignee
3. Central Railway Contract No.
4. Name of Contractor
5. Quarterly charges for CAMC(Standard): Rs._____ As per Central Railway Contract no._____dt._____
6. Quarter for which bills are preferred:_____ From:_____To._____
7. No. of Breakdowns during the quarter:
8. **Calculation of Penalty and Net CAMC charges payable to Contractor for the quarter:**
 - i. Total Plant Down Time (in days):
 - ii. Standard down days for preventive maintenance (in days/quarter): iii. Total grace period for break down: iv. Net down time for the plant [= (i)-{(ii)+(iii)}] : v. 100% Availability for the quarter (in days) :
 - vi. Actual availability [= (v)-(iv)] : Actual availability in %age [= {(vi) / (v)}x 100]:
 - vii. Calculation of penalty:
 - a. %age availability below 90% to 80%:
 - b. %age availability below 80%:
 - c. Penalty[={(vii a)x(5)x0.005 +(vii b)x(5)x0.01)}]:
 - viii. Net amount payable as CAMC charges to [= (5)-(vii c)]

It is certified that all spares borrowed by the contractor for the previous quarter have been returned in good condition.

Signature of authorized representative of consignee

Report on Capability Assessment of New Vendors

M/s.....(Name of Vendor).....

Machine/Product Class

Contents:

- Para - 1 : General Information
- Para - 2 : General Information (Technical)
- Para - 3 : Design Capability
- Para - 4 : Manufacturing Process
- Para - 5 : Quality Assurance
- Para - 6 : After-Sales Service
- Para - 7 : Past Performance
- Para - 8 : Commercial Information
- Para - 9 : Conclusions
- Para - 10 : Recommendations

List of Annexure :

- A : List of Managerial Staff
- B : Plan of Works to be assessed
- C : List of Machinery & Plant
- D : List of Raw Materials in Stock
- E : Q.A.P. of the Firm.
- F : List of QC equipments, Measuring equipments and Gauges
- G : List of Important Customers & Orders
- H : List of pending orders
- I : Performance of Machines supplied
- J : Proof of Ownership
- K : Factory License, NSIC/ SSI
- L : Copy of Latest Electricity Bill
- M : Certified copies of Balance Sheet and Profit & Loss accounts
- N : Income Tax Clearance Certificate
- Other Annexure (if any)

Report on Capability Assessment of New Vendors

i) Name of Vendor

ii) **Purpose:** (Assessing officers should detail the purpose of assessment, manufacturer, name of the machine and the tender number which necessitated assessment or otherwise.)

iii) **Scope:**(The scope should define scope of capability assessment carried out detailing the machine/system or range of machines/systems.)

iv) **Details of Stores/Items/Parts/components** for which assessment is carried out.

(Indicate complete description. Vendor should submit a request to include more similar items in the assessment if required)

v) **Assessment done on**

1.0 General Information

- 1.1. Background of vendor in Brief
- 1.1.2 Location

1.2 Postal Address

- i. Head Office :
- ii. Works/Factory (as per Factory License) :

1.3. Telephone No.(with STD code and Mobile)

- i. Head Office :
- ii. Works/Factory :
- iii. Authorized Person who can be contacted telephonically:

1.4. E-mail IDs

- i. Head Office :
- ii. Works/Factory :
- iii. Authorized Person :

1.5 Description of Factory/Works.

- i. Total land area : (in Sq.metres)
- ii. Total covered area : (in sq.metres)
- iii. Different sub-units : (with details of covered/uncovered area, etc.)
- iv. Special features, if any :

1.6. No. of personnel employed (category-wise).

- i. Managerial :

(List to be attached as **Annexure-A**)

- ii. Supervisory : Permanent _____ Temporary _____
- iii. Skilled artisans : Permanent _____ Temporary _____
- iv. Unskilled : Permanent _____ Temporary _____

1.7 Hours of working :

1.8 Is this first inspection for assessment?

If it is a re-inspection, details of earlier capability assessment(s) to be recorded and attached.

