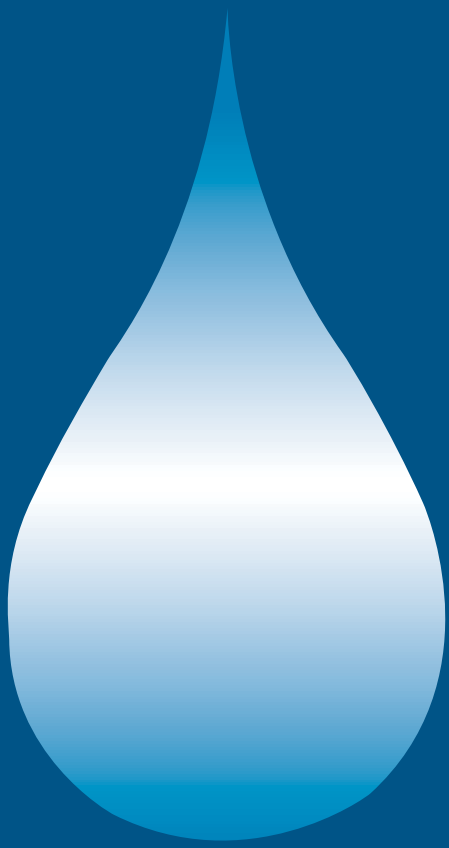
सत्यमेव जयते

भारत सरकार

Government of India

जल संसाधन मंत्रालय

Ministry of Water Resources



केन्द्रीय जल आयोग

Central Water Commission

Schedule of Rates - 2012

Chairman
Central Water Commision &
Ex - Officio Secretary
to the Government of India

FOREWORD

Hydrological observations, Flood forecasting on important rivers in the country, Surveys and investigation of Water Resources Projects, etc, are the important field activities being carried out by the Central Water Commission since long. CWC is also engaged in construction of buildings for office and operations, etc. Apart from these, CWC is also organizing Exhibitions at different places for information, education and communication activities of the Union Ministry of Water Resources.

Since the field offices of CWC are functioning on the pattern of Central Public Works Department, they have been using CPWD or local PWD schedule of rates for their work. However, many activities of CWC are entirely different from those of CPWD. Hence, there was need for CWC to have its own Schedule of Rates for items not covered in PWD schedule. Accordingly, a Committee headed by Chief Engineer (YBO) was constituted for preparation of CWC's Schedule of Rates in September, 2011 and the Committee has finally prepared the SOR in January, 2012.

I place on record the admiring leadership and farsighted vision of Shri S.P. Kakran, Member (River Management), Central Water Commission for providing guidance to the Committee in bringing out CWC's Schedule of Rates for items not included in PWD schedules, for the first time in history of CWC. I am sure the present document will be found very useful by the field offices of Central Water Commission.

(R. C. Jha)

New Delhi
March, 2012

Member (RM)
Central Water Commision &
Ex- Officio Additional Secretary
to the Government of India

PREFACE

Since the field offices of Central Water Commission are functioning on the pattern of Central Public Works Department (CPWD), the field offices hitherto refer to CPWD Works Manual for their activities. For preparation of technical estimates, local Schedule of Rates of CPWD and State PWD or other agencies are adopted by the field offices of CWC. However, difficulties are faced by the field offices as many items do not feature in PWD Schedule of Rates. This requires Analysis of Rates for such items as are used by CWC offices but are not a part of Schedule of Rates of CPWD / State PWDs. In this publication, an attempt has been made to prepare Schedule of Rates for many such items.

I place on record the outstanding efforts made by the Committee headed by the Chief Engineer, Yamuna Basin Organization, Central Water Commission, New Delhi, in bringing out CWC's Schedule of Rates in the shortest possible time. I am sure that the present document will be quite helpful in preparation of realistic estimates by the field offices of CWC. I hope, the regional organizations of CWC would find CWC's Schedule of Rates-2012 very handy to streamline the field activities in a very systematic manner.

S P Kakran

(S. P. Kakran)

New Delhi
March, 2012

Chief Engineer
Yamuna Basin Organization
Central Water Commision
New Delhi

ACKNOWLEDGEMENT

Schedule of Rates plays a very important role in preparation of estimates and ascertaining reasonability of quoted rates for works to be undertaken by any Department / Agency. Central Water Commission has been using Schedule of Rates of CPWD and the State Governments for preparation of its estimates. However, CWC's work involves procurement of goods or services which are not included in the Schedules of Rates by Central or State PWDs. Therefore, there has been a continued need for having CWC's own Schedule of Rates. Accordingly, Member(RM), CWC constituted a Committee headed by Chief Engineer (YBO), CWC to prepare a Schedule of Rates for items pertaining to CWC.

The Committee identified various items of works often required by the field offices of CWC but not included in PWD Schedules, and worked for analysis of rates for such items. The Committee held four meetings and finalized this Schedule of Rates of CWC.

The present document is the outcome of valuable guidance of Shri S.P. Kakran, Member (RM), CWC. I acknowledge with thanks the significant contributions of Shri C. Lal, Director (FMP), Shri A.K. Kharya, Director (Climate Change), Shri Aditya Sharma, SE (P. C.), Shri D. P. Mathuria, Director (RMCD), Shri Virendra Shrama, SE (C), YBO, Shri N.K. Manglik, SE (HOC), Noida, Shri Bhupesh Kumar, SE (I.C.), Gangtok, Shri Amit Kumar Jha, Executive Engineer (P&I Division) and Shri I.S. Yadav, Accounts Officer,CWC in preparation of this document in such a short time.

(M. K. Sinha)

New Delhi
March, 2012

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GENERAL

1.0 GENERAL

The Central Water Commission (CWC) has come a long way since its creation in 1945 in its march towards achievement of the goal of furthering and promoting measures for control, conservation and utilization of water resources throughout the country in the areas of beneficial uses, irrigation and hydro-power generation, flood management and river conservation. As a national apex engineering organization in the field of water resources development, the CWC with its vast experience gained in its strides toward progress in more than six decades, has developed considerable technological know-how in planning, investigation, management and design of water resources development schemes and made valuable contribution in the country's remarkable progress in the field, besides sharing the expertise with the developing nations of the world.

The CWC being associated with every phase of water resources development has to carry out challenging activities of considerable magnitude and density both in the technical and organizational fields. For this purpose, there are thirteen regional organizations of CWC working at Bangalore, Bhopal, Bhubaneswar, Chandigarh, Coimbatore, Delhi, Gandhinagar, Hyderabad, Lucknow, Nagpur, Patna, Shillong and Silliguri, each headed by a Chief Engineer. The Regional Chief Engineer, assisted by Directors/Superintending Engineers and Executive Engineers are entrusted with hydrological data collection and flood forecasting besides surveys, investigation and preparation of Detailed Feasibility Reports of complex river valley projects in the country. In addition, Director (Procurement and Construction Planning) under Chief Engineer (CMO), Director (River Data Compilation) under Chief Engineer (Planning and Development) and Director (Software Management) under Chief Engineer (Dam Safety) are assigned with procurement of specialized equipment, computers and other office furnishing items.

As the officers of CWC are functioning on the pattern of Central Public Works Department, these officers were hitherto referring to CPWD Works Manual for their day to day activities. The CWC has formally adopted CPWD Works Manual vide CWC Office Order No. 4/2/2009-O&M/390-396 dated 3rd August, 2010 (Appendix-I). Thereafter, CWC officers have been delegated financial powers equivalent to their counterparts in Central Public Works Department (CPWD) as given in Appendix-II.

According to CPWD Works Manual, except repairs and maintenance activities, no new (original) works shall be commenced until (i) administrative approval has been obtained from the appropriate authority, (ii) sanction to incur the expenditure has been obtained from the competent authority, (iii) a properly detailed design has been sanctioned, (iv) estimates containing the detailed specifications and quantities of various items have been prepared on the basis of the Schedule of Rates (maintained by CPWD or other Public Works Organizations) and sanctioned by the appropriate authority, (v) funds (budget) to cover the cost during the year have been provided by the competent authority, (vi) tenders invited and processed in accordance with rules, and (vii) a Work Order issued.

1.0 GENERAL

In case of new works entrusted with Central Water Commission, administrative approval and expenditure sanction are issued by the Ministry of Water Resources in consultation with Ministry of Finance, for which plan proposals are appraised by Expenditure Finance Committee (EFC). The powers for preparation of detailed estimates and their technical sanction have been delegated to the above field officers of Central Water Commission.

Though CWC has adopted CPWD Works Manual for carrying out field works and financial powers delegated to CPWD officers are being used in CWC to award the works, many works in CWC are of a different nature from those of CPWD. As such, preparation of detailed estimates in Central water Commission remains a grey area as most of the work items required in the field offices of CWC do not feature in the Schedule of Rates being followed by CPWD. In absence of approved Schedule of Rates by Central Water Commission, the detailed estimates are generally not found technically sound and lead to ambiguity while preparing comparative statements and reasonability statements for award of works through competitive bidding. Since the Schedule of Rates serve as a guide in settling rates in connection with contract agreements, a Schedule of Rates for each kind of work should be maintained up to date in the Department.

In order to overcome this problem, a Committee under the Chairmanship of Chief Engineer, Yamuna Basin Organization, Central Water Commission, New Delhi was set up with approval of Member (River Management) to compile/prepare the CWC's Schedule of Rates with the following composition.

1.	Chief Engineer (YBO), CWC, New Delhi	-	Chairman
2.	Director (FMP), CWC, New Delhi	-	Member
3.	Director (Climate Change), CWC, New Delhi	-	Member
4.	Director (PCP), CWC, New Delhi	-	Member
5.	Director (RMCD), CWC, New Delhi	-	Member
6.	Director (RDC), CWC, New Delhi	-	Member
7.	Superintending Engineer, HOC, Maithon, Bihar	-	Member
8.	Accounts Officer, CWC, New Delhi	-	Member
9.	Superintending Engineer, Planning Circle, Faridabad	-	Member Secretary

The Committee held four meetings and deliberated upon the scope of work under various Terms of Reference and after detailed discussions on various issues/ items involved, arrived at the decisions which are concluded in the form of this document.

To work out the schedule of rates, the Committee examined many estimates prepared in the recent past in the field offices of CWC and utilized the rates analyzed by them in this document.

This Schedule of Rates-2012 of Central Water Commission has been prepared taking into account the price index as on 1 January' 2012; and it will be used from the next financial year (2012-13) for the works likely to be undertaken in XII Plan period with due adjustment with respect to inflation rate in the subsequent years, based on the price indices as on 1 January of 2013, 2014, 2015 and so on. This SOR may, however, need a comprehensive review at the end of XII Plan period, to match with the new innovations and state of art technology in the water sector.

BASIC RATES

2.0 BASIC RATES

2.1 Labour

Code No.	Description	Unit	Daily Rate (Rs.)
(1)	(2)	(3)	(4)
I	**Unskilled Worker :**		
1	Beldar	Day	247.00
2	Bar bender	Day	247.00
3	Coolie	Day	247.00
4	Helper	Day	247.00
5	Multi Tasking Unskilled Worker	Day	247.00
6	Watch & Ward Personnel	Day	247.00
7	Waterman	Day	247.00
II	**Semi-Skilled Worker:**		
8	Mate	Day	260.00
9	Multi Tasking Worker	Day	260.00
10	Carpenter (2^{nd} class)	Day	273.00
11	Painter	Day	273.00
12	Work Assistant	Day	273.00
III	**Skilled Worker:**		
13	Mason	Day	287.00
14	Motor Vehicle Driver	Day	301.00
15	O.B. Engine Driver	Day	301.00
IV	**Highly Skilled Worker:**		
16	Compressor Operator	Day	327.00
17	Data Entry Operator	Day	327.00
18	Electrician	Day	327.00
19	Foreman	Day	327.00
20	Jackhammer Operator/Blaster	Day	327.00
21	Mechanic	Day	327.00
22	Work Supervisor/Surveyor	Day	327.00
23	Store Keeper	Day	327.00

Notes:

1. These rates are as per minimum wages issued by Govt. of Delhi w. e. f. 1.4.2011.
2. After six days, the worker is entitled for one day paid rest.

2.2 Material

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
101	Aluminium T or L sections	Kg	220.00
102	Aluminium T channel 1 mm thick (heavy duty) with rollers and stop end	m	45.00
103	Anticorrosive Bitumastic Paint	Litre	110.00
104	Binding Wire	Kg	53.00
105	Black Japan Paint	Litre	180.00
106	Chromo Paper	Kg	40.00
107	Cloth for Banner : Latha Cloth	Sq m	25.00
108	Cloth for Banner : Polyester Cloth	m	150.00
109	Dao with handle	Each	200.00
110	Diesel	Litre	45.82*
111	Adhesive	Kg	250.00
112	Flat pressed 3 layer and graded particle board (medium density) Grade 1 conforming to IS : 3087 - 18 mm thick	Sq m	390.00
113	Gelatin	Kg	56.43
114	Grease	Kg	250.00
115	ISMB 200/100	Quintal	5900.00
116	ISMC 100x40, 6 mm thick & 2 m long	Kg	42.50
117	Kerosene Oil	Litre	18.50
118	Kraft Paper	Kg	38.00
119	Maplitho Paper	Kg	45.00
120	Mild Steel pipe 40 mm diameter	m	280.00
121	Nails	Kg	52.00
122	Nylon Rope- 20 mm diameter	m	10.00
123	Ordinary Detonator	Each	15.76
124	Petrol	Litre	69.08*
125	Plaster of Paris	Kg	4.00
126	Poly Carbonate Sheet	Sq m	755.00
127	Portland Cement	50 kg bag	290.00
128	Primer (for Wood)	Litre	85.00
129	Resin Bonded Fibre Glass Wool	Kg	300.00
130	Putty for Steel Work	Kg	110.00
131	Putty for Wood Work	Kg	30.00
132	Red oxide Primer	Litre	68.00
133	Sand: Fine sand (zone IV)	Cum	640.00
134	Sand : Coarse sand (zone III)	Cum	1120.00

2.0 BASIC RATES

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
135	Seasoned Sal Wood	Cum	39172.00
136	Stainless Steel Screws of different sizes-100 no.	Packet	200.00
137	Steel Sheet	Quintal	6000.00
138	Steel Tape 30m long	Each	240.00
139	Stone Aggregate (single size) : 10 mm nominal size	Cum	1050.00
140	Stone Aggregate (single size) : 20 mm nominal size	Cum	1050.00
141	Stone Aggregate (single size) : 40 mm nominal size	Cum	950.00
142	Structural Steel: Tees, Angles, Channels and R.S. Joists	Quintal	4250.00
143	Synthetic Enamel Paint, having VOC (Volatile Organic Compound) content less than 150 gm/ ltr.	Litre	180.00
144	Twisted Steel/Deformed Bars	Quintal	4500.00
145	Welding by Gas/Electric Plant	Cm	1.50
146	Wire Nails/Screws	Kg	50.00
147	20 mm diameter Tie Rod	Quintal	5000.00
148	25mm diameter G.I. Pipe	m	134.00
149	2nd Class Kali Wood in Plank	Cum	25000.00
150	3 mm Thick Translucent White Acrylic Plastic Sheet	Sq m	570.00

Notes:

1. These rates are based on the prevailing market rates of materials in Delhi as on 1.1.2012.
2. These rates do not include over heads and carriage but include octroi, royalty, sales tax.
3. The rates of POL are subject to change as per Government approval.

