

Schedule-G for payment clause in EPC tender for Kavach work in ECR

SN	Major Item	% Weightage to the Contract Price	Item	% Weightage to the Contract Price	Stage for Payment	Percentage weightage	Payment Procedure		Cost in DE	Payment to be done	Total cost for major component		
1	Signalling works of Provision of TCAS complete	76.31%	2.1 Signaling work for provision of Train Collision Avoidance System.	65.15%	2.1.1	1.81%	2.1.1.1 Survey, design and supply of various drawings and document for TCAS system including RSSI and Arial survey. Payment shall be made on completion of Survey and Design works for TCAS (Kavach) system after approval and submission of all drawings, schemes etc. on pro rata basis after work completion in atleast one block section with respect to required work in total km of route length	Payment includes only 90%	19,862,261.82	17,876,035.64			
					2.1.2	60.25%	2.1.2.1 Supply, installation, testing and commissioning of Stationary/IBH/LC TCAS system including Vital Computer, Supply & Installation of RFID Tags of TCAS, Installation of Connected LC's, programming Kit etc. Relay / CT Racks, Antennas, RIU programming Kit etc. Payment shall be made on completion of work on pro rata basis for each block section for track side equipments.	Payment includes only 90%	659,506,140.25	593,555,526.22			
					2.1.3	29.09%	2.1.3.1 Supply & installation of Loco TCAS system including Vital Computer, peripherals RFID readers, peripherals such as DMI, modems, Antennas, programming Kit etc. For cab equipment, payment shall be made for 60 locos on a pro rata basis.	Payment includes only 90%	318,410,815.40	286,569,733.86			
					2.1.4	3.81%	2.1.4.1 Supply, Installation and commissioning of Lattice tower in Section/IB/LC, etc including aviation lamp, fencing , painting, earthing, cables, etc. Payment for tower will be done on pro rata basis with respect total no. of towers required in this work.	Payment includes only 90%	41,713,190.00	37,541,871.00			
					2.1.5	1.39%	2.1.5.1 Supply & Installation of Network Management system (NMS) for TCAS. Payment shall be made on completion of the entire work.	Payment includes only 90%	15,242,498.43	13,718,248.59			
					2.1.6	2.57%	2.1.6.1 Supply & Installation of Test Bench and setup of Labs for TCAS including supply of various manuals, tool kits and instruments. Payment shall be made on completion of the entire work.	Payment includes only 90%	28,182,506.74	25,364,256.06			
					2.1.7	1.07%	2.1.7.1 Training to Railway Personal and safety case. Payment shall be made on completion of the entire work.	Payment includes 100%	10,516,750.00	10,516,750.00			
					Total:					100.00%			1,093,434,162.64
			2.2	3.60%	2.2.1	100.00%	2.2.1.1 Inventory: Supply of TCAS spares Supply of spares for Train Collision Avoidance System (TCAS). Payment for inventory (supply of spares) for each stage shall be made on completion of works (item 2.1.2) and supply of entire quantity of spares. There will not be any payment for part supply of inventory.	Payment includes only 90%	60,468,960.80	54,422,064.72			
			2.3	7.56%	2.3.1	100.00%	2.3.1.1 Integrated testing and commissioning of the signalling works of railway project along with supply of safety case, key and management service charge. On the issuance of Completion Certificate. In case the Completion Certificate is for part of the Railway Project, the payment shall be made for the route km covered by the Completion Certificate on pro rata basis with reference to the total route km for the Project	Payment includes balance 10%	1,153,903,123.44	1,039,564,486.10	1,153,903,123.44		