2.0 General Information--Technical

2.1 Description of different departments in the Factory/Works and function of each department.

2.1.1 The break-up of different work areas given below

Unit – I

- Administrative Block :
- Fabrication and assembly :
- Machine Shop :
- Store :
- Laboratory :

Unit – II, Unit – III

- Administrative Block :
- Fabrication and assembly :
- Machine Shop :
- Store :
- Laboratory :

2.1.2 A plan of the works, as described above, to be attached (**Annexure-B**).

2.2 Detailed description of Machinery and Plant in each department Unit wise (make and year of procurement/commissioning to be provided. For special type of equipment copy of pamphlets/write ups to be furnished so as to supplement the description).

The list of machinery & plant available to be attached (**Annexure-C**).

- i. It was observed that (Comments of Assessing Officer(s), on machines and infrastructure)

2.3 Plans for future expansion, if any.....

2.4 Details of raw-materials held in stock (state whether imported/indigenous).

(list enclosed as **Annexure-D**)

2.5 Production Capacity.

i. Per month :

ii. Per year :

2.5.1 Whether Production capacity has been certified by external agencies? If yes, then details/certificates to be attached.

(Comments of Assessing Officer(s))

2.6 Enumerate Type of Stores/Items, which the firm is capable of manufacturing.

(Comments of Assessing Officer(s))

3.0 Design Capability:

3.1 Availability of Qualified Personnel.

(Comments of Assessing Officer(s))

3.2 Assessment of Expertise and Facilities.

(Comments of Assessing Officer(s))

4.0 Manufacturing Process

4.1 In-house Manufacturing Facilities for the item(s) being assessed.

(Comments of Assessing Officer(s))

4.2 Details of manufacturing process relevant to the items for which assessment is carried out.

(Comments of Assessing Officer(s))

4.3 Important Items/processes Outsourced by the Vendors

(Comments of Assessing Officer(s))

4.4 What is the system of traceability of the components/sub-assemblies manufactured in-house and outsourced.

(Assessment team to comment on the traceability records maintained by the vendor for the range of machines manufactured, from the stage of drawings to dispatch of material/machine.)

5.0 Quality Assurance

5.1 Does the factory have an established Quality Assurance Programme. If yes, please enclose a copy of the write-up? If not, what plans are there if any for setting it up? (QAP attached as **Annexure-E**)

(Comments of Assessing Officer(s))

5.2 Details of Quality Assurance Organization.

Names of key personnel, their qualifications, designations and position in overall management structure (Data in tabular form, explain with organisation chart, if necessary).

5.2.1 The QC organization is headed by Shri, who is designated as, with responsibility for(Comments of Assessing Officer(s))

5.3 Enlist Quality Control Testing Facilities and Laboratory equipment available.

5.3.1 In-house facilities available for inspection and QC include the following: i ii iii

(list enclosed as **Annexure-F**)

5.4 Availability of gauges

5.4.1 The following important items of gauging and other related equipment are available: (**Annexure F**)

5.5 Calibration of Laboratory/test equipment/gauges, indicated in para 5.3 and 5.4 above:

i. How is the calibration done? : ii. Frequency of calibration. : iii. System to ensure that calibration of above equipments : does not fall overdue. iv. Action taken if such calibration has fallen overdue :

(Comments of Assessing Officer(s))

5.6 Source of procurement of raw-materials, important bought-outs, and steps taken to ensure their quality.

(Comments of Assessing Officer(s))

5.7 Details of inspection/checks done on material during various stages of the above manufacturing process.

(Comments of Assessing Officer(s))

5.8 Have acceptable values for the parameters inspected during above stage checks been laid down? If yes, the action taken if value of the parameter inspected does not meet the desired laid-down value.

