

**GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS  
(RAILWAY BOARD)**

Rail Bhawan, New Delhi-110001

No. 2019/Sig/WP/IR/1

Date 15.07.2019

**The General Manager (S&T),  
All Zonal Railways**

**Sub: Signal & Telecom works proposal in WP 2019-20 under PH- 33 & PH-29**

**Ref: Works Proposals submitted by Railways on IRPSM**

46 nos. of Signalling & Telecom Umbrella works (subject to further approval of Parliament and Hon'ble President) have been approved for inclusion in Works Programme 2019-20 under Plan Head 3300 (Signalling & Telecom Works) at a cost of Rs. 2100 crore.

Similarly, 14 nos. of Signalling & Telecom Umbrella works (subject to further approval of Parliament and Hon'ble President) have been approved for inclusion in Works Programme 2019-20 under Plan Head 2900 (Road Safety Works- LC) at a cost of Rs. 300 crore.

The umbrella works were proposed based on the individual works proposed by Zonal Railways and uploaded on IRPSM, and were examined in Board's office. The details of individual works under Umbrella Works proposal is being communicated for clarity and speedy processing of these works for concurrence of associate finance and approval of competent authority.

Accordingly, list of works (name and recommended cost) under various Umbrella works proposals is enclosed.

This issues with approval of Board(MST).

Encl: [Annex-A: Signalling Works-PH-33(10 pages);  
Annex-B: Telecom Works - PH33 (02 pages);  
Annex-C: S&T Works- PH-29 (02pages)]



**(P.K. Gupta)**

**Exe. Dir. Signal (Project)**

## Signalling Umbrella Works under PH-33 and details thereof - (WP 2019-20)

(Figure in Rs Cr.)					
SN	RLY	Division	WP No.	Name of Work	Recommended Cost
<b>1</b>	<b>CR</b>			<b>Central Railway – Safety enhancement through signalling system (Umbrella Work)</b>	<b>51.00</b>
1	CR	Pune	33001	Provision of second distant signals in Pune-Daund section on 'B' route of Pune Division.	5.00
2	CR	Bhusawal	33002	Provision of independent detection of points to enhance safety on balance 28 stations on BSL Division.	19.00
3	CR	Solapur	33020	Provision of independent detection of points to enhance safety on balance 31 stations on Solapur Division.	20.00
4	CR	Bhusawal	33023	Provision of Automatic Fire Detection & Alarm System at left over stations on BSL Division	3.00
5	CR	CR	33024	Provision of Automatic Fire Detection & Alarm System at left over stations in Nagpur, Pune and Mumbai Divisions.	4.00
<b>2</b>	<b>CR</b>			<b>Central Railway – Reliability improvement and selective repl of signalling items (Umbrella Work)</b>	<b>99.00</b>
6	CR	Pune	33003	Provision of Multi Section Digital Axle Counter between Pune-Lonavala Automatic section for reliability improvement.	35.00
7	CR	Mumbai	33005	Provision of Multi Section Digital Axle Counter for vulnerable track circuits in Suburban section of BUD-KJT Mumbai Division	10.00
8	CR	Mumbai	33006	Provision of MSDAC for vulnerable track circuits in Suburban section of VSH-PNVL section of Mumbai Division.	11.00
9	CR	Mumbai	33007	Provision of MSDAC for 81 track circuits on rusty rail portion over various stations of Mumbai Division.	8.00
10	CR	Mumbai	33008	Replacement of overaged AFTCs in North-East (KYN-IGP), South-East (KYN-LNL) & VASAI-DIWA sections of Mumbai Division.	16.00
11	CR	Mumbai	33013	Provision of MSDAC for vulnerable track circuits on 5th - 6th line of CLA-TNA section of Mumbai Division.	7.00
12	CR	Nagpur	33010	Replacement of overaged Axle counter by HASSDAC located at various stations of Nagpur Division	4.00
13	CR	Bhusawal	33015	Provision of Digital Axle counter in vulnerable graded section in Bhusawal-Badnera section on Bhusawal division.	8.00
<b>3</b>	<b>CR</b>			<b>Central Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>86.00</b>
14	CR	Bhusawal	33004	Replacement of over aged outdoor signalling gears at 14 'C' class stations & indoor signalling gears at 02 'C' class station on BSL division.	13.00
15	CR	Nagpur	33009	Replacement of overaged Intermediate Block System at 6 locations of Nagpur Division.	16.00
16	CR	Bhusawal	33011	Replacement of old age outdoor gears at Bhusawal(BSL) - Bhadli(BDI) ABS & Badli-Jalgaon on BSL division.	24.00
17	CR	Mumbai	33012	Replacement of Signaling gears at 4 IBS (Intermediate Block Signalling) in KYN-IGP section of Mumbai Division.	20.00
18	CR	Pune	33016	Replacement of panel interlocking at Khadki station of Pune Division.	13.00
<b>4</b>	<b>ER</b>			<b>Eastern Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>50.00</b>
19	ER	Sealdah	33003	Replacement of old RRI with Electronic Interlocking (EI) system on age-cum-condition basis at Ballygunge Cabin in Sealdah Division.	15.00
20	ER	Asansol	33004	ASN Divn: Replacement of AFTC and auto signalling in STN-CAM section.	17.00
21	ER	Howrah	33012	Replacement of Old & overaged Panel Interlocking stations to EI at BHR, GRP Stations of HWH Division	10.00

