

Section VI

Tender No.: -----

**CNC-TANDEM UNDER FLOOR WHEEL LATHE (BG) to Specification No.CR/IR/CNC-TUFW
(BG)/ WITH WORKS / WITH WORKS/2024**

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FORMAT FOR SUBMISSION OF TECHNICAL BID

1. We, M/s.----- offer our ----- machine, model no: ----- as per the description given in Schedule of Requirements. We further 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 Important features of the tender in section IV & Technical specification Section-V and we also confirm all the schedules given in the Delivery Schedule at para7of Section-IV.

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

Note 1: 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 the tenderer and offer evaluated accordingly.

Note 2: 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' incase of compliance to the clause, ' non complied' in case of non compliances 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 :
- (A) We are the regular manufacturer of this type of machine.
- (B) We have made the following past supplies of machines as Conditions for eligibility of tenderers.

SN.	Name of purchaser with postal address	P.O.No. and date (along with the copy of PO)	Name of contact person with designation	Phone/ fax /e-mail nos. of contact person	Date and place of commissioning of the machine.	Axle Load	Tread Diameter

- (C) We are submitting following performance certificate from past users as per Eligibility of tenderer.

SN.	User Name	Date Supplied	Date of issue of certificate	Application /Use	Axle Load	Tread Diameter	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.

SN	Description of the optional accessory	Quantity (in Nos.)	Rate (in Rs.)	Indigenous	Shelf Life (in Months)

5. We have quoted for following recommended perishable and non-perishable spare required for normal maintenance to cover complete range of mechanical, hydraulic and electrical equipments including controls on double shift working basis:

Perishable Spares:

SN	Description of the spares	Part number	Quantity (In Nos.)	Rate (In Rs.)	Shelf Life (in Months)

Non-perishable spares:

SN	Description of the spares	Part number	Quantity (In Nos.)	Rate (In Rs.)

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 Warranty for 2 years (life of machine minus 2yrs) including the maintenance spares required for the bought out sub-assemblies and parts.

(*Strike out whichever is not applicable)

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

give below

SN.	Description of the consumable spares	Quantity	Unit	Rate

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

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.

S.No.	Description	Item no.1	Itemno.2	Itemno.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 Annual Maintenance Contract as per clause clause 17.0 of section-V respectively. Details of preventive maintenance services including cleaning of Machine to be provided by us during warranty and CAMC is given in the following format.

SN	TYPE OF PREVENTIVE SCHEDULE	PERIODICITY	ITEMS TO BE CHECKED	ITEMS OF REPLACEMENT	EXPECTED PLANT DOWNTIME

11. We further submit the following information about the offered machine as per the technical specification section V 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.

S.No.	Information required	As per Clause No.	Value /Write up/Brochure
1.	Leading Parameters 1. Major Parameters(cl.2.2.1&2.2.2 of Section-IV) 2. Other Parameters(cl.2.2.3 of Section - IV)	2.2 of section IV	values
2.	Technical Details/Particulars of Motors, Control Gears, Voltage Stabilizer& Isolation Transformer	2.0 of Section V	
2.1	A.C. Motors and Control Gears AC MOTOR <input type="checkbox"/> Manufacturer's Name <input type="checkbox"/> Type of enclosure <input type="checkbox"/> Type of duty(Ref. IS:325)(Latest) <input type="checkbox"/> Rating-Continuous/intermittent		Write-Up/brochure/details/value s

	<ul style="list-style-type: none"> <input type="checkbox"/> Output(KW/BHP) <input type="checkbox"/> AC voltage across phases, number of phases & frequency, <input type="checkbox"/> Speed in RPM <input type="checkbox"/> Class of insulation <input type="checkbox"/> Normal full load current <input type="checkbox"/> Starting current <input type="checkbox"/> Maximum current at the time of change over from lower speed to higher speed <input type="checkbox"/> Type of motor- Squirrel cage /slip ring (wound rotor) <input type="checkbox"/> Temperature rise of windings and other parts Allowed above an ambient temperature of 50degree C. <input type="checkbox"/> Frame size of motor <input type="checkbox"/> End use of motor <p>CONTROLGEARS</p> <ul style="list-style-type: none"> <input type="checkbox"/> Manufacturer's Name <input type="checkbox"/> Type of control gear (Direct online/Star Delta/Auto- transformer etc.) <input type="checkbox"/> Rating of starting gear in KW & amps. <input type="checkbox"/> Short circuit protection(y/n) <input type="checkbox"/> No volt trip (y/n) <input type="checkbox"/> Overload trip(y/n) <input type="checkbox"/> Delayed action current sensitive single phasing Prevent or(y/n) <input type="checkbox"/> Standard specifications to which the motor control Gear and its ancillary offered conform to 		
2.2	<p>D.C Motors and Control Gears</p> <p>DCMOTOR</p> <ul style="list-style-type: none"> • Manufacturer's Name 		Write-Up/brochure/details/values
	<ul style="list-style-type: none"> • 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 shunt, 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 50degree C. • Frame size of motor • End use of motor 		

	<p>CONTROLGEARS</p> <ul style="list-style-type: none"> • 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 		
2.3.	<p>Voltage Stabilizer & Ultra Isolation Transformer</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 <p>ULTRAISOLATIONTRANSFORMER</p> <ul style="list-style-type: none"> • 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. 		Write-Up/brochure/details/values
3.	Break up of floor to floor cycle time and other necessary details	2.4 of section IV	Write-up/ (tabular sheet)
4.	Details as per subject clause	2.4.6 of Section IV	Graph
5..	Details of concomitant accessories	4.2 of section IV	Write-Up/brochure
6.	Details as per subject clause	4.3.2 of Section IV	Write-up

7.	Details as per subject clause	4.3.3 of section IV	Write-Up/brochure
8.	Details of safety features present in the machine	1.1 of section V	write-up
9.	Full technical details of the Rail cum Road shunter including make and model, power rating ,capacity, etc.	1.2.2.1of section V	write-up
10.	Full technical details as per clauses of Section-V	1.2.2 & 1.2.2.1 & 1.2.2.3 of Section V	write-up
11.	Details of material composition and load bearing Capacity of rollers	1.2.3.2 of Section V	write-up
12.	Axle box support and clamping arrangement	1.2.3.3 of Section V	Write-up/ Schematic Drawing
13.	Arrangement provided for positioning the wheels in vertical, horizontal and in lateral direction	1.2.3.5 of Section V	Write-up/ Schematic Drawing
14.	Details as per subject clause	1.2.4.1 of Section V	write-up
15.	Material specification hardness & surface finish of drive rollers	1.2.4.2 of Section V	Write/values
16.	Type, size, precision class and make of bearings. Details of detecting slip between drive roller and wheel set to be provided.	1.2.4.2 of Section V	Write up/values
17.	Method of speed control	1.2.4.3 of Section V	Write up
18.	Details of fully floating drive rollers	1.2.4.4 of Section V	Write up
19.	Detailed design calculation for cutting force at minimum and maximum depth of cut and feed rate	1.2.4.6 of Section V	Write up/values/calculations
20.	Constructional details of measuring system	1.2.5.1 of Section V	Drawings/write up
21.	Working principals of measuring system	1.2.5.1(c) Of section V	Write up
22.	Configuration and make of computer, monitor and printer	1.2.5.3 of Section V	Write up/ manufacturer literature
23.	Method of setting up, time taken for setting up and recommended frequency for setting up of equipment	1.2.5.4 of Section V	Write up/values/tabulated values
24.	Capability of CNC system for performing automatic cutting cycle integrated within process of measuring system	1.2.6.1 of Section V	Write up
25.	Details of No. axes provided in CNC system	1.2.18.1 of Section V	values
26.	Determination of min. Metal removal as per subject clause	1.2.6.3 of Section V	Write up/values

