

Details of achievements in the last five years for Cataloguing and Displaying on the RDSO website.

S.No.	Financial Year	Broad Area of Achievement	Title of Achievement	Description of Achievements	Likely Benefits	Current Status of Implementation
1.	2020-21	Development of Test Track	TI/Design Document/OHE/2020 /00	OHE Design Document No. TI/Design Document/OHE/2020 /00 has been sent to NWR vide this office letter No. TI/GEN/Test Track/2002 dated 19.05.2020 for 12km High Speed Test Track.	For testing & trials at high speed	under progress
2.	2020-21	Development of work	TI/IN/0043 Rev.0	PSI Guideline for Increasing Speed Potential to 160kmph on NDLS-HWH & NDLS-BST Routes issued to Zonal Railways on 24.11.2020 vide letter no. TI/PSI/TSS/POLIC	Increasing the speed of the trains	

				Y/19 dated 24.11.2020.		
3.	2020-21	Layout/General arrangement of Traction substation and switching station for 2X25kV system for speed upgradation to 160kmph	Traction Substation and switching stations drawing with reduced area for 2X25kV system.	35 Nos Layout/General arrangement were issued on 24.11.2020 for Traction substation and switching stations.	Zonal Railways may construct Traction Substations and switching stations with reduced area	
4.	2020-21	Increase in number of sources	Approval of M/s VIBRO for SCADA	M/s V-Bro Terch India Pvt. Ltd. was approved on 27.10.2020 in approved category for the 'SCADA system Complete.'	Healthy competition is obtained, if we have more number of sources.	
5.	2020-21	Increase in number of sources	Approval of M/s APPSIL for 66kV Double Pole, Triple Pole Outdoor SF6 Circuit Breaker.	M/s APPSIL was approved in Developmental vendor category for 66kV Double Pole, Triple Pole Outdoor	Healthy competition is obtained, if we have more number of sources.	

				SF6 Circuit Breaker on 20.01.2021.		
6.	2020-21	Increase in number of sources	Development of vendors	03 Nos. Vendors of Circuit Breaker, 01 No. for Interrupter, 01 Nos in capacitor Bank, 02 Nos. of transformer were approved in developmental Category with limited quantity.	Healthy competition is obtained, if we have more number of sources.	
7.	2020-21	Development of 8W-DETC manufactured by M/s SAN Engg., & Locomotive Co. Ltd., Bangalore with maximum speed of 110 kmph, against Railway Board P.O. RE(S)/11/2016/001/7/1/30667,	8W-DETC	Oscillation and EBD trail completed.	OHE maintenance/inspection and to attend brake down of OHE	In progress and likely to be completed by August 2021.

		dated 09.05.2017				
8.	2020-21	Multi-sourcing of vendor for 1600mm CD Composite Insulators for 02- vendors to 03 vendors.	New Vendor development	03 more Sources in limited development/developmental Category added for the item.	-	Developed
9.	2020-21	Requirement of 25kV insulator for electrification in high altitude area of J&K region was analyzed and guideline for use of 25 kV composite Insulator with 1600 mm issued for use in snowbound, stone-pelting, and high altitude (1600 meter)	Guideline for use of 25 kV composite Insulator with 1600 mm	Guideline for use of 25 kV composite Insulator with 1600 mm.	-	Issued.

		area of J&K (Banihal- Baramulla).				
10.	2020-21	TI/DRG/CIV/H GAUG E/RDSO/00001/ 05/0 MOD B	Standard plan height gauge for level crossing (for clear span upto 7.3m) details of structures & foundation			
11.	2020-21	TI/DRG/CIV/H GAUG E/RDSO/00002/ 05/0 MOD B	Standard plan height gauge for level crossing (for clear span above 7.3m upto 12.2m) Details of structures & foundation			
12.	2020-21	TI/DRG/CIV/H. GAUG E/RDSO/00001/ 14/0 -MOD C	Standard plan height gauge for level crossing (for clear span 7.3m to 10m) details of structures & foundation(approved in principle)			
13.	2020-21	TI/DRG/CIV/ES /RDSO/00001/2 1/0 (SHEET-1)	Normal OHE employment schedule mast (9.5m) basic wind speed 55 m/s , wind pressure 216 kgf/sq.m (without RC & without earth wire) 1000 tension in cat.65			