SN	RLY	Division	WP No.	Name of Work	Recomm ended Cost
22	ER	Sealdah	33017	Replacement of old RRI with Electronic Interlocking (EI) system on age-cum-condition basis at Kankurgachhi Cabin in Sealdah Division.	8.00
<b>5</b>	<b>ER</b>			<b>Eastern Railway - Reliability improvement, selective repl of signalling items and safety enhancement through signalling system (Umbrella Work)</b>	<b>88.00</b>
23	ER	Howrah	33002	PROVISION OF DUEL DETECTION USING MULTI SECTION DIGITAL AXLE COUNTER (MSDAC) AT DKAE - BMAE & SKG - KAN AFC PORTION	33.00
24	ER	Malda	33007	Provision of Dual Detection by means of MSDAC at BDAG and BDAG-L/C.	3.50
25	ER	Asansol	33010	ASN Divn:Provision of SSDAC in dual mode for redundancy of BPAC in UDL-KNRI and UDL-BBI-STN section. (25 B/Sec)	7.00
26	ER	Malda	33011	Provision of Dual Detection by means of HASSDAC at water logging prone areas over Malda Division.	4.50
27	ER	Howrah	33013	Replacement of Age old Signalling cables of different sizes at HWH RRI	8.50
28	ER	Malda	33014	Provision of Dual Detection by means of MSDAC at NFK/S & NFK/N of Malda division.	2.00
29	ER	Sealdah	33018	Sealdah-Augmentation of Block Proving Axle Counters with Auto resetting facility in Sealdah South Section.	6.50
30	ER	Sealdah	33022	Provision of Dual MSDAC in DDJ-BLH Automatic Section in Sealdah Division	4.00
31	ER	Sealdah	33023	Augmentation of existing SSDAC with MSDAC in BLH - TGH Automatic Section in Sealdah Division	9.50
32	ER	Sealdah	33024	Replacement of Signalling & Quad cable on age cum condition basis in Sealdah Division.	5.50
33	ER	Malda	33015	Provision of automatic Fire detection and Alarm system at 57 stations of Malda Division, Eastern Railway.	4.00
<b>6</b>	<b>ECR</b>			<b>East Central Railway - Reliability improvement and selective repl of signalling items (Umbrella Work)</b>	<b>31.00</b>
34	ECR	Danapur	33001	Provision of High Availability SSDAC in 20 Block section under Danapur Division.	3.00
35	ECR	Danapur	33003	Replacement of defective signalling cable of various sections of Danapur division. (12c- 120 Km & 6c- 20Km)	2.50
36	ECR	Danapur	33004	Upgradation and modification of Electronic Interlocking system (SSI) from warm standby to Hot standby configuration with dual VDUs of Neora & Gahmar stations under Danapur division of E.C.Rly.	2.00
37	ECR	Dhanbad	33010	Replacement of defective Signaling cables , decayed location boxes & over aged track relays at 98 stations	7.00
38	ECR	Sonepur	33012	SEE Div.:- Replacement of defective signalling cable.	2.50
39	ECR	Samastipur	33013	Provision of High availability SSDAC in 26 block section in Samastipur division.	4.00
40	ECR	Samastipur	33014	Replacement of defective signalling cable at various stations of Samastipur Division.	2.00
41	ECR	Samastipur	33015	Provision of Self restoring/Auto change over fuse alarm system at all balance stations of SPJ division.(70 Stn)	2.00
42	ECR	Mughalsarai	33016	Replacement of 22 nos. Analog Axle counter by Digital Axle counter in Mughalsarai.	6.00
<b>7</b>	<b>ECR</b>			<b>East Central Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>44.00</b>
43	ECR	Dhanbad	33008	Replacement of Signaling Gears of Six (06) end panel station to central panel SSI in GC section of DHN Division	44.00

SN	RLY	Division	WP No.	Name of Work	Recommended Cost
8	ECOR			<b>East Coast Railway - Reliability improvement and selective repl of signalling items (Umbrella Work)</b>	<b>59.50</b>
44	ECOR	WALTAIR	33002	Replacement of old & wornout Siganlling gears over WAT Divn.	5.50
45	ECOR	Sambalpur	33007	Replacement of Single Section Digital Axle Counters of 30 block sections of TIG - JSGR, SBP -KPJG section with HASSDAC in SBP Division.	5.00
46	ECOR	WALTAIR	33005	Replacement of existing SSDAC with dual detection (High availability Single Section Digital Axle Counter System) for improvement of Reliability of BPAC in Waltair Divn. (20 Sets)Section:	2.00
47	ECOR	Khurda Road	33009	Replacement of over aged LEDs and LED's ECRs over Khurda Road Division.	3.50
48	ECOR	Khurda Road	33010	Replacement of over aged IPS battery, track Battery, track relay and track chargers over Khurda Road Division.	3.50
49	ECOR	Khurda Road	33012	Replacement of Single section digital axle counter by High Availability Single section digital axle counter to improve the reliability of the block working in KUR-PURI, JKPR-NYG, CTC-TLHR section of KUR Road division	13.00
50	ECOR	Khurda Road	33013	Provision of Hot Standby configuration in working Electronic Interlocking systems for improving reliability as per RDSO instructions in KUR-PSA of KUR Division.	16.00
51	ECOR	WALTAIR	33014	Provision of Hot Standby configuration in working Electronic Interlocking systems for improving reliability as per RDSO instructions in DVD - PUN of WAT Division.	11.00
9	ECOR			<b>East Coast Railway - Safety enhancement through signalling system (Umbrella Work)</b>	<b>30.00</b>
52	ECOR	ECOR		Provision of Double Distant in 'B' route of East Coast Railway	30.00
10	NR			<b>Northern Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>98.00</b>
53	NR	Ambala	33001	Provision of Electronic Interlocking at 3 stations (NGWN, RPAR, KART ) on SIR-AADR section of UMB Division.	36.00
54	NR	Delhi	33006	Replacement of signaling gear on age cum conditional basis with EI at Delhi kishan ganj station.	12.00
55	NR	Ambala	33017	Provision of Electronic Interlocking at Khanalampura (West Terminal).	10.00
56	NR	Firozpur	33018	Provision of Electronic Interlocking (EI)in place of Panel Interlocking at BES ,TRA & JNL Station on JUC-ASR Section..	30.00
57	NR	Lucknow	33019	Replacement of Central Panel at Ayodhya Station.	10.00
11	NR			<b>Northern Railway - Reliability improvement and selective repl of signalling items (Umbrella Work)</b>	<b>83.00</b>
58	NR	Ambala	33002	Replacement of conventional track circuits with Multi section Digital axle counter at Jagadhari station.	4.50
59	NR	Ambala	33003	Replacement of UAC based BPAC by UFSBI with Digital axle counter in SRE-UMB-LDH section.	5.00
60	NR	Delhi	33005	Replacement of overage double line BPAC with UFSBI on Delhi Division.	6.50
61	NR	Delhi	33007	Strengthening Track Circuit for Automatic Section between SZM & SNP of UP/DN line on 'B' route.	10.00
62	NR	Delhi	33008	Strengthening Track Circuit of UP/DN Main line Okhla - Palwal of 'A' route in Delhi Division.	16.00
63	NR	Delhi	33009	Provision of LED shunt signal in place of lamps in shunt signal for improving the visibility of NDLS, DLI & DBSI stations of Delhi Division	4.00

