

67	Tirfor 2T lifting capacity 3T pulling ca	2 No	₹ 21,703	₹ 43,406
68	Trolley heavy duty MS for DA and Oxygen	5 No	₹ 4,009	₹ 20,046
69	Trolley hand operated 800 kg capacity 80	10 No	₹ 13,968	₹ 1,39,680
70	Trolley hand operated 300 kg capacity 50	10 No	₹ 6,493	₹ 64,932
71	Pump submersible dewatering 1.75 HP Kirl	4 No	₹ 22,441	₹ 89,765
72	Micrometre digital external 0-150 mm MIT	2 No	₹ 48,773	₹ 97,546
73	Micrometre digital external 150-300 mm M	2 No	₹ 63,290	₹ 1,26,581
74	Micrometre internal 5-30 mm MITUTOYO MOD	2 No	₹ 13,490	₹ 26,981
75	Micrometre internal 25-50 mm MITUTOYO MO	2 No	₹ 16,321	₹ 32,642
76	Micrometre internal 50-300 mm MITUTOYO M	2 No	₹ 14,288	₹ 28,577
77	Vernier calliper outside 0-300 mm MITUTO	4 No	₹ 29,102	₹ 1,16,410
78	Vernier depth gauge digital 0-200 mm MIT	2 No	₹ 31,852	₹ 63,703
79	Vernier height gauge digital 0-450 mm MI	2 No	₹ 53,999	₹ 1,07,998
80	Dial gauge 50 mm accuracy 0.01 mm MITUTO	10 No	₹ 9,757	₹ 97,572
81	Tape steel measuring 3 m make ASABHANU o	100 No	₹ 332	₹ 33,240
82	Tape steel measuring 5 m make ASABHANU o	100 No	₹ 428	₹ 42,840
83	Tape steel measuring 10 m make ASABHANU	10 No	₹ 1,072	₹ 10,716
84	Tape steel measuring 20 m make ASABHANU	10 No	₹ 1,848	₹ 18,480
85	Scale 12"/ 300 mm make KRISTEEL or simil	50 No	₹ 110	₹ 5,520
86	Magnifying glass industrial desktop 130	2 No	₹ 5,246	₹ 10,493
89	Tri Square 6inch steel	10 No	₹ 4,140	₹ 41,400
90	Tri Square 12 inch steel	10 No	₹ 5,396	₹ 53,964
91	Vice Bench 100 mm jaw opening forged ste	5 No	₹ 1,992	₹ 9,960
92	Vice Bench 150 mm jaw opening, forged st	5 No	₹ 2,130	₹ 10,650
93	Barrel pump rotary hand operated	5 No	₹ 1,853	₹ 9,264
94	Gauge digital wheel distance PIE model W	4 No	₹ 73,181	₹ 2,92,723
95	Gauge wheel defect PIE model TDG-1 or si	4 No	₹ 8,575	₹ 34,301
96	Gauge wheel diameter PIE model WD-1 or s	4 No	₹ 55,292	₹ 2,21,170
97	Gauge wheel worn profile for coaches 29,	4 Set	₹ 37,255	₹ 1,49,021
98	Gauge buffer height PIE model BHG-2(S) o	4 No	₹ 55,292	₹ 2,21,170
99	Tester insulation 5 KV FLUKE MODEL 1550C	1 No	₹ 3,46,715	₹ 3,46,715
100	Multimeter digital HTC model DM-87 or si	4 No	₹ 5,011	₹ 20,045
101	Tester insulation digital HTC model 6250	4 No	₹ 9,721	₹ 38,885
102	Meter micro ohm bench top MOTWANE model	2 No	₹ 60,454	₹ 1,20,907
103	Meter clamp digital HTC model CM- 2070FT	6 No	₹ 1,759	₹ 10,555
104	Meter sound level HTC model SL- 1352 or	2 No	₹ 9,300	₹ 18,600
105	Meter Lux digital HTC model LX-104 or si	4 No	₹ 7,312	₹ 29,246
106	Tachometer digital METRAVI model NCTM-10	2 No	₹ 3,035	₹ 6,070
107	Meter TDS digital KUSAM MECO model 6032	4 No	₹ 4,692	₹ 18,768
108	Meter vibration digital METVARI model AV	2 No	₹ 32,711	₹ 65,422
109	Thermometer infra-red digital METRIX+ mo	4 No	₹ 10,201	₹ 40,805
110	Tester cum screw driver VENUS VST- 713 o	20 No	₹ 1,774	₹ 35,472
111	Tester earth resistance digital METRAVI	4 No	₹ 6,427	₹ 25,709
112	Crimping tool ASWIN tool model HT 505 (0	5 No	₹ 3,955	₹ 19,776
			Total	₹ 1,61,46,193

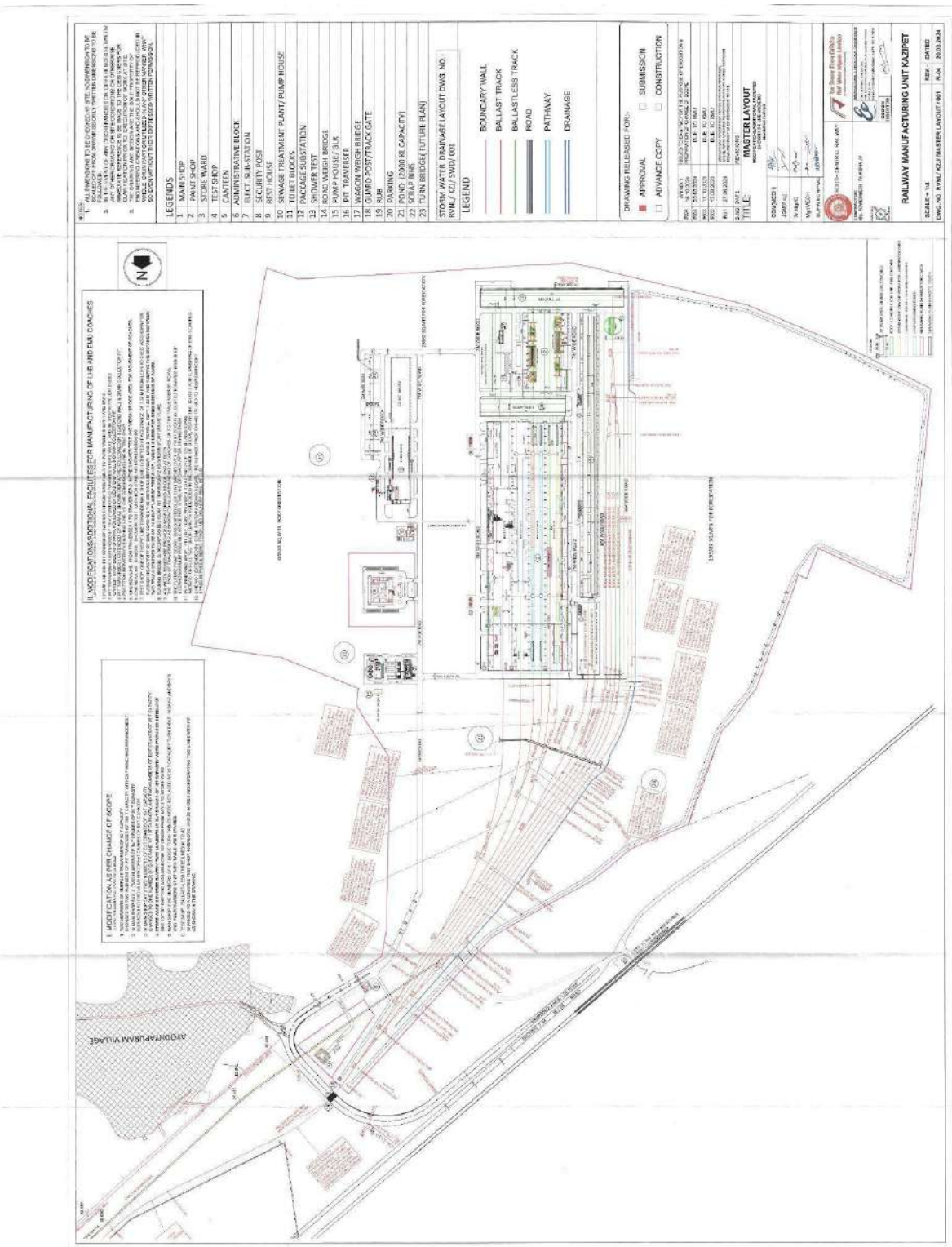
Annexure - III

List of Medical (First Aid Equipment)

Sl No	Description of Item	Qty	Rate in INR	Amount
1	Hospital examination bed with step stool	1 No.	₹ 68,329	₹ 68,329
2	Folding wheel Chair with cushion (Godrej	1 No.	₹ 25,230	₹ 25,230
3	Over Bed Table adjustable gas lift split	1 Nos.	₹ 21,714	₹ 21,714
4	Saline Stand on 5 Castors Wheel (Godrej	1 Nos.	₹ 12,397	₹ 12,397
5	Three Fold Partition Screen (Godrej Make	1 Nos.	₹ 17,858	₹ 17,858
6	Basin Stand SS 2b with caster (Godrej Ma	1 Nos.	₹ 11,897	₹ 11,897
7	Height Adjustable SS To Round Stool (God	1 Nos.	₹ 7,404	₹ 7,404
Total :				₹ 1,64,829



LAYOUT OF RMU KZJ



Annex - II
(Schedule-*B*)

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Annex-III: Site of the Maintenance Depots

(Schedule-B)

Note: Through suitable drawings and tables below, the land, buildings structures comprising the Depot Sites shall be specified briefly but precisely in this Annex-III. Please note that all dimensions specified are indicative, and actuals may vary slightly.

The Depot Sites specified in this Schedule B are indicative at this stage and locations of the Depot Sites actually provided to a Technology Partner shall be decided during Design Stage, depending upon number of Trains under Maintenance Obligation, site availability and operational requirements.

S.NO	Zone	Proposed Depot Sites
1	ECOR	Khurda Road (KUR)
2	ECR	Jhajha (JAJ)
3	WR	Vadodara (BRCY)
4	SCR	Rajamundry(RJY)
5	NCR	Kanpur(CNB)

1)MEMU DEPOT SITE AT KHURDA ROAD, ECoR

ANNEXURE-I

I. Machineries and Plant

S.N.	Name of Equipment	Nos. available	Date of Commissioning	Present Status
1	CNC Under Floor Pit Wheel Lathe	01	15.11.2022	Working
2	Synchronous Jacks- 25T	05	29.04.2023	Working
3	Rail Cum Road Vehicles	01	28.07.2022	Working
4	Lifting stand 15T	08	10.02.2023	Working
5	Fork Lifter 3T	01	26.02.2022	Working
6	Fork Lifter 4T	01	23.05.2019	Working
7	E Loader	02	15.02.2023	Working
8	Vertical Stacker(1T)	01	31.01.2023	Working
9	Platform Truck	02	31.01.2023	Working
10	EOT Crane 30T	02	27.07.2023	Working
11	Gas Chromatographer	01	09.10.2023	Working
12	Drying Oven	01	18.08.2023	Working
13	Air Compressor 500 cfm	01	13.07.2023	Working
14	Trolley Heavy Duty-500kg	02	25.04.2023	Working
15	Oil Filtration Plant-5000 LPH	01	23.01.2023	Working
16	Battery Charging and Discharging Panel	01	08.04.2022	Working
17	Hand Palet Truck-2500kg	04	23.02.2022	Working
18	Oil Filtration Plant-1200 LPH	01	06.11.2020	Working
19	EP brake Test Stand	01	08.10.2020	Working
20	Refrigerated Air Drier with Air filter	01	02.12.2019	Working
21	Diesel Hydraulic Mobile Crane	01	29.08.2019	Working
22	Pipe Bending Machine	01	22.01.2019	Working
23	Hydraulic Jack-20T	04	04.07.2018	Working
24	Hydraulic Jack-30T	04	04.07.2018	Working
25	Welding Plant	02	04.07.2018	Working
26	Pneumatic Grease Pump	02	04.07.2018	Working
27	SS pipe Threading Machine	01	03.12.2018	Working
28	BDV Testing Machine	01	03.12.2020	Working