			sq. Mm & 1000 in cont. Wire 107 sq.mm.			
14.	2020-21	TI/SPC/CIV/PO R/0080(08/2008 ) (AUG 2008) REV.-1	Technical specification for corrosion resistant paint system for outdoor structures of traction distribution and traction rolling stock.			
15.	2020-21	ETI/C/3 (5/83) REV.1	Technical specification of spraying zinc coating on the OHE mast for railway electrification			
16.	2019-20	Development of work	TI/REPORT/PSI/ 2019/00134	Proliferation of Solar Scheme (Utilization of Solar Power in the Traction Application)	The solar power as a renewable energy shall be used in Railways to promote the green energy thereby helping in reducing carbon in the environment.	The solar power generated near Bina TSS, is being fed to 25kV LV bus of Bina TSS and the electric locomotives running in the section are utilizing the solar power.
17.	2019-20	Increase in number of sources	Approval of vendor for the 21.6/30.24 MVA-66/27kV Traction Power transformer.	M/s ABB India Limited was	Healthy competition is obtained, if we	

				approved on 10.02.2020	have more number of sources.	
18.	2019-20	Revision of SMI	TI/SMI/0032 Rv. 02.	The revised SMI for provision of earthing at switching post issued on  26.02.2020.	Increasing the safety.	2019-20
19.	2019-20	Revision of Specification	TI/SPC/PSI/ TRNPWR/3200	Revised specification of Single Phase Traction Power Transformer (after Clubbing three specifications) issued on 08.01.2020 (spec. No.  TI/SPC/PSI/TRNP WR/3200.	For simplicity to avoid specification with number of A&C slips	2019-20
20.	2019-20	Traction Sub- Station Layout	TI/DRG/PSI/TSSLO /RDSO/00013/19/00	Development of Layout for TSS with reduced area	Railway board advised to make design of TSS	2019-20

		with reduced area			with max.22 meter width, so that land acquisition from outside authorities is avoided. Accordingly, the drawing of TSS layout has modified. The existing size of TSS of 41.75mX90.55m has been reduced to 20.9m X 109.75m.	
21.	2019-20	Revision of Specification No. TI/SPC/OHE/SP OLT/0140 Rev. 1 for Self-propelled Over-Head-Equipment-Laying-Train(SPOLT) for	Revision of Technical Specification	Technical Specification has been revised.	Stringing of Contact & Catenary wire, save the block requirement making the composition and would obviate the need for using diesel loco, as per the existing practice.	Completed



		B.G. (1676 mm) Routes of Indian Railways.				
22.	2019-20	Revision of Specification No. TI/SPC/OHE/M RI/0140, Rev.1 for Measuring & Recording Instrumentation (MRI) for retro fitment in 8WDETC.	Revision of Technical Specification.	Technical Specification has been revised.	Measurement and recording of OHE Parameter at speed 110 kmph.	Completed
23.	2019-20	Revision of Specification No. TI/SPC/OHE/N ETRA/0140 Rev. 2 for Self-propelled Recording-cum test Car (NETRA) for	Revision of Technical Specification	Technical Specification has been revised.		

		Electric Traction.				
24.	2019-20	Guidelines for Cleaning Methodology for Composite Insulator in service issued.	Insulators maintenance.	Guidelines issued.		
25.	2019-20	ETI/C/0077-SHEET 3A "MOD-A"	Two track cantilever structure (TTC -17) details of 10m boom along the track			
26.	2019-20	File no. TI/CIV/GCP/2020 dated 22.10.2020.	Letter issued to all Zonal Railway regarding Weight of Galvanization for different OHE of 42 OHE Structures.			