SN	RLY	Division	WP No.	Name of Work	Recommended Cost
64	NR	Firozpur	33013	Replacement of Hard reset type universal axle counter based BPAC with UFSBI type of BPAC in Jalandhar Cantt. - Pathankot Jn. section of Firozpur division.	17.00
65	NR	Firozpur	33014	Modification in EI in c/w alteration for warm standby to hot standby at 20 Stations over Firozpur Division.	17.00
66	NR	Moradabad	33015	Replacement of point machine of different station of MB division.	3.00
<b>12</b>	<b>NR</b>			<b>Northern Railway - Safety enhancement through signalling system (Umbrella Work)</b>	<b>36.00</b>
67	NR	Lucknow	33010	Upgradation of Signalling at Tanda Station of Lucknow Division.	14.00
68	NR	Moradabad	33011	Provision of EI at two stations in place of Rudimentary interlocking in signalling system on NBD(EX)-KTW section at MB division.	11.00
69	NR	Moradabad	33012	Provision of EI at 2 stations in place of Std -I interlocking in signalling system on RWL(EX)-RKSH section at MB Div.	11.00
<b>13</b>	<b>NER</b>			<b>North Eastern Railway - Reliability improvement and selective repl of signalling items (Umbrella Work)</b>	<b>13.00</b>
70	NER	IZN	33001	Supply, installation, testing & commissioning of MSDAC in poor drainage stations and flood prone area of RPO, KAP, BC, HTC and RAYA stations of Izzatnagar division	9.00
71	NER	LJN	33002	Replacement of defective cable in the Jurisdiction of SSE/Sig/GKP,BST,GD,CLJ & LJN	4.00
<b>14</b>	<b>NFR</b>			<b>Northeast Frontier Railway - Reliability improvement, selective repl of signalling items and safety enhancement through signalling system (Umbrella Work)</b>	<b>23.50</b>
72	NFR	Alipurduar Jn	33001	Alipurduar Division : Provision of HASSDAC for BPAC in MRDG-GKJ Section along with UFSBI and Block Panel to improve reliability.	2.50
73	NFR	Alipurduar Jn	33002	Alipurduar Division : Provision of TC by MSDAC at critical location like waterlogged TCs in BDS, LTG and DOI Station.	6.00
74	NFR	Katihar	33003	Replacement of over aged LED signals for main and subsidiary signals in BOE-RDP, SGUT-AUB section of Katihar Division of N.F. Railway..	2.00
75	NFR	Tinsukia	33007	Provision of HASSDAC for BPAC at seven block sections with UFSBI on E-route of Tinsukia division.	6.00
76	NFR	Lumding	33008	Replacement of LED at stations from NGC to DML , Provision of IPS at GHY/W and E Cabin and replacement of Track batteries and relays in AGT-DML .	2.50
77	NFR	Lumding	33009	Replacement of SSDAC (BPAC) by HASSDAC in 5 block section and provision of HASSDAC in 4 block section in AGT- KYQ -NNGE-DGU and provision of HASSDAC from KYQ-NNGE section.	2.50
78	NFR	Lumding	33005	Provision of Automatic Fire Detection and Alarm System at 32 way side PI stations in TGE-FKG section including CPK branch of Lumding Division.	2.00
<b>15</b>	<b>NFR</b>			<b>Northeast Frontier Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>27.00</b>
79	NFR	Katihar	33004	Replacement of indoor wiring of HCR, SM, BKRD, KMRJ & OMLF with Electronic Interlocking	9.00
80	NFR	Lumding	33006	Replacement of non standard conventional type Panel interlocking with Electronic Interlocking at 4 stations in LMG-FKG section of Lumding Division.	18.00
<b>16</b>	<b>NWR</b>			<b>North Western Railway - Safety enhancement through signalling system, reliability improvement and selective repl of signalling items (Umbrella Work)</b>	<b>52.00</b>

SN	RLY	Division	WP No.	Name of Work	Recomm ended Cost
81	NWR	Jaipur	33008	Provision of Ring Power Supply arrangement in Rewari, Jaipur, Phulera, Ringus, Bandikui, Alwar, Kanakpura yard on Jaipur Division	4.50
82	NWR	Jaipur	33002	Provision of Multi Section Digital Axle Counter (MSDAC) at Phulera, Kanakpura, Alwar, Dausa, Narual and Bandikui stations of Jaipur Division (6 Stations)	16.00
83	NWR	Ajmer	33004	Replacement of overaged IPS in section All-COR-UDZ over Ajmer Division	3.00
84	NWR	Bikaner	33005	Replacement of Over-aged LED's in BKN-RE section and Shifting of starter signal in NX-PLC, BKN-RE section on BKN division	5.00
85	NWR	Jodhpur	33009	Provision of UFSBI with HASSDAC in lieu of Block Proving Axle Counter (23 Block Sections) in Samadri Bhiladi section on JU Division	8.00
86	NWR	Bikaner	33010	Provision of MSDAC at BKN, HMH, KLYT, LKS, HSR, BNW on BKN division	7.00
87	NWR	Bikaner	33011	Provision of HASSDAC in RE-HSR, BNW (Ex)-ROK & SDLP-RE section on BKN division	5.00
88	NWR	Ajmer	33012	Provision of HASSDAC for redundancy and Media diversity of BPAC from RN to BNS stations over Ajmer Division.	3.50
<b>17</b>	<b>NWR</b>			<b>North Western Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>27.00</b>
89	NWR	Jodhpur	33003	Replacement of panel and indoor wiring of relay room on Luni(Exl)-Marwar Jn (Exl) section with Electronic Interlocking (5 station)	27.00
<b>18</b>	<b>SCR</b>			<b>South Central Railway - Reliability improvement, selective repl of signalling items and safety enhancement through signalling system (Umbrella Work)</b>	<b>55.50</b>
90	SCR	Secunderabad	33001	Replacement of aged & wornout Outdoor S & T gears of NPL Station on B route of SC Division	2.00
91	SCR	Secunderabad	33002	Replacement of aged & wornout Out door S & T gears of SKP Station on B route of SC Division	2.00
92	SCR	Vijayawada	33004	Shifting signals from Right Hand side to Left hand side, replacing overaged and codal life completed LED signals with integrated LED signals.	5.00
93	SCR	Vijayawada	33005	DVD-RJY :- Replacement of obsolete & codal life complete Analog Axle counters of AS section & SSDAC of BPAC section with Dual MSDAC.	9.00
94	SCR	Guntakal	33006	Up gradation of BPAC with Dual detection in PMT-RLO section of Guntakal division. (25 Block sections)	8.00
95	SCR	Vijayawada	33007	Vijayawada-Duvvada :- Replacement of obsolete & codal life complete Analog Axle counters of AS section and SSDAC of BPAC section with Dual MSDAC.	9.00
96	SCR	Guntakal	33008	Up gradation of BPAC with Dual detection in RU-GTL-WD sections of Guntakal division. (07 Block sections )	2.00
97	SCR	Nanded	33009	Replacement of over aged LEDs in Nanded Division.	2.50
98	SCR	Vijayawada	33010	Replacement of over aged and obsolete analog axle counters on steel girder bridges on main line with Dual SSDAC/HASSDAC.	6.00
99	SCR	Vijayawada	33013	Replacement of over aged and obsolete analog loop line axle counters with track circuits in BZA-VSKP section of BZA Division	5.00
100	SCR	Vijayawada	33011	Conversion of parallel track circuits into series track circuits to improve safety over BZA division.	5.00
<b>19</b>	<b>SER</b>			<b>South Eastern Railway - Repl of overaged signalling assets in station sections &amp; block sections and safety enhancement through signalling system (Umbrella Work)</b>	<b>27.50</b>