2.3 Equipment and Instruments

2.3.1 Hydrological observation

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
201	Acoustic Doppler Current Profiler	Each	20,00,000
202	Air Temperature/Relative Humidity Sensor	Each	25,000
203	Barometric Pressure Sensor	Each	25,000
204	Electromagnetic Current Meter with 10 kg Fish Weight and Digital Counter	Each	20,000
205	Evaporation Gauge Sensor	Each	60,000
206	Leveling Staff	Each	2,000
207	Max – Min Thermometer	Each	1,000
208	Nema 4 Enclosure with MS connectors & cables	Each	30,000
209	OB Engine (50HP)	Each	3,00,000
210	Portable Echo Sounder	Each	60,000
211	Propeller Type Current Meter	Each	15,000
212	Rainfall Sensor (Tipping Bucket)	Each	90,000
213	Ranging Rod (4m Long)	Each	500
214	Satellite Transmitter & Data Logger including Antenna Cable	Each	2,90,000
215	Solar Power System including Solar Panel, Charge Regulator and Battery	Each	26,000
216	Solar Radiation Sensor	Each	25,000
217	Ultra Sonic Wind Speed Sensor	Each	25,000
218	Water Level Sensor- Radar Level Sensor	Each	2,70,000
219	5.5 meter long Steel Boat	Each	2,00,000

Notes:

1. Specifications of high value items are provided in Section 6.0.

2.3 Equipment and Instruments

2.3.2 Water quality

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
220	BOD Incubator	Each	75,000
221	Centrifuge (100 mL Tube, 250 mL Bottles, 2400 RPM and above with adjustable RPM)	Each	40,000
222	COD Digester	Each	1,50,000
223	Colony Counter	Each	20,000
224	Colour Comparator and Comparator Test Set for residual Chlorine or Chloroscopes	Each	10,000
225	Conductivity Meter	Each	30,000
226	Demineralizer	Each	20,000
227	Digital Balance (Monopan)	Each	80,000
228	Digital Burrette	Each	60,000
229	Digital Counter	Each	15,000
230	Double Distilled Water apparatus (Quartz)	Each	1,20,000
231	Flame Photometer	Each	60,000
232	Fume Cupboard	Each	25,000
233	Gas Chromatograph Mass Spectrometer (GCMS)	Each	45,00,000
234	Hot Plates	Each	2,000
235	Ice Box	Each	2,000
236	Incubators 37^0C and 44^0C	Each	45,000
237	Inductively Coupled Plasma Mass Spectrometer (ICPMS)	Each	40,00,000
238	Ion Meter	Each	1,50,000
239	Kjeldahl Plus Nitrogen Analyzer	Each	50,000
240	Laminar Air Flow	Each	40,000
241	Magnetic Stirrer	Each	20,000
242	Membrane Filter Assembly	Each	1,50,000
243	Microwave Oven	Each	15,000
244	Muffle Furnace	Each	20,000
245	Nephelometer	Each	40,000
246	Oven	Each	30,000
247	pH meter	Each	30,000
248	Pipette Controller	Each	30,000
249	Rotary Shaker	Each	30,000
250	Total Organic Carbon Analyzer	Each	20,00,000

2.0 BASIC RATES

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
251	Turbidity Meter	Each	50,000
252	UV Visible Spectrophotometer	Each	5,00,000
253	Vacuum Pump	Each	25,000
254	Visible Spectrophotometer	Each	1,00,000
255	Water Bath with 12 Concentric Holes and Discs	Each	25,000

2.3 Equipment and Instruments

2.3.3 Survey and investigation

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
256	BX Casing Shoe Bit 14 cts. 30/60 spc	Each	4,900
257	BX Core Bit 15 cts. 40/60 spc	Each	4,200
258	BX Core Bit 20 cts. 25/40 spc	Each	4,900
259	BX Diamond Casing Shoe Bit Surface Set 4W/W 26 cts 25/40 SPC	Each	4,700
260	BX Diamond Casing Shoe Bit Surface Set 4W/W13 cts 30/70 SPC	Each	4,200
261	BX Diamond Casing Shoe Bit Surface Set 4W/W18 cts 40/50 SPC	Each	3,800
262	BX Double Tube Core Barrel 5'long	Each	10,900
263	Centre Prism and Ordinary Prism	Each	20,000
264	Dao with Handle	Each	200
265	Differential Geo-positioning System (DGPS) operating within1 km of the reference unit with horizontal accuracy ± 1 m and vertical accuracy ± 2 cm	Each	20,00,000
266	Drilling Machine, Water Pump along with accessories	Each	40,00,000
267	Geo-positioning System (GPS)	Each	25,000
268	HX Casing Shoe Bit 25 cts. 30/60 spc	Each	8,900
269	HX Casing Shoe Bit 30 cts. 25/40 spc	Each	9,600
270	HX Diamond Casing Shoe Bit (6 Water Ways) 25/40 SPC 28 Cts.	Each	6,000
271	Jack Hammer (100 Cfm)	Each	38,000
272	Metallic Tape (30m)	Each	450
273	Motor Vehicle : Mahindra Bolero SLE BS 4	Each	6,38,000
274	Motor Vehicle : Mahindra Bolero SLX BS 4	Each	6,85,000
275	Motor Vehicle : Mahindra Bolero ZLX BS 4	Each	7,01,000
276	Pick up Van : Mahindra Maximo	Each	3,50,000
277	Pick up van : Mahindra Genio	Each	6,90,000
278	Pick up Van : Tata 207 DI Ex model (Single Cabine)	Each	5,55,000
279	Pick up Van : Tata 207 DI Ex model (Double Cabine)	Each	5,70,000
280	Motor Vehicle: Ambassador Classic 1800 Isz BU Mpfi (BS-III)	Each	4,50,000
281	Motor Vehicle: Ambassador Grand 2.0 Dsz BU Mpfi (BS-III)	Each	4,70,000

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
282	Motor Vehicle : Maruti Gypsy king MPI BS 4 (Hard Top)	Each	5,74,000
283	Tata SFC 407 Ex turbo /31 Semi forward control cab and load body with 497 engine turbo charged	Each	6,00,000
284	Tata SFC 709 Ex/ 38 semi forward control high deck load body with 497 engine turbo charged	Each	7,50,000
285	Tata SA 1212 TC/42 (4x4) truck four wheel drive cab and load body with TATA cummins engine (BS III)	Each	19,50,000
286	NX Casing Shoe Bit (surface set) 4 Water ways) 25/40 SPC 16 Cts.	Each	4,900
287	NX Casing Shoe Bit 18 cts. 25/40 spc	Each	6,300
288	NX Diamond Core Bit (surface set) (4 Water Ways) 25/40 SPC 18 Cts.	Each	3,900
289	NX Diamond Core Bit Surface 18 cts. 30/60 spc	Each	5,600
290	NX Diamond Core Bit Surface 25 cts. 25/40 spc	Each	6,500
291	NX Double Tube Core Barrel 5'long	Each	13,400
292	NX 'V' Profile Bit Impregnated (4 Water ways) 100/200 SPC 38 Cts.	Each	5,400
293	NXM T/T Diamond Core Bit bottom discharge 24 cts. 30/60 spc.	Each	10,600
294	NXM Triple Tube Core Barrel (1.70 m long) with NW/N rod connection	1 Set	35,600
295	NXM Triple Tube Core Barrel (3.00 m.long) with NW/N rod connection	1 Set	39,000
296	NXM Triple Tube Core Bits (surface set) water bottom discharge & 6 water ways 30/70 SPC 14 Cts.	Each	5,800
297	NXM Triple Tube Core Case	Each	1,200
298	NXM Triple Tube Core lifter spring type	Each	500
299	NXM Triple Tube Reaming Shells (surface set) 8 Cts. 15/25 SPC)	1 no. for each set	3,400
300	Plane Table	Each	3,000
301	Prismatic Compass	Each	2,000
302	Reaming Shell	Each	20,000
303	Steel Tape 30m long	Each	200
304	Theodolite	Each	2,00,000
305	Total Station	Each	5,00,000

2.3 Equipment and Instruments

2.3.4 Office furnishing

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
306	Steel Table, of size 48"X30"X30",drawer box 0.8 mm thick, drawer 0.63 mm thick, locker body of 22 gauge thick, locker shelves, 1mm foot rest of sheet, tubular frame of 1.25mm thick, laminated top 18 mm	Each	5,500
307	Steel Table of size 60"X33"X30" with 3 drawer and cupboard with locking arrangement panel 20 gauge drawer 22 gauge CRCA sheet back covered, 18mm thick nova pan top, prelaminated particle board single sides with 18 mm PVC beading	Each	6,900
308	Wooden Table made of teak of size 60"X36"X30" with side unit of 36"X18"X26" with 3 drawers on one side and teak wood laminated on 18 mm commercial board having moulding of 1.5" in all sides with melamine polish	Each	21,000
309	Wooden Table made of teak of size 72"X48"X30" with side unit of 36"X18"X28" with 3 drawers on one side and teak wood laminated on 18 mm commercial board having moulding of 1.5"in all sides with melamine polish	Each	31,000
310	Wooden Table made of teak of size 84"X48"X30" with side unit of 36"X15"X28" with 3 drawers on one side and teak wood laminated on 18 mm commercial board having moulding of 1.5" in all sides with melamine polish	Each	35,500
311	Office automation steel table size 72"X36"X30" with side unit of size 36"X18"X28", Box & panel 22 gauge, drawer 24 gauge sectional pipe 2"X1-1/8X1.25 mm with18 mm nova pan top fitted with lock	Each	15,500
312	Computer Table of size 48"X30"X30" made of steel frame with 3 side drawer and single self for UPS and trolley for CPU with laminated top 18 mm	Each	5,700
313	Low back revolving push back tilting chair PU foam seat & back having PU arms	Each	3,900
314	Steel executive low back revolving chair with PU arms rest, tilting facility 12 mm thick hot pressed moulded ply, upholstered with high density rubberized foam in seat & back with good quality of fabric mounted on five twin wheels casters fixed in nylon base with manual shock absorber for cushioning effect with height adjustment facility	Each	4,700

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
315	Steel Medium back Executive chair nylon base PU arms, tilting and back upholstery in good quality of fabric	Each	4,800
316	Medium back executive revolving chair with tilting mechanism	Each	6,000
317	Medium back executive chair with Leathrite seat & Mesh back, central tilt mechanism, cushion of approved shade, adjustable lumber support, height & depth adjustable ratchet arms with knee tilt synchro mechanism. Size-920mm(H) X 660mm(W) X 480mm (D), Make : Godrej or equivalent	Each	12,900
318	Steel high back Executive revolving chair with PU arms, nylon base tilting 7 hydraulic mechanism upholstery in good quality of fabric	Each	6,500
319	High back revolving executive chair bio-synchromotion facility	Each	8,500
320	High Back Revolving Chair with P.U. arms rest tilting facility steel frame in 16 gauge, 12 mm CRCA round pipe upholstered with high density rubberized foam in seat & back with good quality of fabric with the help of cotton nivaar mounted on five twin wheels castors fixed in nylon base with manual shock absorber for extra cushioning with height adjustment facility (Leatherette Chair)	Each	11,000
321	High back chairs with head rest with Leathrite seat & Mesh back, central tilt mechanism, cushion of approved shade, adjustable lumber support, height & depth adjustable ratchet arms with knee tilt synchro mechanism.Size-970mm(H)X660mm(W)X480mm(D), Make: Godrej or equivalent	Each	14,600
322	Steel Almirah of size 50"X30"X17" of 20 gauge door,22 gauge body and shelf without locker with 4 shelves making 5 compartments	Each	6,500
323	Storewell Minor (Godrej Slimline) with 2 shelf of size 50"X30"X17"	Each	8,700
324	Storewell plain with 4 shelf size 78"X36"X19".	Each	14,000
325	Steel Almirah of size 78"X36"X19" of 20 gauge door,22 gauge body and shelf without locker with 4 shelves making 5 compartment with locking arrangement	Each	9,200
326	Visitor Chair made of cushion seat back 16 gauge pipe in base and good quality tapestry with foam of approved quality	Each	2,000
327	Visitor Chair with PU moulded foam model	Each	3,000