27.	2018-19	Product Development	Development of Copper Magnesium Catenary wire	<p>specification No. TI/SPC/OHE/CAT(Cu-Mg)/0150(11/2016) and STR No.TI/STR/037 (Rev. 0) for Cu-Mg Catenary wire has been Issued on 23.11.2016. RDSO has conducted prototype testing of four firms namely M/s APAR Industries, M/s Vindhya Telelink Limited, M/s AIREN Metals Pvt. Ltd and M/s NTPL. CORE and ECoR were advised vide letter no. TI/OHE/CAT(Cu-Mg)/18 dated 18.03.2019 to procure Cu-Mg Catenary for field trial.</p>	<p>Usage of Cu-Mg Catenary Wire in place of Cu-Cd catenary wire will reduce the harmful effect of Cadmium on Environment and human beings.</p>	<p>Under field trial.</p> <p>CORE has procured the material for field trials in RE projects of Bagpat, Ratangarh, Minchal, Nayagarh, Pratapgarh.</p> <p>ECoR vide letter ECoR/EL/S/474/06/147 dated 02.03.2021, informed RDSO that construction organization of ECoR has been advised to procure Cu-Mg catenary wire and is under process of procurement.</p>
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28.	2018-19	Revision of Traction Sub-stations layout for ABT Meter.	Traction Sub-Stations layouts	Total 10 Nos. Drawings of different types of layouts of Traction sub-stations has been revised and issued to railways on 26.07.2018.	Provision of CT & PT for ABT meter.	Zonal Railways utilized the Drawings to construct the Traction sub-Stations.
29.	2018-19	Increase in number of sources	Approval of vendor for the 30/42MVA-220/27kV Traction Power transformer.	M/s Transformers & Rectifiers Limited, Ahmadabad was approved in developmental category on 6.06.2018.	Healthy competition is obtained, if we have more number of sources.	Firm is supplying the items.
30.	2018-19	Increase in number of sources	Approval of vendor for the 132kV Double Pole, Triple Pole Outdoor SF6 Circuit Breaker	M/s Siemens, Aurangabad was approved in developmental category on 15.03.2019.	Healthy competition is obtained, if we have more number of sources.	2018-19
31.	2018-19		TI/SPC/OHE/SPRINGATD/(0110(03/2012)Revision 1	specification for Auto tensioning	suitable for Tunnel and where	under field trail.

				device (issued on dated 11.07.2018)	space is constraint.	
32.	2018-19	Reliability		Dropper Schedule for 65/107 Regulated OHE having 0.8mm/m presag and 1200kgf tension in contact and catenary wire issued to NCR & WCR vide letter no. TI/OHE/GA /2018 dated 20.09.2018	To reduce Panto-entanglements	Panto entanglement cases reduced
33.	2018-19	Development of 8W DETC with maximum speed of 110 kmph manufactured by M/s BEML against Railway Board P.O. RE(S)/11/2015/001/7/2/30665, dated 12.07.2016	8W-DETC	8W-DETC developed.	OHE maintenance/ inspection and to attend brake down of OHE	completed

34.	2018-19	TI/DRG/CIV/A NCH.- FND/00001/17/0 (Rev.-C)	Anchor-Bolt Arrangement For Mast Erection in Hard Rock of SBC-90000 Kg/m <sup>2</sup> for conventional as well as high Rise OHE			
35.	2018-19	TI/IN/0038	Technical instruction for Earthing practices on various types of Bridges.			
36.	2018-19	TI/DRG/CIV/A NCH.- FND/RDSO/000 01/1 7/0 "MOD- C"	Anchor-bolt arrangement for mast erection in hard rock of sbc-90000 kg/sq. M for conventional as well as high rise OHE			
37.	2018-19	TI DRG/CIV/BW/ RDSO/00001/19 /0 (SHEET-1)	Details of Baffle wall at traction Sub-station (wind pressure 178, 155, 136, 105 & 73 kg/sqm)			
38.	2018-19	TI DRG/CIV/ES/R DSO/00001/19/0	Normal OHE for KLK-SML section employment schedule mast (9.5m) basic wind speed 39 m/s, wind pressure 105kgf/sq.m (without RC & without earth wire) 1000 tension in cat. 65			

			sq. Mm & 1000 tension in cont. 150 sq. mm.			
39.	2018-19	TI DRG/CIV/TT- ES/RDSO/0000 1/19/0	Normal OHE employment schedule mast (9.5m) basic wind speed 47 m/s , wind pressure 155kgf/sq.m (without RC & without earth wire) 1200 tension in cat.65 sq. Mm & 1200 tension in cont. 150 sq.mm.			
40.	2017-18	Overhauling of Traction Power Transformer on Condition Basis.	TI/MI/0039 (Rev.02)	The Maintenance Instruction no. TI/MI/0039 (Rev.02) has been circulated to Zonal Railways vide RDSO's letter no. TI/PSI/TRNPWR/POLICY /17/01 dated 26.09.2017 for Overhauling of Traction Power Transformer on Condition Basis.	The overhauling of the Traction Power Transformer on the time basis is not required. Certain parameters will be checked and if required, the overhauling will be done.	The SMI has been issued to Zonal railways on 26.09.2017.