27.	Arrangement to indicate treat diameter before and after turning	1.2.6.6 of Section V	Write up/values
28.	Details as per subject clause to be explained	1.2.7.1 of Section V	Write up
29.	Details of chiller type heat exchanger	1.2.9.4 of Section V	Write up
30.	Details of electrostatic oil filtration equipment	1.2.10.1 of Section V	Write up
31.	Details of lubrication system	1.2.11.3 of Section V	Write up
32.	Details of swarf disposal system as per subject clause	1.2.12.1 of Section V	Write up/ schematic drawing
33.	Details of chip crusher arrangement and safety measures	1.2.12.2 of Section V	Write up/ schematic drawing
34.	Details of Hold-down Device	1.2.14.1 of Section V	Write up/ schematic drawing
35.	Details of Axle Box Support Jack	1.2.14.2 of Section V	Write up/ schematic drawing
36.	Details of cable, IS and make	1.2.17.1 of Section V	Write up
37.	Details as per clause	1.2.18.1 of Section V	Write up
38.	Details as per subject clause	1.2.18.20 Of section V	Write up
39.	Comments on infrastructure of repairs of control sand PCBs/Module	1.2.18.33 Of section V	Write up
40.	Hardware and software arrangement for predictive maintenance to be explained.	1.2.19.3 of Section V	Write up
41.	System of adjustment for wear compensation	3.6.1 of Section V	Write up
42.	Details of coolant System (if applicable)	3.7.1 of Section V	Write up
43.	Brand names of lubricating oil of Indian oil companies.	3.8.6 of Section V	Write up
44.	Details of lubricating system	3.8.7 of Section V	Write up
45.	Details of pneumatic control & make (if applicable)	3.9.4 of Section V	Write up
46.	Brand name of hydraulic oil of Indian oil companies	3.10.6 of Section V	Write up
47.	Catalogue of the machine	4.1 of Section -V	Brochure
48.	Quality Assurance Plan & ISO certificate	9.1 of section-V	Write-up
49.	Sample Inspection Chart	9.4 of section-V	Drawing

50.	Training Schedule	10.3 of section-V	Write-up
51.	Service facility in India	13.0 of section V	Write-up
52.	Maximum height between the rails by which the Machine protrudes above the rail level with location of protrusion.		Write-up/value
53.	Wheel set rotational speed in RPM for turning wheels having tread diameter of 800mm,900mm,1000mm and 1250mm	2.2.1.2 of section-IV	Value
54.	Main motor power		Value
55.	<ul style="list-style-type: none"> • Total weight of the machine. • Model of machine • Total weight of machine along with packing • Total connected electrical load and its breakup. • Total working area • Maximum floor space area required for installation and commissioning of the machine. • Facilities required during commissioning of the machine • Overall dimensions of the machine in packed condition. • Maximum size of packing and no.of packages 	Misc.	Values Write-up Values Values Values Values Values Values Write-up Write-up Values
56.	Dimensions(lxbxh)& weight of the major sub-assemblies: <ul style="list-style-type: none"> • Machine Bed • Headstock • Tailstock • Carriage 	Misc	Values Values Values Values Values
57.	Clausewise compliance against Sections IV&V(<i>which are not covered above in this table</i>)		Write-up/ values/brochures

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

ANNEXURE-B OF SECTION-VI
JOINT RECEIPT INSPECTION NOTE

Date.....

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

Ref: Central Contract No.....

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

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 fromand & 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	
7.	Likely date for switch-on the machine	
8.	Likely date of completion of commissioning of the machine	

Representative of firm

Representative of consignee

Designation

**Designation
(Minimum Gazeted level)**

JOINT COMMISSIONING NOTE

Date:.....

Sub: Commissioning of (name of machine).....
Ref: Central 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 FORMAPPRAISAL ON COMPLETION OF WARRANTY PERIOD

Dated:.....

To, M/s.....

1.	AT 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	From	Period To	Breakdown hours
1			
to			
8			

Signature-----

Name-----

Designation : JAG OFFICER(Consignee)

Office Stamp

1. PCME/CR
2. PCMM/CR
3. Sr. DFM / WAO / Dy. CAO/ PFA/CR

Note:

- i.) This appraisal may please be sent immediately on completion 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 authorized to sign.

ANNEXURE - E OF SECTION VI

DETAILS OF COMPONENTS TO BE LOADED ON THE MACHINE

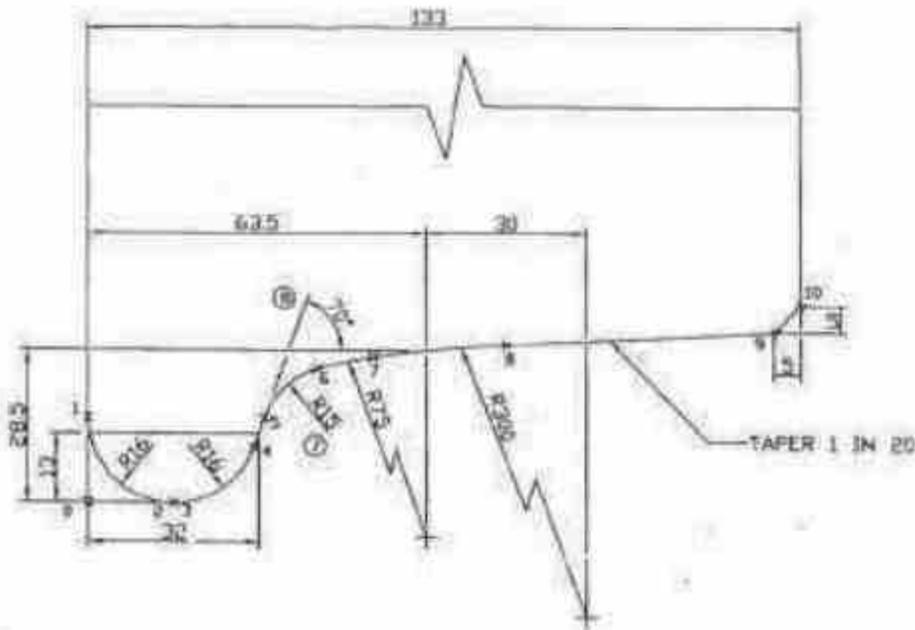
S.NO.	(A) RDSO DRAWING NO.	Loco/Wagon/Coach
1.	SKDL-2561, alt-8	LOCO
2.	SKVL-526, alt-NIL	LOCO
3.	SKDL-4461, alt-NIL	LOCO
4.	CSL-3040, alt-2	LOCO
5.	SKETCH-92082 alt-1	COACH
6.	WD-89060/S-2	WAGON
S.NO.	(B) DRAWING NO.	Details
1.	COFMOW/UFWL/BG/2007 sheet 1 of 7	ROLLING STOCK
2.	COFMOW/UFWL/BG/2007 sheet 2 of 7	LOCO
3.	COFMOW/UFWL/BG/2007 sheet 3 of 7	COACH & WAGON
4.	COFMOW/UFWL/BG/2007 sheet 4 of 7	WAGON
5.	COFMOW/UFWL/BG/2007 sheet 5 of 7	WAG1 & WAG4 LOCO
6.	ICF DRG. NO. 89102003 sheet 6 of 7	VANDE BHARAT
7.	ICF DRG. NO. 89102004 sheet 7 of 7	VANDE BHARAT

INDIAN RLYS.
RDSO(MP)

APPLICABLE FOR
B.G. LOCOS.