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
328	Wooden Centre Table with glass top frame made of teakwood duly polished made of 6 mm thick glass brown/clear with one shelf beneath of size 48"X24".	Each	5,000
329	Wooden Sofa set (3+1+1) with wooden arms 'frame made in solid teakwood ,polished in lacquer finish seat &back upholsted in ISI prima foam of 40 density and good quality of fabric of approved design.	Each	25,000
330	Sofa with Wooden frame over stainless steel legs fully Upholstered cushioned with polyurethene leatherette using 100mm X 40mm density foam for seat & 50mm X 32 mm density back foam for back complete, Make: Godrej or equivalent a) One Seat Sofa-SIZE-820 mm(L) X 760(D) X 715mm(H). b) Two Seat Sofa-SIZE-1450 mm(L) X 760(D) X 715mm(H). c) Three Seat Sofa-SIZE-1700 mm(L) X 760(D) X 715mm(H).	 Each Each Each	 17,500 23,000 24,600
331	Supply of Side Table made of mild steel frame(CP) with tampered Glass Top of size 550x550x510 mm	Each	6,500
332	Supply of Side Table made of mild steel frame(CP) with tampered Glass Top of size 1100x600x430 mm	Each	9,100
333	Conference/Meeting Tables with Top made of 25mm thick pre-laminated particle board of interior grade, laminate on both sides of approved make and shade. The working and non–working edges shall be provided with hot pressed 2mm thick PVC edging using special hot melt glue at high temperature. The Top supported on 0.8mm-1.2mm thick CRCA under structure. Cable Trays & Power Dock provided for wire management facilities Size-4200 x 1500 x 727mm(H) Make : Godrej or equivalent	Each	91,800
334	Room Air Conditioner (1.5 ton) unitary Type fitted with Rotary Compressor. Cooling Capacity Nominal : 4500 kcal/hr Min guaranteed: 4275 kcal/hr, Room Discharge Air Flow:700 cum/h, EER (W/W) : 2.70-2.89,Star Rating:3 including installation charges	Each	21,000

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
335	Split Air Conditioner (1.5 ton) fitted with Rotary Compressor Cooling Capacity Nominal : 4500 kcal / hr, min guaranteed : 4275 kcal / hr, Room Discharge Air Flow:700 cum / h EER (W / W) : 3.10Min., Star Rating: 5	Each	32,000
336	Desert Cooler 4000 Cum / hr of size 20" steel body with fan motor , ISI mark & accessories complete	Each	4,800
337	Room Cooler made of Plastic body, sleek with roller built stand of size 20", Room evaporative, air refreshner, Air cooler & humidifier with humidity control	Each	9,000
338	Room Heater single rod, ISI mark, 1.0 K.W.	Each	500
339	Heat Convector / blower, ISI mark, 2.0 K.W (branded)	Each	3,000

2.3 Equipment And Instruments

2.3.5 Computers' Hardware and Software

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
340	Desktop Computer: AMD septron 2.7 GHz with 1MB L2 cache, Intel 4 series board, Integrated Graphics, 1GB 667 MHz DDR III RAM, 320 GB 72k rpm HDD, 10/100/1000 on board integrated network port with preloaded Windows 7 Professional, with 104 keys key board, optical mouse, DVD ROM drive, 47cm TFT digital color monitor, complete.	Each	26,800
341	Desktop Computer: Intel 2Duo 3.06 GHz with 3MB L3 cache, Intel 4 series board, Integrated Graphics, 2GB 1066 MHz DDR III RAM, 320 GB 72k rpm HDD, 10/100/1000 on board integrated network port with preloaded Windows 7 Professional, with 104 keys key board, optical mouse, DVD ROM drive, 47cm TFT digital color monitor, complete.	Each	33,600
342	Desktop Computer: Intel Core i3 Processor 2.93 GHz with 4MB L3 cache, Intel 5 series board, Integrated Graphics, 2GB 800 MHz DDR III RAM, 320 GB 72k rpm HDD, 10/100/1000 on board integrated network port with preloaded Windows 7 Professional, with 104 keys key board, optical mouse, DVD ROM Drive, 47cm TFT digital color monitor, complete	Each	35,000
343	Desktop Computer: Intel Core i5 Processor 3.2 GHz with 4MB L3 cache, Intel Q57 mother board, Integrated Graphics, 2GB 1066 MHz DDR III RAM, 320 GB 72k rpm HDD, 10/100/1000 on board integrated network port with preloaded Windows 7 Professional, with 104 keys key board, optical mouse, DVD ROM Drive, 47cm TFT digital color monitor, complete	Each	39,000
344	Laser Mono printer 600x600 dpi, paper size :A4, print speed 14 ppm Network card 10/100, No duplexing	Each	5,400
345	Laser Mono printer 600x600 dpi, paper size :A4, print speed 25 ppm Network card 10/100, Duplexing	Each	11,800
346	Laser Mono printer 600x600 dpi, paper size :A4, print speed 32 ppm Network card 10/100, Duplexing	Each	25,000
347	Laser Mono printer 600x600 dpi, paper size :A4, print speed 30 ppm, Memory 16 MB, Network card 10/100, Duplexing	Each	35,000
348	Laser Mono printer 600x600 dpi, paper size : A4, print speed 40 ppm Network card 10/100, Duplexing	Each	42,000

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
349	Laser Mono printer 600x600 dpi, paper size :A3, print speed 40 ppm Network card 10/100, Duplexing	Each	1,64,000
350	Inkjet colour printer 4800x1200 dpi, paper size : A4, print speed 15ppm, 1 USB, No Duplexing	Each	5,000
351	Inkjet colour printer 4800x1200 dpi, paper size : A4, print speed 15ppm, 1 USB, No Duplexing, Networking	Each	6,500
352	Inkjet colour printer 4800x1200 dpi, paper size : A4, print speed 24ppm, 1 USB, Duplexing	Each	7,500
353	Inkjet colour printer 1200x600 dpi, paper size : A3, print speed 12ppm, 1 USB, No Duplexing	Each	14,500
354	Laser colour printer 600x600 dpi, paper size : A4, print speed 8 ppm, 1 USB, 10/100 Network card, No duplexing	Each	21,000
355	Laser colour printer 600x600 dpi, paper size : A4, print speed 30 ppm, 1 USB, 10/100 Network card, Memory, 16MB, Duplexing	Each	56,000
356	Laser colour printer 600x600 dpi, paper size : A3, print speed 20 ppm, 1 USB, 10/100 Network card, Memory, 96 MB, Duplexing	Each	1,68,000
357	0.8 KVA Line interactive UPS (CE or UL certified) for single phase AC, 160V to 280V output, 216 VAH	Each	4,400
358	1.0 KVA Line interactive UPS (CE or UL certified) for single phase AC, 160V to 280V output, 216 VAH	Each	4,700
359	1.0 KVA Line interactive UPS (CE or UL certified) for single phase AC, 160V to 280V output, 400 VAH	Each	6,800
360	Windows 7 operating system (32 bit)	Each	7,800
361	Windows 7 operating system (64 bit)	Each	8,400
362	MS office 2010 Standard INDIC MOLP with media	Each	11,000
363	MS office 2010 Standard MOLP without media	Each	12,900
364	MS office 2010 Professional MOLP without media	Each	14,900
365	MS office 2010 Standard INDIC MOLP without media	Each	9,800
366	MS office 2010 Professional MOLP with media	Each	15,800
367	Symantac Norton Anti-virus for one year, 1 user license	Each	2,300
368	CA AV e-trust Client Security suite 1 year license, 5 user pack with media	Each	3,600

2.3 Equipment and Instruments

2.3.6 Computers' Consumables

Code No.	Description	Unit	Rate in Rs.
(1)	(2)	(3)	(4)
369	CD (R)Pkt of 100	Each	950
370	CD (RW) Pkt of 10	Each	500
371	DVD (R) Pkt of 10	Each	210
372	DVD (RW) Pkt of 10	Each	480
373	DVD Writer	Each	1,210
374	Pen Drive (4 GB)	Each	320
375	Pen Drive (8 GB)	Each	810
376	Mouse Opticle PS2	Each	400
377	Key Board	Each	380
378	Mouse Pad	Each	45
379	USB Printer cable	Each	45
380	USB Pen Drive cable	Each	45
381	Power Cord	Each	45
382	500GB USB 2.0 HDD	Each	5,000
383	250GB USB 2.0 HDD	Each	3,000
384	160GB Sata HDD	Each	3,100
385	512 MB SD RAM	Each	800
386	512 MB DDR-1 RAM	Each	900
387	1 GB DDR-1 RAM	Each	1,740
388	512 MB DDR-2 RAM	Each	800
389	2 GB DDR-2 RAM	Each	1,050
390	Battery 12V, 7AH (Reputed firm)	Each	730
391	Battery 12V, 17AH (Reputed firm)	Each	2,000
392	Battery 12V, 26AH (Reputed firm)	Each	2,400
393	Battery 12V, 42AH (Reputed firm)	Each	4,100

CD: Compact Disk
GB : Giga byte
R: Read
DVD : Digital Versatile Disk
MB : Mega byte
RW : Read Write

2.4 Unit Rates for Consultancy Services for Specialized Studies

Code No.	Description	Unit	Average monthly emolument including 40% overhead charge (in Rs.)
(1)	(2)	(3)	(4)
401	Director	Month	2,14,000
402	Deputy Director	Month	1,23,000
403	Assistant Director	Month	1,19,000
404	Draftsman	Month	94,000
405	Design/Technical Assistant	Month	70,000
406	Supporting Staff	Month	39,000
407	TA/DA of Designers Visits		10% of total emoluments

SCHEDULE OF RATES

3.1 Schedule of Rates for Hydrological Observations

Code No.	Description	Unit	Rate Rs.
3.1.1	**Fabrication and installation of gauge posts** at river banks including cost of civil works in foundation embedded in 1:2:4 reinforced cement concrete pedestal block of size 60 cm x 60 cm x 60 cm including the cost of steel reinforcement, centering, shuttering, finishing, reinforcement over the 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size) cement concrete base of size 80 cm x 80 cm x 15 cm with 12 mm thick plastering complete and marking the gauge with synthetic enamel with standard metric gradation of 5 mm thickness in black & white alternately & red synthetic enamel of 5 mm of width at every 100 mm etc complete		
3.1.1.1	**Reinforced Cement Concrete gauge post** of size 15 cm x 10 cm (one side tapered in 5 cm length) made with 1:2:4 concrete mix (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) -1.80 m long.	Each	3,400
3.1.1.2	**Seasoned Sal Wood Gauge Post** of size 15 cm x 10 cm (one side tapered in 5 cm length)		
	a) 1.80 m long	Each	3,500
	b) 2.40 m long	Each	4,000
3.1.1.3	**MS Gauge Post** made of ISMC 100 x 40 with 6mm thickness and 2 m long	Each	2,300
3.1.2	**Providing, fixing and installation of bank operated cableways with instrument carriage for discharge observations for following river spans :** Providing, fixing and installation of bank operated cableway system for discharge observation with current meter with sinker weight max up to 125 kg including double drum hydro-metric winch machine with manual operation suitable for horizontal and vertical movements of current meter and with the arrangement to operate silt sampler complete with automatic load break system and slip ring system including the cost of civil works, pre-fabricated pole size 2.25m long for machine side fitted with triple pulley block, and on the other side fitted with single pulley block, instruments carriage, foundation bolts with nut and washers, master plate and other fixing bolts, nuts, D shackles, U-clamps etc. anchor bolt, track cable, towing cable, conduction cable (co-axial) with snap hooks thimble etc complete as per direction of engineer-in-charge		
3.1.2.1	up to 100 m span	Each	11,50,000
3.1.2.2	from 101 to 150 m span	Each	15,50,000
3.1.2.3	from 151 to 200 m span	Each	18,50,000

3.1 Schedule of Rates for Hydrological Observations

Code No.	Description	Unit	Rate Rs.
3.1.1	**Fabrication and installation of gauge posts** at river banks including cost of civil works in foundation embedded in 1:2:4 reinforced cement concrete pedestal block of size 60 cm x 60 cm x 60 cm including the cost of steel reinforcement, centering, shuttering, finishing, reinforcement over the 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size) cement concrete base of size 80 cm x 80 cm x 15 cm with 12 mm thick plastering complete and marking the gauge with synthetic enamel with standard metric gradation of 5 mm thickness in black & white alternately & red synthetic enamel of 5 mm of width at every 100 mm etc complete		
3.1.1.1	**Reinforced Cement Concrete gauge post** of size 15 cm x 10 cm (one side tapered in 5 cm length) made with 1:2:4 concrete mix (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) -1.80 m long.	Each	3,400
3.1.1.2	**Seasoned Sal Wood Gauge Post** of size 15 cm x 10 cm (one side tapered in 5 cm length)		
	a) 1.80 m long	Each	3,500
	b) 2.40 m long	Each	4,000
3.1.1.3	**MS Gauge Post** made of ISMC 100 x 40 with 6mm thickness and 2 m long	Each	2,300
3.1.2	**Providing, fixing and installation of bank operated cableways with instrument carriage for discharge observations for following river spans :** Providing, fixing and installation of bank operated cableway system for discharge observation with current meter with sinker weight max up to 125 kg including double drum hydro-metric winch machine with manual operation suitable for horizontal and vertical movements of current meter and with the arrangement to operate silt sampler complete with automatic load break system and slip ring system including the cost of civil works, pre-fabricated pole size 2.25m long for machine side fitted with triple pulley block, and on the other side fitted with single pulley block, instruments carriage, foundation bolts with nut and washers, master plate and other fixing bolts, nuts, D shackles, U-clamps etc. anchor bolt, track cable, towing cable, conduction cable (co-axial) with snap hooks thimble etc complete as per direction of engineer-in-charge		
3.1.2.1	up to 100 m span	Each	11,50,000
3.1.2.2	from 101 to 150 m span	Each	15,50,000
3.1.2.3	from 151 to 200 m span	Each	18,50,000