41.	2017-18	Revision for Maintenance Instruction of 8-Wheeler Tower Wagons.	Revision of Maintenance Instruction.	Revised Maintenance Instruction.	of	Increase the smoothly Working of 8-W Tower wagon.	completed
42.	2017-18	Revision for Maintenance Instruction of 4-Wheeler Tower Wagons.	Revision of Maintenance Instruction.	Revised Maintenance Instruction.	of	Increase the smoothly Working of 8-W Tower wagon.	completed
43.	2017-18	TI/DRG/CIV/PR E-CAST HOLLOW/RDS O/00001/18/0	Pre-cast Cylindrical hollow foundation for OHE mast (SBC-11000 kg/m <sup>2</sup> ) for side bearing (Conventional OHE)				
44.	2017-18	TI/DRG/CIV/T UNNEL ANCHOR BOLT/00001/18 /0	OHE Cantilever Mounting Plate and Anchor Bolt Arrangement inside tunnel				
45.	2017-18	TI/DRG/CIV/ES /RDSO/00001/18/0 (sheet -1)	Normal OHE Employment Schedule Mast (9.5m) Wind Pressure 73 Kgf/m <sup>2</sup> Basic Wind Speed 33 M/s (Without Return Conductor				



			and without Earth wire) 1000 kgf Tension in Cat. 65 mm <sup>2</sup> , 1000 kgf Tension in Cont. 107 mm <sup>2</sup>			
46.	2017-18	TI/DRG/CIV/ES /RDSO/00001/1 8/0 (sheet -2)	Normal OHE Employment Schedule Mast (9.5m) Wind Pressure 105 Kgf/m <sup>2</sup> Basic Wind Speed 39 M/s (Without Return Conductor and without Earth wire) 1000 kgf Tension in Cat. 65 mm <sup>2</sup> , 1000 kgf Tension in Cont. 107 mm <sup>2</sup>			
47.	2017-18	TI/DRG/CIV/ES /RDSO/00001/1 8/0 (sheet -3)	Normal OHE Employment Schedule Mast (9.5m) Wind Pressure 136 Kgf/m <sup>2</sup> Basic Wind Speed 44 M/s (Without Return Conductor and without Earth wire) 1000 kgf Tension in Cat. 65 mm <sup>2</sup> , 1000 kgf Tension in Cont. 107 mm <sup>2</sup>			
48.	2017-18	TI/DRG/CIV/ES /RDSO/00001/1 8/0 (sheet -4)	Normal OHE Employment Schedule Mast (9.5m) Wind Pressure 155 Kgf/m <sup>2</sup> Basic Wind Speed 47 M/s			

			(Without Return Conductor and without Earth wire) 1000 kgf Tension in Cat. 65 mm <sup>2</sup> , 1000 kgf Tension in Cont. 107 mm <sup>2</sup>			
49.	2017-18	TI/DRG/CIV/ES /RDSO/00001/1 8/0 (sheet -5)	Normal OHE Employment Schedule Mast (9.5m) Wind Pressure 178 Kgf/m <sup>2</sup> Basic Wind Speed 50 M/s (Without Return Conductor and without Earth wire) 1000 kgf Tension in Cat. 65 mm <sup>2</sup> , 1000 kgf Tension in Cont. 107 mm <sup>2</sup>			
50.	2016-17	Maintenance Instruction of 25kV Circuit Breaker /Interrupter	TI/MI/0054	The Maintenance Instruction no. TI/MI/0054 was circulated to Zonal Railways vide RDSO's letter no. TI/PSI/CBINT/PO LICY/17 dated 13.09.2017.	For scheduled maintenance of the Circuit Breaker and Interrupter	Instruction is being followed by Zonal Railways.