II. Civil Infrastructure

S.N.	Name Of Infrastructure	Nos	Remark
01	Heavy Repair Bays	02 Line	100 Each Length with Covered shed and Crane Facility with Epoxy Flooring.
02	Inspection/Light Repair Maintenance bays	02 Lines (with OHE facility)	380m Three store Elevated Inspection Bay with Cover Shed with Epoxy Flooring.
03	Washing Line	01 (with OHE facility)	With OHE facility
04	Main Store	01 No.	15 m x 10 m cover shed with 02 rooms
05	Toilet	02 Blocks	03 at Office Building remaining for staff at Floor area.
06	Drain	Available in all lines	-

III. Electrical Infrastructure

S.N.	Equipments	Qty Available	Capacity
01	DG Set for Power back up	02	500 KVA, 250 KVA
02	Solar Plant	01	1 MW

IV. Office Facilities

S.N.	Name Of Room	No of Room	Remark
1	Officer Chamber	01	Toilet attached, Internet available
2	Establishment Section	01	02 chairs are available for visitors
3	Work & Store section	01	For SSE/Store/MEMU & SSE/Works/MEMU
4	Technical Section	01	For SSE/Technical/MEMU
5	Custody Store and M&P section	01	For SSE/Custody Store and SSE/M&P/MEMU
6	Conference Hall	01	Sitting capacity 16 person
7	S & T machine Room cum Ladies Common Room	01	Under control of Sr.DSTE/KUR
8	Electrical Panel Room	01	Under control of Sr.DEE/Gen/KUR
9	PPO & Electrical section	01	For SSE/PPO and For SSE/Electrical
10	Mechanical & Pneumatic Section	01	For SSE/Pneumatic and For SSE/Mechanical
11	Laboratory	01	For CMA(Lab) for Laboratory works like DGA, BDV, DPT etc.
12	Staff Rest Room	01	For all existing staff of shed

V. Associated Amenities

- Canteen: facility is not available.
- Rest Room: 01 number for all existing staff of shed.
- Drinking Water: 03 nos. of RO water facility is available.
- Nearest Health Unit: Divisional Railway Hospital/KUR is located at a distance of 2.8Km from MEMU Shed/KUR.

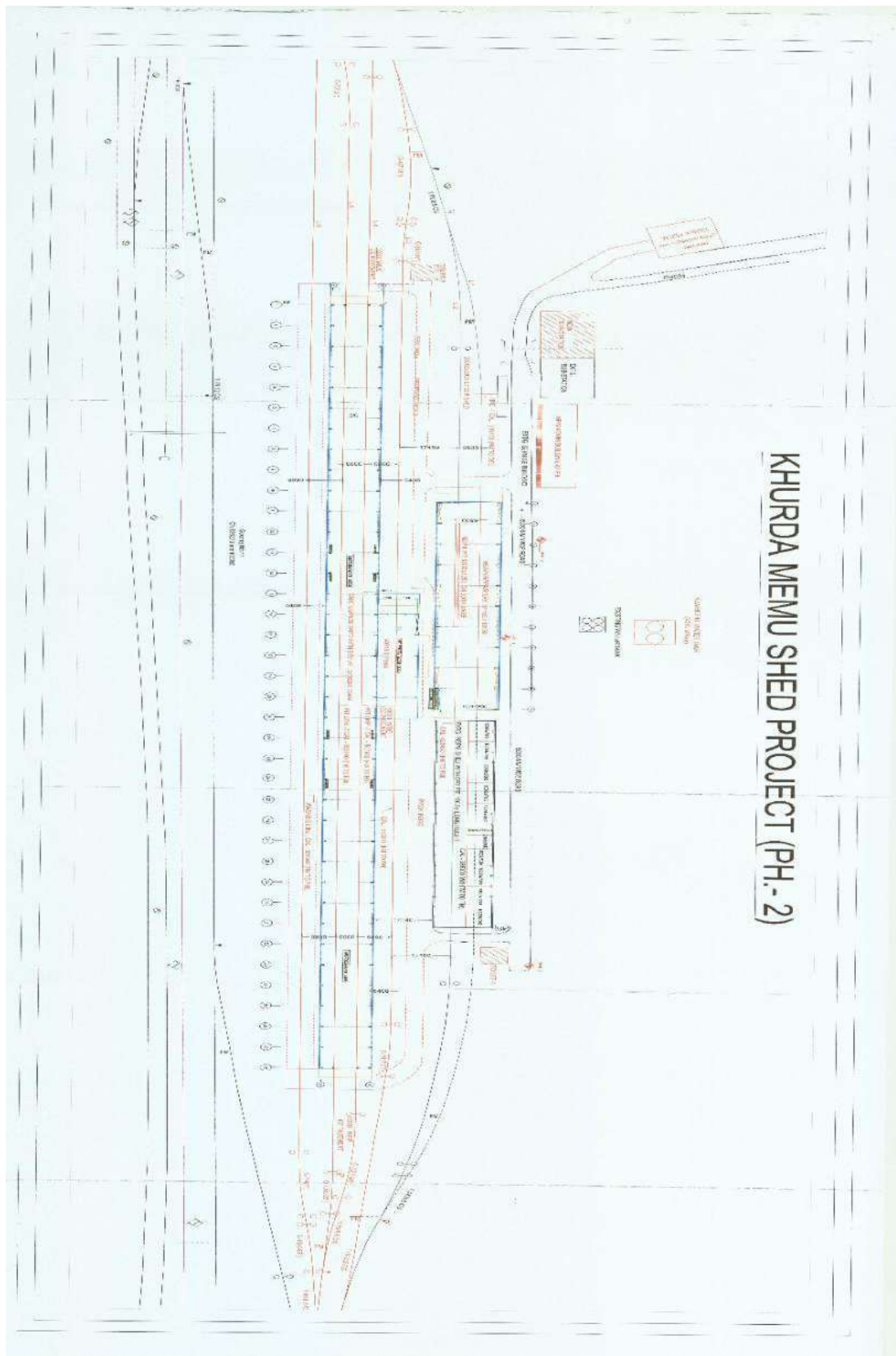
VI. IT Infrastructure

- All rooms of the office building are connected with RailNet.
- DBMS (Own Software) being developed for up keeping of records.
- No CCTV has been installed in shop floor area.

VII. Depot Map

- Depot map is enclosed herewith.

KHURDA MEMU SHED PROJECT (PH.-2)



2)MEMU DEPOT SITE AT JHAJHA,ECR

1. Machineries and plant:

SN	Details	Available
1.	EOT Crane 25/5 MT	2 no.
2.	Lifting Tackle Assly. (30 T)	1 set
3.	CNC Under Floor Wheel Lathe (B.G)	1 no.
4.	Automatic Coach Washing plant	1 no.
5.	Screw Air Compressor Capacity 500 CFM, 7.5 Kg/cm ²	1 no.
6.	Main Compressor TRC-2000	2 no.
7.	25 Ton capacity Synchronised lifting Jamalpur jack	1 Set (05 no)
8.	BDV Testing Set	1 no.
9.	Automatic transformer oil break down voltage (BDV) machine.	1 no.
10.	DGA machine	2 no.
11.	Speedo metre Test Bench	1 no.
12.	Transformer Oil Filtration Plant	2 nos.
13.	Fork lifter 03 Ton Capacity	2 nos.
14.	Battery operated Truck, Capacity- 3T	1 no.

2. Civil infrastructure

SN	Details	Available
1	Inspection Pit lines (16 coach length)	02 no. (16 coach length)
2	Stabling line (16 coach length)	04 no. (02, 16 coach & 02, 12 coach length)
3	Lifting bay (16 coach length)	01 no.
4	Shunting neck	01 no
5	Washing Line	01 no.

3. Electrical infrastructure

SN.	Equipment's	Capacity	Nos
01	D.G Set	250 KV	01

4. IT infrastructure: All rooms of office building are connected with Rail net.

5. Office Facilities

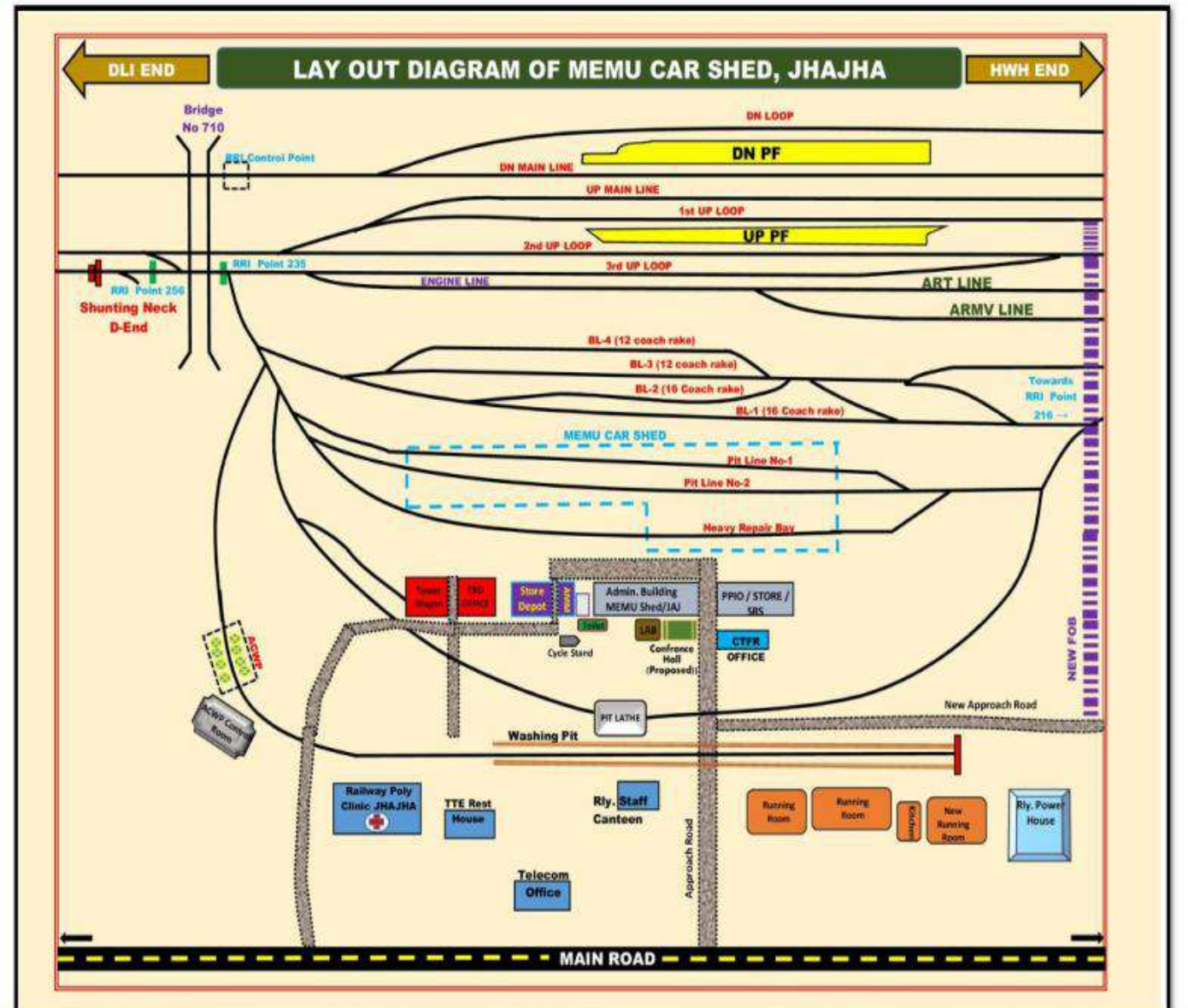
SN.	Name Of Room	No of Room	Remark
1.	Officer Chamber	02	Toilet attached in one chamber, Internet available.
2.	Establishment Section/office	01	02 chairs are available for visitors
3.	Technical Section & Tender cell	01	For SSE/Technical/MEMU & For SSE/Tender/MEMU
4.	Electrical section	01	For SSE/Electrical
5.	Laboratory	01	Under SSE/Electrical for Laboratory works like DGA, BDV etc.
6.	Mechanical	01	For SSE/Mechanical
7.	Pneumatic Section	01	For SSE/Pneumatic
8.	PPO Section	01	For SSE/PPO
9.	Training room	02	For MEMU training
10.	Electrical Panel Room	01	
11.	Tools room	01	Under SSE/store
12.	SRS	01	For SSE/SRS
13.	Electrical store room	02	Under SSE/Electrical
14.	MCP overhauling store room	01	Under SSE/Pneumatic
15.	Pneumatic store room	01	Under SSE/Pneumatic
16.	Mechanical store room	01	Under SSE/Mechanical for storage of lubricant.
17.	Store section	01	For SSE/Store/MEMU
18.	ATFR office	02	Under control of Sr. DEE/OP/DNR
19.	C & W office	01	Under control of Sr. DME/C&W/DNR