Code No.	Description	Unit	Rate Rs.
3.1.3	**Providing, fixing and installation of bank operated cableways with cradle for discharge observations for following river spans :** Providing, fixing and installation of bank operated cable way system with cradle of capacity 1000 kg weight to take the discharge observation by using current meter sensor with sinker weight max upto 125 kg including double drum hydro-metric winch machine with manual operation suitable for horizontal and vertical movements of current meter and with the arrangement to operate silt sampler complete with automatic load break system, slip ring system including all civil works, pre fabricated pole size 2.25 m long for machine side fitted with triple pulley block, pre fabricated pole size 2.25 m long on the other side fitted with single pulley block, instruments carriage, foundation bolts with nut and washers, master plate and other fixing bolts nuts, D shackles, U - clamps etc. anchor bolt, track cable, towing cable, conduction cable (co-axial) with snap hooks thimble etc complete as per direction of engineer-in-charge		
3.1.3.1	up to 100 m span	Each	17,25,000
3.1.3.2	from 101 to 150 m span	Each	23,25,000
3.1.3.3	from 151 to 200 m span	Each	27,50,000
3.1.4	**Providing and fixing of 25 mm diameter steel guide ropes across the river for discharge observation**	m	1,200
3.1.5	**Annual maintenance of steel boat- 5.50 m long** Annual Maintenance including painting of Steel boat 5.5 m long both sides (Inner and Outer surface) with synthetic enamel of approved brand including application of one or more coat(s) before applying the layer of putty of approved brand and water contact surface painted with black anti-corrosive bitumastic paint of approved brand with one or more coat(s) after removing of old layer of paint etc complete.	Each	5,400
3.1.6	**Painting and marking on gauge post**		
3.1.6.1	Painting of gauge post 1.8 m long with synthetic enamel of approved brand & manufacture to give an even shade by two or more coats and marking the gauge with Japan paint Red, Black and White with standard metric gradation marking of 5 mm thickness in black & white alternately & red synthetic enamel of width 5 mm at every 50 mm etc complete	Each	750
3.1.6.2	Painting/Marking of gauge (Water Level) on bridge piers and abutments with synthetic enamel of approved brand & manufacture to give an even shade by two or more coats and marking the gauge with Japan paint Red, Black and White with standard metric gradation marking of 5 mm thickness in black & white alternately & Red synthetic enamel of width 5 mm at every 50 mm etc complete		
	a) up to 5 m depth		3,000
	b) up to 10 m depth		5,000
	c) up to 15 m depth		7,500
	d) up to 30 m depth		10,000

Code No.	Description	Unit	Rate Rs.
3.1.7	**Supply, installation, testing and commissioning of automatic rain fall station with satellite communication system :**		
3.1.7.1	Supply, installation, testing and commissioning of automatic rainfall sensors (tipping bucket type) complete with accessories.	Each	90,000
3.1.7.2	Supply, installation, testing and commissioning of real time (satellite based) data communication system and data logger with display unit with all equipment and accessories such as satellite transmitter, power supply unit including solar panel, charge regulator, batteries, lightening arrestor and earth system in NEMA4 enclosure with all connectors and cables including integration of the system with earth receiving stations.	Each	5,00,000
3.1.7.3	Civil works for fixing of DCP on mast/wall, conduit pipe including construction of mast, etc, complete as per direction of engineer-in charge.	Each	10,000
3.1.8	**Supply, installation, testing and commissioning of automatic water lavel measurement station with satellite communication system :**		
3.1.8.1	Supply, installation, testing and commissioning of radar level sensors with a measuring range up to 35 m with an accuracy of ± 5 mm complete with accessories.	Each	2,70,000
3.1.8.2	Supply, installation, testing and commissioning of real time (satellite based) data communication system and data logger with display unit with all equipment and accessories such as satellite transmitter, power supply unit including solar panel, charge regulator, batteries, lightening arrestor and earth system in NEMA4 enclosure with all connectors and cables including integration of the system with earth receiving stations.	Each	5,00,000
3.1.8.3	Civil works for fixing of DCP on mast/wall, conduit pipe including construction of triangular tower/mast/concrete tower in river bed, etc, complete.	Each	60,000
3.1.9	**Supply, installation, testing and commissioning of automatic snow measurement station with satellite communication system :**		
3.1.9.1	Supply, installation, testing and commissioning of automatic snow gauge sensors for measurement of snow depth, snow density and snow water equivalent, complete with accessories.	Each	3,00,000
3.1.9.2	Supply, installation, testing and commissioning of real time (satellite based) data communication system and data logger with display unit with all equipment and accessories such as satellite transmitter, power supply unit including solar panel, charge regulator, batteries, lightening arrestor and earth system in NEMA4 enclosure with all connectors and cables including integration of the system with earth receiving stations.	Each	5,00,000
3.1.9.3	Civil works for fixing of DCP on mast/wall, conduit pipe including construction of mast, etc, complete as per direction of engineer-in charge.	Each	10,000

Code No.	Description	Unit	Rate Rs.
3.1.10	**Supply, installation, testing and commissioning of automatic weather station with satellite communication system** consisting of rain fall sensor, water level sensor, air temperature, relative humidity sensor, wind speed and wind direction sensor, solar radiation sensor, barometric pressure sensor, evaporation pan with automatic gauge sensor		
3.1.10.1	Supply, installation, testing and commissioning of automatic rainfall sensors (tipping bucket type) complete with accessories.	Each	90,000
3.1.10.2	Supply, installation, testing and commissioning of radar level sensors with a measuring range up to 35 m with an accuracy of ± 5 mm complete with accessories.	Each	2,70,000
3.1.10.3	Supply, installation, testing and commissioning of air temperature and relative humidity sensor, complete with accessories.	Each	25,000
3.1.10.4	Supply, installation, testing and commissioning of wind speed and wind direction sensor complete with accessories.	Each	25,000
3.1.10.5	Supply, installation, testing and commissioning of solar radiation sensor complete with accessories.	Each	25,000
3.1.10.6	Supply, installation, testing and commissioning of barometric pressure sensor complete with accessories.	Each	25,000
3.1.10.7	Supply, installation, testing and commissioning of evaporation pan with automatic gauge sensor complete with accessories.	Each	60,000
3.1.10.8	Supply, installation, testing and commissioning of real time (satellite based) data communication system and data logger with display unit with all equipment and accessories such as satellite transmitter, power supply unit including solar panel, charge regulator, batteries, lightening arrestor and earth system in NEMA4 enclosure with all connectors and cables including integration of the system with earth receiving stations.	Each	5,00,000
3.1.10.9	Civil works for fixing of DCP and sensors on mast/wall, conduit pipe etc, complete.	Each	70,000
3.1.11	**Extra for triangular structural steel tower** 3.0 m high made up of 40 mm diameter pipe interconnected with 12 mm diameter MS bar with base plate, painting etc complete and fixed in concrete block of size 1.0 m X 1.0 m X 1.0 m of M-20 grade concrete	Each	30,000
3.1.12	**AMC Charges for aforesaid specialized equipment after commissioning at site**		
3.1.12.1	For first two years (Under Warranty)	Per annum	NIL
3.1.12.2	From 3rd to 5th year	-do-	3% of the cost price
3.1.12.3	From 6th to 10th year	-do-	5% of the cost price
3.1.12.4	After 10 years onwards	-do-	7.5% of the cost price

3.2 Schedule of Rates for Topographic Survey

Code No.	Description	Unit	Rate Rs.
3.2.1	**Geodetic Survey of an area** on different scales and preparation of topographical maps in requisite scales to supply them in both soft and hard formats with four copies complete, including cost of manpower, labour, surveying instruments, camp equipage, transportation, etc, as per directions of engineer-in-charge.		
3.2.1.1	**On scale of 1:5,000 with 2–3 m contour intervals:**		
3.2.1.1.1	In semi barren/barren land in flat terrain	Sq km	19,000
3.2.1.1.2	In moderate to thick forest cover in flat terrain	Sq km	24,500
3.2.1.1.3	In semi barren/barren land in hilly/mountainous terrain	Sq km	31,600
3.2.1.1.4	In moderate to thick forest cover in flat hilly/mountainous terrain	Sq km	41,200
3.2.1.2	**On scale of 1:1,000 with 1m contour intervals:**		
3.2.1.2.1	In semi barren/barren land in flat terrain	Sq km	31,500
3.2.1.2.2	In moderate to thick forest cover in flat terrain	Sq km	42,000
3.2.1.2.3	In semi barren/barren land in hilly/mountainous terrain	Sq km	52,500
3.2.1.2.4	In moderate to thick forest cover in flat hilly/mountainous terrain	Sq km	91,500
3.2.2	**Cadastral Survey** (Boundary Survey) complete including cost of manpower, labour, surveying instruments, camp equipage, transportation, etc, as per directions of engineer-in-charge	Sq km	14,200
3.2.3	**Aerial survey by Airborne Laser Terrain Mapper (ALTM)** for large areas and preparation of topographic maps in 1:5,000 scale with 1.0 m contour interval	Sq km	17,000
3.2.4	**Establishment of different types of Bench Mark** of standard specifications including its painting, engraving etc complete including cost of manpower, material, labour, etc, as per directions of engineer-in-charge		
3.2.4.1	Musto type Bench Mark	Each	18,500
3.2.4.2	Temporary Bench Mark	Each	570
3.2.5	**Double Levelling Survey for control points**		
3.2.5.1	In Plain Terrain	Km	4,100
3.2.5.2	In Semi hilly Terrain	Km	8,200

Code No.	Description	Unit	Rate Rs.
3.2.6	**River cross section survey** and preparation of maps in requisite scales to supply them in both soft and hard formats with four copies complete, including cost of manpower, labour, surveying instruments, camp equipage, transportation, etc, as per directions of engineer-in-charge.		
3.2.6.1	**By wading in very shallow reaches**	Each cross section	
3.2.6.1.1	River span up to 100 m		6,000
3.2.6.1.2	River span from 101 to 1000 m	-do-	8,000
3.2.6.1.3	River span beyond 1000 m	-do-	10,000
3.2.6.2	**By boat in moderate depths**		
3.2.6.2.1	River span up to 100 m	-do-	8,000
3.2.6.2.2	River span from 101 to 1000 m	-do-	10,000
3.2.6.2.3	River span beyond 1000 m	-do-	12,000
3.2.6.3	**By motor launch in deep reaches**		
3.2.6.3.1	River span up to 100 m	-do-	12,000
3.2.6.3.2	River span from 101 to 1000 m	-do-	14,000
3.2.6.3.3	River span beyond 1000 m	-do-	16,000
3.2.7	**Longitudinal river survey** and preparation of maps in requisite scales to supply them in both soft and hard formats with four copies complete, including cost of manpower, labour, surveying instruments, camp equipage, transportation, etc, as per directions of engineer-in-charge.		
3.2.7.1	**By wading in very shallow reaches**		
3.2.7.1.1	Up to 10 km	--	20,000
3.2.7.1.2	Beyond 10 km	Km	600
3.2.7.2	**By boat in moderate depth**		
3.2.7.2.1	Up to 10 km	--	20,000
3.2.7.2.2	Beyond 10 km	Km	600
3.2.7.3	**By motor launch in deep reaches**		
3.2.7.3.1	Up to 10 km	--	40,000
3.2.7.3.2	Beyond 10 km	Km	1,000
3.2.8	**Hydrographic survey** to depict river/reservoir bed profile and preparation of maps in requisite scales to supply them in both soft and hard formats with four copies complete, including cost of manpower, labour, surveying instruments, camp equipage, transportation, etc, as per directions of engineer-in-charge.		
3.2.8.1	At 20 m grid interval	Sq km	20,000
3.2.8.2	At 10 m grid interval	Sq km	40,000
3.2.8.3	At 5 m grid interval	Sq km	80,000
3.2.9	**Inspection of hydraulic structures under water** by remotely operated camera excluding traveling allowance for technical officers	Per Visit	2,20,000

3.3 Schedule of Rates for Geotechnical Investigations

Code No.	Description	Unit	Rate Rs.
3.3.1	**Excavation of Exploratory Pits/Trenches** of size 3m x 3m in different strata with varying depths and vertical lifts as per site conditions including labour, T&P, etc, complete as per directions of engineer-in-charge		
3.3.1.1	**In mixed soil conditions with varying depth:**		
3.3.1.1.1	up to 1.5 m	Cum	190
3.3.1.1.2	up to 3.0 m	Cum	220
3.3.1.1.3	up to 4.0 m	Cum	260
3.3.1.1.4	up to 5.0 m	Cum	290
3.3.1.1.5	up to 6.0 m	Cum	340
3.3.1.1.6	up to 7.0 m	Cum	390
3.3.1.1.7	up to 8.0 m	Cum	430
3.3.1.2	**In soft rock formations with depth:**		
3.3.1.1.1	up to 1.5 m	Cum	370
3.3.1.1.2	up to 3.0 m	Cum	420
3.3.1.1.3	up to 4.0 m	Cum	480
3.3.1.1.4	up to 5.0 m	Cum	530
3.3.1.1.5	up to 6.0 m	Cum	600
3.3.1.1.6	up to 7.0 m	Cum	680
3.3.1.1.7	up to 8.0 m	Cum	750
3.3.2	**Back filling of Exploratory Pits/Trenches** of size 3m x 3m with excavated material with varying depth:		
3.3.2.1	up to 1.5 m	Cum	120
3.3.2.2	up to 3.0 m	Cum	130
3.3.2.3	up to 4.0 m	Cum	150
3.3.2.4	up to 5.0 m	Cum	170
3.3.2.5	up to 6.0 m	Cum	200
3.3.2.6	up to 7.0 m	Cum	230
3.3.2.7	up to 8.0 m	Cum	260
3.3.3	**Dismantling, transportation and assembling of Drilling Machines** of different capacity complete by head load including cost of labour, T&P, etc as per directions of engineer-in-charge. (a) up to 100 m lead	Each machine	21,000
	(b) up to 500 m lead	-do-	30,000