SN	RLY	Division	WP No.	Name of Work	Recomm ended Cost
101	SER	Adra	33001	Replacement of existing RRI with distributed EI at ANR station of Adra Division.	11.00
102	SER	Chakradharpur	33002	Replacement of old signalling gears with centralized operation of point and signals with EI at BIRP Station.	9.00
103	SER	Ranchi	33003	Replacement of old/worn-out/over-aged Signalling gears (such as IPS, Point Machines & LEDs) at various locations of Ranchi Division.	3.50
104	SER	Adra	33005	Replacement and upgradation of existing IPS and data logger at 10 stations of Adra Division along with provision of surge protection devices at way side stations of Adra Division.	4.00
<b>20</b>	<b>SWR</b>			<b>South Western Railway - Reliability improvement, selective repl of signalling items and safety enhancement through signalling system (Umbrella Work)</b>	<b>10.50</b>
105	SWR	Bangalore	33001	Replacement of SSDAC with HASSDAC in SBC-MYS Double line 28 Block sections over Bangalore Division.	4.50
106	SWR	Mysore	33002	Replacement of SSDAC with HASSDAC over MYS division.(ASK-JRU, DRU-SHYP, MYS-AP, MYS-MNGT,& ASK-HHR)	4.00
107	SWR	Bangalore	33005	Provision of smoke, fire detection, Alarm and Suppression system( Relay room, power/ Equipment room and panel room) @ 10 stations over SBC division.	2.00
<b>21</b>	<b>WCR</b>			<b>West Central Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>30.00</b>
108	WCR	Kota	33003	Bayana- Track circuiting of line no 5 to 10 of Bayana station and Train operation through Panel.	5.00
109	WCR	Jabalpur	33004	New Katni Jn~~Replacement of over aged Panel Interlocking with Electronic Interlocking of NKJ A & BCabin.	15.00
110	WCR	Kota	33015	Centralized Panel at Gurla station .	10.00
<b>22</b>	<b>WCR</b>			<b>West Central Railway - Reliability improvement, selective repl of signalling items and safety enhancement through signalling system (Umbrella Work)</b>	<b>40.00</b>
111	WCR	Jabalpur	33005	JBP Division:-Enhancing the reliability of Intermediate block section (IBS) by high availability digital axle counters on JBP division (05 IBS sections)	8.50
112	WCR	Jabalpur	33006	JBP Division:- ET-MKP - High availability digital axle counters for critical BPAC sections.. (21 Block sections)	8.00
113	WCR	Jabalpur	33007	JBP Division:-Replacement of outlived IPS of JBP division.	2.00
114	WCR	Jabalpur	33008	JBP Division:- Replacement of defective and out lived cable over JBP Division	2.50
115	WCR	Bhopal	33012	Bhopal Division :- Replacement of defective and outlived signalling cables of Bina-Bhopal section of BPL division.	3.00
116	WCR	Bhopal	33013	Bhopal Division:- Replacement of outlived Point Machines at 38 stations.	3.00
117	WCR	Bhopal	33014	Bhopal Division:- Enhancing the reliability of Data logger, Digital Axle counters, Electronic Interlocking, Power supplies etc on Bhopal Division	5.00
118	WCR	Jabalpur	33009	JBP Division:- Provision of independent operation and detection for point operation and detection for point operation circuit on ET-MKP section.	8.00
<b>23</b>	<b>SR</b>			<b>Southern Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>158.00</b>
119	SR	MAS	33015	Chennai division: Replacement of existing signalling arrangement (out door) at Chennai central station on codal life basis.	8.00

SN	RLY	Division	WP No.	Name of Work	Recomm ended Cost
120	SR	MAS	33002	MAS division: Replacement of existing panel Interlocking system by EI at TUG, WJR, MCN,THL in AJJ-JTJ section ('B'Route) on age cum condition basis	24.00
121	SR	SA	33006	Salem Division: Replacement of EI at Tirupattur, Kagankarai, Dasampatti, Morappur, Buddireddipatti & Bommidi stations on age cum condition basis	14.00
122	SR	TVC	33009	Replacement of overaged and obsolete Interlocking arrangements with Electronic Interlocking at OCR , KPY, STKT and PRND in TVC	24.00
123	SR	MAS	33004	Replacement of existing EI (In door) at AKM,TAD, SPE, PEL, DVR, NYP, PYA, ODR ,TRT, PUT (10 stations; HDN Route) on age -cum -condition basis	29.00
124	SR	TVC	33010	Replacement of overaged and obsolete Interlocking arrangements with Electronic Interlocking at 7 stations between TVC- QLN section in TVC Division	45.00
125	SR	PGT	33017	Replacement of aged outdoor interlocking installations and power equipments at MDKI,ETMD,WRA &KJKD(B route)	14.00
<b>24</b>	<b>SR</b>			<b>Southern Railway - Reliability improvement and selective repl of signalling items (Umbrella Work)</b>	<b>106.00</b>
126	SR	PGT	33016	Replacement of UAC with HASSDAC for IBSs at BFR and TKQ and associated indoor arrangements	9.00
127	SR	TVC	33021	Provision of MSDAC for block proving with redundancy in 7 IBS sections in TVC division	11.00
128	SR	PGT	33018	Provision of dual detection with high availability single section digital axle counter (HASSDAC) in PTJ-SRR section (B route) of Palakkad division	6.00
129	SR	SA	33005	Salem Division: Provision of Dual Detection arrangements using MSDAC at Salem yard	4.00
130	SR	TPJ	33011	Replacement of over aged S&T gears to improve reliability and safety over TPJ Division.	3.50
131	SR	TVC	33022	Provision of HASSDAC for block proving with redundancy in SRR- ERS and KYJ- TVC section of TVC Division.	10.00
132	SR	SA	33007	Salem Division: Replacement of RDSO block joints with Glued joints over Salem Division	7.50
133	SR	MAS	33001	Chennai division: Replacement of AFTC/DC Track circuit by MSDAC in auto section of AJJ-JTJ section (145 RKM- 'B' Route ) on age-cum-condition basis.	44.00
134	SR	PGT	33019	Reliability enhancement of S&T assets by improvement for BPAC,repacement of batteries, enhanced lightning protection and SPD and ring earthing.	6.00
135	SR	MDU	33014	Provision and replacement of High availability SSDAC system (HASSDAC) in 36 Block section, Earth leakage Detector and Auto fuse changeover system	5.00
<b>25</b>	<b>SR</b>			<b>Southern Railway - Safety enhancement through signalling system (Umbrella Work)</b>	<b>28.00</b>
136	SR	TPJ	33012	Provision of Automatic fire detection & alarm system for Relay room/Power room of left over stations of TPJ Division.	5.00
137	SR	MDU	33013	Provision of Automatic Fire detection and Alarm system ( 73 stations) for Signalling installation at stations in Madurai Division.	7.00
138	SR	MDU	33020	a) Provision of BPAC using HASSDAC in D & E routes over Southern Railway(16 Blocks) b) Improvement of reliability in Block proving using HASSDAC	16.00
<b>26</b>	<b>WR</b>			<b>Western Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>145.00</b>