20.	Conference Hall	01	Under construction
21.	CSD/JAJ	02	Under control of AMM/JAJ
22.	CSD/JAJ godown	04	Under control of AMM/JAJ

6. Any other associated amenities available.

- i. Canteen – Nonfunctional.
- ii. Drinking water- 01 nos. of RO water facility available
- iii. Nearest Health Unit- Railway polyclinic Hospital, JAJ.

7. Map showing the above details: Depot Map Enclosed



3) MEMU DEPOT SITE AT VADODARA, WR

Annexure- A

1. Overview of MEMU Car Shed BRCY

- 1.1 Established on 06 July 1995, only MEMU Car Shed of Western Railway.
- 1.2 Started with 01 rake, presently maintains 35 rakes (08, 12 & 20 car).
- 1.3 Currently 115 MEMU services operated daily by BRCY-based rakes.
- 1.4 Rake operation covers WR, NCR, CR & WCR with daily average run of 12,607 km.
- 1.5 Shed maintains Conventional & 3-Phase MEMU rakes.
- 1.6 3-Phase propulsion systems: MEDHA, ALSTOM, BHEL.
- 1.7 One steam heritage MEMU rake with two 3-Phase MC runs between ADI–EKNR.
- 1.8 Staff Cadre: Sanction – 311, On-roll – 212.

2. Shed Area & Covered Infrastructure

- 2.1 Total Shed Area: 66,000 sq. m.
- 2.2 Covered Area: 18,480 sq. m + 2366 sq. m (under construction).
- 2.3 Boundary wall, pathways, drains & internal roads available.
- 2.4 Adequate lighting towers are installed.

3. Maintenance Lines & Facilities

- 3.1 Pit Lines:
 - 3.1.1 02 Pit Lines (540 m each) – operational.
 - 3.1.2 02 Pit Lines (475 m each) – under construction (TDC by construction 31.03.2026).

3.2 Stabling Lines: 03 Nos. (430 mtr, 516 mtr, 602 mtr)

3.3 Lifting / Heavy Repair Bay:

3.3.1 01 Heavy Repair Shed: 200 m length × 21.5 m width.

3.3.2 02 working maintenance lines.

3.4 Washing Facilities:

3.4.1 Manual washing line – 01 (20-car capacity).

3.4.2 Automatic Coach Washing Plant – 01 (approx. 650 coaches/month).

3.5 Wheel & Underframe Facilities:

3.5.1 Pit Wheel Lathe – 01 (avg. 24 coaches/month).

3.5.2 Turn Table – 01.

3.5.3 Run-around facility – Turntable used.

3.6 Crane Facilities:

3.6.1 EOT Crane 25/5 MT – 02 Nos.

3.7 Training & Simulator:

3.7.1 Zonal Electrical Training Centre – At Electric Loco Shed- Vadodara.

3.7.2 MEMU Simulator – NIL.

4. M&P Assets (Machine & Plant)

4.1 Automatic Coach Washing Plant.

4.2 Pit Wheel Lathe Machine

4.3 500 CFM Centralized Air Compressor.

4.4 3-Phase AC Traction Motor Testing Plant.

4.5 Battery Charger (120 AH VRLA).

- 4.6 Transformer Oil Filtration Plant (3000 LPH).
- 4.7 Microprocessor-Based Gas Chromatograph (DGA testing).
- 4.8 Universal Test Bench for SPM & PG.
- 4.9 25 kV VEC Test Station.
- 4.10 Diesel-operated Forklift.
- 4.11 Battery-operated Platform Truck.

5. Civil Infrastructure

- 5.1 RCC shed buildings for workshop, maintenance & admin.
- 5.2 Concrete flooring.
- 5.3 Drainage & water supply lines.
- 5.4 Rest rooms, toilets & drinking water facilities.
- 5.5 Stores, tool room, SSE/JE offices.

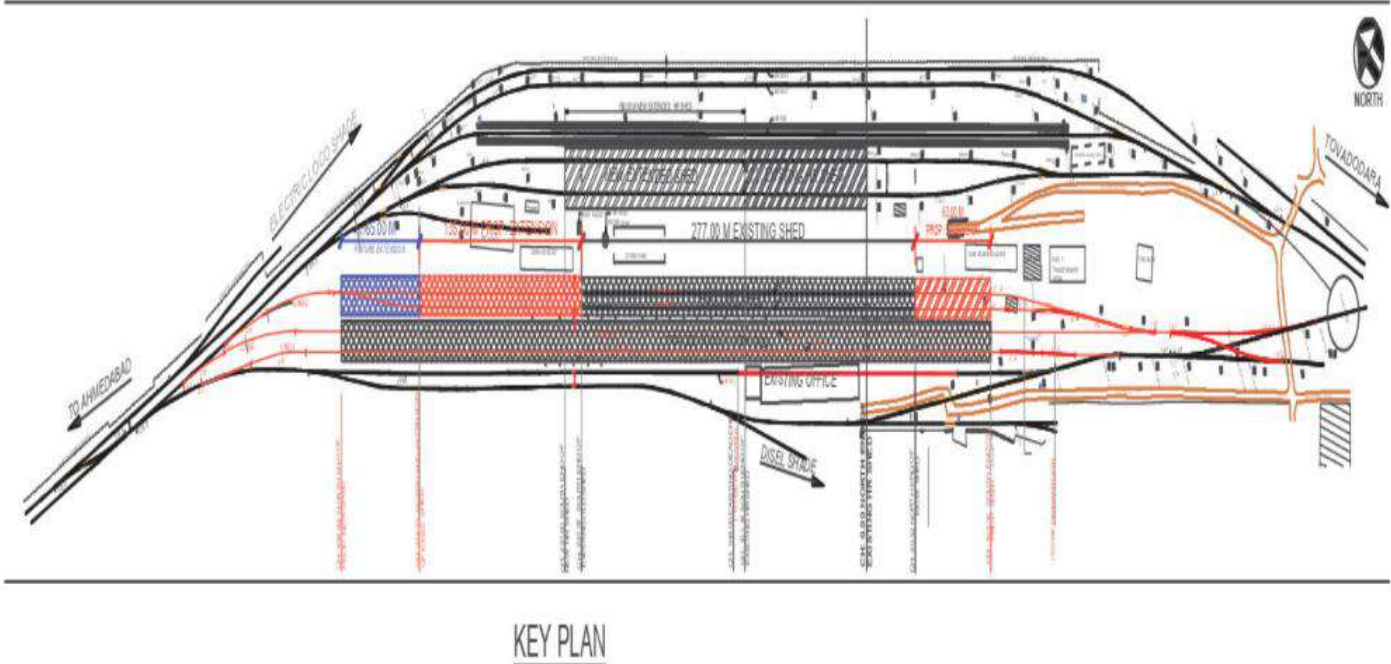
6. Electrical Infrastructure

- 6.1 3-phase HT power supply available.
- 6.2 LT Distribution Panels installed.
- 6.3 Yard illumination towers operating.
- 6.4 Earthing system across pit lines.

7. IT & Digital Infrastructure

- 7.1 Shed-wide Wi-Fi coverage.
- 7.2 CCTV surveillance system.
- 7.3 Computer network with printers in all offices.

8. MEMU Shed Google Map



4)MEMU DEPOT SITE AT RAJAHMUNDRY, SCR

1. Machineries and plant:

Sl. No.	Name of Equipment	Nos. available	Date of Commissioning	Present Status
1	CNC Under Floor Pit Wheel Lathe	01	Under commissioning	Working
2	Compressors 500Ltrs,1535LPM, 12Kg/Cm2 Elgi make	03	03-04-2019	Working
3	Compressors 500Ltrs,1500LPM, 12Kg/Cm2 Anest Iwata make	02	25-08-2022	Working
4	Compressors 500Ltrs, 1436LPM, 12Kg/Cm2 CEC make	02	19-04-2024	Working
5	5Ton EOT Crane	01	26-03-2005	Working
6	30/5 Ton EOT Crane	02	27-07-2007	Working
7	Automatic Coach Body washing plant	01	16-06-2008	Working
8	Oil filtration plant 4500 LPH	01	01-04-2017	Working
9	Coach Turn table	01	01-04-2017	Working
10	Screw Lifting Jacks 20 Ton M/s marwa with electrical operation.	01	01-04-2003	Working
11	Baking Oven	01	08-12-2011	Working
12	Fork lift 3 Ton Voltas - Diesel Operated	01	09-05-2012	Working
13	Fork lift 3 Ton Godrej - Electric Operated	01	08-03-2018	Working
14	Fork lift 3 Ton Godrej - Diesel Operated	01	14-02-2020	Working
15	2Ton Battery Operated Truck	01	26-09-2020	Working
16	5Ton Road crane Diesel operated	01	23-10-2001	Working
17	Power tractor puller	01	05-06-2014	Working
18	800 Kgs Hydraulic Scissor lift jack	02	25-03-2017	Working
19	2 Ton Hydraulic Scissor lift jack	03	22-03-2008	Working
20	5 Ton Hydraulic Scissor lift jack	02	03-11-2009	Working
21	5 Ton Jib crane	01	06-06-2002	Working
22	Water Jet machine	01	24-03-2016	Working
23	Winch machines	02	02-05-2016	Working
24	Welding machines 3-ph 700A	05	22-05-2023	Working