Code No.	Description	Unit	Rate Rs.
3.3.4	**Transportation cost of Drilling equipment** like, Machines, Pumps and accessories by 10 T capacity motor vehicles including loading, unloading and security complete		
	(a) up to 100 km	Each trip	9,700
	(b) add extra for every 50 km	-do-	2,350
3.3.5	**Construction of Platform with locally available material** of size 6 m x 6 m x 1 m for housing the Drilling Machine complete with cost of labour, material, T&P and transport as per directions of engineer-in-charge.	Each	18,600
3.3.6	**Laying of Temporary Water Supply Pipelines** (25 mm diameter and above) of varying lengths from the nearest water source and construction of Temporary Water Retaining Pit of size 2 m x 1 m x 0.5 m complete with cost of all labour, material, T&P and transport as per directions of engineer-in-charge.		
3.3.6.1	**Including the cost of GI pipes and fittings:**		
3.3.6.1.1	up to 200 m	-	34,000
3.3.6.1.2	up to 500 m	-	82,000
3.3.6.1.3	up to 750 m	-	1,22,000
3.3.6.1.4	up to 1 km	-	1,62,000
3.3.6.1.5	up to 2 km	-	3,20,000
3.3.6.1.6	up to 4 km	-	6,40,000
3.3.6.2	**Excluding the cost of GI pipes and fittings:**		
3.3.6.2.1	up to 200 m	-	4,400
3.3.6.2.2	up to 500 m	-	8,100
3.3.6.2.3	up to 750 m	-	11,200
3.3.6.2.4	up to 1 km	-	14,300
3.3.6.2.5	up to 2 km	-	26,800
3.3.6.2.6	up to 4 km	-	51,600
3.3.7	**Carrying out of Diamond Core Drilling** in NX size in different formations and at locations other than under water not involving construction of floating platform including preservation of cores in core boxes of standard dimensions made of seasoned local wood as per BIS standards, their marking and taking colour photographs of the preserved cores etc complete with cost of all labour, T&P and POL as per directions of engineer-in-charge.		
3.3.7.1	**In overburden soil and sandy strata up to 100 m depth**	m	11,300
3.3.7.2	**In overburden soil and sandy strata mixed with boulders up to 100 m depth**	m	14,100
3.3.7.3	**In soft rock formation**		
3.3.7.3.1	up to 100 m depth	m	7,000
3.3.7.3.2	beyond 100 m and up to 300 m depth	m	10,800
3.3.7.3.3	beyond 300 m depth	m	16,900

Code No.	Description	Unit	Rate Rs.
3.3.7.4	**In hard rock formation**		
3.3.7.4.1	upto 100 m depth	m	8,100
3.3.7.4.2	beyond 100 m and up to 300 m depth	m	12,600
3.3.7.4.3	beyond 300 m depth	m	20,200
3.3.7.5	**Extra for angular drilling in different strata**	m	15 % on rates
3.3.8	**Excavation of drift** in different formation with cost of all labour, T&P and POL, excluding cost of explosive materials, wooden/steel supports (to be supplied by the department) complete and as per directions of engineer-in-charge.		
3.3.8.1	**In soft rock formation/overburden:**		
3.3.8.1.1	up to 30 m long	Cum	3,100
3.3.8.1.2	from 30 m to 100 m long	Cum	4,000
3.3.8.1.3	from 100 m to 500 m long	Cum	4,800
3.3.8.1.4	beyond 500 m long	Cum	5,000
3.3.8.2	**In Hard Rock formation:**		
3.3.8.2.1	up to 30 m length	Cum	4,500
3.3.8.2.2	from 30 m to 100 m long	Cum	5,500
3.3.8.2.3	from 100 m to 500 m long	Cum	6,500
3.3.8.2.4	beyond 500 m long	Cum	7,000
3.3.9	**Erection of Wooden Supports in drift** including cost of materials, fitting and fixing in position complete with cost of all labour, T&P and transport as per directions of engineer-in-charge.	per meter length of drift	10,000
3.3.10	**Erection of Steel Supports in drift** including cost of materials, fitting and fixing in position complete with cost of all labour, T&P and transport as per directions of engineer-in-charge.	per meter length of drift	11,000
3.3.11	**Making approach path** and cutting of steps in hilly terrain including cost of labour and T&P complete	Per 100 m length	2,000
3.3.11.1	for 1.5 m wide path		
3.3.11.2	for 3.0 m wide path	-do-	3,800
3.3.12	**Construction of Floating Platform** of size 9.0 m x 9.0 m using heavy duty steel drums of industrial use including cost of allied materials, labour, T&P complete as per direction of engineer-in-charge.	No.	4,40,000
3.3.13	**Water Permeability Tests at different depths:**		
3.3.13.1	up to 100 m	Each	3,300
3.3.13.2	from 100 m to 300 m	Each	6,400
3.3.13.3	more than 300 m	Each	11,400
3.3.14	**Fabrication and supply of Steel Core Box** made of 20 gauge MS Sheet of size 1.5 m x 0.3 m x 0.1 m in all respect as per direction of engineer-in-charge	Each	1,500
3.3.15	**Fabrication and supply of seasoned wooden Core Box** of size 1.5 m x 0.3 m x 0.1 m with wooden separators, hinges, handles etc complete in all respect as per direction of engineer-in-charge.	Each	2,000

3.4 Schedule of Rates for Specialized Studies

3.4.1 DPR Studies

Code	Description	Average Man Months Required for Studies					
		Director	Deputy Director	Assistant Director	Technical/Design Assistants	Draftsman	Supporting Staff
3.4.1	**Project Hydrology Studies :** Detailed studies for estimation of water availability, design flood & sedimentation studies including writing of the report						
3.4.1.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	0.5	1.0	2.0	1.0	1.0	0.5
3.4.1.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	1.0	1.5	2.5	1.0	1.0	1.0
3.4.1.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	1.5	2.0	3.0	2.5	2.0	1.0
3.4.1.4	for mega hydropower projects of installed capacity more than 1000 MW	3.0	4.0	6.0	5.0	4.0	2.0
3.4.2	**Designs of Dam/Barrages/Head Works and Other Appurtenant Structures :** Civil Design of structures, preparation of drawings in AUTOCAD including design memorandum and writing of Design chapters						
3.4.2.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	0.5	1.5	2.0	1.0	4.0	0.5
3.4.2.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	1.0	2.0	3.0	1.0	5.0	1.0
3.4.2.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	2.0	3.0	4.0	2.0	6.0	1.0
3.4.2.4	for mega hydropower projects of installed capacity more than 1000 MW	4.0	6.0	8.0	4.0	12.0	2.0

3.0 SCHEDULE OF RATES

Code	Description	Average Man Months Required for Studies					
		Director	Deputy Director	Assistant Director	Technical/Design Assistants	Draftsman	Supporting Staff
3.4.3	**Hydel Civil Designs :** Civil Design of structures and preparation of drawings in AUTOCAD, design memorandum and writing of Design chapters						
3.4.3.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	1.0	1.5	2.0	1.0	4.0	0.5
3.4.3.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	1.5	2.0	3.0	1.0	4.0	1.0
3.4.3.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	2.5	4.0	5.0	2.0	5.0	1.0
3.4.3.4	for mega hydropower projects of installed capacity more than 1000 MW	5.0	8.0	10.0	4.0	10.0	2.0
3.4.4	**Hydro- Mechanical Designs :** Hydro Mechanical Design of structures and preparation of drawings in AUTOCAD, design memorandum and writing of Design chapters						
3.4.4.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	1.0	1.5	2.0	1.0	4.0	0.5
3.4.4.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	1.5	2.0	3.0	1.0	4.0	1.0
3.4.4.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	2.5	4.0	5.0	2.0	5.0	1.0
3.4.4.4	for mega hydropower projects of installed capacity more than 1000 MW	5.0	8.0	10.0	4.0	10.0	2.0
3.4.5	**EIA Studies**						
3.4.5.1	**for minor irrigation projects/Hydropower projects up to 25 MW installed capacity**						
	Scoping and preparation of ToR	-	0.5	1.0	2.0	-	3.0
	Base line survey for Collection of data	-	1.0	2.0	8.0	-	5.0
	EIA & Socio Economic Studies including compilation of data & preparation of Report	11.0	5.0	11.0	3.0	-	10.0

Code	Description	Average Man Months Required for Studies					
		Director	Deputy Director	Assistant Director	Technical/Design Assistants	Draftsman	Supporting Staff
3.4.5.2	**for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW**						
	Scoping and preparation of ToR	-	0.5	1.0	2.0	-	5.0
	Base line survey for Collection of data	-	1.5	3.0	9.0	-	8.0
	EIA & Socio Economic Studies including compilation of data & preparation of Report	16.0	8.0	16.0	5.0	-	12.0
3.4.5.3	**for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW**	-					
	Scoping and preparation of ToR	-	0.5	1.0	2.0	-	5.0
	Base line survey for Collection of data	-	2.0	4.0	12.0	-	8.0
	EIA & Socio Economic Studies including compilation of data & preparation of Report	22.0	10.0	22.0	5.0	-	10.0
3.4.5.4	**for mega hydropower projects of installed capacity more than 1000 MW**						
	Scoping and preparation of ToR	-	1.0	2.0	4.0	-	5.0
	Base line survey for Collection of data	-	4.0	8.0	24.0	-	5.0
	EIA & Socio Economic Studies including compilation of data & preparation of Report	44.0	-	44.0	10.0	-	10.0
3.4.6	**Power Potential Studies :** Power optimization studies and preparation of Detailed Report						
3.4.6.1	for Hydropower projects up to 25 MW installed capacity	0.25	0.5	1.5	1.0	-	0.5
3.4.6.2	for Hydropower projects of installed capacity from 25 MW to 100 MW	0.5	0.75	2.0	2.0	-	1.0
3.4.6.3	for Hydropower projects of installed capacity 100MW to 1000MW	0.75	1.0	4.0	3.0	-	1.0
3.4.6.4	for mega hydropower projects of installed capacity more than 1000 MW	1.5	2.0	6.0	6.0	-	2.0

Code	Description	Average Man Months Required for Studies					
		Director	Deputy Director	Assistant Director	Technical/Design Assistants	Draftsman	Supporting Staff
3.4.7	**Electro Mechanical Studies :** Electro Mechanical Studies, preparation of drawings in AUTOCAD and preparation of Detailed Report						
3.4.7.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	1.0	1.5	2.0	1.0	4.0	0.5
3.4.7.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	1.5	2.0	3.0	1.0	4.0	1.0
3.4.7.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	2.5	4.0	5.0	2.0	5.0	1.0
3.4.7.4	for mega hydropower projects of installed capacity more than 1000 MW	5.0	8.0	10.0	4.0	10.0	2.0
3.4.8	**Construction/Equipment Planning & Schedule:** Construction/Equipment Planning & Schedule Studies including preparation of Scheduling charting CPM/PERT and preparation of Detailed Report						
3.4.8.1	for minor irrigation projects/ Hydropower projects up to 25 MW installed capacity	0.5	0.5	0.75	-	-	0.5
3.4.8.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	0.75	0.75	1.0	-	-	1.0
3.4.8.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	1.0	1.0	1.5	-	-	1.0
3.4.8.4	for mega hydropower projects of installed capacity more than 1000 MW	2.0	2.0	3.0	-	-	2.0

Code	Description	Average Man Months Required for Studies					
		Director	Deputy Director	Assistant Director	Technical/Design Assistants	Draftsman	Supporting Staff
3.4.9	**Cost estimation :** Estimation of quantities, analysis of rates and prepration of cost estimates for Detailed Project Report as per CWC Guide Lines						
3.4.9.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	0.3	0.5	1.0	3.0	-	1.0
3.4.9.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	0.5	0.75	1.5	4.5	-	1.0
3.4.9.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	0.8	1.5	3.0	5.5	-	1.0
3.4.9.4	for mega hydropower projects of installed capacity more than 1000 MW	1.6	3.0	6.0	11.0	-	2.0
3.4.10	**Construction Material Survey** including Reconnaissance Survey for identification of Quarries, demarcation on map and collection of samples (excluding the cost for blasting, making trial pits, transportation, Lab testing) and preparation of report						
3.4.10.1	**Earthen Dam**						
	Field work for identification of quarries and Demarcation	0.1	0.2	0.4	0.5	-	-
	Collection of samples (Clay, Coarse and Fine aggregate)	-	1.1	2.3	6.0	-	8.0
3.4.10.2	**Rockfill Dam**						
	Field work for identification of quarries and Demarcation	0.1	0.4	0.8	0.5	-	-
	Collection of samples (Clay, Coarse and Fine aggregate)	-	1.1	2.5	9.0	-	12.0

Code	Description	Average Man Months Required for Studies					
		Director	Deputy Director	Assistant Director	Technical/Design Assistants	Draftsman	Supporting Staff
3.4.10.3	**Concrete Dam**						
	Field work for identification of quarries and Demarcation	0.1	0.3	0.6	0.5	-	-
	Collection of samples (Clay, Coarse and Fine aggregate)	-	1.1	2.0	7.5	-	10.0
3.4.11	**Irrigation Planning Studies :** Collection of data, Carrying out detailed studies including writing of the report						
3.4.11.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	0.5	1.0	2.0	1.0	1.0	0.5
3.4.11.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	1.0	1.5	2.5	1.0	1.0	1.0
3.4.11.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	1.5	2.0	3.0	2.0	2.5	1.0
3.4.11.4	for mega hydropower projects of installed capacity more than 1000 MW	3.0	4.0	5.0	4.0	5.0	2.0
3.4.12	**Seismic Studies :** Collection of data, Carrying out detailed studies including writing of the Report						
3.4.12.1	Identification of sites for SMA & MEQ	0.1	0.3	0.6	0.5	-	-
3.4.12.2	Collection and Interpretation of data	1.6	3.0	5.0	-	-	36.0
3.4.13	**Compilation of Studies, Data and Preparation of Detailed Project Report as per CWC Guide Lines**						
3.4.13.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	1.0	1.5	3.0	2.0	3.0	1.0
3.4.13.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	1.5	2.0	4.0	3.0	2.0	1.0
3.4.13.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	2.0	3.0	4.0	5.0	4.0	2.0
3.4.13.4	for mega hydropower projects of installed capacity more than 1000 MW	4.0	6.0	8.0	10.0	8.0	4.0

3.4 Schedule of Rates for Specialized Studies

3.4.2 Detailed design and drawing for construction/implementation of water resources development projects

Code	Description	Average Man Months required for studies					
		Director level officer	Deputy Director	Assistant Director	Technical/Design Assistants	Draftsman	Supporting staff
3.4.14	**Designs of Dam, Head Works and Other Appurtenant Structures :** Civil Design of structures, preparation of drawings in AUTOCAD including design memorandum and writing of Design chapters						
3.4.14.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	40	80	150	40	150	150
3.4.14.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	50	100	200	50	200	200
3.4.14.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	60	120	240	60	240	250
3.4.14.4	for mega hydropower projects of installed capacity more than 1000 MW	70	140	280	80	280	300
3.4.15	**Designs of Barrages, Head Works and Other Appurtenant Structures :** Civil Design of structures, preparation of drawings in AUTOCAD including design memorandum and writing of Design chapters						
3.4.15.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	30	60	120	40	120	150
3.4.15.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	40	80	160	50	160	200
3.4.15.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	50	100	200	60	200	250
3.4.15.4	for mega hydropower projects of installed capacity more than 1000 MW	60	120	240	80	240	300