WEAR ADAPTED WHEEL PROFILE
FOR DIESEL & ELECTRIC LOCOMOTIVES

C-146



CO-ORDINATES ARE GIVEN BELOW:-

Pl	X	Y
0	0.0000	0.0000
1	0.0000	16.0600
2	16.0000	0.0000
3	16.0651	0.0000
4	31.1001	10.5277
5	33.0371	15.8495
6	43.0407	25.1503
7	53.5000	27.3251
8	78.5187	29.6295
9	128.0000	32.1035
10	133.0000	37.1035

NOTE: GIVEN POINTS CO-ORDINATES ARE ROUNDED OFF UPTO FOUR DECIMAL PLACE.

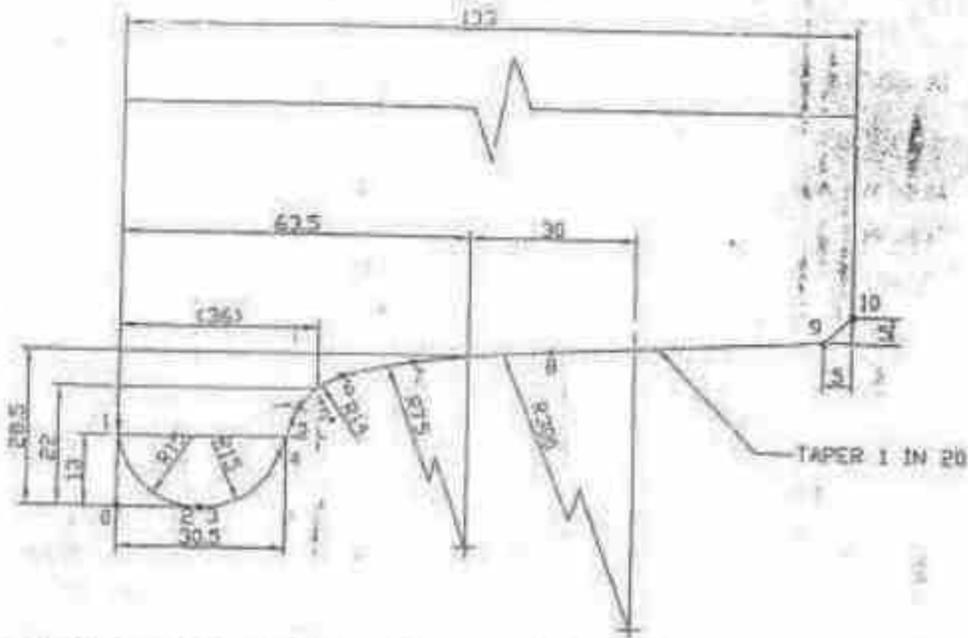
ALL DIMENSION ARE IN mm.

VALID COPY
AS ON 24/10/2010

REV	NO.	DESCRIPTION	BY	CHKD	DATE
①	-	FLANGE RADIUS 70° DIMENSION	L2-990	17886	
②	-	REST DIMENSION CHANGED FROM R17 TO R15 CO-ORDINATES OF THE POINTS SHOWN REVISED ACCORDINGLY.	LR-977	54/-	07/05
③	-	DRG REVISED & NOT. ADDED	SVAS/MS	54/-	23/08
④	-	DRG REVISED	SVAS/MS	54/-	23/08
⑤	-	DRG REBRANN	SVAS/MS	54/-	23/08

SCALE 1:1	REF: SK.DL-2561 AL 1.3
PRG NO. SK.DL-2561	
APPROVED BY	SUPERSEDED BY

SKVL-526-ALT-NHL

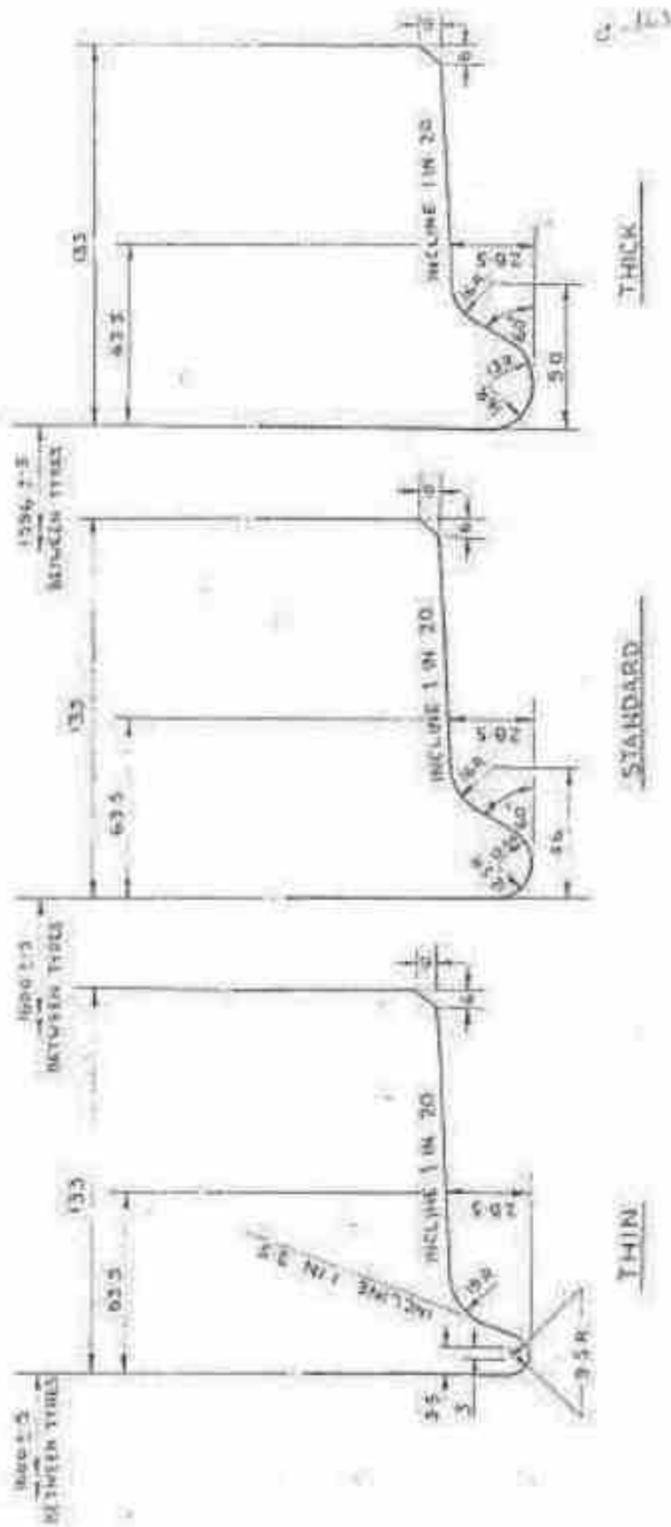


CO-ORDINATES ARE ROUNDED OFF UP TO FOUR DECIMAL PLACE.

Pt.	X	Y
0	0.0000	0.0000
1	0.0000	15.0000
2	15.0028	0.0000
3	15.2553	0.0000
4	24.3117	9.8657
5	31.5114	15.0063
6	40.3571	24.2349
7	51.5800	27.1251
8	72.5107	29.6295
9	128.0000	32.0035
10	133.0000	37.1035

NOTE: WHEEL PROFILE FOR FIELD PERFORMANCE TRIALS ON PROTOTYPE LOCOMOTIVES ONLY.
ALL DIMENSIONS ARE IN mm.

*Co. ordinates are - exhausted
as per Skvl-526, Alt. -vii.
Dhan*



FINISHED IRS TYRE PROFILES FOR 1676 mm GAUGE LOCOOS

SAUNDERS
25.01.24/17/1970

DRG. NO. C.S.L.-3040

ACT. NO. 2

10/10/10
S.C.