51.	2016-17	Design Drawing Approval for development of 8W DETC manufactured by M/s BEML Ltd. Bangalore, against Railway Board P.O. RE(S)/11/2015/001/7/2/30665, dated 12.07.2016.		Development of 8W-DETC.	Design drawing approved	OHE maintenance/inspection and to attend brake
52.	2016-17	TI/DRG/CIV/FND/RDSO/0000 2/17/0 (Sheet-1/1)	Cylindrical Foundation for side bearing type (For Conventional OHE) ( SBC-11000 kg/m2)			
53.	2016-17	TI/DRG/CIV/FND/RDSO/0000 3/17/0 (Sheet-1/1)	Cylindrical Foundation for side bearing type (For High Rise OHE) ( SBC-11000 kg/m2)			
54.	2016-17	TI/DRG/CIV/FND/RDSO/0000 4/17/0 (Sheet-1/1)	Cylindrical Foundation for side gravity location For Conventional OHE ( SBC-8000 & 11000 kg/m2)			

55.	2016-17	TI/DRG/CIV/F ND/RDSO/0000 5/17/0 (Sheet- 1/1)	Cylindrical foundations for Side Gravity Location for High Rise OHE (SBC-8000 & 11000 Kg/m <sup>2</sup> )			
56.	2016-17	TI/DRG/CIV/F ND/RDSO/0000 6/17/0 (Sheet- 1/1)	Cylindrical foundations for Side Gravity Location for Conventional OHE (SBC- 15000 & 20000 Kg/m <sup>2</sup> )			
57.	2016-17	TI/DRG/CIV/F ND/RDSO/0000 7/17/0 (Sheet- 1/1)	Cylindrical foundations for Side Gravity Location for High Rise OHE (SBC- 15000 & 20000 Kg/m <sup>2</sup> )			
58.	2016-17	TI/DRG/CIV/F ND/RDSO/0000 8/17/0 (Sheet- 1/1)	Cylindrical foundations for Side Bearing Location for Conventional OHE (SBC- 15000 & 20000 Kg/m <sup>2</sup> )			
59.	2016-17	TI/DRG/CIV/F ND/RDSO/0000 9/17/0 (Sheet- 1/1)	Cylindrical foundations for Side Bearing Location for High Rise OHE (SBC- 15000 & 20000 Kg/m <sup>2</sup> )			
60.	2016-17	TI/DRG/CIV/F ND/RDSO/0000	Cylindrical foundations in Embankment for conventional OHE (SBC-			

		10/17/0 (Sheet-1/1)	11000, 15000 & 20000 Kg/m <sup>2</sup> )			
61.	2016-17	TI/DRG/CIV/FND/RDSO/0000 11/17/0 (Sheet-1/1)	Cylindrical foundations in Embankment for High Rise OHE (SBC-11000, 15000 & 20000 Kg/m <sup>2</sup> )			
62.	2016-17	TI/IN/0035	Technical instruction for testing of OHE structure's foundation.			
63.	2016-17	TI/SPC/OHE/Fasteners/0120 (Rev.-1)	Technical specification for steel fasteners and stainless-steel fasteners for 25 kV ac traction overhead equipment's.			
64.	2015-16	TI/SPC/OHE/5P ATD/0130	Technical Specification for Five pulley Auto tensioning devices for 25kv AC Traction (issued on dated 18.10.2015)	suitable for semi high speed (160-200kmph specially Mumbai sub urban area		Implemented by CR &WR railways
65.	2015-16	TI/SPC/OHE/MCS/0150(08/2015)	Modular Cantilever System(issued on dated 14.08.2015)		as per railway board letter no. 2004/RE/161/9 dated 14.7.2008	Vendor development are under process

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					instruction specification has been developed.	
66.	2015-16	TI/DRG/CIV/TT C/00001/13/0 (Sheet-3)	Two Track Cantilever Structures (Details OF 5.5 m Boom) (For High Rise OHE)			
67.	2015-16	TI/DRG/CIV/ES /RDSO/00001/1 6/0	Normal OHE Employment Schedule Mast (9.5m) Basic Wind Speed 44 M/s Wind Pressure 136 Kgf/m <sup>2</sup> (Without Return Conductor and without Earth wire) 800 kgf Tension in Cat. 65 mm <sup>2</sup> , 1200 kgf Tension in Cont. 107 mm <sup>2</sup>			