Code	Description	Average Man Months required for studies					
		Director level officer	Deputy Director	Assistant Director	Technical/Design Assistants	Draftsman	Supporting staff
3.4.16	**Hydel Civil Designs :** Civil Design of structures and preparation of drawings in AUTOCAD, design memorandum and writing of Design chapters						
3.4.16.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	50	100	200	40	200	150
3.4.16.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	60	120	240	50	240	200
3.4.16.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	72	144	288	60	288	250
3.4.16.4	for mega hydropower projects of installed capacity more than 1000 MW	80	200	300	80	350	300
3.4.17	**Hydro- Mechanical Designs :** Hydro Mechanical Design of structures and preparation of drawings in AUTOCAD, design memorandum and writing of Design chapters						
3.4.17.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	70	140	140	40	160	160
3.4.17.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	100	160	160	50	180	180
3.4.17.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	120	180	180	60	240	240
3.4.17.4	for mega hydropower projects of installed capacity more than 1000 MW	150	220	250	80	280	280
3.4.18	**Electro Mechanical Studies :** Electro Mechanical Studies, preparation of drawings in AUTOCAD and preparation of Detailed Report						
3.4.18.1	for minor irrigation projects/Hydropower projects up to 25 MW installed capacity	100	160	160	50	150	150
3.4.18.2	for medium irrigation projects/Hydropower projects of installed capacity from 25 MW to 100 MW	120	200	200	60	200	200
3.4.18.3	for major irrigation projects/Hydropower projects of installed capacity 100MW to 1000MW	144	216	216	72	288	288
3.4.18.4	for mega hydropower projects of installed capacity more than 1000 MW	160	250	250	100	300	300

3.5 Schedule of Rates for Mass Awareness Activities

Code No.	Description	Unit	Rate Rs.
3.5.1	**Cloth Banner**		
3.5.1.1	Design and Supply of Banner on good quality Cotton Cloth with one side black and white printing with suitable hanging arrangement at four ends as per the direction of Engineer-in-Charge	Sqm	180
3.5.1.2	Design and Supply of Banner on good quality Cotton Cloth with one side colored printing with suitable hanging arrangement at four ends as per the direction of Engineer-in-Charge	Sqm	270
3.5.1.3	Design and Supply of Banner on good quality polyester Cloth with one side black and white printing with suitable hanging arrangement at four ends as per the direction of Engineer-in-Charge	Sqm	300
3.5.1.4	Design and Supply of Banner on good quality polyester Cloth with one side colored printing with suitable hanging arrangement at four ends as per the direction of Engineer-in-Charge	Sqm	350
3.5.2	**Flex Banner**		
3.5.2.1	Design & Supply of Banners on good quality front lit 12 Oz. Flex with one side black and white printing with suitable hanging arrangement at four ends as per the direction of Engineer in Charge	Sqm	230
3.5.2.2	Design & Supply of Banners on good quality front lit 12 Oz. Flex with one side Multi color solvent based printing [minimum 6 pass] with suitable hanging arrangement at four ends as per the direction of Engineer in Charge.	Sqm	390
3.5.2.3	Design & Supply of banners on good quality front lit 12 Oz. Star/LG Flex with one side black and white printing with suitable hanging arrangement at four ends as per the direction of Engineer in Charge	Sqm	1,300
3.5.2.4	Design & Supply of Banners on good quality front lit 12 Oz. Star/LG Flex with one side Multi color solvent based printing [minimum 6 pass] with suitable hanging arrangement at four ends as per the direction of Engineer in Charge.	Sqm	1,600

Code No.	Description	Unit	Rate Rs.
3.5.3	**Posters**		
3.5.3.1	Design and Supply of Poster on good quality Chromo Paper (Minimum 170 GSM) of different sizes with one side black and white printing as per the direction of Engineer in Charge (On Order of Minimum 100 Posters)		
3.5.3.1.1	A2 size	Each	15
3.5.3.1.2	A1 size	Each	20
3.5.3.1.3	A0 size	Each	35
3.5.3.2	Design and Supply of Poster on good quality Chromo Paper (Minimum 170 GSM) of different sizes with one side color printing as per the direction of Engineer in Charge (On Order of Minimum 100 Posters)		
3.5.3.2.1	A2 size	Each	40
3.5.3.2.2	A1 size	Each	90
3.5.3.2.3	A0 size	Each	160
3.5.4	**Pamphlets/Leaflets (On Order of Minimum 100 pamphlets)**		
3.5.4.1	Design and Supply of Pamphlets of A4 size on good quality Chromo/Fluorescent/Maplitho Paper (Minimum 90 GSM) with both side black and white printing as per the direction of Engineer in Charge	100 nos	930
3.5.4.1.1	For additional pamphlets – 10 Nos each	10 nos	20
3.5.4.2	Design and Supply of Pamphlets of A4 size on good quality Chromo/Fluorescent/Maplitho Paper (Minimum 90 GSM) with both side colored printing as per the direction of Engineer in Charge	100 nos	2,500
3.5.4.2.1	For additional pamphlets – 10 Nos each	10 nos	200
3.5.4.3	Design and Supply of Leaflets of A4 size on good quality Chromo/Fluorescent/Maplitho Paper (Minimum 90 GSM) with one side black and white printing as per the direction of Engineer in Charge	100 nos	600
3.5.4.3.1	For additional pamphlets – 10 Nos each	10 nos	15
3.5.4.4	Design and Supply of Leaflets of A4 size on good quality Chromo/Fluorescent/Maplitho Paper (Minimum 90 GSM) with one side colored printing as per the direction of Engineer in Charge	100 nos	1,400
3.5.4.4.1	For additional pamphlets – 10 Nos each	10 nos	100

Code No.	Description	Unit	Rate Rs.
3.5.5	**Pamphlets/Leaflets (On Order of Minimum 1000 pamphlets)**		
3.5.5.1	Design and Supply of Pamphlets of A4 size on good quality Chromo/Fluorescent/Maplitho Paper (Minimum 90 GSM) with both side black and white printing as per the direction of Engineer in Charge	1000 nos	3,000
3.5.5.1.1	For additional pamphlets – 100 Nos each	100 nos	180
3.5.5.2	Design and Supply of Pamphlets of A4 size on good quality Chromo/Fluorescent/Maplitho Paper (Minimum 90 GSM) with both side colored printing as per the direction of Engineer in Charge	1000 nos	18,900
3.5.5.2.1	For additional pamphlets – 100 Nos each	100 nos	1,500
3.5.5.3	Design and Supply of Leaflets of A4 size on good quality Chromo/Fluorescent/Maplitho Paper (Minimum 90 GSM) with one side black and white printing as per the direction of Engineer in Charge		
3.5.5.3.1	For additional pamphlets – 100 Nos each	1000 nos	1,800
3.5.5.4	Design and Supply of Leaflets of A4 size on good quality Chromo/Fluorescent/Maplitho Paper (Minimum 90 GSM) with one side colored printing as per the direction of Engineer in Charge	100 nos 1000 nos	100 9,800
3.5.5.4.1	For additional pamphlets – 100 Nos each	100 nos	800
3.5.6	**Booklets**		
3.5.6.1	**On Order of Minimum 100 Booklets**		
	Design and Supply of Booklets of size 7"x10" sizes with maximum 50 pages on good quality Chromo Paper (Minimum 70 GSM) with both side printing with central stitch and copper pin as per the direction of Engineer in Charge	100 booklets	44,000
3.5.6.1.1	Additional booklets	Each	360
3.5.6.1.2	Additional pages per booklet	Each	5
3.5.6.2	**On Order of Minimum 1000 Booklets**		
	Design and Supply of Booklets of different sizes with maximum 50 pages on good quality Chromo Paper (Minimum 70 GSM) with both side printing with central stitch and copper pin as per the direction of Engineer in Charge	1000 booklets	3,50,000
3.5.6.2.1	Additional booklet	Each	320
3.5.6.2.2	Additional pages per booklet	Each	15

Code No.	Description	Unit	Rate Rs.
3.5.7	**Certificates**		
3.5.7.1	On Order of Minimum 10 Certificates		
	Design and Supply of Certificates of A4 size on good quality Glossy Paper (Minimum 250 GSM) with one side printing as per the direction of Engineer in Charge	10 nos	120
3.5.7.2	Additional Certificates	Each	10
3.5.8	**Diary**		
3.5.8.1	On Order of Minimum 500 Diaries		
	Design and Supply of Diaries of size 18 cm x 25 cm on 70 GSM maplitho paper having dates and days indicated on different pages with outside hard out cover in suitable colour and design as decided by Engineer in Charge with page marker and silk ribbon properly stitched and complete	500 nos	1,20,000
3.5.8.2	Additional numbers	Each	200
3.5.9	**Translites**		
3.5.9.1	Fabrication and supply of display Translites of maximum 0.6 m x 0.9 m size of the colour maps/charts/graphs/ photographs etc (to be supplied by the office) to be made with computerized photo realistic digital printing system on imported vinyl film mounted on 2.5 mm thick unbreakable imported poly carbonate sheets covered by cold lamination process in mat finish along with translite box of suitable size. The front face of the box made out of special heavy duty sleek anodized aluminium section with groove to frame polycarbonate sheet. Illumination tubes with fittings and accessories to operate at 230 V, 50 Hz cycles AC along with 2 m supply lead wire are fitted inside the box with hanging arrangement at the back complete as per the direction of Engineer in Charge.	0.54 Sqm	8,700
3.5.9.2	Additional 0.5 Sqm size	-	6,000

Code No.	Description	Unit	Rate Rs.
3.5.10	**Scrolling Translites**		
3.5.10.1	Fabrication and supply of revolving display Translites of maximum 0.6 m x 0.9 m size of maximum eight number colour maps/charts/graphs/photographs etc (to be supplied by the office) to be made with computerized photo realistic digital printing system on imported vinyl film mounted on 2.5 mm thick unbreakable imported poly carbonate sheets covered by cold lamination process in mat finish along with movement facility of the slides at suitable speed mounted on steel stand with anti corrosive coating. The front face of the box made out of special heavy duty sleek anodized aluminium section with groove to frame polycarbonate sheet. Illumination tubes with fittings and accessories to operate at 230 V 50 Hz cycles AC along with 2 m supply lead wire are fitted inside the box with hanging arrangement at the back.	0.54 Sqm	11,500
3.5.10.2	Additional 0.5 Sqm size	-	6,000
3.5.11	**Fabrication and Installation of Table Mounted Model** of Water Resources Projects of different sizes made of fibre glass and acrylic sheets depicting the actual topography in suitable scale, different textures of field such as sand, rock, boulder, forest, river, valleys, roads along with project features such as intake, penstock, power house, structures, reservoir etc having wooden frame and sunmica top, suitable dust proof transparent covers of 5 to 6mm thick acrylic and standard BIS mark switches and wires of popular brand.		
3.5.11.1	Up to 3m x 1m	3 Sqm	1,18,000
3.5.11.2	Additional 1Sq m	-	36,500
3.5.12	**Fabrication and Installation of Table Mounted Working Model** of Water Resources Projects of different sizes made of fibre glass and acrylic sheets depicting the actual topography in suitable scale, different textures of field such as sand, rock, boulder, forest, river, valleys, roads along with project features such as intake, penstock, power house, structures, reservoir etc, **depicting movement of water by LED lights** having wooden frame and sunmica top, suitable dust proof transparent covers of 5 to 6mm thick acrylic and standard BIS mark switches and wires of popular brand.		
3.5.12.1	Up to 3m x 1m	3 Sqm	1,80,000
3.5.12.2	Additional 1 Sqm	-	44,000

Code No.	Description	Unit	Rate Rs.
3.5.13	**Fabrication and Installation of Table Mounted Working Model** of Water Resources Projects of different sizes made of fibre glass and acrylic sheets depicting the actual topography in suitable scale, different textures of field such as sand, rock, boulder, forest, river, valleys, roads along with project features such as intake, penstock, power house, structures, reservoir etc, **having actual movement of water** over structure and depicting water movements in the penstocks, tunnels etc by LED light having wooden frame and sunmica top, suitable dust proof transparent covers of 5 to 6mm thick acrylic and standard BIS mark switches and wires of popular brand.		
3.5.13.1	Up to 3 m x 1m	3 Sqm	1,96,000
3.5.13.2	Additional 1 Sqm	-	47,400

3.6 Schedule Of Rates For Miscellaneous Works

Code	Description	Unit	Rate Rs.
3.6.1	Outsourcing of Watch and Ward services including the cost of uniform, weakly off, torch, whistle etc		
3.6.1.1	Monthly charges for providing one Security Guard without fire arms (8 hours daily service)	Month	11,000
3.6.1.2	Monthly charges for providing one Security Guard with fire arms (8 hours daily service)	Month	15,000
3.6.2	Monthly Hire Charges of Motor Car with Driver in uniform including maintenance and repairing of vehicle but without POL		
3.6.2.1	Non-AC Motor Car	Month	25,000
3.6.2.2	AC Motor Car	Month	32,000
3.6.3	Monthly Hire Charges of Motor Car including maintenance and repairing of vehicle but without Driver and POL		
3.6.3.1	Non-AC Motor Car	Month	10,000
3.6.3.2	AC Motor Car	Month	17,000
3.6.4	Monthly charges for hiring of Data Entry Operator with weekly rest	Month	15,000
3.6.5	Deployment of Multi Tasking Worker for different office and site works with weekly rest	Month	10,000
3.6.6	Deployment of Part Time Worker (Safaiwala/Mali/Waterman) for 4 hrs daily with weekly rest	Month	3,500
3.6.7	Hiring of Generator 250 KVA including maintenance without POL	Day	2,200
3.6.8	Hire Charges of Diesel Truck (9 Tonne)	Day	1,600
3.6.9	Hire Charges of differential Geo-positioning System	Month	34,000
3.6.10	Hire Charges of computer and accessories including Auto Plotter and Design Software such as ANSYS, STAAD etc	Month	24,000
3.6.11	AMC Charges of Computes and accessories (Cost of spare parts to be paid separately)	Per annum	3% of cost price