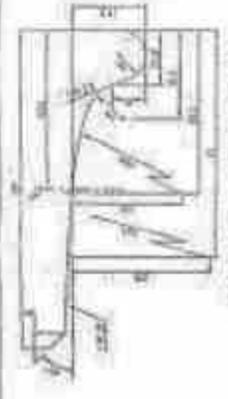


FIG.1: 20mm THICK FLANGE

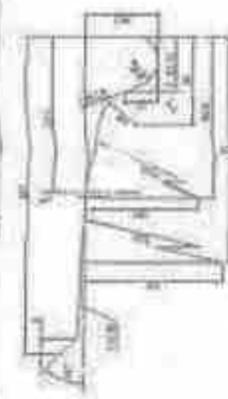


FIG.2: 21mm THICK FLANGE



FIG.3: 22mm THICK FLANGE

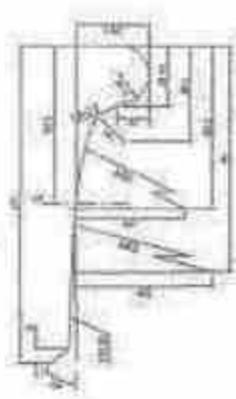


FIG.4: 23mm THICK FLANGE

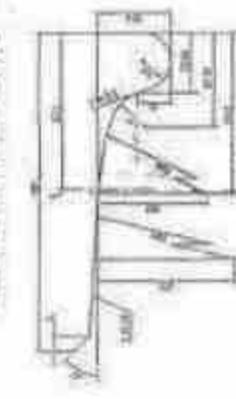


FIG.5: 24mm THICK FLANGE

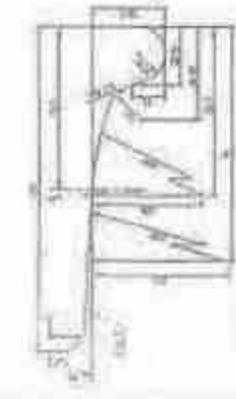


FIG.6: 25mm THICK FLANGE

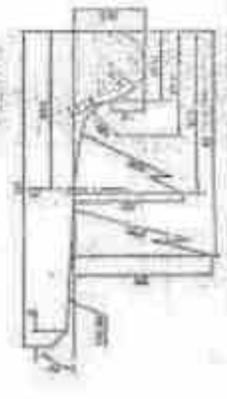


FIG.7: 26mm THICK FLANGE



FIG.8: 27mm THICK FLANGE

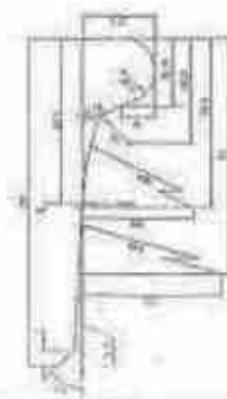


FIG.9: 28mm THICK FLANGE

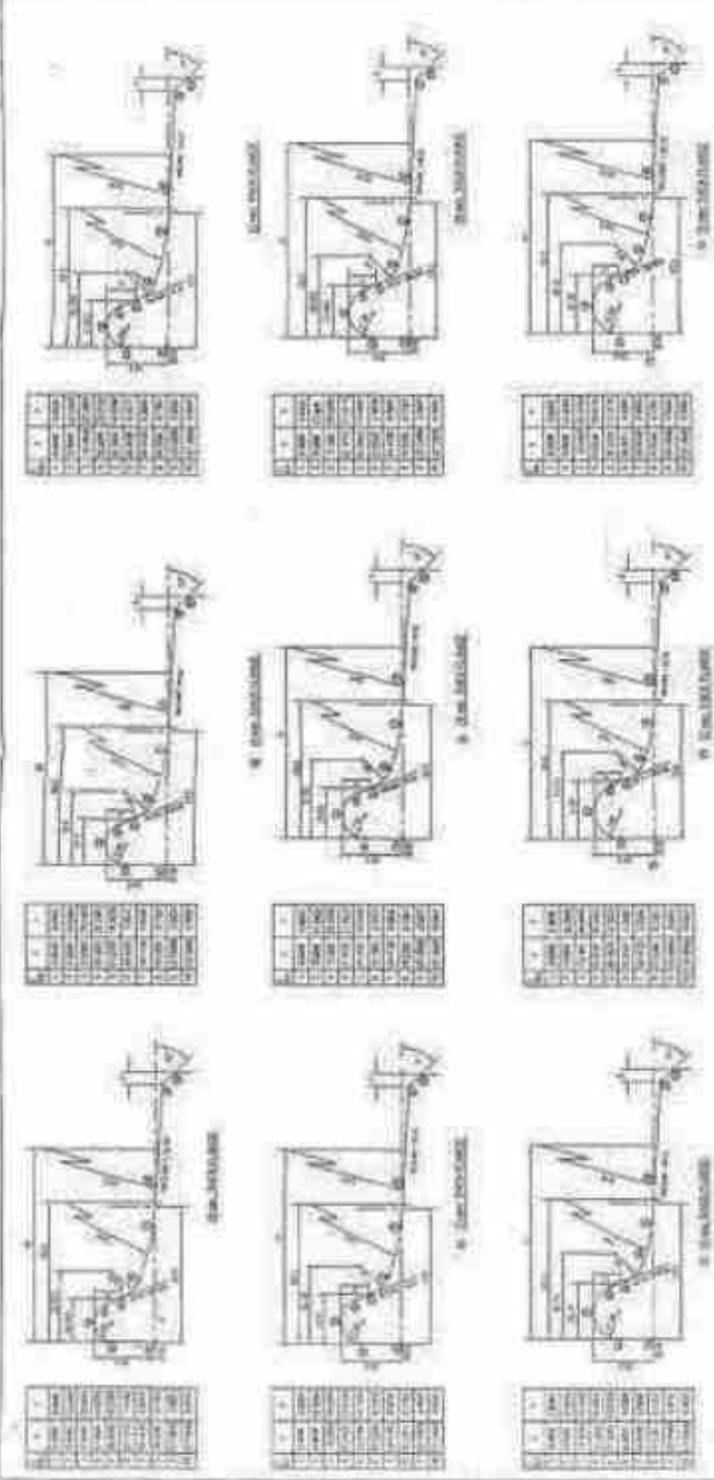
INTERMEDIATE
WORN WHEEL PROFILE
FOR COACHING STOCK

Author	10/10/10
Checker	S.C.
Scale	1:1
Material	B.G.
Part No.	92082
Rev.	1

Project No.	10/10/10
Sheet No.	1
Total Sheets	1
Scale	1:1
Material	B.G.
Part No.	92082
Rev.	1

NOTE:-
1. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTER OF THE WHEEL.
3. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTER OF THE WHEEL.

10/10/10 S.C.