(Comments of Assessing Officer(s))

5.9 System for documentation of the results of the above stage checks.

(Comments of Assessing Officer(s))

6.0 After-Sales Service

- 6.1 After-Sales Service Facilities Available at Works and Branch Offices.
- 6.2 What is the system of recording customer complaints and action taken there upon.
(Comments of Assessing Officer(s))
- 6.3 Assessment of Quality-of-Service Including Response times.
(Comments of Assessing Officer(s))

a. Past Performance

- 7.1 List of important customers of the firm (as relevant to the works for which assessment being done)
This is attached at **Annexure-G**.
- 7.2 Details of important orders executed/supplies in the past.
Also included in **Annexure-G**.
- 7.3 Details of Pending orders in hand (**Annexure-H**)
- 7.4 Whether another unit/factory of the firm is already approved by COFMOW for supply of stores/components.
(Comments of Assessing Officer(s))
- 7.5 Performance of machines manufactured and supplied in the past to different consignees.
(Comments of Assessing Officer(s))
- 7.5.1 Machines at M/s. (Name of consignee)
- 7.5.2 Conclusions on performance (Attach performance certificates from at least 5 consignees where machines are working for more than one year since commissioning as **Annexure-I**).
(Comments of Assessing Officer(s))

8.0 Commercial Information

- 8.1 Copies of following documents obtained and attached as Annexures.
 - i. Proof of Ownership. : **Annexure-J**.
 - ii. Factory License, NSIC/ SSI : **Annexure-K**.
 - iii. Latest Electricity Bill. : **Annexure-L**.
 - iv. CA/CS certified copies of Balance sheets and Profit & Loss accounts : **Annexure-M**
- 8.2 Whether the firm is registered under Indian Factories Act.
(Comments of Assessing Officer(s))
- 8.3 Whether the firm comes under the scope of Industries (Development & Regulations) Act, 1951.
(Comments of Assessing Officer(s))
- 8.4 Income Tax Clearance Certificate Copy attached at **Annexure-N**.

9.0 Conclusions

(Comments of Assessing Officer(s))

10.0 Recommendations

(Should detail the findings in line with the scope of the assessment)

**(Signatures of the Assessing Officer(s)
Name & Designation**

Place:
Date:

ANNEXURE - A
LIST OF MANAGERIAL STAFF
AS ON-----

S.No.	Name	Designation	Qualification	Workingsince

ANNEXURE -C
LIST OF MACHINERY AND PLANT

S.No.	Description of Items	Make	Qty.	Year of procurement

ANNEXURE - F
QUIPMENT, MEASURING EQUIPMENT
LIST OF QC E AND GAUGES

S.No.	Description	Range Least count where applicable	Qty.	Year of procurement

ANNEXURE - G
LIST OF IMPORATANT CUSTOMER &ORDERS EXECUTED W.E.F.....(DATE)

S.No.	Purchaser Order No.	Description/ value	Delivery dt.	Date recd.	Date Comm.	REMARKS

ANNEXURE - H
LIST OF PENDING ORDERS AS ON----- (DATE)

S.No.	Purchaser	Order No. and date	Value

QUALITY ASSURANCE PLAN

MACHINE DESCRIPTION: COMPUTER CONTROLLED BENCH TOP ROTATING DISC ELECTRODE SPECTROMETER

Category	S. No.	Component/ Process	Sample Size	Type Of Check	Quality record	TYPE OF CHECK	REMARKS
Bought Out Raw Material		Steels	1 Sample / Size	Chemical & Mech.	TC & INV.	CHP	
Bought Out Components		Bearings	100%	Visual	Inv	CHP	
		Electric Motors	100%	Review of TC	TC & INV	V	
		Hydraulic Pumps & Elements	100%	Review of TC	TC & INV	V	
		Rubber Seals, O Rings & Seals	100%	Visual	TC & INV	V	
		Controllers	100%	Review of TC	TC & INV	V	
		Ball Screw	100%	Visual	IIR	V	
Bought out sub assemblies		Weld joints					
		Load Bearings	100 %	RT	IR	CHP	
		Others	5 %	DPT	IIR	V	
		Hardness and	100%	Hardness	IIR	V	
In process Inspection stage							
		Heat Treatment	100%	Review of Inv.	IIR	V	
		Castings	100%	Visual	IIR	V	
		Spindles	100%		IIR	V	
		surface finish of components	Random	Surface	IIR	V	
		Noise level	100 %	Sound	IIR	CHP	
		Temperature rise	100 %	Measurement	IIR	V	
		Structures Geometry alignment, Guideways	100%	Relevant ISO/DIN/IS/JIS standard	IR	CHP	