2	Telecommunication work for Provision of two 24 Fibres OFC Backbone	12.38%	2.4 Telecommunication work for Provision of two 24 Fibres OFC Backbone system.	11.14%	2.4.1 Survey of Optical fibre cable system including its design, testing, supply of manuals for new technology Telecommunication equipment installed for each place, supply of completion drawings, etc.	0.89%	2.4.1.1 Unit of measurement is distance in track km between two stations. Payment shall be made on completion of work between two stations on pro rata basis with respect to the total track km length.	Payment includes only 90%	1,665,998.00	1,499,398.20	
					2.4.2 Supply of OFC(2X24 Fiber)	21.24%	2.4.2.1 Payment shall be made on completion of supply on pro rata basis with respect to total track kilometre (TKM) length. Payment for supplies, to the extent of maximum 10% of the total quantity involved in scope of work may be done. Payment against supplies under these items shall be made for quantities as per the approved layout, on receipt of material at contractor depot and production of inspection certificates and other documents and against BG of equivalent amount. Note: payment made for supplies under these items shall not be counted for completion of Project milestone under schedule-I.	Payment includes only 90%	39,765,528.00	35,788,975.20	
					2.4.3 Laying of OFC via two routes and supply, Installation, testing & commissioning of complete OFC communication system.	77.87%	2.4.3.1 Payment shall be made on completion of installation work between two stations on pro rata basis with respect to total track kilometre (TKM) length.	Payment includes only 90%	145,750,360.00	131,175,324.00	
					Total:	100.00%					
		2.5 Integrated testing and commissioning of the communication works of railway project along with supply of all as made drawing of communication works	1.24%	2.5.1 Integrated testing and commissioning of complete OFC communication system and supply of completion drawings and documents.	100.00%	2.5.1.1 On the issuance of Completion Certificate. In case the Completion Certificate is for part of the Railway Project, the payment shall be made for the route km covered by the Completion Certificate on pro rata basis with reference to the total route km for the Project.	Payment includes balance 10%	187,181,886.00	168,463,697.40	187,181,886.00	
3	Civil work for provision of Service building at Stations/LC gates/IBH.	11.31%	2.6 Provision Service building at stations and LC/IBH.	10.18%	2.6.1 Survey, design and construction of Service Building at station and Relay hut at LC/IBH including Fire alarm system, electrical wiring, fittings with complete doors, windows and floorings and any other requirements as per approved drawings.	100.00%	2.6.1.1 Payment shall be made on completion of Survey and Design works and approval of these drawings by authority for service building / Relay Hut and construction of service building on pro rata basis with respect total Built-up area of Service building & Relay Hut in the Section.	Payment includes only 90%	171,028,535.75	153,925,682.17	
			2.7 Overall completion of service buildings		1.13%		2.7.1 Completion of the Service building in all respect and commissioning of the entire work included in the whole project.	100.00%	2.7.1.1 payment shall be made on completion of all Buildings/ Relay Huts in all respect in the entire section included in the project.	Payment includes balance 10%	171,028,535.75
Total:		100.00%	Total:	100.00%					0.61		1,512,113,545.19
4	Annual Maintenance Obligation for TCAS system for 15 years.	0.00%	2.8 Annual Maintenance Obligation for Kavach System applicable for first four years from the date of completion certificate.	0.00%	2.8.1 Annual Maintenance for Kavach System including Stationary TCAS, Loco TCAS, NMS, Test benches, Labs, Radio Modems, antenna, Power supply, etc in accordance with Clause 15. Note: This Maintenance will be executed under the supervision of Division and Authority for this purpose will be Sr.DSTE/DHN and Sr.DSTE/DDU for respective Divisions.	0.91%	2.8.1.1 Payment for Maintenance will be done monthly based on Monthly Maintenance Payment Statement on pro rata basis in accordance with Clause 17.		60.79%		
			2.9 Annual Maintenance Obligation for Kavach System applicable from Fifth year to Fifteenth year from the date of completion certificate.		0.00%		2.9.1 Annual Maintenance for Kavach System including Stationary TCAS, Loco TCAS, NMS, Test benches, Labs, Radio Modems, antenna, Power supply, etc in accordance with Clause 15. Note: This Maintenance will be executed under the supervision of Division and Authority for this purpose will be Sr.DSTE/DHN and Sr.DSTE/DDU for respective Divisions.	1.82%	2.9.1.1 Payment for Maintenance will be done monthly based on Monthly Maintenance Payment Statement on pro rata basis in accordance with Clause 17.		