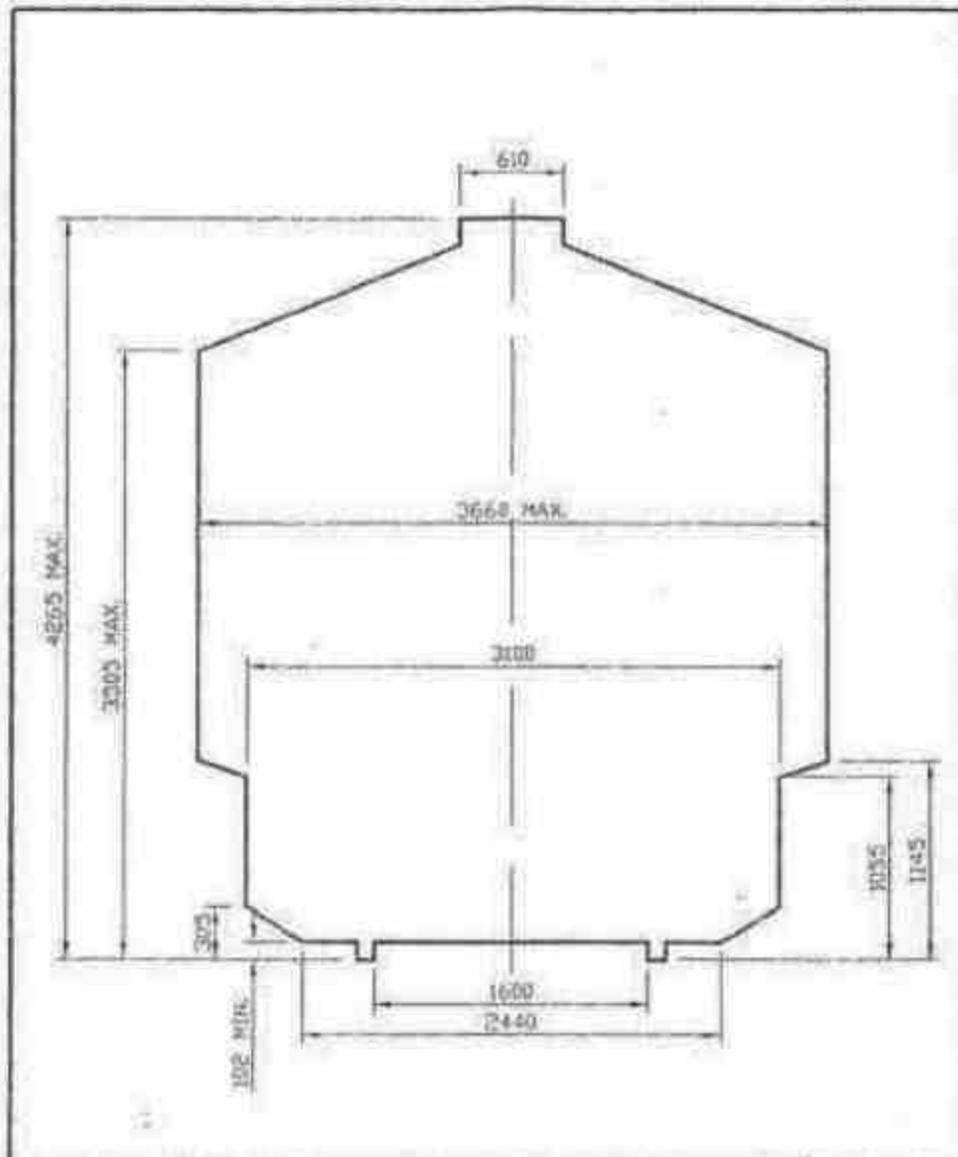
FOR WORN WHEEL PROFILE
 (Approved by Street)

INTERMEDIATE PROFILE

B.G. (W)

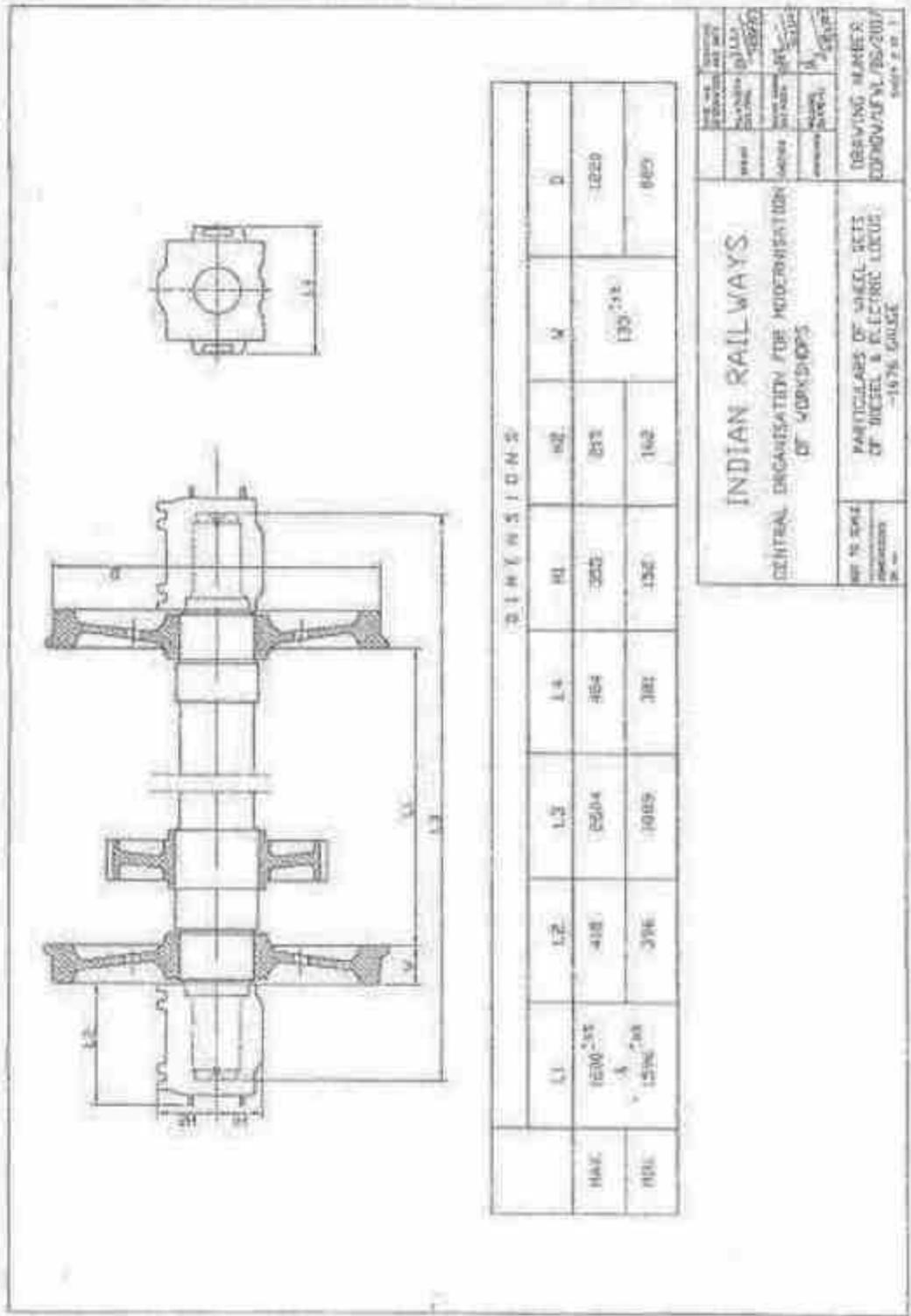
WD-89050/5-2

NO.	NAME	DATE	INITIALS



INDIAN RAILWAYS CENTRAL ORGANISATION FOR MODERNISATION OF WORKSHOPS		NAME AND DESIGNATION	SIGNATURE AND DATE
		DRAWN AL VISHVA USE/381	 28/11/07
		CHECKED PRASAD USE/3804	 28/11/07
APPROVED RAJESH USE/3804	 28/11/07	DRAWING NUMBER COFHQW/UFWL/BG/2007 SHEET 1 OF 3	
NOT TO SCALE DIMENSIONS IN MM	MAX & MIN MOVING DIMENSIONS FOR ROLLING STOCK-1676 GAUGE		