3.7 Transport Terrif of ITDC

India Tourism Development Corporation Limited
(Ashok Travels & Tours -Delhi Unit)

Transport Tariff Effective from 1st May,2010

Local Packages	Hrs.	Km	Amb/ Indica/ Wagon R	Esteem/ Indigo/ Fordlkon Travel/ Dizel/ Accent	Inova/ SX4 Ford Fiesta	Lancer, Honda City Corella/ Seieno	Camery / H Accord CIVIC	Mercedes Senz E- Class	Mercedes Benz S.Class	Coach 27/35 Seater Non-AC	Coach (AC) 27/35 Seater 45 STR.N-Non-AC	Tempo Traveller Non-AC	Temo Traveller AC	Volvo AC 40/45 Seater AC
Half Day	4	45	646	966	1148	1962	2717	6036	8815	1771	2252	1392	1531	6900
Full Day	8	80	1105	1757	2049	3272	4330	9759	15094	3558	4934	2763	3200	16575
Full Day	10	100	1419	2166	2543	4812	6340	12919	20053	4908	5933	3340	4175	19143
Full Day	12	120	1751	2554	3033	5697	7547	16470	24923	5743	6876	4335	5148	22425
Extra per Km.			13	17	21	31	46	99	153	35	39	25	28	83
Extra per Hr.			30	61	61	121	423	725	1037	139	139	139	138	775

Extended time : Automatically change to next Package Detention changes are applicable beyond 12 hrs. packages.
Outstations Packages inclusive or Interstate Taxes Permit fee (Toll Tax extra)

3.0 SCHEDULE OF RATES

Outstation Packages	Hrs.	Km	Amb/ Indica/ Wagon R	Esteem/ Indigo/ FordIkon Travel/ Dizel/ Accent	Inova/ SX4 Ford Fiesta	Lancer, Honda City Corella/ Seieno	Camery / H Accord CIVIC	Mer-cedes Senz E- Class	Mercedes Benz S.Class	Coach 27/35 Seater Non-AC	Coach (AC) 27/35 Seater 45 STR.N-Non-AC	Tempo Traveller Non-AC	Temo Traveller AC	Volvo AC 40/45 Seater AC
Delhi/Agra/ Delhi	16	450	6448	9369	10379	15692	22279	44698	68852	27463	32903	21638	26597	46000
Delhi/Agra/ Delhi	36	450	6810	9884	10813	18107	23069	47117	71267	31916	37355	25477	31240	51750
Delhi/Agra/ F.Sikri/Delhi	16	550	7782	11061	12155	19455	25384	55099	85500	30904	36179	23595	30335	50800
Delhi/Agra/ F.Sikri/Delhi	36	550	6144	11423	12675	21880	28900	57514	90122	34946	40088	27881	34016	59800
Delhi/Haridwar/ Rishikesh	16	500	7245	11176	12020	17316	25211	55032	86427	33219	36304	26325	32005	50500
Delhi/Haridwar/ Rishikesh	36	500	7607	11538	12553	19320	27773	57447	90050	40746	44560	32612	38051	57500
Delhi/Jaipur/ Delhi	16	600	8211	10953	12377	25056	29372	61209	93811	35275	41315	21606	28816	59600
Delhi/Jaipur/ Delhi	36	600	8573	11315	13958	28679	30158	53524	97434	40563	48551	24490	31448	52100
Delhi/Agra/ Jaipur/Delhi	60	600	11755	15963	18949	34335	40563	91673	136351	56355	69976	38405	45363	92000
Extra per Km. (Plain)			13	17	21	31	45	99	153	35	39	25	28	63
Extra per Km. (Hill)			15	21	25	38	55	121	162	40	51	32	38	94
Night Half charges			180	240	240	505	785	2415	3625	635	695	560	550	880

4.12% service tax would be charged as per Government order.
Cancellation for local/Outstation bookings minimum 4 Hrs. 45 km Packages shall be charged
Coach transfer shall be applicable to further onwards duty.

SCHEDULE OF CSMRS FOR LABORATORY TESTS

4.0 SCHEDULE OF CSMRS FOR LABORATORY TESTS

Code	Description	Unit	Rate Rs.
4.1 SOIL MECHANICS AND FOUNDATION ENGINEERING TESTS			
4.1.1	Unconfined Compression Test (37.5 mm dia) – 2 Specimens per sample		2,700
4.1.2	Relative Density Test (3000 cu.cm. Mould) Samples in duplicate		8,800
4.1.3	Direct shear Test 6 cm X 6 cm, Disturbed samples - 4 specimen/sample		6,800
4.1.4	Direct shear Test 6 cm X 6 cm, Undisturbed samples - 4 specimen/sample		7,800
4.1.5	Direct shear Test 10 cm x 10 cm, Disturbed samples - 4 specimen/sample		9,800
4.1.6	Direct shear Test 10 cm x 10 cm, Disturbed samples - 4 specimen/sample		11,700
4.1.7	Unconsolidated Undrained Triaxial test with pore pressure measurements for 1.5" dia. (37.5 mm) - 3 Specimen/sample		15,100
4.1.8	Unconsolidated Undrained Triaxial test without pore pressure measurements for 1.5" dia. (37.5 mm) - 4 Specimen/sample		8,900
4.1.9	Unconsolidated Undrained Triaxial test with pore pressure measurements for 4" dia.-3 Specimen/ sample		32,800
4.1.10	Unconsolidated Undrained Triaxial test without pore pressure measurements for 4" dia. - 4 Specimen/ sample		22,500
4.1.11	Consolidation Undrained Triaxial test 1.5" dia with pore pressure (3 specimen/sample)		16,000
4.1.12	Drained Triaxial test - 4" dia (100 mm) Impervious sample		70,600
4.1.13	Drained Triaxial test - 1.5" dia (37.5 mm) Pervious sample		11,700
4.1.14	Consolidated Undrained Triaxial test with pore pressure measurements for 10 cm dia		68,200
4.1.15	Consolidation Undrained Triaxial test 1.5" dia (37.5 mm) without pore pressure measurement		15,200
4.1.16	Drained Triaxial test - 1.5" dia (37.5 mm) Impervious sample		29,900

4.0 SCHEDULE OF CSMRS FOR LABORATORY TESTS

Code	Description	Unit	Rate Rs.
4.1.17	Consolidation Undrained Triaxial test 4" dia (100 mm) without pore pressure measurement		23,300
4.1.18	Drained Triaxial test - 4" dia(100 mm) Pervious sample		21,000
4.1.19	Mechanical Analysis		3,900
4.1.20	Standard Proctor Compaction		9,000
4.1.21	Consolidation Test (with rebound)		14,400
4.1.22	Atterberg Limits		3,400
4.1.23	Shrinkage Limit		2,400
4.1.24	Laboratory Permeability Test		5,000
4.1.25	Specific Gravity		2,600
4.1.26	In-situ Density and Moisture Content		2,600
4.1.27	Laboratory vane shear test(undisturbed/remoulded samples)		3,200
4.1.28	Double Hydrometer analysis		5,000
4.1.29	Pin Hole Test		4,100
4.1.30	Crumb Test		3,200
4.1.31	CBR Test		7,300
4.1.32	Swelling Pressure Test		4,900
4.1.33	Free Swell Index		2,500
4.1.34	Hydraulic fracturing test 1.5" dia (37.5 mm) 4 specimens/sample		14,200
4.1.35	Torvane Shear Test		1,300
4.1.36	Pocket Penetrometer test		1,100
4.1.37	Lab. Permeability test on Canal lining material		17,600
4.1.38	Sand Equivalent Test		2,100
4.1.39	Modified Proctor Compaction Test		14,400
4.1.40	Consolidated Undrained Triaxial shear test with pore pressure measurement (Sample size 37.5 mm x 75 mm) - 4 Specimen		10,600
4.1.41	Consolidated drained Triaxial shear test (Sample size 37.5 mm x 75 mm) - 4 Specimen		12,700
4.1.42	Unconsolidated Undrained Triaxial shear test with pore pressure measurement(Sample size 37.5 mm x 75 mm) - 4 Specimen		10,000
4.1.43	Unconfined Compression test (Sample size 37.5 mm x 75 mm) - 2 Specimen		4,400
4.1.44	Consolidation test using Automated Consolidometer (Sample size 63.5 mm x 25.4mm)		10,200
4.1.45	Particle size analysis of soil samples using Laser particle size analyzer Range 0.1 micron to 1200 microns		2,500
4.1.46	Multi stage direct shear test on coarse grained soils (Sample size 30cm x 30cm)		15,500

Code	Description	Unit	Rate Rs.
4.2 SOIL DYNAMICS TESTS			
4.2.1	Strength test on one sample(set of 4 specimen at different stress rations) of cohesionless soil using Cyclic Triaxial test equipment		94,600
4.2.2	Strength test on one sample (set of 4 specimen at different stress ratios) of cohesionless soil using Cyclic simple shear test equipment		92,600
4.2.3	Evaluation of Dynamic properties of one sample comprising of 3 specimen at different confining pressures using Resonant Column Device:		
	I) Clayey Sample		56,100
	II) Sandy sample		48,500
4.3 ROCKFILL MATERIAL TESTS			
4.3.1	Large Size Triaxial Shear Test (Rockfill Material) (38cm Dia X 81 cm Height)		3,63,000
4.3.2	One Dimensional Compression/Permeability Test (Rockfill Material) (Sample size 100 cm diameter X 60 cm height)		3,90,000
4.3.3	Large Size Triaxial Shear Test under Cyclic Condition (Rockfill Material)(50cm dia X 60 cm height)		3,12,000
4.3.4	Large Size Triaxial Shear Test under Cyclic Condition (Rockfill Material) (50cm dia x 100 cm height)		4,18,000
4.3.5	Large Size Direct Shear Test (Rockfill Material)(sample size 100cm length X 100cm width x 60 cm ht)		1,94,000
4.3.6	Relative Density Test (Rockfill Material)		20,800
4.3.7	Specific Gravity Test (Rockfill Material)		1,400
4.4 TESTS FOR GEOSYNTHETICS MATERIALS			
4.4.1	Ultimate Tensile Strength Testing charges for different materials on Electronic Tensile Testing machine (10 T)		5,000
4.4.2	Permeability test on Geotextile		2,600
4.4.3	Apparent Opening Size of Geotextiles		2,000
4.4.4	Mass per unit area of Geotextiles		1,100
4.4.5	Cone Drop test		1,300
4.4.6	Interface Friction Measurement of Geofabric		9,200
4.4.7	Thickness Measurement of Geofabric		800
4.4.8	CBR Puncture Strength Test		2,700
4.4.9	Rod Puncture Strength Test		1,800
4.5 TESTS FOR CONCRETE			
4.5.1	Normal Consistency		4,700
4.5.2	Setting time (Initial and Final)		6,600
4.5.3	Fineness (Blaine's)		7,100
4.5.4	Fineness (Sieving)		2,300

Code	Description	Unit	Rate Rs.
4.5.5	Soundness test (Autoclave)		10,500
4.5.6	Soundness (Lechatlier)		2,800
4.5.7	Specific Gravity of cement		5,400
4.5.8	Tensile Strength of cement		6,300
4.5.9	Compressive Strength of Cement mortar (3, 7 & 28 days)		9,600
4.5.10	Heat of Hydration		29,900
4.5.11	Impact Test		4,100
4.5.12	Abrasion Test (CA)		10,700
4.5.13	Specific gravity (Coarse Aggregate)		3,200
4.5.14	Percent Water Absorption(Coarse Aggregate)		2,300
4.5.15	Soundness 5 cycles (Coarse Aggregate)		9,500
4.5.16	Alternate wetting and drying (10 cycles)		7,000
4.5.17	Unit weight (fine aggregate)		3,600
4.5.18	Unit weight (coarse aggregate)		2,900
4.5.19	Aggregate crushing value		5,000
4.5.20	Alkali aggregate reactivity (Mortar bar test)		21,000
4.5.21	Grading and fineness modulus		4,100
4.5.22	Specific gravity (fine aggregate)		3,200
4.5.23	Silt and clay content		2,900
4.5.24	Organic impurities		2,100
4.5.25	Mica content		14,600
4.5.26	Soundness test (fine aggregate)		12,600
4.5.27	Compressive strength of sand mortar		10,200
4.5.28	Workability of concrete (slump cone)		1,900
4.5.29	Testing of 1 set of 3 concrete cubes		2,200
4.5.30	Unit weight of concrete		3,800
4.5.31	Flexural strength of concrete		6,300
4.5.32	Entrained air content of concrete		4,000
4.5.33	Design of concrete mixes		9,700
4.5.34	Permeability of concrete		15,400
4.5.35	Pneumatic sand blast on Concrete		20,000
4.5.36	Crushing strength 2" rock cubes		8,000
4.5.37	Pneumatic sand blast in surface		5,000
4.5.38	Tensile strength of M.S Bar		5,100
4.5.39	Compressive strength of bricks (solid brick/5 nos)		5,600
4.5.40	Compressive strength of bricks Perforated 5 nos		3,300
4.5.41	Water absorption (cold water)		2,600
4.5.42	Water absorption		3,800
4.5.43	Arizona slant shear test		5,000