SN	RLY	Division	WP No.	Name of Work	Recomm ended Cost
139	WR	BCT	33004	Vedchaa & Maroli :- Replacement of indoor & outdoor signaling gears	20.00
140	WR	RTM	33003	Ratlam division – Replacement of over aged indoor and outdoor Signaling equipment at Usra, Bildi, Pingsehwar and Tajpur Stations on "A" and D Spl.	24.00
141	WR	ADI	33007	Gandhidham jn.~~New bhuj--- Replacement of Mechanical operation i.e.Lever frame/SM's slide by Electrical operation at ANJAR & RATNAL.	10.00
142	WR	BVP	33001	Porbandar: Replacement of Mechanical signalling with existing yard at Porbandar.	16.00
143	WR	RTM	33005	Ratlam division – Replacement of over aged outdoor Signaling equipment at Tarana station on D Spl. Route.	2.50
144	WR	BCT	33017	Dadar:- Replacement of overaged indoor & outdoor signaling equipments with Electronic Interlocking	12.00
145	WR	BCT	33018	Lower Parel :- Replacement of overaged indoor & outdoor signaling equipment with Electronic Interlocking	14.00
146	WR	BCT	33019	Santacruz:- Replacement of overaged indoor & outdoor signaling equipment with Electronic Interlocking	12.00
147	WR	BRC	33002	Vadodara Division: Replacement of indoor and outdoor Signalling gears at Nabipur and Kanij.	20.00
148	WR	BRC	33006	Pratapnagar- Chhotaudepur section : Replacement of Mechanical operation i.e. Leverframes/SM's slide at ChhuChhapura, Bodeli and Pavi.	14.50
<b>27</b>	<b>WR</b>			<b>Western Railway - Reliability improvement and selective repl of signalling items (Umbrella Work)</b>	<b>91.50</b>
149	WR	BCT	33012	Vaitarna~~Paldhi Section :- Provision of Digital Axle Counter to eliminate poor track shunting due to rusty rails.	8.00
150	WR	BCT	33014	Vasai Road :- Provision of Digital Axle Counter on Flood prone area	8.00
151	WR	BCT	33015	Jogeshwari :- Provision of Multi Section Digital Axle Counter by replacing old AC track circuit and ABB make AFTCs.	2.50
152	WR	BCT	33016	Bandra:- Provision of Multi section Digital Axle Counter by replacing old AC track circuit.	7.00
153	WR	ADI	33010	Ahmedabad Division--Provision of Digital Axle Counter to improve the safety of running track which is in corrosion environment.	6.00
154	WR	BRC	33011	Vadodara division:Provision of Digital Axle Counter to eliminate poor track shunting due to rusty Rails at 31 stations.	15.00
155	WR	BRC	33013	Vadodara- Anand Section : Replacement of AFTC by MSDAC in Automatic Signalling section	26.00
156	WR	BVP	33008	Bhavnagar Division - Provision of Digital Axle Counter to eliminate poor track shunting due to rusty rails at 14 stations.	7.00
157	WR	RJT	33009	Rajkot Division : Provision of Digital Axle Counter to eliminate poor track shunting due to Rusty rails at 17 stations.	12.00
<b>28</b>	<b>NCR</b>			<b>North Central Railway - Reliability improvement, selective repl of signalling items and safety enhancement through signalling system (Umbrella Work)</b>	<b>189.50</b>
158	NCR	AGC	33003	Mathura - PALWAL Section :Provision of Multi section digital axle counter for Dual Detection at 9 stations over Agra Division.	15.00
159	NCR	JHS	33002	Kotra(Exc.)-Dhoulpur(Exc.) :-Provision of Dual Detection of Track circuit with axle counter in Kotra(Exc.)-Dhoulpur(Exc.) section over Jhansi Div.	29.00
160	NCR	AGC	33006	Dholpur - Mathura Section :Provision of Multi section digital axle counter for Dual Detection at 10 stations over Agra Division.	15.00