4533

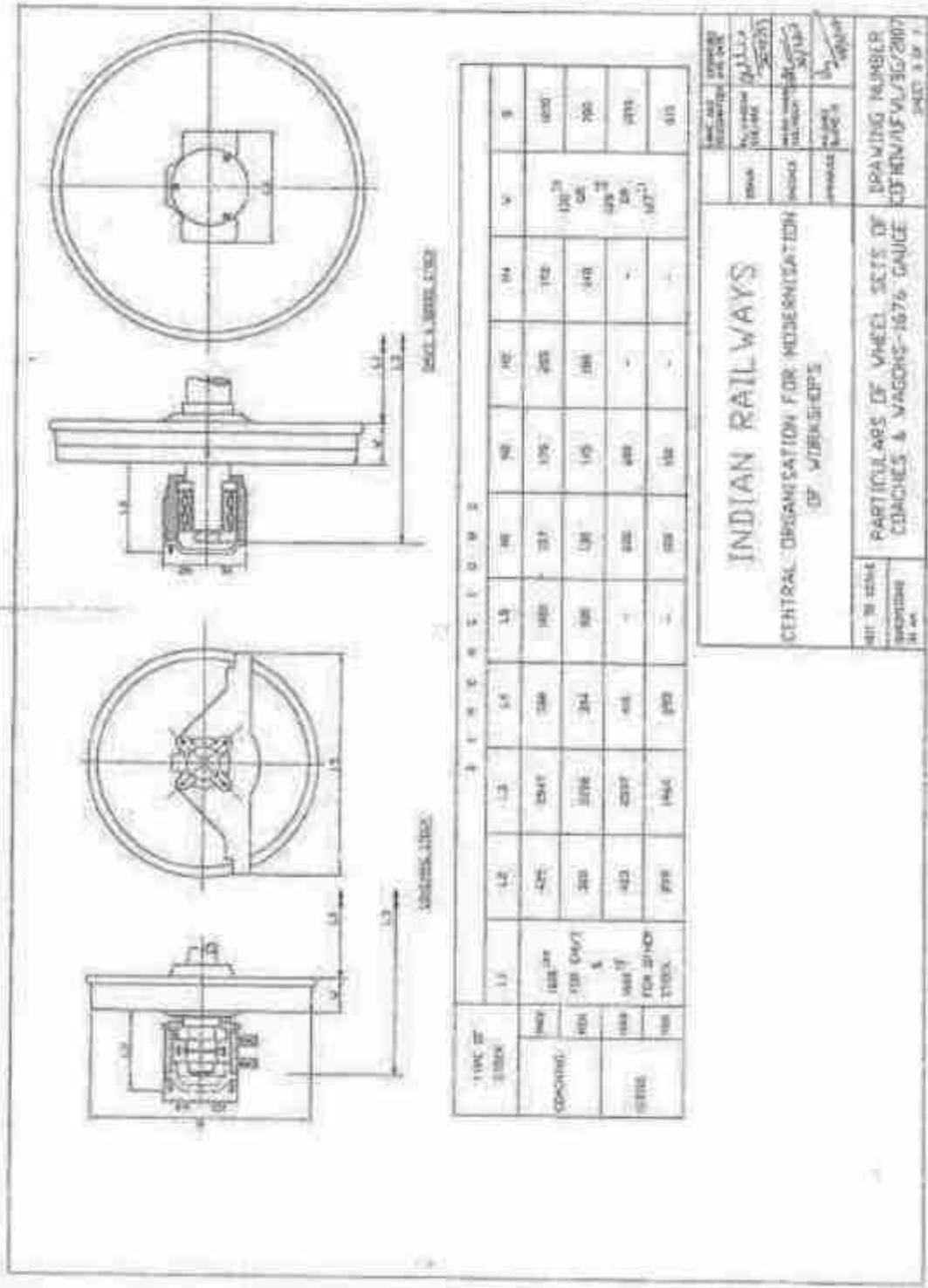


INDIAN RAILWAYS
CENTRAL ENGINEERING FOR MODERNISATION
OF WORKSHOPS

REF. NO. 2042
REVISIONS

DERIVING NUMBER:
EDMVA/SL/BS/2017
PART 2 OF 1

SEC 10

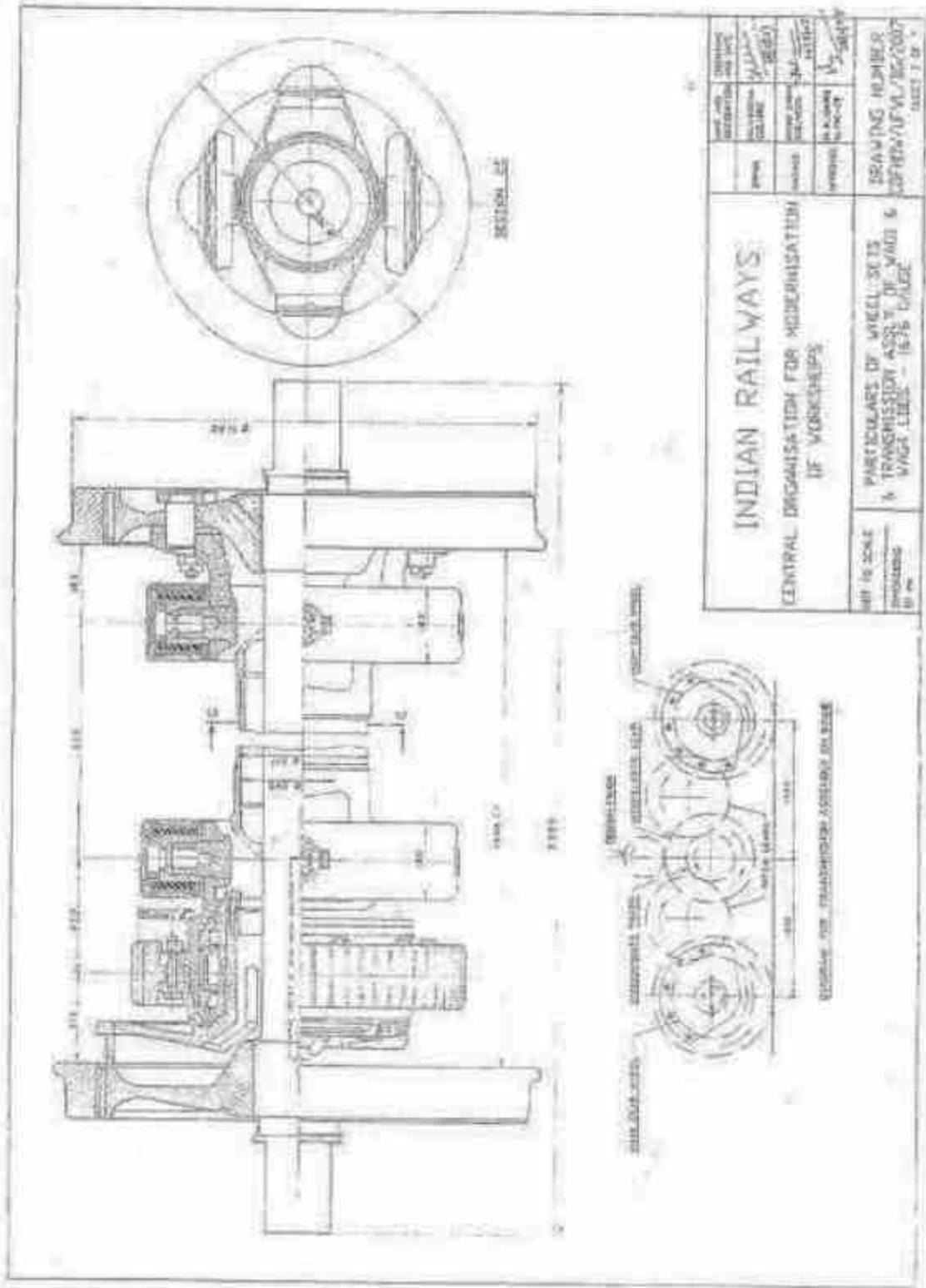


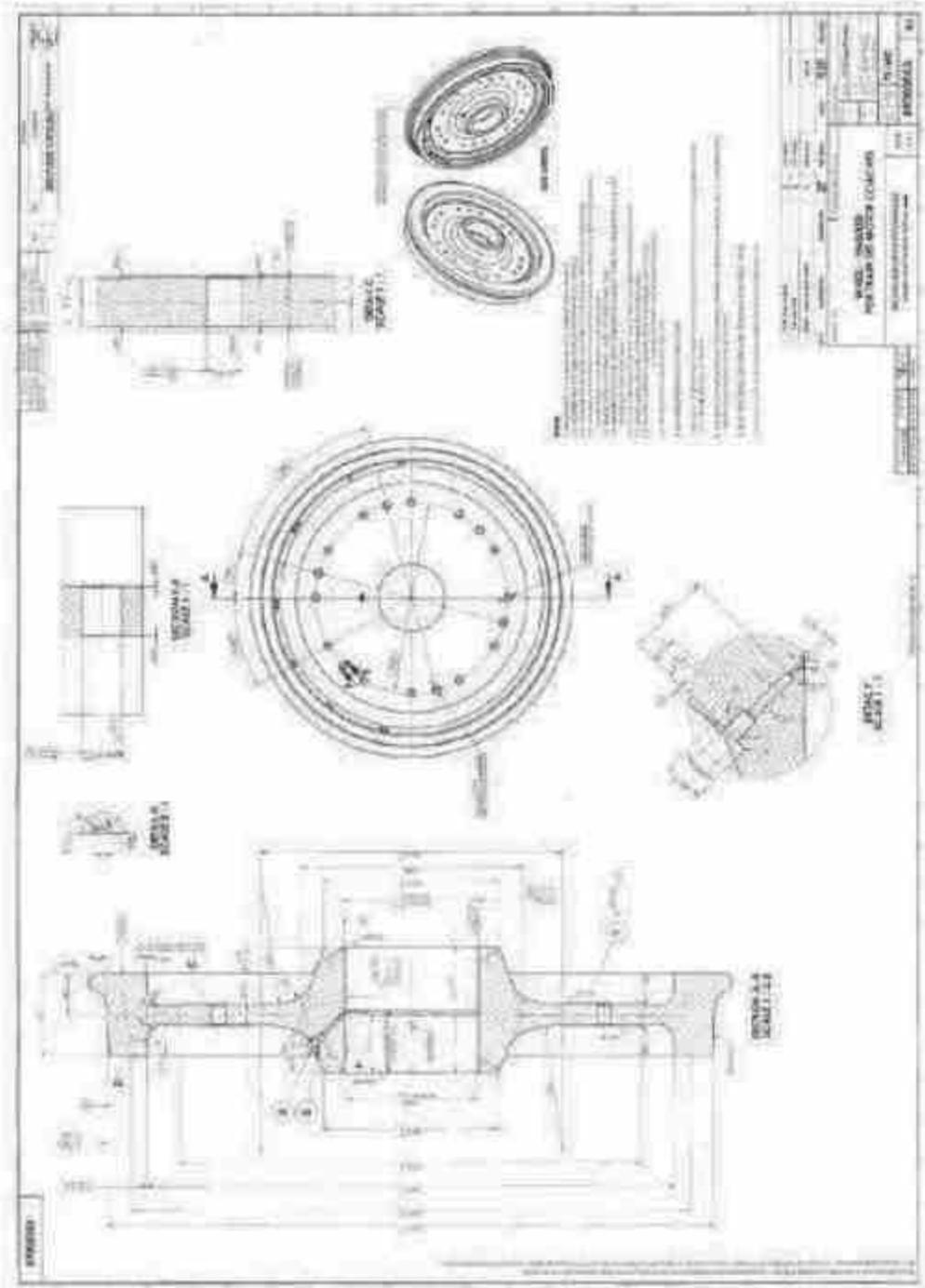
INDIAN RAILWAYS
CENTRAL ORGANISATION FOR MODERNISATION
OF WORKSHOPS

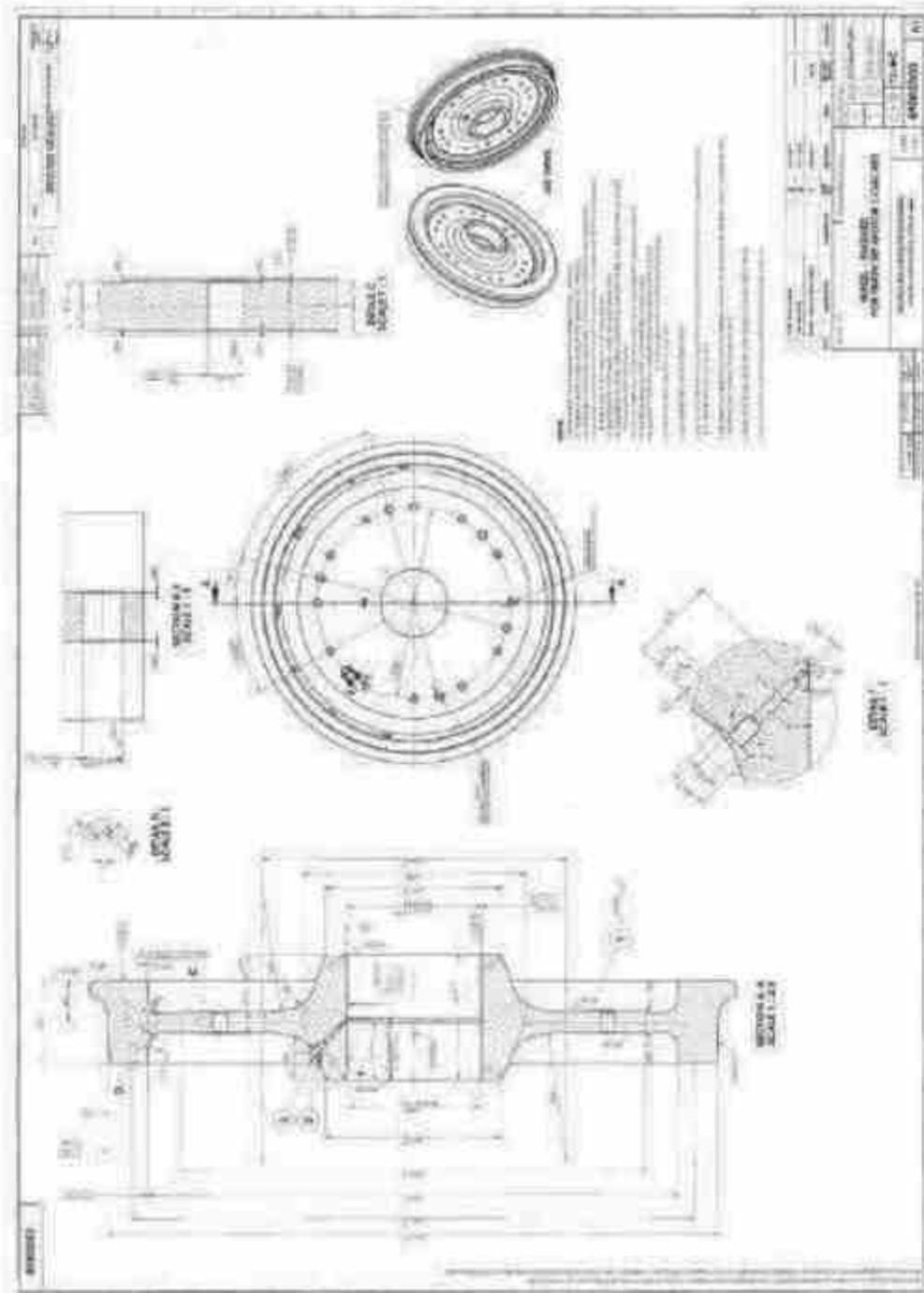
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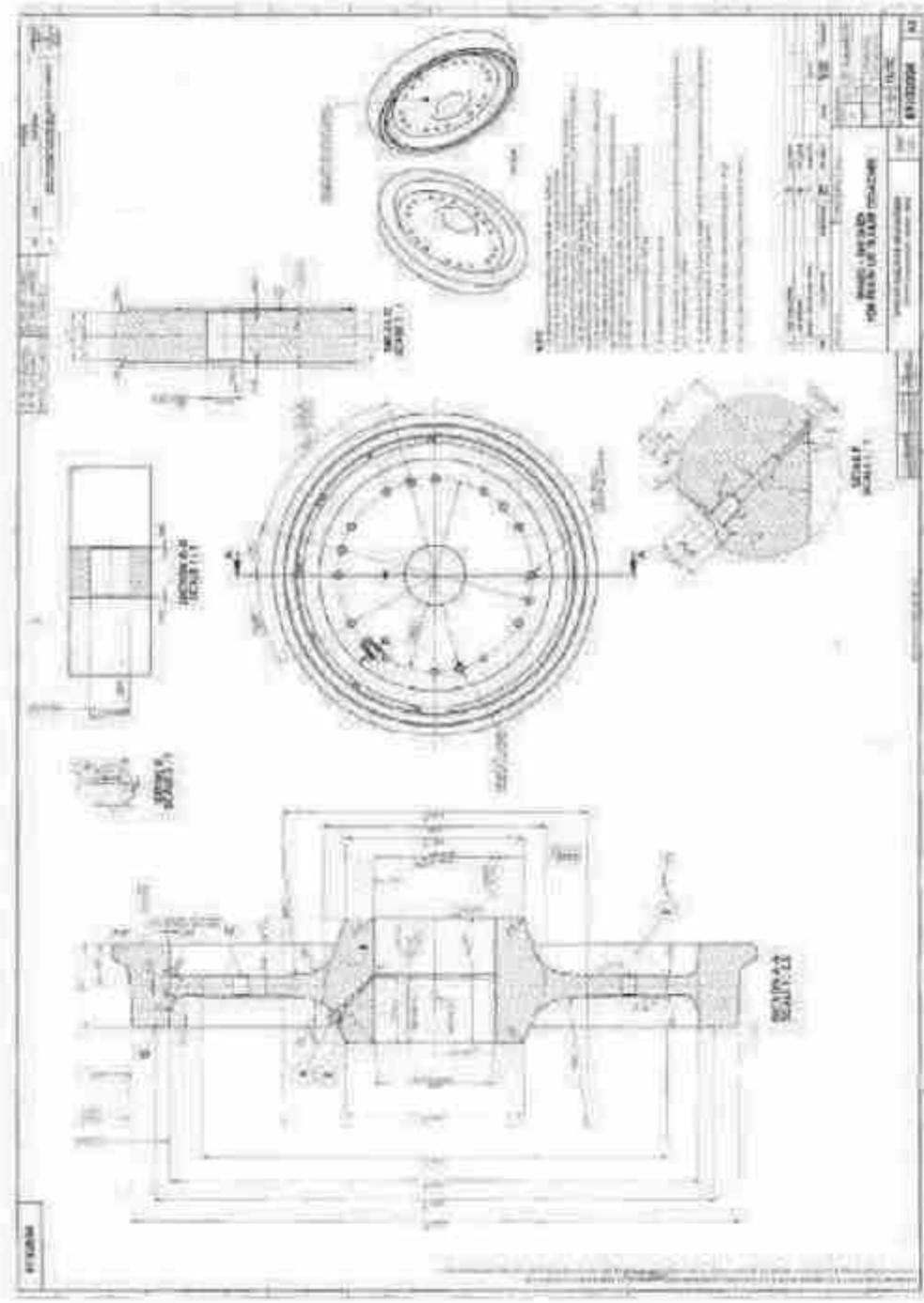
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SRM/10/11/2007

SHEET 1 OF 1









Consignee's Certificate for Quarterly Work Done Under CAMC

1. Name of Plant: _____
2. Consignee _____
3. AT No. _____
4. Name of Contractor _____
5. Quarterly charges for CAMC(Standard): Rs. _____
As per AT 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 breakdown: _____
 - iv. Net downtime 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 contract or for the previous of quarter have been returned in good condition.

Signature of authorized representative of consignee

**ANNEXURE- G OF SECTION-VI
QUALITY ASSURANCE PLAN**

MACHINE DESCRIPTION-----

Category	S.No.	Component/ Process	Sample Size	TypeOf Check	Quality record	TYPEOF CHECK	REMARKS
Bought Out Raw Material		Steels	1 Sample/ Size	Chemical& Mech.	TC& INV.	V	
Bought Out Components		Bearings	100%	Visual	Inv	V	
		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 T C	TC & INV	V	