25	Welding machines 3-ph portable 400A	03	27-11-2017	Working
26	Welding machines 1-ph portable 200A	02	27-10-2016	Working
27	Compound Heating element	01	04-07-2015	Working
28	Water coolers wit RO Plant	04	13-02-2020	Working
29	TM test bench (old)	01	18-04-2016	Working
30	TM test bench (new)	01	04-04-2024	Working
31	CLR test bench (old)	01	16-08-2016	Working
32	CLR test bench (new)	01	04-04-2024	Working
33	Compressor load test bench	01	08-11-2015	Working
34	VCB test bench	01	20-07-2012	Working
35	Computerized Pneumatic test bench (EP units and Brake controls)	01	25-06-2022	Working
36	Pneumatic Equipment test bench (Governors, Safety valves, Rotex valves)	01	05-04-2009	Working
37	OL Relay Test Bench	01	20-04-2005	Working
38	Pantograph Test Bench (conv.)	01	06-05-2018	Working
39	Pantograph Test Bench (3-phase)	01	01-4-2025	working
40	SS Pipe line threading machine (old)	01	21-07-2019	Working
41	SS Pipe line threading machine (new)	01	25-4-2023	Working
42	Induction Heaters	02	12-04-2024	Working
43	Auxiliary Motor Test Bench	01	16-05-2017	Working
44	Hot Air Oven	01	10-08-2024	Working
45	Tap Changer/Motor contactor Test Bench	01	24-08-2017	Working
46	EP Contactors Test Bench	01	05-08-2017	Working
47	Autoklenz cleaning work station for Pneumatic sintered bronze filters.	01	10-04-2019	Working
48	Wiper Assembly Test Bench	01	17-02-2023	Working
49	MCB Test Bench	01	18-06-2017	Working
CMS LAB				
50	Ultrasonic flaw detector	01	15-11-2022	Working
51	Ultrasonic flaw detector	01	18-01-2023	Working
52	GAS CHROMOTOGRAPH	01	12-05-2018	Working
53	BREAKDOWN VOLTAGE TEST	01		Working
54	FERROUS DEBRIS MONITOR	01	22-01-2018	Working
55	PENETROMETER	01	29-05-2025	Working
56	MOTORISED GREASE WORKER	01	25-03-2025	Working
57	New grease DROP POINT APPARTUS	01	13-03-2025	Working

2. Civil Infrastructure

Sl. No.	Name Of Infrastructure	Nos.	Remark
01	Lifting Bay	01 Line	76X 15 Mtrs Length with Covered shed and Crane Facility.
02	Inspection bays	02 Lines	<ul style="list-style-type: none"> Bay-1 : 360m Inspection Bay with Cover Shed with sunken pit Bay-2 : 270m Inspection Bay with Cover Shed with sunken pits
03	Washing Line	01	With OHE facility
03	Stabling lines	02	With OHE facility
04	Main Store	01 No.	Covered building with 03 rooms
05	Toilet	03 Blocks	01 at Office Building remaining 02 for staff at Floor area.
06	Drain	Available for all lines	-

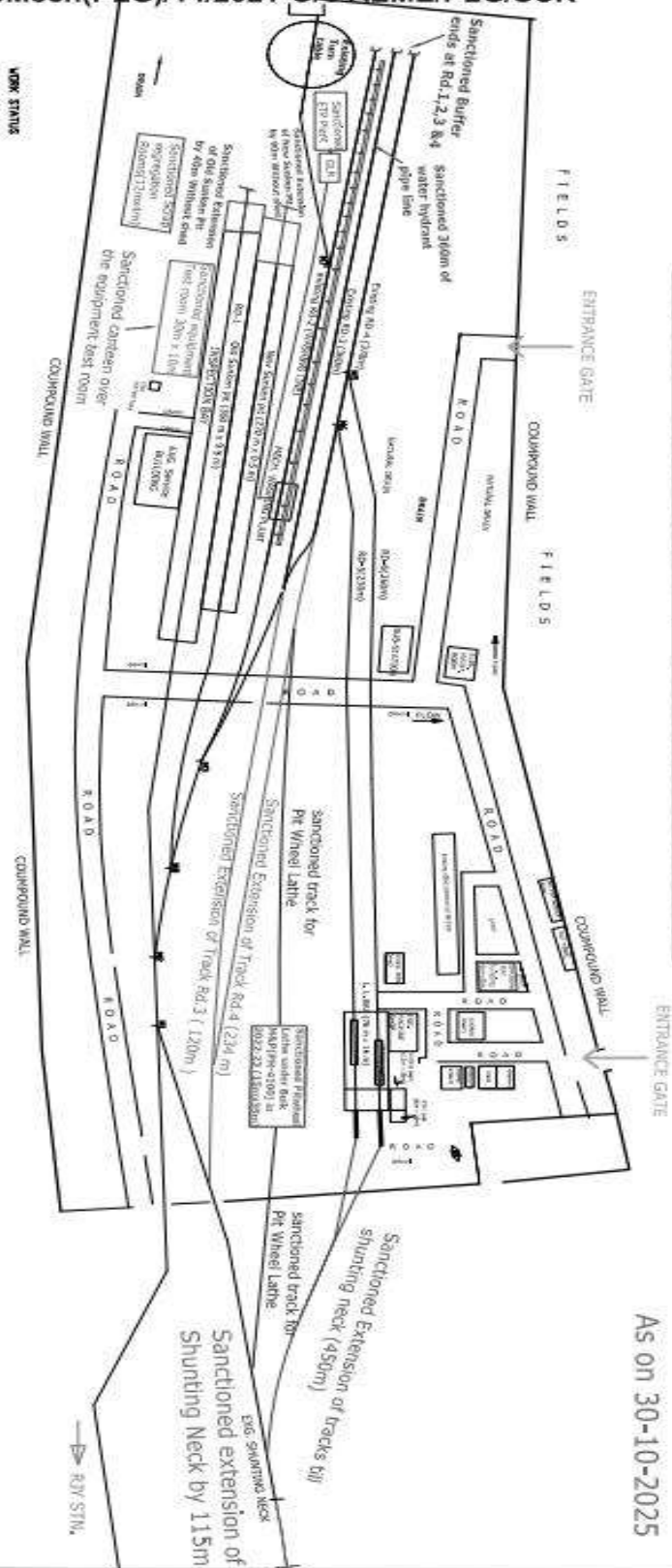
3.Electrical Infrastructure

Sl. No.	Equipment	Capacity	Nos	Present Status
01	DG Set for Power back up	250 KVA	01	Working
02	Solar Plant	43.6KW	01	Working

4.IT infrastructure

- All rooms of office building are connected with Rail net.
- CCTV has been installed in shop floor area.

As on 30-10-2025



ITEM CODE	
GREEN	<p>ON-DECK WORK 2015-2016: REPAIR - ALCOHOLATION OF INFRASTRUCTURE FACILITIES (KAYAKU C) BUILD RAJAMALINDR-1-1-1 AND MODIFIER B, C (S) (Shored Code: 3-4-5-0)</p>
BLUE	<p>LSH 2022-23- MC-SR-1 - NECESSARY TRACK, CHIE AND POWER SUPPLY MANAGEMENTS TO OPERATE UNDER SURFACED WHEEL LATHE/VERT WHEEL LATHE (S) (Shored Code: 2-41 C)</p>
WAGNET	<p>FOR SHIP 2022-23- DMC UNDER FLOOR WHEEL LATHE WITH WAGON RULS SHED UNDER BULK NHA-24-1-100 (Shored Code: 8-02-0)</p>
RED	<p>SUB - JUMBGLA WORK 2023-24 : MC-SR-1 - IMPROVEMENT OF METAL MAINTENANCE FACILITIES AND DEVELOPMENT OF INFRASTRUCTURE FACILITIES AT MC-SR-1, Shored Code: 7-20 C)</p>

MEMU CAR SHED, RAJAHMUNDRY
Org No.8/E/22/PMC/S/Makee Org/2023-26/01
<u>Drawing not to scale</u>

5)MEMU DEPOT SITE AT KANPUR, NCR

1. Overview of MEMU Car Shed CNB

- Project sanctioned in 2016-17.
- Detailed estimate sanctioned on 22.10.2018.
- Work started from 18.03.2019 and Completion of Shed: 16.02.2021
- First Rake arrival :17.02.2021
- First Rake Commissioning :18.03.2021
- Start of Passenger Service : 01.04.2021

2. Machineries and Plant

Item: List types and quantity of equipment (lifting jacks, wheel lathes, compressors, etc.), Specify age, condition, and current operational status.

SN	Name of Equipment	Qty. available	Present Status
1	Electrically operated Synchronized screw jacks for lifting of memu coach body. Capacity-25T; make- Mimeo. (05 Nos of Jacks & 01 Control Panel)	01 Set	Working
2	10T/7.5T Double Girder EOT Crane x Span 18.510 mtr.	02 Nos.	Working
3	Battery Shunter Model Crab 1800E (Rail cum Road Vehicle); Capacity-350T; Make- Zephir SPA Socio Inico, Italy	01 Nos.	Working
4	CNC Under Floor Wheel Lathe; Make- HYT Engineering company Pvt. Ltd.	01 Nos.	Working
5	Screw Air Compressor with inbuilt dryer of Model Eg 37-7.5D 400V/50Hz. Capacity- 255CFM @ 7.5 bar unloading pressure.	02 Nos.	Working
6	Electric Fork Lift JCB 30, Capacity- 3000Kgs; Make- JCB	02 Nos.	Working
7	Stacker, lift height- 8250mm, Capacity- 1500Kgs, Make- JCB, Type- ERC-15, Model- 5.2 PD	02 Nos.	Working
8	Waste Water Treatment plant Capacity- 150kLD; Make- Thermux	01 Nos.	Working
9	Platform Truck, Capacity- 2000Kgs, Make- JCB	02 Nos.	Working
10	Pipe Bending Machine	01 Nos.	Working
11	Trestle- one set comprising 01 trestles, Capacity- 15T.	02 Nos.	OK
12	Pedestal Grinding Machine with 10 HP, 1450rpm, 3phase AC motor, Make-Boston Engineering	01 Nos.	Working
13	Welding Plant	02 Nos.	Working
14	Threading Machine Electric	01 Nos.	Working
15	Power Hack saw with 2HP, 1440rpm, 3 Phase AC, 415 Volts; Make- Boston Engineers	01 Nos.	Working
16	Pick up Van	01 Nos.	Working
17	Tata Ace Gold with sky lift device	01 Nos.	Working
18	Road Mobile Crane, HYDRA, Cap-12T/03T	01 Nos.	Working
19	Portable Digital Ultrasonic Flaw detector with A-scan storage	01 Nos.	Working

3. Civil Infrastructure

Item: Describe maintenance bays, pit lines, covered areas, flooring, and staff amenities, storage spaces, security, and drainage systems.

SN	Name Of Infrastructure	Block/No.	Remark
1	Admin Building	01	Admin Building comprises Offices Rooms for 03 Officers. 02 rooms for SSE/Store/MEMU Office, SSE/M&P/MEMU Office. 01 Hall with three partitions for Ministerial Office, Electrical Section & PPJO Office. Moreover a Conference Room is also available with Projector for Meetings and Presentation. Toilet Block also present
2	Security-Cum Control Building	01	01 Room for Control Staff. On Duty Staff in all 03 Shifts. 01 Room for Maintenance Staff and another Room for Metallurgical section.
3	Electrical Sub Station	01	Electric substation Building having 2 x 500 KVA Transformer & 01 DG set- 500 KVA
4	Heavy Repair	01	02 Pit lines with 02 Over Head Cranes, Cap- 30/7.5T
5	Inspection Repair Shed	01	360m Double line 16 car inspection shed
6	Washing Line	01	With OHE facility 360m Washing line Pit with catwalk on both side
7	Main Store	01	
8	Toilet	02 Blocks	Near Inspection Shed and Heavy Repair Shed.
9	Drainage		Available in all lines

4. Electrical Infrastructure

Item: Include power supply specifications, backup generators, lighting arrangements, and earthing systems

SN	Equipments	Capacity	Nos
01	DG Set for Power back up	500 KVA	01
02	500 kVA Transformer	500 KVA	02
02	Solar Plant	212.5 HP	01

6. Office Facilities

Item: Indicate administrative rooms, training centres, meeting spaces, and documentation storage. Highlight facilities for office staff and visitors.