INV - Invoice

TC – Test Certificate

V – Verification

CHP – Customer Hold Point

IIR – Internal Inspection Report

IR – Inspection Report

**PROFORMA OF CERTIFICATE TO BE ISSUED BY CONSIGNEE AFTER SUCCESSFUL PROVE OUT /
COMMISSIONING OF THE MACHINE**

No:

Date:-

M/s.

Sub: Certificate for Prove out of Machine.

Ref: Central Railway Contract No.

1. This is to certify that the machine as detailed below, has been received in good condition along with all the standard and special / optional accessories & spares in terms of above referred Contract (subject to remarks in Item 2) and the same has been installed and commissioned:

- a) Description of the Machine (s) :
- b) Machine No. (s) :
- c) Quantity :
- d) Name of the vehicle :
- e) RR / LR / Dispatch particulars :
- f) Name of the consignee :
- g) Date of receipt of the machine :
- h) Date of Joint Verification :
- i) Indicate delays in number of days:
- On Railways account :.....days
- On Firm's account:days
- Total:days
- j) Time allowed for commissioning
Number of days allowed**days** after receipt of the machine at site
(As per clause no. 7 SN. 10 of schedule IV)
- k) Date of commissioning of the machine:

Indicate delays in commissioning in number of days:days
- l) On firm's account due to reasons such as non arrival of engineer, problem in machine/
tooling etc:

.....(state reason) days during commissioning
.....(state reason)days during prove out
- m) On Railway's account due to reasons such as non provision of Raw/Trial material,
Crane, staff, measuring tools/gauges etc:

..... (state reason) days during commissioning
..... (state reason) days during prove out

- n) Whether delay in supply of the machine (if any), has caused any loss / inconvenience to the Railways (Yes / No)
If Yes, extent of loss in monetary terms Rs (details to be enclosed if loss is quantifiable. However, if loss is not quantifiable then indicate "Not Quantifiable" in the space provided)

2. Details of Accessories / Spares not yet supplied and recoveries to be made on that account

S.N.	Description	Amount to be recovered
a		
b		

3. The proving test has been done to our entire satisfaction and the operators have been trained to operate the machine as per provisions of Contract.
4. You have failed to fulfill the contractual obligations with regard to the following;
a)
b)
5. The amount of recovery on account of non-supply of accessories and spares is given under para no. 2, 3 & 4 above & losses / damage on account of your failure to fulfill the contractual obligations as given in para no. 1 above will be advised to you by Central Railway and recovered from your bills / performance guarantee bond.
6. The issue of commissioning / PTC certificate proves only the technical acceptability and functioning of the machine on the date of issue of the certificate. This issue of PTC does not amount to waiver of any of the terms and conditions of the contract or delay in supply of drawings, machine or commissioning thereof and it does not absolve the supplier of its liability for any loss or damage suffered by the Railways do to the same.

Signature: _____

Name: _____

Designation: JAG OFFICER (Consignee)

OfficeStamp: _____

Copy by Speed / Regd. Post to :

- 1) PCMM / CENTRAL RAILWAY
- 2) Sr.DFM / WAO / Dy.FA&CAO / PFA CENTRAL RAILWAY
- 3) PCME/CENTRAL RAILWAY
- 4) CME/Plg. CENTRAL RAILWAY

Signature: _____

Name: _____

Designation: JAG OFFICER(Consignee)

Office Stamp: _____

NOTE : Sr. Scale Officer having independent charge is also authorized to sign this certificate.