		Ball Screw	100%	Visual	IIR	V	
Bought out sub assemblies		Weld joints					
		Load Bearings	100%	RT	IR	V	
		Others	5%	DPT	IIR	V	
Hardness of components		Machine Bed	100%	Hardness	IIR	V	
		Gears	100%	Hardness	IIR	V	
		Couplers	100%	Hardness	IIR	V	
		Hydraulic components	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	V	
		Temperature rise	100%	Measurement	IIR	V	
		Structures Geometry alignment, Guideways	100%	Relevant ISC/DIN/IS/HS standard	IR	V	

- INV - Invoice
 TC - Test Certificate
 V - Verification
 CHP- Customer Hold Point
 IIR - Internal Inspection Report
 IR - Inspection Report

ANNEXURE-H OF SECTION- VI

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 concomitant / 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 consignee :

e) Date of first submission of GA/ foundation drawings (if applicable):
Indicate delays in number of days: On Railways account: days
On Firm's account:days
Total: days

f) Date of final approval of GA/ foundation drawings (if applicable):
Indicate delays in number of days: On Railways account:days
On Firm's account:days
Total: days

g) Date of receipt of the machine:

- h) Date of Joint verification :
- i) For machines ordered on non turnkey basis:
- i) Date of power supply provided for the machine by the Railways:
 - ii) Date of call to the contractor after site/foundation /Installation etc is ready:
- j) For machines ordered on turnkey basis
- i) Date of Intimation of readiness of site for starting foundation Work:
 - ii) Date of readiness of foundation by the contractor:
 - iii) Date of readiness of other infrastructure facilities like shed, track linkage etc. by Railway/contractor(delete whichever is not applicable):
 - iv) Date of power supply provided for the machine by the Railways:
 - v) Indicate delays in number of days: On Railways account :.....days
On Firm's account:days
Total:days
- k) Time allowed for commissioning after date of call as per l) ii) above or after date of readiness of site as per m) iii) above. Number of days alloweddays after receipt of the machine at site (As per clause no. 7 SN.11 of schedule IV)
- l) Date of commissioning of the machine:
Indicate delays in commissioning in number of days:days
- i) 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
 - ii) 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
- m) 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 ; if not ; the amount to be recovered on this amount Rs.-----.

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 above & losses / damage on account of your failure to fulfill the contractual obligations as given in para 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 wavier 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)

Office Stamp: _____

Copy by Speed / Regd. Post to :

- 1) PCMM / CENTRAL RAILWAY
- 2) Sr. DFM / WAO / Dy. 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.