SN	Name Of Room	No of Room	Remark
1	Officer Chamber (Each One for DEE, ADEF and ADME)	03	Toilet attached in 01 Room Internet available in all rooms
2	SSE Room	02	All room and Hall are equipped with Computer and Railnet.
3	Conference Room	01	
4	01 Hall with three partitions	01	

6. Associated Amenities

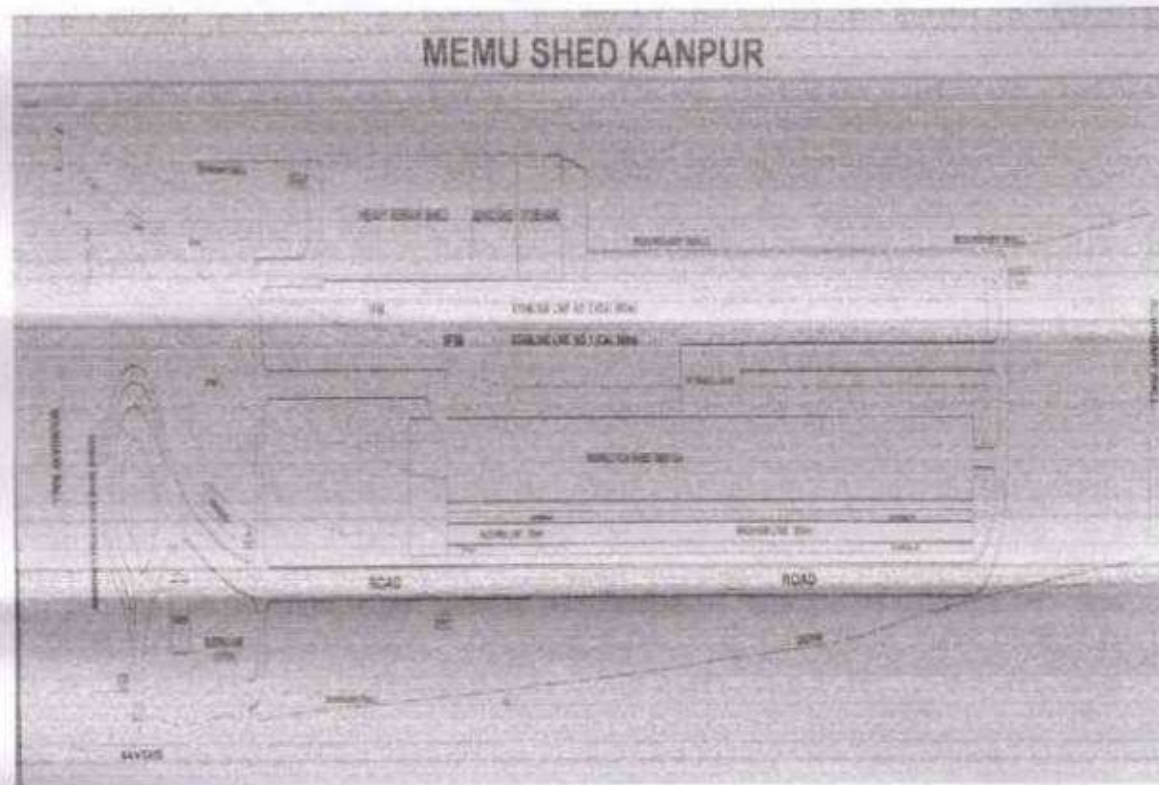
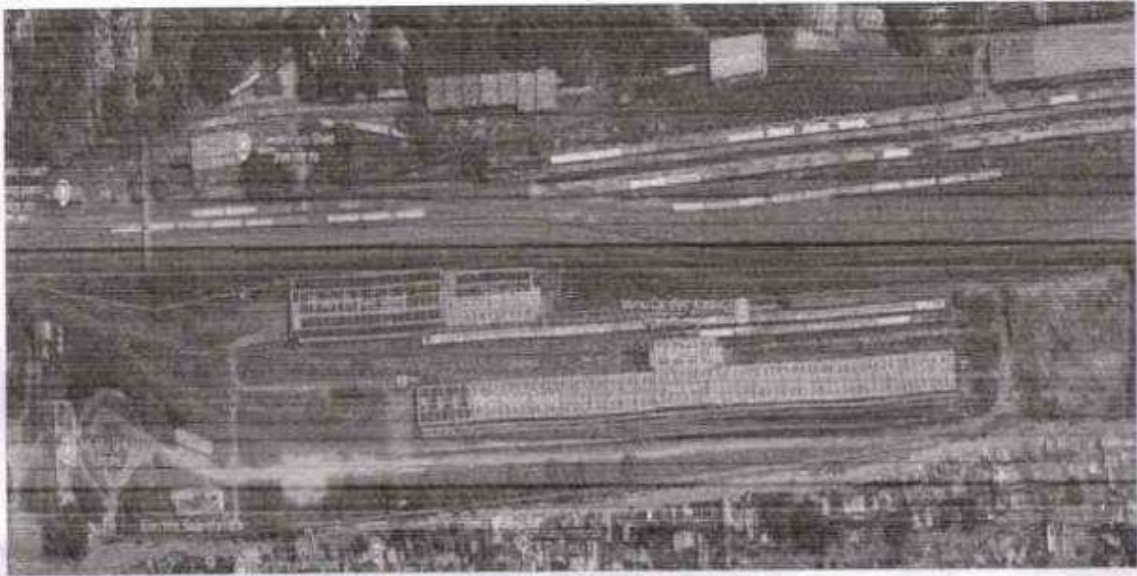
Item: Mention canteens, rest rooms, staff quarters, drinking water, and welfare provisions. Briefly address staff recreational or health facilities.

- Drinking water- 4 nos. of RO water facility available.
- Ladies Staff Room -01 Nos
- Nearest Health Unit- Sub Divisional Railway Hospital, Kanpur

7. Depot Map:

Item: Provide a detailed map marking infrastructure locations, approach roads, and boundaries. Further necessary information deemed necessary may also be furnished.

Depot Map Enclosed



SCHEDULE C - Performance Security

(See Clauses 9.1 and 24.1)

Principal Chief Materials Manager,
Integral Coach Factory, 2nd Floor,
Administrative Building, Chennai: 600038

WHEREAS:

- a)(the "Technology Partner") and the President of India through the _____, Railway Board, Government of India (the "Government") have entered into a Manufacturing-cum-maintenance Agreement dated(the "**Agreement**") whereby the Government has agreed to the Technology Partner undertaking the supply and maintenance of electric trains, subject to and in accordance with the provisions of the Agreement.
- b) The Agreement requires the Technology Partner to furnish a Performance Security to the Government in a sum of Rs crore (Rupeescrore)/ (the "**Guarantee Amount**") as security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the Supply Period (as defined in the Agreement).
- c) We, through our Branch at(the "Bank") have agreed to furnish this Bank Guarantee by way of Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees and undertakes to pay to the Government upon occurrence of any failure or default in the due and faithful performance of all or any of the Technology Partner's obligations for a period of 3 (three) years from the date hereof⁸, under and in accordance with the provisions of the Agreement on its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Technology Partner, such sum or sums upto an aggregate sum of the Guarantee Amount as the Government shall claim, without the Government being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Government, under the hand of an Officer not below the rank of Deputy Secretary to the Government, that the Technology Partner has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Government shall be the sole judge as to whether the Technology Partner is in default of the

8 The date of expiry of the Guarantee to be specified depending on whether Article 9 or Article 24 of the Agreement is applicable.

3. due and faithful performance of any of its obligations under the Agreement and its decision that the Technology Partner is in default shall be final, and binding on the Bank, notwithstanding any differences between the Government and the Technology Partner, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Technology Partner for any reason whatsoever.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Government to proceed against the Technology Partner before presenting to the Bank its demand under this Guarantee.
5. The Government shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfilment and/or performance of all or any of the obligations of the Technology Partner contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Government against the Technology Partner, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Government, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Government of the liberty with reference to the matters aforesaid or by reason of time being given to the Technology Partner or any other forbearance, indulgence, act or omission on the part of the Government or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Government in respect of or relating to the Agreement or for the fulfilment, compliance and/or performance of all or any of the obligations of the Technology Partner under the Agreement.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Government on the Bank under this Guarantee, no later than 6 (six) months from the date of expiry of this Guarantee, all rights of the Government under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. This Guarantee shall cease to be in force and effect after the period specified in paragraph 1, provided the Technology Partner is not in breach of the Agreement.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Government in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred Branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Government that the envelope was so posted shall be conclusive.
11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for the period specified in paragraph 1; and unless a demand or claim under this Guarantee is made in writing on or before the expiry of this Guarantee, the Bank shall be discharged from its liabilities hereunder.
12. Notwithstanding anything contained herein above;
 - i. Our liability under this bank guarantee shall not exceed to Rs._____ .
 - ii. This bank Guarantee shall be valid up to xx-xx-xxxx and
 - iii. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only, if you serve upon us a written claim or demand on or before xx-xx-xxxx.}.

Signed and sealed this day of, 20..... at

SIGNED, SEALED AND DELIVERED
For and on behalf of
the BANK by:

(Signature)
(Name)
(Designation)

(Code Number)
(Address)

NOTES:

- i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- ii) The address, telephone number and other details of the Head Office of the Bank as well as of issuing Branch should be mentioned on the covering letter of issuing Branch.

Schedule D- List of Conditions affecting Upkeep

Conditions affecting Upkeep

S.No.	System name	Condition
1.	Windscreen Wiper and Washer System	- Rainy weather, defective wiper in any cab.
2.	Couplers (any type)	- Any mechanical/electrical/pneumatic fault and/or any dimensional misalignment and/or any damage to any part which does not allow the coupler to guarantee the fulfilment to its assigned mission, in accordance to the technical requirements, performance and safety set out in this specification.
3.	Suspension	- Any defect in primary / secondary suspension resulting in passenger safety, comfort or performance.
4.	Wheel	- If wheel flat is > 40 mm or as finalised in design. - Any abnormal hammering as reported by the TO.
5.	Pantograph	- Isolation of any pantograph
6.	Transformer	- Isolation of any one main transformer.
7.	Battery charger	- Battery Charger of one unit isolated.
8.	Mechanical drive system	- Any defect resulting in high temperature / isolation
9.	Traction Motors	- Isolation of more than 25% motors.
10.	Traction converters	- As per the consequential effect as defined in Item 10 above.
11.	Main compressor unit	- Isolation of any Main Compressor Unit
12.	Auxiliary converter-inverter	- Isolation of any Auxiliary Converter-Inverter unit.
13.	Brake system (mechanical)	- If isolation of an additional bogie (mechanical) leads to speed restriction.
14.	Exterior lights	- Failure of any head light / marker/tail light.

15.	Driver's desk	<ul style="list-style-type: none"> - If master controller prevents the train from moving. - Any defect in master controller even if no delays are reported. - Any defective cab switch leading to unsafe operation.
16.	TCMS & Vehicle circuits	<ul style="list-style-type: none"> - If HMI display fails & functionality is not transferred to redundant HMI. - Any failure in TCMS component / equipment /circuit element /software/communication system etc. resulting in loss of intended function. - Further cases will be included based on TCMS redundancy and configuration.
17.	PIS & CCTV	<ul style="list-style-type: none"> - If both automatic and manual announcements fail - If announcements in Car is not audible - if ≥ 1 unit exterior side view CCTV not working - If >1 PEA in any car is defective - One saloon CCTV, including its backup if any, is isolated. - If ≥ 1 unit for rear cab and front cab camera, cameras on the roof
18.	Passenger doors	<ul style="list-style-type: none"> - If ≥ 1 (one) door per train side is isolated.
19.	HVAC (passenger area)	<ul style="list-style-type: none"> - Failure of any one HVAC in any car leading to increase in inside temperature $\geq 28^{\circ}\text{C}$ - Failure of two HVAC's in one car. - Noisy Air Conditioner: Interior Noise $>+2\text{dB}$ than the one recorded and validated during the type test at standstill)
20.	Ground fault in DC Circuit	<ul style="list-style-type: none"> - Train to be withdrawn in case of single ground fault if it leads to unsafe operation as per the design.
21.	A failure or symptom which may endanger safe and/or normal operation of train	<ul style="list-style-type: none"> - Failure in safety interlock or protection circuit such as door loop - Abnormal noise in underframe - Wheel flat - Arcing in pantograph - Failure of emergency equipment - Failure which may disable train's push out duty. - Train which that requires more than 2 instances of reset within 30 minutes - Jerky movement (The details shall be finalized in design stage). - Others to be decided during design stage

Note: The above list shall be further reviewed and updated during design stage.