SN	RLY	Division	WP No.	Name of Work	Recomm ended Cost
161	NCR	ALD	33009	Mughalsarai-Allahabad:Provision of diversity in system design for track sections on Allahabad Division.	47.00
162	NCR	AGC	33004	AGRA DIVISION: Provision of Multi Section Digital Axle Counter at important stations with water logging	12.00
163	NCR	ALD	33013	Allahabad-Fatehpur: Provision of diversity in system design for track sections on Allahabad Division.	55.00
164	NCR	ALD	33014	MUGHALSARAI-Ghaziabad- Replacement of copper cable with OFC between OFC hut to TSS, FP, SP and SSP over Allahabad division.	6.00
165	NCR	ALD	33011	Mughalsarai-Ghaziabad:Provision of air conditioning in Relay rooms of stations on 'A' route of Allahabad division.	6.00
166	NCR	AGC	33007	Bhandai-Udimore - Agra Division : Elimination of Token Block Instruments with block panels for in Bhandai – Udi section of Agra division	2.50
167	NCR	JHS	33008	Provision of Earth Leakage Detector in remaining stations,,IBH,LC gates over Jhansi division.	2.00
<b>29</b>	<b>NCR</b>			<b>North Central Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>25.00</b>
169	NCR	JHS	33001	Jhansi:Provision of Panel Interlocking over due in Datia and Kotra staion over Jhansi division.	15.00
170	NCR	ALD	33010	Allahabad-Kanpur : Replacement of existing Panel Interlocking by Electronic Interlocking at Kanspur Gugauli station on ALD Div.	10.00
<b>30</b>	<b>SECR</b>			<b>South East Central Railway - Repl of overaged signalling assets in station sections and block sections (Umbrella Work)</b>	<b>15.00</b>
171	SECR	BSP	33001	BSP Division:-Replacement of PI with EI at Korba station.	15.00
<b>31</b>	<b>SECR</b>			<b>South East Central Railway - Reliability improvement, selective repl of signalling items and safety enhancement through signalling system (Umbrella Work)</b>	<b>18.00</b>
172	SECR	NAG	33006	Replacement of IPS of 2000 version with latest version specification in Nagpur Division of SEC Railway.	2.50
173	SECR	BSP	33002	BSP Division- Provision of Integrated LED over Bilaspur Division.	6.50
174	SECR	R	33003	Raipur Division:Replacement of defective Signal, Power Cable and 4/6quad cable by 6 quad cable over Raipur Division.	4.00
175	SECR	R	33004	Raipur division: Provision of Double Distant signal in DURG-MXA-BPTP section of Raipur Division.	2.50
176	SECR	R	33005	Raipur division: Segregation of fuses on Signal lighting circuit and deletion of overlap from Calling-on circuit	2.50
<b>32</b>	<b>MR</b>			<b>Metro Railway - Signalling works (Umbrella Work)</b>	<b>52.50</b>
177	MR	MR	33001	Fire detection and suppression in Metro railway kolkata	3.50
178	MR	MR	33002	Replacement of Relay interlocking system by Electronic Interlocking System at Dum Dum and Kavisubash Stations of Metro Railway, Kolkata	5.50
179	MR	MR	33005	Upgradation of Train Management system in order to improve the visibility.	3.50
180	MR	MR	33006	TPWS On Board Equipments for new Rakes	40.00
				<b>Total</b>	<b>1890.00</b>

## Telecom Umbrella Works under PH-33 and details thereof - (WP 2019-20)

(Figure in Rs Cr.)

SN	RLY	Division	WP No.	Name of Work	Recommended Cost
1	CR	<b>Umbrella Work</b>		<b>Improvement of VHF communication inside tunnel and Replacement of Quad cable in CR</b>	<b>50.91</b>
1	CR	Bhusawal	33014	Replacement of Old aged 4 Quad Cable with 6 quad cable on completion of codal life in high density A route of BSL-MMR Section on BSL Division.	13.81
2	CR	Mumbai	33017	Improvement of VHF communication between Loco Pilot of leading Locomotive and banker inside tunnel at Panvel -Karjat and Kasara-Igatpuri Section of Mumbai Division for enhancement of safety of running train.	17.30
3	CR	Mumbai	33018	Improvement of VHF communication between Loco Pilot of leading Locomotive and banker inside tunnel at Karjat- Lonavala Section of Mumbai Division for enhancement of safety of running train.	19.80
2	ER	<b>Umbrella Work</b>		<b>Replacement and upgradation of Telecom assets over ER</b>	<b>16.10</b>
4	ER	Malda	33008	Replacement of 6 quad cable in low insulation section NAT-AKN-SGG, GNNA-KPRD-BUP, DRTP-KJH & UXN-DNRE, MLDT-PRDG of Malda Division for smooth working of BPAC and Block Instrument.	2.65
5	ER	Malda	33009	Replacement of existing Tadiran Make Flexicom-5000 Telephone exchange at NFK, SBG & BGP.	2.83
6	ER	Sealdah	33019	Provision of replacement of old and overaged Exchanges over Sealdah division.	3.46
7	ER	Sealdah	33020	Provision for upgradation of STM1 by STM4 over the Sealdah division.	7.16
3	ECR	<b>Umbrella Work</b>		<b>Replacement and upgradation of Telecom assets over ECR</b>	<b>18.68</b>
8	ECR	Sonepur	33005	Replacement of STM-1, PD Mux and Power supply system with all accessories in BJU-KIR, DKGS-SPJ and SEE-CPR section in Sonpur Division.	6.29
9	ECR	Samastipur	33006	Strengthening of Power Supply System of OFC equipments & provision of Earthing for Telecom Equipments of Samastipur Division.	3.19
10	ECR	Samastipur	33007	Rectification & rehabilitation of defective/high loss OFC in Samastipur Division.	4.88
11	ECR	Dhanbad	33009	Replacement of over aged Exchange at RNQ,DHN,CPU,GMO & BRKA with server based IP based exchange.	4.32
4	ECoR	<b>Umbrella Work</b>		<b>Replacement and upgradation of Telecom assets over ECR</b>	<b>9.93</b>
12	ECoR	WALTAIR	33004	Replacement of old & wornout Telecom gears over WAT Divn.	2.88
13	ECoR	Sambalpur	33006	Replacement of SDH equipment & Power plant of JSG-TIG & TIG -THV section	3.21
14	ECoR	Khurda Road	33008	Replacement of OFC equipments bet JKPR-JRLI & KUR-PURI section, replacement of exchange at BAM and JKPR and other telecom equipment such as battery, speaker, amplifier etc in khurda road Division.	3.84
5	NR	<b>Umbrella Work</b>		<b>Replacement of Quad cable in NR</b>	<b>22.18</b>
15	NR	Firozpur	33004	Proposal for Tunnel radio system on Jammutawi-Udhampur--Shri Mata Vaishno Devi Katra section of Firozpur Division.	17.23
16	NR	Moradabad	33016	Replacement of Defective 6 quad cable over Moradabad Division	4.95