Schedule E-

(INTENTIONALLY LEFT BLANK)

Schedule F- Tests

(See Clause 13.2, 13.4, 14.2 and 26.1.4)

[Refer Manual of Specifications and Standards]

Schedule G-Maintenance Requirements

1. Maintenance Requirements

- 1.1. The Technology Partner shall, at all times, maintain the Trains in accordance with the provisions of the Agreement, Applicable Laws and Applicable Permits. In particular, the Technology Partner shall, at all times during the Maintenance Period, conform to the maintenance requirements set forth in this Schedule-G (the “**Maintenance Requirements**”).
- 1.2. The Technology Partner shall repair or rectify any defect or deficiency set forth in Paragraph 2 of this Schedule-G within the time limit specified therein.

2. Repair/rectification of defects and deficiencies

The obligations of the Technology Partner in respect of Maintenance Requirements shall include repair and rectification of the defects and deficiencies specified in Annex - I of this Schedule-G within the time limit set forth therein.

3. Other defects and deficiencies

- 3.1. In respect of any defect or deficiency not specified in Annex - I of this Schedule-G, the Technology Partner shall undertake repair or rectification in accordance with Good Industry Practice.
- 3.2. In respect of any defect or deficiency not specified in Annex - I of this Schedule-G, the Government may, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards, and any deviation or deterioration beyond the permissible limit shall be repaired or rectified by the Technology Partner in accordance with Good Industry Practice within the time limit specified by the Government.

4. Extension of time limit

Notwithstanding anything to the contrary specified in this Schedule-G, if the nature and extent of any defect or deficiency justifies more time for its repair or rectification than the time specified herein, the Technology Partner shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Government and conveyed to the Technology Partner with reasons thereof.

5. Emergency repairs/restoration

Notwithstanding anything to the contrary contained in this Schedule-G, if any defect, deficiency or deterioration in the Train poses a hazard to safety or risk of damage to property, the Technology Partner shall promptly take all reasonable measures for eliminating or minimising such danger.

6. Inspection by the Technology Partner

The Technology Partner shall undertake periodic inspections of the Trains and maintain a record thereof in a register to be kept in such form and manner as the Government may specify in consultation with the Technology Partner. Such record shall be kept in safe custody of the Technology Partner and shall be open to inspection by the Government at any time during office hours. The Government may, in addition, require the Technology Partner to furnish soft copies of such record once every month.

7. Divestment Requirements

All defects and deficiencies specified in this Schedule-G shall be repaired and rectified by the Technology Partner so that the Trains conform to the Maintenance Requirements on the Transfer Date.

8. Notice for repairs

The Government shall give a notice of 4 (four) hours to the Technology Partner for commencing the repair or rectification of a defect or deficiency at the location specified in such notice, in accordance with paragraph 8 above.

9. Effect on Availability

- 9.1. The time taken by the Technology Partner for repair or rectification of any defect or deficiency set forth in this Schedule-G shall be deemed to be Non-Available Hours in accordance with the provisions of Clause 20.2 of the Agreement.
- 9.2. Notwithstanding the provisions of paragraph 9.1 above, the time taken for repair or rectification arising out of any damage set forth in part I of Annex-I of this Schedule-G, shall be deemed to form part of Available Hours, subject to the time limit specified therein; For the avoidance of doubt, the provisions of this paragraph 9.2

shall not apply when such repair or rectification is undertaken during Scheduled Maintenance.

10. Display of Schedule-G

The Technology Partner shall display a copy of this Schedule-G at the Maintenance Depots and in the cabin of every Train.

Annex-I: Repair/ rectification of Defects and deficiencies

(Schedule-H)

The Technology Partner shall repair and rectify the defects and deficiencies specified in this Annex-I of Schedule-G within the time limit set forth herein.

	Nature of defect or deficiency		Time limit for repair/rectification
I.	Damage to Train		
i)	Damage to battery / box of the battery		4 hours
ii)	Damage or breakage of cattle guard		8 hours
iii)	Damage or breakage of look-out glass and window glass		4 hours
iv)	Damage or breakage of bogie/ bogie part/ brake rigging part		12 hours
v)	Damage or breakage of driver seat, passenger seat/ berths		4 hours
vi)	Damage or breakage of door		4 hours
vii)	Damage to brake pads		4 hours
viii)	Damage or breakage of blinds		4 hours
	Damage or breakage of brake pipe and feed pipe/ hose leakage or other defects		4 hours
	Damage to bio-vacuum toilets		8 hours
	Damage to door mechanism		8 hours
	Damage to gangways		8 hours
II.	Electrical Equipment		
	Malfunction of Head Light		4 hours

	Malfunction of flasher light unit		4 hours
	Malfunction of flasher light roof unit		4 hours
	Malfunction of Speedo-meter		4 hours
	Malfunction of Independent brake/Automatic brake/Emergency brake controller/ EP brakes		4 hours
	Malfunction of vigilance control device		4 hours
	Non-activation of Train cab		4 hours
	Malfunction of pantograph		4 hours
	Failure or breakage of roof insulator		4 hours
	Malfunction of constant speed mode		4hours
	Failure of traction motor		12 hours
	Failure of compressor		8 hours
	Malfunction of air conditioner		4 hours
	Failure of auxiliary rotating machine		4 hours
	Failure of traction converter		12 hours
	Failure of transformer		36 hours
	Malfunction of master cum brake controller		4 hours
	Malfunction of main circuit breaker		4 hours
	Malfunction of vehicle control unit		4 hours
	Malfunction of cab equipment		4 hours
	Malfunction of voice recorder		4 hours

	Malfunction of event recorder		4 hours
	Malfunction of fire detection system		4 hours
	Any fault in power circuit that inhibits Train movement		4 hours
	Fault in cables		12 hours
	Failure of auxiliary converter		12 hours
	Malfunction of electromagnetic and electro-pneumatic contactors		4 hours
	Malfunction of any electronic card		4 hours
	Malfunction of Passenger Information System		4 hours
	Malfunction of air conditioning system		4 hours
	Malfunction of lighting system		4 hours
	Malfunction of inter-vehicular couplers		4 hours
	Malfunction of HVAC system		4 hours
III.	Mechanical Equipment		
	Poor brake power of Train		4 hours
	Malfunction of central buffer coupling		10 hours
	Malfunction of buffer		4 hours
	Water leakage in Train during monsoon		8 hours
	Skidding of Train wheels		12 hours
	Over heating or failure of axle box		12 hours
	Abnormal sounds from under-gear		10 hours

	Malfunction of wheel		12 hours
	Malfunction of gear case		10 hours
	Malfunction of traction link / traction transfer mechanism		8 hours
	Malfunction of washers and wipers		4 hours
	Malfunction of bogie suspension (including dampers)		8 hours
	Malfunction of fire extinguishers		4 hours
IV.	Pneumatic Equipment		
	Malfunction of horn switch		4 hours
	Malfunction of air drier		4 hours
	Malfunction of brake system		4 hours
	Malfunction of cab gauge		4 hours
V.	Upkeep of Train		
	Damage to upholstery & curtains		48 hours
	Infestation of rodents & pests		24 hours
	Stains & dirt on exteriors		24 hours
	Stains & dirt in interiors		4 hours
	Temperature inside a Car exceeding 25°C when ambient temperature is 35°C or less		1 hour

	Difference between the external ambient temperature and the temperature inside the Car exceeding 10°C when the ambient temperature is more than 35°C.		1 hour
	Temperature inside a Car falling below 15°C		1 hour
	Damage to signage		48 hours
	Damage to Car furniture		48 hours
	Damage to Car flooring		72 hours

Schedule H-Safety Requirements

(See Clause 18.1)

1. Guiding principles

- 1.1. Safety requirements aim at reduction in injuries, loss of life and damage to property resulting from accidents caused due to the Trains or in the Manufacturing Unit or Maintenance Depots, irrespective of the person(s) at fault.
- 1.2. Users of the Trains include staff of the Government and its contractors working on its railway network.
- 1.3. Safety Requirements apply to all phases of manufacturing, supply, operation and maintenance with emphasis on identification of factors associated with accidents, consideration of the same, and implementation of appropriate remedial measures.
- 1.4. Safety Requirements include measures associated with safe movement, safety management, safety equipment, fire safety, enforcement and emergency response with particular reference to Safety Guidelines specified in Annex I of this Schedule-H.

2. Obligations of the Technology Partner

- 2.1. The Technology Partner shall abide by the following to ensure safety of the Trains, Manufacturing Unit, Maintenance Depots, human life and property:
 - a) instructions issued by Commissioner of Railway Safety or the Government;
 - b) Applicable Laws and Applicable Permits;
 - c) A.C. Traction Manual, General Rules and Subsidiary Rules, issued by the Government;
 - d) provisions of this Agreement;
 - e) relevant Standards/Guidelines contained in internationally accepted codes; and
 - f) Good Industry Practice.

3. Appointment of Safety Consultant

For carrying out safety audit of the Trains under and in accordance with this Schedule- H, the Government shall appoint from time to time, one or more qualified firms or organisations as its consultants (the “Safety Consultant”). The Safety Consultant shall employ a team comprising, without limitation, one rail safety expert and one train expert to undertake safety audit of the Trains. For the avoidance of doubt, the Government may nominate any of its specialised agencies to be the Safety Consultant.

4. Safety measures during Development Period

- 4.1. No later than 180 (one hundred and eighty) days from the date of this Agreement, the Government shall appoint a Safety Consultant for carrying out safety audit at the design stage of the Train.
- 4.2. The Technology Partner shall provide to the Safety Consultant, in 4 (four) copies, the relevant drawings containing the design that have a bearing on safety of Users (the “**Safety Drawings**”). The Technology Partner shall also provide to the Safety Consultant all such relevant documentation as it may request, such as safety plans, hazard analyses and risk assessments.
- 4.3. The design and safety information shall be compiled, analysed and used by the Safety Consultant for evolving a package of recommendations consisting of safety related measures. The safety audit shall be completed in a period of three months and a report thereof (the “**Safety Report**”) shall be submitted to the Government, in 5 (five) copies. One copy of the Safety Report shall be forwarded by the Government to the Technology Partner forthwith.
- 4.4. The Technology Partner shall endeavour to incorporate the recommendations of the Safety Report in the design of the Train, as may reasonably be required in accordance with Applicable Laws, Applicable Permits, Manuals and Guidelines of the Government, Specifications and Standards, and Good Industry Practice. If the Technology Partner does not agree with any or all of such recommendations, it shall state the reasons thereof and convey them to the Government forthwith. In the event that any or all of the works and services recommended in the Safety Report fall beyond the scope of Article 18 and this Schedule-H, the Technology Partner shall make a report thereon and seek the instructions of the Government for funding such works in accordance with the provisions of Article 16.
- 4.5. Without prejudice to the provisions of Paragraph 4., the Technology Partner shall, within 15 (fifteen) days of receiving the Safety Report, send comments thereon to the Government, and not later than 15 (fifteen) days of receiving such

comments, the Government shall review the same along with the Safety Report and by notice direct the Technology Partner to carry out any or all of the recommendations contained therein with such modifications as the Government may specify; provided that any works or services required to be undertaken hereunder shall be governed by the provisions of Article 18.

5. Safety measures during Supply and Maintenance Period

- 5.1. The Technology Partner shall develop, implement and administer a surveillance and safety programme for users, including correction of safety violations and deficiencies and all other actions necessary to provide a safe environment in accordance with this Agreement.
- 5.2. The Technology Partner shall submit to the Government before the 31st(thirty first) May of each year, an annual report (in ten copies) containing, without limitation, a detailed listing and analysis of all accidents of the preceding Accounting Year and the measures taken by the Technology Partner pursuant to the provisions of Paragraph 5.1 of this Schedule-H for averting or minimising such accidents in future.
- 5.3. Once in every Accounting Year, a safety audit shall be carried out by the Safety Consultant to be appointed by the Government. It shall review and analyse the annual report and accident data of the preceding year, and undertake an inspection of the Manufacturing Unit, Depots and a sample of Trains. The Safety Consultant shall complete the safety audit within a period of 1 (one) month and submit a Safety Report recommending specific improvements, if any, required to be made in the Trains, Manufacturing Unit and Depots, as the case may be. Such recommendations shall be processed, *mutatis mutandis*, and acted upon in the manner set forth in Paragraphs 4.3, 4.4 and 4.5 of this Schedule-H.

Annex-I: Safety Guidelines

(Schedule-H)

1. Safe movement

Trains shall be designed, tested and maintained for safe movement.

2. System integrity

In all aspects of design of the Trains, Manufacturing Unit and the Depots, and Maintenance their associated systems, particular care shall be taken to minimise the likely incidence of failure

3. Restoration of service

The Trains shall be designed such that in the event a fault occurs, a limited service can be provided within a few minutes by isolation of the affected area or equipment, to the extent possible

4. Safety management

A safety statement shall be prepared by the Technology Partner and provided to the Government every quarter to bring out clearly the system of management of checks and maintenance tolerances for various assets including the Trains, Manufacturing Unit and maintenance Depots, and compliance thereof. The statement shall also bring out the nature and extent of staff training and awareness in dealing with such checks and tolerances.

5. Emergency Procedures

The Technology Partner shall have emergency procedures in place in respect of the Manufacturing Unit and Maintenance Depots in order to minimise the risks to staff and property or to visitors or neighbourhood in the event of an emergency.

6. Train Design

6.1. The design of the Train shall not introduce safety risk to Users, maintainers or others, or risks to property.

6.2. Consideration of Human Factors shall be an integral element of the design of Trains and of development of processes by the Technology Partner.

6.3. The Technology Partner shall demonstrate at the design stage that no foreseeable single- point failure mode shall be capable of causing a wrong-side failure of a safety-critical system.

6.4. Where the Trains incorporate component redundancy as the method of reducing the consequences of a single-point failure, such redundancy shall not allow hidden faults to remain undetected or cause extra difficulty in fault finding.

- 6.5. Operationally critical systems shall be physically and functionally separated from non-critical systems wherever possible.
- 6.6. Demonstration of visibility of signals from the driver's position and assistant driver's position shall be demonstrated by the Technology Partner to the Government.
- 6.7. The Technology Partner shall ensure that the Train design facilitates easy and safe evacuation in case of emergency. The Technology Partner shall define escape ways and ensure display of emergency evacuation procedures in the Cars

7. Maintenance and Overhaul of Trains

- 7.1. All Scheduled and Unscheduled Maintenance of the Trains shall be managed by the Technology Partner to minimise risks to the staff of the Technology Partner and the Government, contractors, or passengers on the Government's railway or neighbours. The Technology Partner shall at all times comply with Applicable Laws, and Good Industry Practice.
- 7.2. The Maintenance Manual to be provided by the Technology Partner shall include:
 - a) All maintenance activities and their periodicities that are required to keep the Train safe and ensure that the prescribed tolerances of systems and components are not exceeded at any time, including any systems relevant to the maximum moving dimensions;
 - b) the inspection programme for regularly checking that the Train is safe to continuing in service
 - c) the engineering facilities (such as pit facilities, special tools etc.) necessary for the mandated maintenance; and
 - d) minimum competencies required by staff for the maintenance activities
- 7.3. The maintenance attention and periodicity prescribed in the Maintenance Manual shall be designed to ensure that the brake systems of the train shall function correctly and safely during the intervals between maintenance, to achieve the specified performance.
- 7.4. The brake systems shall be required to be subjected to a functional test at appropriate periodicities to prove the response of the system to brake application demands.
- 7.5. The Maintenance Manual shall specify appropriate functional brake tests to be undertaken whenever components of the brake system are replaced and reconnected on the Train following component repair, renewal or disconnection.

- 7.6. The Maintenance Manual shall specify the required testing of speedometers and speed control equipment, particularly when wheel sets have been renewed or re-profiled or the speed measurement system or components have been renewed or disturbed.
- 7.7. The Maintenance Manual shall ensure that safety critical systems and components on the Train are identified specifically and the minimum testing requirements that must be invoked in the event of their disturbance at examination or repair are defined.
- 7.8. Preparation of the Maintenance Manual shall give consideration to inspections, tests and maintenance of the following that have a bearing on safety:
- a) Wheel set and constituent parts: Relative movement of wheels / axles / axle mounted equipment, cracks and fractures, dimensions affecting safe running (minimum wheel diameter, tolerances between wheel diameters, minimum throat thickness, back-to-back dimensions), flange and tread profile, condition of tread and flange (damage etc.), limits of sizes of wheel flats.
 - b) Bearings – Floats, clearance, condition and grease.
 - c) Brake equipment (disc integrity, condition and dimensions), pad and brake block integrity and dimensions, brake rigging, integrity of operating devices, reservoirs, hoses, cocks, pipework, brake tests.
 - d) Regenerative Brake system: Its functioning and integrity for trouble free operation
 - e) EP brakes: Its integrity of operation at all times.
 - f) Vigilance control device: Condition and operation at all times.
 - g) Buffers: Heights, condition.
 - h) Couplers and Draw gear: Dimensions, rubber condition, integrity and condition, operation.
 - i) Primary and secondary suspension: Spring integrity, dimensional limits, damper integrity.
 - j) Suspension tube bearings: Condition and security of components and installation, bearing float.
 - k) inter-vehicular couplers.

- l) fire prevention system including safe working of pantry/ sub pantry equipment.
- m) Traction and auxiliary electrical machines: Integrity and security, earthing condition and integrity, condition of safety labelling.
- n) Passenger Information System
- o) Cleaning: Ventilation ducts, filters, bogies and underframe equipment
- p) Transmissions: Security to body or bogie frame, condition checks of safety critical items, lubrication
- q) Power systems (including protection systems): Integrity and security earthing condition and integrity, condition of safety labelling
- r) Pantographs: Integrity and security - dimensions and condition of pantograph head, over-height protection, earthing condition and integrity, condition of safety labelling
- s) Train structures and underframes: Integrity and condition of all load bearing members or panels, integrity, operation and security of doors, openable and removable panels, integrity and security of all body mounted equipment, alignment, gangway
- t) Safety systems (e.g. Vigilance control device): Functional tests;
- u) Hydraulic and pneumatic systems: Condition and integrity of hoses, pipework, valves, etc.
- v) Fire protection systems: Integrity and condition
- w) Lighting Systems and visibility: Headlight, flasher and marker lights, adjustment, intensity
- x) The inspection and/or testing of axles; brake valves, equipment and system and protection devices reservoirs (a label showing the last test date should be secured to the reservoir); fire equipment; safety equipment (e.g. Vigilance control Device);

7.9. The instructions within the Maintenance Manuals shall be such as to protect staff working on the Trains, with particular reference to safety precautions and implementing a specified safety condition of the Train prior to starting work.

- 7.10. Any incident affecting safety on a Train in service or on maintenance (or potentially affecting safety) shall be investigated by the Technology Partner unless advised to the contrary by the Government. The Technology Partner shall make its findings known to the Government.
- 7.11. If the Technology Partner becomes aware of a safety incident due to a deficiency on a Train of similar design supplied to another administration, it shall advise the Government of the essential details, and shall advise the Government of any precautionary action.
- 7.12. The Technology Partner shall have a formal process for ensuring the competence of all members of staff engaged in maintenance. The Technology Partner shall have a process for ensuring all staff are briefed on any relevant safety matters.
- 7.13. The Technology Partner shall have a documented process for ensuring that the declared periodicity of maintenance on each Train is not exceeded.
- 7.14. The Technology Partner shall ensure that the supply arrangements for Consumables and Spares do not introduce safety hazards.
- 7.15. Records shall be maintained by the Technology Partner of all attention given to Trains on Scheduled and Unscheduled Maintenance.
- 7.16. The Technology Partner shall establish and implement for the duration of the Maintenance Period a configuration management system that to the extent applicable complies with the requirements of ISO 10007:2017 "Quality management systems. Guidelines for configuration management",
- 7.17. The Technology Partner shall procure that all staff engaged in maintenance including its sub-contractors shall not take any action that could compromise the operational safety of the Government's railway network. If the Technology Partner becomes aware of a condition on a Train in service that could affect safety, it shall immediately inform the Government by the most expeditious means.
- 7.18. The Technology Partner shall not use any hazardous substances unless those substances are permitted by Applicable Laws and the Government has given prior written consent.

8. Manufacturing Unit and Maintenance Depots

- 8.1. The Manufacturing Unit and Maintenance Depots (the "Facilities") shall be equipped, operated and maintained so as to facilitate the maintenance of Trains in a safe condition, and so as to minimise risks to the staff of the Technology Partner or the Government, contractors, neighbours or visitors to the Facilities, and passengers on the Government's

railway. The Technology Partner shall comply with Applicable Laws and Good Industry Practice

- 8.2. All equipment such as lifting equipment, wheel lathes, jacks etc. shall be procured from established industry suppliers.
- 8.3. The Technology Partner shall ensure that the interface between each Facility and the Government's railway network presents no risks to the Government. It shall be arranged that a mishap to a Train on a Facility site, such as for example a train becoming out of control, shall not introduce a risk to the Government. The details of the interface shall be submitted to the Government for approval.
- 8.4. A planned system of maintenance shall be implemented in respect of each Facility and its facilities, plant and equipment. Items shall be inspected and maintained without limitation in line with Applicable Laws, relevant standards and good industry practice.
- 8.5. The Technology Partner shall document the process and responsibilities of personnel in respect of safe movements within the premises of the Facilities, and shall provide equipment as appropriate to promote safe movements and to reduce risks to staff from movements. The only personnel of the Technology Partner who may drive Trains at low speed within the Facilities shall be those who have been formally trained and passed out to do so.
- 8.6. Suitable equipment and measures shall be in place to protect staff from movements of Trains entering or leaving the maintenance shed, or any other location where staff may be at risk.
- 8.7. The Facilities shall be designed to include facilities that ensure the safety of staff, including with respect to hazards without limitation arising from movements, the 25kV overhead electric line, working at heights, or arising from fumes. The arrangements for protection of staff shall be integrated into a robust protection regime and processes.
- 8.8. The Facilities shall be equipped and operated in line with applicable requirements so as to minimise the risks to life and property arising from fire.
- 8.9. The Technology Partner shall not use any hazardous substances unless those substances are permitted by applicable laws and the Government has given prior written consent.
- 8.10. The Technology Partner shall confer and agree with Government and document at least six months before operation of each Facility:
 - a) a safe system of movement of Trains from the Government's railway system on to each Facility and vice versa, with particular reference to the defined limits of authority for movements and the signalling and signing arrangements.

- b) the protocol for arranging as required safety inspections by the Government on Trains released from the Facility
- c) a protocol for the management of planned and unplanned isolations of the 25kV OHE, on either the infrastructure of the Government or the Technology Partner, including a procedure for dealing with emergencies on the Facility site.