<b>6</b>	<b>NCR</b>	<b>Umbrella Work</b>		<b>Replacement of telecom assets and provision of Railnet over Allahabad Div</b>	<b>7.59</b>
17	NCR	Allahabad	33012	Provision of LAN wiring to various activity centres, sub-divisional offices, field offices and SSE depots of all department over Allahabad division.	2.69
18	NCR	Allahabad	33014	Replacement of copper cable with OFC between OFC hut to TSS, FP, SP and SSP over Allahabad division.	4.90
<b>7</b>	<b>NWR</b>	<b>Umbrella Work</b>		<b>Replacement of telecom assets NWR</b>	<b>15.38</b>
19	NWR	Bikaner	33006	Replacement of 6 quad cable in MHU-BTI section (230 KM) over Bikaner Division	9.71
20	NWR	Jaipur	33007	Replacement of 6 quad cable in JP-SWM section of JP division	5.67
<b>8</b>	<b>SR</b>	<b>Umbrella Work</b>		<b>Replacement and upgradation of Telecom assets over SR</b>	<b>24.56</b>
21	SR	Chennai	33008	Replacement of Existing Telephone Exchanges by IP based Exchanges in Southern Railway (Chennai division- 12 Exchanges), (Madurai division- 09 Exchanges), TVC division- 10 Exchanges), Palghat-13 Exchanges.), Salem-04 Exchanges)	10.11
22	SR	Madurai	33023	Replacement of STM-1 equipments by STM 4/16 in leftover sections in Southern Railway.	14.45
<b>9</b>	<b>SCR</b>	<b>Umbrella Work</b>		<b>Replacement of Main ISDN Exchange at Railnilayam/SC</b>	<b>2.65</b>
23	SCR	SC	33003	Replacement of Main ISDN Exchange at Railnilayam/SC	2.65
<b>10</b>	<b>SER</b>	<b>Umbrella Work</b>		<b>Replacement and upgradation of Telecom assets over SER</b>	<b>9.96</b>
24	SER	Adra	33004	Replacement of Telephone exchanges of Adra Division and extension of Railnet facility to way side offices of the division.	3.65
25	SER	Ranchi	33006	Rehabilitation of telecommunication system for enhancement of efficiency of emergency, block and control communication in Ranchi Division.	6.31
<b>11</b>	<b>SWR</b>	<b>Umbrella Work</b>		<b>Replacement of 6 Quad cable over SWR</b>	<b>6.68</b>
26	SWR	Bangalore	33003	Replacement of 6 Quad cable between CPT - MNGT in Bangalore Division.	3.19
27	SWR	Bangalore	33004	Replacement of 6 Quad cable between MZU-OML in Bangalore Division.	3.49
<b>12</b>	<b>WR</b>	<b>Umbrella Work</b>		<b>Upgradation of Railnet over WR</b>	<b>3.80</b>
28	WR	WR	33021	Western Railway :- Up-gradation of Railnet Connectivity in Stores Depots of MX, SBI, DHD, Loco Sheds of BL, BRCY, VTA, SBI, Car Sheds of MX, KILE, VR, C&W workshops of PRTN, DHD, BVP, Scrap Yard of Mahim and Wi-Fi of remaining floors of HQ Building of WR.	3.80
<b>13</b>	<b>WCR</b>	<b>Umbrella Work</b>		<b>Replacement and upgradation of Telecom assets over WCR</b>	<b>14.01</b>
29	WCR	Kota	33001	Nagda - Mathura section: Replacement of obsolete and overaged OFC equipments on 'A' route on Kota division.	2.91
30	WCR	Kota	33002	Kota divn: Replacement of old and outlived Exchanges with Server Gateway based VOIP enabled exchanges on division.	2.65
31	WCR	Jabalpur	33010	Replacement of Telecom Auto Exchange at Jabalpur, Katni, New Katni and Satna stations of Jabalpur Division of WCR	5.45
32	WCR	Bhopal	33011	Bhopal Division:Replacement of OFC equipment at 37 stations which have outlived codal life in Bina-Guna section and Guna-MKC section of BPL division.	3.00
<b>14</b>	<b>MR</b>	<b>Umbrella Work</b>		<b>Replacement, provision and upgradation of Telecom assets over MR</b>	<b>7.57</b>
33	MR	MR	33003	Replacement of existing exchanges by IP Server based EPABX at Metro Bhavan, Mahanak Uttam Kumar, Dum Dum, Kavi Subhas & Noapara stations.	7.57
				<b>Total</b>	<b>210.00</b>

## Signalling &amp; Telecom Umbrella Works under PH-29 and details thereof - (WP 2019-20)

(Figure in Rs Cr.)

SN	RLY	Divn	WP No.	Name of Work	Recommd Cost
1	ER			<b>Umbrella work for interlocking of LC Gates and provision of RTU on interlocked LC Gates over Eastern Railway</b>	<b>6.40</b>
1	ER	Sealdah	29004	Provision of RTU at Interlocked LC Gates (OSL) in Main & North section of Sealdah Division.	3.40
2	ER	Asansol	29011	ASN DIVN:- Inter locking LC Gate No.12,15 & 17 in mainline section.	3.00
2	ECR			<b>Umbrella work for interlocking of L C Gates over East Central Railway</b>	<b>5.43</b>
3	ECR	Samastipur	29007	Samastipur Division_Interlocking of 07 nos. LC gate in SPJ division.	5.43
3	ECoR			<b>Umbrella work for interlocking of L C Gates over East Coast Railway</b>	<b>12.00</b>
4	ECoR	Khurda Road	29001	Provision for Interlocking of Level Crossing Gate at LC.No.KP-02,LC.No.139, 167A,238,341,361,363,364,CT-43,CT-61,KP-5 & LC. No.13 of Khurda Road Division.	12.00
4	NER			<b>Umbrella work for interlocking of L C Gates over North Eastern Railway</b>	<b>10.97</b>
5	NER	Varanasi	29001	Provision of Interlocking of LC Gate No. 18 C (DHE-MFJ), 144 C(GB-CC), 2C (ARJ-DHE), having more than 20000 TVU in BSB Division with RTU & power supply arrangement . Total-03 No LC	3.00
6	NER	Varanasi	29002	Provision of Interlocking of 6 No. LC gate irrespective of TVU in BSB Division with RTU & power supply arrangement . Total-06 No LC	4.75
7	NER	Izzatnagar	29005	Provision of interlocking at 4 nos. level crossing gates (57-C(UTP-BLU), 85 C(ARL-KJN), 319-C(HTC-MSN) & 322-C (HTC-MSN)) along with upgradation of infrastructure at these gates as per IRPWM, of Izzatnagar division	3.22
5	NFR			<b>Umbrella work for interlocking of L C Gates over Northeast Frontier Railway</b>	<b>12.03</b>
8	NFR	Alipurduar Jn	29006	Alipurduar Division : Interlocking of 09 Nos Engineering Manned LC Gate (NN/109, NN/144, SK/150, SK/164, SK/165, SK/171, SK/181, AB/24 and AB/25 ) with provision of MACLS.	5.03
9	NFR	Katihar	29007	Interlocking of 21 Nos of Engineering manned L.C. Gate of Katihar division.	7.00
6	NWR			<b>Umbrella work for interlocking of L C Gates over North Western Railway</b>	<b>40.83</b>
10	NWR	Jodhpur	29001	Provision of interlocking of 19 manned level crossings gates over Jodhpur division of NW Railway	10.89
11	NWR	Bikaner	29002	Up gradation & Interlocking of manned LC gates in various section over Bikaner division.	16.00
12	NWR	Jaipur	29003	JP Division- Provision of Interlocking 17 Nos LC gates at various locations over Jaipur Division.	13.94
7	SR			<b>Umbrella work for interlocking and power supply provisions on interlocked LC Gates over Southern Railway</b>	<b>64.26</b>
13	SR	Chennai	29001	Chennai division: Provision of backup power supply at balance interlocked LC gates in AJJ-RU,CGL-AJJ &CGL-VM sections & Improvements to quad & power cables at balance interlocked LC gates in chennai division.	17.04
14	SR	Salem	29004	Salem Division: Provision of IPS for Non-Blanking of signals and Earth Leakage detectors at Mid-section Interlocked LCs over Salem Division (12 Nos)	3.00
15	SR	Tiruchchirappalli	29005	Provision of mini IPS at Engg Interlocked LC gates in Chord line section of TPJ Division.	2.00
16	SR	Tiruchchirappalli	29006	Provision of Interlocking arrangements at manned LCs of more than 4 Nos. in Block section to ensure safety to road users over TPJ Division.	18.77
17	SR	Tiruchchirappalli	29007	Provision of Interlocking arrangements of LC's having poor visibility to Road users to ensure safety over TPJ division	10.35
18	SR	Tiruchchirappalli	29008	Provision of Interlocking arrangements of LC's located between Home and Distant signals to Road users to ensure safety over TPJ division	8.10
19	SR	Madurai	29012	Provision of power supply arrangement (IPS) (70 Set) in midsection LC gates of Madurai Division.	5.00
8	SCR			<b>Umbrella work for interlocking of LC Gates over South Central Railway</b>	<b>25.00</b>