9. Training

Safety aspects shall be a core element in the syllabus of training to be delivered by the Technology Partner to the Government's staff. The Technology Partner shall agree on the course contents and course materials with the Government prior to any commencement of training.

Schedule I-Bank Guarantee for Advance Payments

(See Clauses 13.7, 16.3.1 and 23.7)

The President of India,
Through the-Principal Chief Materials Manager,
Integral Coach Factory,
2nd Floor, Administrative Building, Chennai: 600038,

WHEREAS:

- a)(the “Technology Partner”) and the President of India through the Principal Chief Materials Manager, Integral Coach Factory, 2nd Floor, Administrative Building, Chennai , Government of India (the “**Government**”) have entered into a Manufacturing-cum-maintenance Agreement dated(the “**Agreement**”) whereby the Government has agreed to the Technology Partner undertaking the manufacturing, supply and maintenance of electric trains to be manufactured at, subject to and in accordance with the provisions of the Agreement.
- b) In consideration of the Government having agreed to make an advance payment to the Technology Partner for performance of the above Contract amounting to (in words and figures) as an advance against Bank Guarantee to be furnished by the Technology Partner, in accordance with Clause {23.7/13.7/16.3.1}of the aforesaid Agreement.
- c) We, through our Branch at(herein after referred to as the “Bank”, which expression shall, unless repugnant to the content or meaning thereof, include its successors, administrator, executors and assigns) have agreed to furnish this Bank Guarantee by way of Security.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

- 1) To pay the Government immediately on demand any or, all monies payable by the Technology Partner to the extent of as aforesaid at any time upto.....without any demur, reservation, context, recourse or protest and or without any reference to the Technology Partner. Any such demand made by the Government on the Bank shall be conclusive and binding notwithstanding any

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difference between the Government and the Technology Partner or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the

Guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Government discharges this guarantee.

- 2) The Government shall have the fullest liberty without affecting in any way the liability of Bank under this Guarantee, from time to time to vary the advance or to extend the time for performance of the Agreement by the Technology Partner. The Government shall have the fullest liberty without affecting this Guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Technology Partner and to exercise the same at any time in any manner, and either to enforce or to forebear to enforce any covenants, contained or implied, in the Contract between the Government and Technology Partner or any other course or remedy or security available to the Government. The Bank shall not be relieved of its obligation under these presents by any exercise by the Government of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Government or any other indulgence shown by the Government or by any other matter or thing whatsoever which under law would but for this provision have the effect of relieving the Bank.
- 3) The Bank also agrees that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Technology Partner and notwithstanding any security or other guarantee that the Government may have in relation to the Technology Partner's liabilities.
- 4) The outstanding liability of the Bank under this Guarantee will reduce by such amounts as may be notified to the Bank by the Government and stated to be the reduction of this Guarantee required to be made in accordance with the Agreement, by reason of the repayments made by the Technology Partner
- 5) Notwithstanding anything contained herein above our liability under this Guarantee is limited to and it shall remain in force upto {180(one hundred and eighty) days after the ***** anniversary of the Appointed Date}and shall be extended from time to time for such period (not exceeding one year) as may be desired by the Technology Partner on whose behalf this guarantee has been given.

Signed and sealed this day of, 20..... at

SIGNED, SEALED AND DELIVERED
For and on behalf of
the BANK by:

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(Signature)
(Name)

(Designation)
(Code Number)
(Address)

NOTES:

- i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- ii) The address, telephone number and other details of the Head Office of the Bank as well as of issuing Branch should be mentioned on the covering letter of issuing Branch.

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Schedule J-Vesting Certificate

1. The President of India represented by Principal Chief Materials Manager, ICF, Chennai (the "Government") refers to the Agreement dated (the "Agreement") entered into between the Government and (the "Technology Partner") for Manufacturing-cum-Maintenance of Electric Trains.
2. The Government hereby acknowledges compliance and fulfilment by the Technology Partner of the Divestment Requirements set forth in Clause 36.1 {and Clause 36.5} of the Agreement on the basis that upon issue of this Vesting Certificate, the Government shall be deemed to have acquired, and all title and interest of the Technology Partner in or about the Trains Manufacturing Unit and Depots shall be deemed to have vested unto the Government, free from any encumbrances, charges and liens whatsoever.
3. Notwithstanding anything to the contrary contained hereinabove, it shall be a condition of this Vesting Certificate that nothing contained herein shall be construed or interpreted as waiving the obligation of the Technology Partner to rectify and remedy any defect or deficiency in any of the Divestment Requirements and/or relieving the Technology Partner in any manner of the same.
Signed this day of, 20 at

AGREED, ACCEPTED AND SIGNED

SIGNED, SEALED AND DELIVERED

For and on behalf of

For and on behalf of

THE CONTRACTOR by:

THE GOVERNMENT by:

(Signature)

(Signature)

(Name)

(Name)

(Designation)

(Designation)

(Address)

(Address)

Schedule K- Driving Simulator
{INTENTIONALLY KEPT BLANK}

Schedule L- Confirmation Certificate

(See Clause 4.1.3 (b))

Confirmation Certificate

This Confirmation Certificate is made on this _____ day of _____, 20....

By:

1. [●], a company incorporated under the Companies Act, 2013 and having its registered office at [●] (the “**Technological Partner**”); and
2. Entity/Each of the Entities listed in Annexure I hereof (shall in case of a single entity be referred to as the “**Selected Bidder**”; and in case of Consortium/Joint Venture collectively the “**Consortium Members**” or “**Joint Venture Members**”, as the case may be and individually a “**Consortium Member**” or “**Joint Venture Member**” as the case may be).

In favour of:

3. The PRESIDENT OF INDIA represented by Principal Chief Materials Manager, having its Office at Integral Coach Factory, 2nd Floor, Administrative Building, Chennai: 600038 (the “**Government**”).

WHEREAS:

- A. The Technological Partner is a special purpose vehicle incorporated by {the Selected Bidder/ Joint Venture/Consortium Members}, for the purpose of implementing the Project in accordance with this Agreement;
- B. The Government and the Technological Partner have entered into the Manufacturing cum Maintenance Agreement dated [●] (hereinafter referred to as “Agreement”). NOW, THEREFORE for good and valuable consideration, the receipt, sufficiency and adequacy of which is hereby acknowledged, and intending to be legally bound hereby, the Technological Partner and {Selected bidder each Consortium Member/Joint Venture Member} hereby jointly and severally confirm, declare and acknowledge the following:

1. That it has read and understood the terms of the Agreement individually and collectively.
2. That capitalised terms not defined herein but defined in the Agreement shall, unless the context otherwise requires, have the meaning assigned thereto in the Agreement.
3. That it: -
 - a. has made an independent evaluation and inspection of the site of the Manufacturing Unit at Railway Manufacturing Unit (RMU)/Kazipet ,nominated

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Government MEMU Depots, existing structures, local conditions, physical qualities of ground, subsoil and geology and all information provided by the Government or obtained procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder;

- b. has satisfied themselves as to the means of communication with, access to and accommodation on the site of the Manufacturing Unit and nominated MEMU Depots it may require or as may be otherwise necessary for the performance of its obligations under the Agreement;
 - c. has obtained all necessary information as to the risks, contingencies and all other circumstances which may influence or affect the Technological Partner and its rights and obligations under the Agreement.
- 4. That the Technological Partner and {Selected Bidder /Consortium Members/Joint Venture Members} have taken all due diligence and shall have no recourse against the Government in the event of any mistake made or misapprehension harboured by any of them in relation to any of the foregoing provisions of Article 3 above and the Government's liability in respect thereof, if any, is waived. The Technological Partner and the {Selected Bidder/Consortium Members/Joint Venture Members} bind themselves that they shall not be entitled to make any claim against the Government or any Government Instrumentality whether for rescission, in damages or otherwise on the grounds of any misunderstanding or misapprehension in respect of incorrect or insufficient information given to them by any person, whether or not in the employment of the Government or any Government Instrumentality, nor, unless expressly provided otherwise in the Agreement, shall the Technological Partner be relieved from any obligations or risks imposed on or undertaken by it under the Agreement on any such ground or on the ground that it did not or could not foresee any matter which may, in fact, affect or have affected the performance of its obligations under the Agreement.
- 5. Subject to the provisions of the Agreement, that the Technological Partner shall be fully and exclusively responsible for, and shall bear the financial, technical, commercial, legal and other risks in relation to the design, minor construction or alteration, operation and maintenance of the site of Manufacturing Unit at Railway Manufacturing Unit(RMU)/Kazipet and nominated Maintenance Depots (as the case may be) and all its other rights and obligations under or pursuant to the Agreement regardless of whatever risks, contingencies, circumstances and/or hazards may be encountered (foreseen or not foreseen) and notwithstanding any change(s) in any of such risks, contingencies, circumstances and/or hazards on exceptional grounds or otherwise and whether foreseen or not foreseen and none of the Technological Partner or {Selected Bidder/any

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Consortium Member/Joint Venture Member} shall have any right whether express or implied to bring any claim against, or to recover any compensation or other amount from the Government and/or any of their agencies other than in respect of those matters in respect of which express provision is made in the Agreement.

6. That the {Consortium Members/Joint Venture Members collectively/Selected Bidder} shall hold at least 51% (fifty one percent) of the subscribed and paid up equity of the Technological Partner during the Supply Period; provided that in the event of a Consortium/Joint Venture, the Lead Member shall hold not less than 26% (twenty six percent) of the issued and paid up equity any time during the Agreement Period. Further that all such Member of the Consortium whose credentials were used to meet the eligibility requirements towards Propulsion Equipment in response to the bid, shall, during the Supply Period, jointly hold equity share capital not less than 30% (thirty per cent) of the total equity share capital of the Technological Partner.
7. That the {Selected Bidder/Consortium Members/Joint Venture Members} has/have the financial standing necessary for undertaking and implementing the Project in accordance with this Agreement.
8. That neither the Selected Bidder/none of the Consortium Members/Joint Venture Members has/have intentionally withheld from the Government, any material information or material document, whose non-disclosure would have a Material Adverse Effect or would have adversely affected the evaluation or acceptance of the Bid submitted by the Selected Bidder/ /Consortium Members/Joint Venture Members.
9. That all information provided by the {Selected Bidder /Consortium Members/Joint Venture Members} in response to the RFP, is to the best of its/their knowledge and belief, true and accurate in all material respects.
10. That the {Selected Bidder /each Consortium Member/Joint Venture Member} is duly organised and validly existing under the laws of the jurisdiction of its incorporation, and has requested the Government to enter into the Agreement with the Technological Partner pursuant to the Letter of Award, and has agreed to and unconditionally accepted the terms and conditions set forth in this Agreement.

IN WITNESS WHEREOF, Technological Partner and the {Selected Bidder/each of the Consortium Members/Joint Venture Members} has caused their respective duly authorized representatives to execute this Confirmation Certificate on the day and year first above written.

SIGNED AND DELIVERED

BY WITHIN NAMED, THE '**TECHNOLOGICAL PARTNER**'

BY THE HAND OF MR. _____

(AUTHORIZED SIGNATORY)

SIGNED AND DELIVERED

BY {Selected Bidder}

BY THE HAND OF MR. _____

(AUTHORIZED SIGNATORY)

OR

SIGNED AND DELIVERED

BY {Consortium/Joint Venture Member}

BY THE HAND OF MR. _____

(AUTHORIZED SIGNATORY)

SIGNED AND DELIVERED

BY {Consortium/Joint Venture Member}

BY THE HAND OF MR. _____

(AUTHORIZED SIGNATORY)

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Annexure-I

(Schedule L)

Selected Bidder/Consortium Members/Joint Venture Members

Name	Address, Telephone No. and Email