SN	RLY	Divn	WP No.	Name of Work	Recommd Cost
20	SCR	Vijayawada	29001	Interlocking of Ten Mid-Section LC gates over Vijayawada division.	10.00
21	SCR	Secunderabad	29003	SC divn- Interlocking of LC gate nos.73,23,27,18,8,5 over SC division.	6.00
22	SCR	Guntakal	29005	Proposed interlocking of 09 LC gates over GTL division {LC No. 17, 40(GDR-TPTY), 94, 108, 113, 125 (GY-RU), 234 (GY-WD), 60, 61 (RAM-KPD)}.	9.00
<b>9</b>	<b>SER</b>			<b>Umbrella work for interlocking of LC Gates over South Eastern Railway</b>	<b>7.13</b>
23	SER	Kharagpur	29004	Kharagpur Division : Interlocking of Level Crossing Gates (09 Nos.) with provision of Emergency Sliding Boom.	4.00
24	SER	Ranchi	29010	Interlocking of 3 Nos. level crossing gates of Ranchi Division (Gate Nos. MK-3 at Km. 357/7-9, MK-7 at Km. 360/23-25 & MB-9 at Km. 365/11-12).	3.13
<b>10</b>	<b>SWR</b>			<b>Umbrella work for interlocking and power supply provisions on interlocked LC Gates over South Western Railway</b>	<b>32.00</b>
25	SWR	Mysore	29001	Provision of Integrated Power Supply at 39 LC gates and RTU at 54 Mid section engineering interlocked LC and provision of selective dialling LC phones over MYS division.	12.00
26	SWR	Mysore	29002	Interlocking of LC gates over Mysore Division where TVU'S has exceeded 20000.(Excl. HMRDC section)	10.00
27	SWR	Hubli	29003	Provision of Mini Integrated Power Supply System to avoid blanking of signals in the face of approaching train and Remote Terminal unit (RTU) for mid-section Interlocked LC gates (Total 54 LC gates) over Hubballi Division.	10.00
<b>11</b>	<b>WR</b>			<b>Umbrella work for replacement works on LC Gates, interlocking of LC Gates over Western Railway</b>	<b>38.00</b>
28	WR	Mumbai	29011	Mumbai Division : Interlocking of LC NO. 07, 47 of VR-ST Sec. & LC NO. 23, 81 of UDN-JL Sec.	4.00
29	WR	Vadodara	29012	Vadodara Division: Replacement of Mechanical lifting barrier(MLB) and Semaphore signal with Electrical Lifting Barrier (ELB) and CLS at 28 LC gates	10.00
30	WR	Vadodara	29014	Ratlam Division:- Interlocking of 28 Nos. LC Gates of Ratlam Division.	24.00
<b>12</b>	<b>WCR</b>			<b>Umbrella work for interlocking of LC Gates over West Central Railway</b>	<b>13.00</b>
31	WCR	Jabalpur	29003	JBP-Division-Interlocking of non Interlocked LC Gates TVU having more than 20000.(13 Nos. )	13.00
<b>13</b>	<b>CR</b>			<b>Umbrella work for interlocking of LC Gates over Central Railway</b>	<b>8.00</b>
32	CR	Solapur	29003	Interlocking of LC gate No. 27 A (Jintiroad-Parewadi), 10(Shendri-Barshi) & 59 (Ausa-Latur) of Solapur division on Central Railway.	3.00
33	CR	Nagpur	29004	Interlocking of 2 Level Crossing Gates of Nagpur Division	2.00
34	CR	Solapur	29005	Interlocking of LC gate No. 2, 4 & 39 between KVV-LUR sections of Solapur division on Central Railway.	3.00
				Total Cost (Signalling)	<b>275.05</b>
<b>Telecom Umbrella Work</b>					
<b>1</b>	<b>SR</b>			<b>Replacement and provision of 6 Quad cable and communication facility with interlocked/manned LC gates</b>	<b>24.95</b>
35	NER	Varanasi	29003	Provision of additional Quad Cable in section of ARJ-JNU for LC Gate Manning of BSB Division.	2.05
36	SR	Trivandrum	29017	Provision of 6 Quad Cable to improve the communication arrangement at LC gates in SRR-KLMR section of TVC Division.	6.38
37	SR	Palghat	29018	Palakkad Division: Provision of 6 quad cable in Shoranur - Kannur section for networking of RTUs at LC gates	8.63
38	SCR	Secunderabad	29011	STBD-LPJL Section:- Replacement of existing aged defective 6 Quad cable for Improving the Road safety with reliable LC gate and EC communication between STBD-LPJL section (65 Kms)	2.30
39	SCR	Guntakal	29013	Provision of Additional Quad cable in NRE-RU section (7 block sections) for improving signalling and communication reliability for LC gates.	3.18
40	WCR	Jabalpur	29005	Provision of secured communication equipment voice logging between level crossing gates and station master.	2.41
				<b>Total Cost (Signalling &amp; Telecom)</b>	<b>300.00</b>