Code	Description	Unit	Rate Rs.
4.5.44	Drying shrinkage test for epoxy mortar		3,300
4.5.45	Specific heat of concrete		30,400
4.5.46	Thermal conductivity		37,000
4.5.47	Compressive strength of epoxy mortar		4,200
4.5.48	Efflorescence		1,900
4.5.49	Warpage (for solid and perforated bricks)		2,000
4.5.50	Lime reactivity test		13,600
4.5.51	Water absorption of masonry rock/stone		11,100
4.5.52	Porosity of masonry stone/rock		8,000
4.5.53	Durability test of masonry rock		15,700
4.5.54	Transverse strength of building stone		16,800
4.5.55	Bond test for M.S bars (medium tensile steel bars)		11,500
4.5.56	Testing of concrete and Rock cubes (30 cm) on Bi-axial test equipment		44,200
4.5.57	Testing of one set of 3 concrete cylinders (50 x 100 cm)		8,100
4.5.58	Water Retention by concrete curing materials		13,600
4.5.59	Percent water absorption of fine aggregate (Natural/ crushed/Blended)		3,200
4.5.60	Accelerated Alkali Aggregate test (Mortar Bar test)		35,700
4.5.61	Elastic Parameters of Concrete cylinder (15 x 30 cm) set of 3 cylinders		25,900
4.5.62	Accelerated Pozzalonic Activity Index test on Micro Silica		11,400
4.5.63	Underwater Abrasion test as per ASTM for a set of 3 concrete cylindrical samples		29,500
4.5.64	Bond strength of epoxy –resin system Used with concrete by slant shear (Set 3 cylinders for bond strength and one Cylinder for compression		27,300
4.6 ROCK MECHANICS TESTS			
4.6.1	Drilling & Cutting of rock cores, grinding and Polishing (Ex,Ax,Bx,Nx)- 1 core		6,000
4.6.2	Cutiing of rock cores- grinding & polishing – 1 core		3,300
4.6.3	Cutting of rock cubes (5cm size) – 1 no.		5,900
4.6.4	Cutting of rock cubes (10 cm size) – 1 no.		8,500
4.6.5	Cutting of rock cubes (15 cm size) – 1 no.		11,800
4.6.6	Electrical resistively test for core (upto 3 parameters)		5,400
4.6.7	Specific heat test (3 specimens per sample)		5,500
4.6.8	Laboratory testing of heat capacity of soil (3 specimens per sample)		8,400
4.6.9	Compression and shear wave velocity – 1 sample		3,400

Code	Description	Unit	Rate Rs.
4.6.10	Tensile strength (Brazilian) – 5 cores		14,400
4.6.11	Direct Tensile strength – 5 cores		32,900
4.6.12	Physical properties of rock samples(1 sample = 2 specimens)		11,800
4.6.13	Uni-axial compression test – 5 cores		17,900
4.6.14	Flexural strength – 5 cores		17,900
4.6.15	Tri-axial shear test		24,100
4.6.16	Static Elastic parameters (Tangent modulus and Poisson's ratio)		61,500
4.6.17	Mohr's hardness test – 1 core		1,200
4.6.18	Schmidt Rebound Hardness – 1 core		2,600
4.6.19	Dorry's Abrasion test (1 samples=2 specimens)		7,300
4.6.20	Slake durability test (1 sample = 2 specimens)		7,200
4.6.21	Direct shear test on discontinuities – 5 cores		33,700
4.6.22	Point load index test – 10 samples		8,400
4.6.23	Joint Roughness coefficient – 1 sample		7,100
4.7 TESTS FOR CONCRETE CHEMISTRY			
4.7.1	Chemical Analysis of Water for Construction (Upto 8 parameters)		6,900
4.7.2	Chemical Analysis of Seepage Water (Durability Studies)		9,400
4.7.3	Complete Chemical Analysis of Water (upto 20 inorganic Parameters)		16,600
4.7.4	Chemical Analysis of Cement Pozzalona/Lime/Rock etc.,		28,300
4.7.5	Sulphide Sulphur in cement		2,100
4.7.6	Free Lime Content		2,100
4.7.7	Cement Content in set Cement Mortar/Concrete		22,500
4.7.8	Alkali Aggregate Reactivity Test (24 hrs.Test)		11,500
4.7.9	Alkali Aggregate Reactivity (72 hrs)		12,000
4.7.10	Acid Soluble Sulphate in Materials of Construction		3,000
4.7.11	Water Soluble Sulphate in materials of construction		2,500
4.7.12	Acid Soluble Chlorides in materials of construction		1,800
4.7.13	Water Soluble Chlorides in materials of construction		1,400
4.7.14	Available Alkali in Flyash/Silica Fume		3,400
4.7.15	Active Alkalis of the aggregate (French Method)		2,000
4.7.16	Chemical Analysis of Admixtures		7,500
4.7.17	Carbonation Depth in reinforced concrete		400
4.7.18	Durability of resin capsule for rock bolting		17,500
4.7.19	Total soluble salts in materials for construction		1,100

Code	Description	Unit	Rate Rs.
4.7.20	Determination of Organic matter		3,000
4.7.21	Loss on Ignition		1,200
4.7.22	Specific element determination using Atomic Absorption Spectrophotometer		1,200
4.7.23	pH Value		900
4.7.24	Determination of Calcium carbonate content		1,800
4.7.25	Alkali Content in Materials of construction		1,600
4.7.26	Determination of Organic Carbon		3,000
4.7.27	Determination of Cat ion Exchange capacity		7,300
4.7.28	Dispersive Characteristics of Soils (Chemical method)		5,100
4.7.29	Chemical composition of soil		28,300
4.7.30	Total soluble salts in materials of construction		1,100
4.7.31	Soluble sulphate in materials of construction		3,000
4.7.32	Soluble chlorides in materials of construction		1,800
4.7.33	Zinc coating test on GI wires for a set of 3 samples		1,500
4.7.34	Uniformity of zinc coating test on GI wires (3 samples)		900
4.7.35	Mass of zinc coating test on GI wires for 3 samples		700

Note:

The above rates are effective from 1.7.2011.

Code	Description	Unit	Rate Rs.
4.7.20	Determination of Organic matter		3,000
4.7.21	Loss on Ignition		1,200
4.7.22	Specific element determination using Atomic Absorption Spectrophotometer		1,200
4.7.23	pH Value		900
4.7.24	Determination of Calcium carbonate content		1,800
4.7.25	Alkali Content in Materials of construction		1,600
4.7.26	Determination of Organic Carbon		3,000
4.7.27	Determination of Cat ion Exchange capacity		7,300
4.7.28	Dispersive Characteristics of Soils (Chemical method)		5,100
4.7.29	Chemical composition of soil		28,300
4.7.30	Total soluble salts in materials of construction		1,100
4.7.31	Soluble sulphate in materials of construction		3,000
4.7.32	Soluble chlorides in materials of construction		1,800
4.7.33	Zinc coating test on GI wires for a set of 3 samples		1,500
4.7.34	Uniformity of zinc coating test on GI wires (3 samples)		900
4.7.35	Mass of zinc coating test on GI wires for 3 samples		700

Note:

The above rates are effective from 1.7.2011.

MODEL LIST OF T&P

5.0 MODEL LIST OF T&P

5.1 Gauge Site

Sl. No.	Particulars	Quantity
1	Metallic Tape 30 m	01
2	Auto Level with accessories & staff	01
3	Gauge Post	10
4	Target Poles	04
5	Maximum Minimum Thermometer (Digital)	01
6	Dry Wet Thermometer	01
7	Life Buoy	05
8	Life Jackets	05
9	Raincoat	03
10	Umbrella	02
11	Torch	02
12	Gum Boot	03
13	Bucket	02
14	Carpentry Tool set	01
15	Candle Water Filter	01
16	Calculator	01
17	Stevenson's Screen	01
18	Table	02
19	Chair	05
20	Wireless with accessories	01
21	Maintenance free battery	02
22	Petromax	01
Consumables		
1	Paints, Painting Brushes, Data forms and stationary etc.	

5.2 Gauge and Discharge site

Sl. No.	Particulars	Quantity
1	Current Meter with accessories	02
2	Pigmy Current meter with accessories	01
3	Digital Counter	02
4	Fish Weight – 10 kg	02
5	Fish Weight – 25 kg	02
6	Sounding Weight- 10 kg	02
7	Sounding Weight- 25 kg	02
8	Metallic Tape 30 m long	01
9	Auto Level with accessories & staff	01
10	Gauge Post	10
11	Target Poles	04
12	Ordinary Rain Gauge with measuring cylinder	01
13	Maximum Minimum Thermometer (Digital)	01
14	Dry Wet Thermometer	01
15	River Temperature Thermometer	01
16	Boat with accessories	01
17	O B Engine with accessories	01
18	Sisal/Nylon/Jute Rope- 50 m each	02
19	Life Buoy	05
20	Life Jacket	05
21	Ranging Rods	01
22	Raincoat	05
23	Umbrella	03
24	Torch	03
25	Gum Boot pairs	05
26	Bucket	03
27	Carpentry Tool set	01
28	Candle Water Filter	02
29	Scientific Calculator	01
30	Stop Watch	01
31	Eco-Sounder	01
32	Boat Outfit	01
33	Bridge Outfit	01
34	Stevenson's Screen	01
35	Table	03
36	Chair	05
37	Petromax	01
38	Wireless with accessories	01
39	Maintenance free battery	02
Consumables		
1	Paints, Painting Brushes, Data forms and stationary etc.	

5.3 Gauge, Discharge and Water Quality site

Sl. No.	Particulars	Quantity
1	Current Meter with accessories	02
2	Pigmy Current Meter with accessories	01
3	Digital Counter	02
4	Fish Weight – 10 kg	02
5	Fish Weight – 25 kg	02
6	Sounding Weight- 10 kg	02
7	Sounding Weight- 25 kg	02
8	Metallic Tape 30 m long	01
9	Auto Level with accessories & staff	01
10	Gauge post	10
11	Dry Wet Thermometer	01
12	Target Poles	04
13	Ordinary Rain Gauge with measuring cylinder	01
14	Maximum Minimum Thermometer (Digital)	02
15	River Temperature Thermometer	01
16	Boat with accessories	01
17	O B Engine with accessories	01
18	Sisal/Nylon/Jute Rope- 50 m each	02
19	Life Buoy	05
20	Life Jacket	05
21	Ranging Rods	01
22	Raincoat	05
23	Umbrella	03
24	Torch	03
25	Gum Boot pairs	05
26	Bucket	04
27	Carpentry Tool set	01
28	Candle Water Filter	02
29	Scientific Calculator	01
30	Stop Watch	01
31	Eco-Sounder	01
32	Boat Outfit	01
33	Bridge Outfit	01
34	Stevenson's Screen	01
35	Table	04
36	Chair	05
37	Petromax	01
38	Wireless with accessories	01

5.0 MODEL LIST OF T&P

Sl. No.	Particulars	Quantity
39	Maintenance free battery	02
40	Conductivity Meter	01
41	DO meter	01
42	pH meter	01
43	Wireless with accessories	01
44	DO Sampler	01
Consumables		
1	Paints, Painting Brushes, Data forms and stationary etc.	
2	Filter Paper, Chemicals, Glass Wares etc.	

5.3 Gauge, Discharge, Silt and Water Quality site

Sl. No.	Particulars	Quantity
1	Current Meter with accessories	02
2	Pigmy Current Meter with accessories	01
3	Digital Counter	02
4	Fish Weight – 10 kg	02
5	Fish Weight – 25 kg	02
6	Sounding Weight- 10 kg	02
7	Sounding Weight- 25 kg	02
8	Metallic Tape 30 m long	01
9	Auto Level with accessories & staff	01
10	Gauge post	10
11	Dry Wet Thermometer	01
12	Target Poles	04
13	Ordinary Rain Gauge with measuring cylinder	01
14	Maximum Minimum Thermometer (Digital)	02
15	River Temperature Thermometer	01
16	Boat with accessories	01
17	O B Engine with accessories	01
18	Sisal/Nylon/Jute Rope- 50 m each	02
19	Life Buoy	05
20	Life Jacket	05
21	Ranging Rods	01
22	Raincoat	05
23	Umbrella	03
24	Torch	03
25	Gum Boot pairs	05
26	Bucket	03
27	Carpentry Tool set	01
28	Candle Water Filter	02
29	Scientific Calculator	01
30	Stop Watch	01
31	Eco-Sounder	01
32	Boat Outfit	01
33	Bridge Outfit	01
34	Stevenson's Screen	01
35	Table	04
36	Chair	05
37	Petromax	01
38	Wireless with accessories	01

5.0 MODEL LIST OF T&P

Sl. No.	Particulars	Quantity
39	Maintenance free battery	02
40	Conductivity Meter	01
41	DO meter	01
42	pH meter	01
43	Wireless with accessories	01
44	DO Sampler	01
45	Silt Sampler	01
46	Sieves set	01
47	Oven	01
48	Physical Balance with Weight	01
49	Enamel Bucket & Mug	01
50	Desiccators	01
51	Gas Stove	01
Consumables		
1	Paints, Painting Brushes, Data forms and stationary etc.	
2	Filter Paper, Chemicals, Glass Wares etc.	

TECHNICAL SPECIFICATIONS OF HIGH VALUE EQUIPMENT

6.0 TECHNICAL SPECIFICATIONS

6.1 Technical Specification of Hydro-meteorological Sensors

Sl. No.	Salient Features	Specification
6.1.1	**Tipping Bucket Rain gauge**	
1	Sensor type	Tipping bucket
2	Base material	cast metal - thermoplastic, FRP or Equivalent
3	Collector material	thick metal, FRP or Equivalent
4	Rim material	gun metal/brass or equivalent
5	Collecting funnel	200 mm internal diameter
6	Bucket size	0.5 mm equivalent rainfall
7	Range	0 – 100 mm
8	Resolution	0.5 mm
9	Accuracy	2% of reading or better
10	Rainfall intensity	up to 750 mm/hr
11	Tip detector	reed switch
12	Output	pulsed output to Data Collection Unit
13	Mounting/Installation arrangements	Mounting shall be done on ground or on a raised platform or on a roof top along with DCU and all the accessories.
14	Warranty Period	2 years after commissioning at site

6.1.2	**Water Level Sensor**	
1	Sensor type	Radar Level
2	Measuring Range	up to 30 m
3	Accuracy	± 3 mm
4	Beam angle of antenna	10 to 15 °
5	Operating temperature	-40 to +55 ° C
6	Operating Relative Humidity	0 to 100%
7	Rotation range of mounting	
	a) Lateral axis	±90 °
	b) Longitudinal axis	±15 °
8	Type of protection with horizontal mounting	IP 67
9	Mounting/Installation arrangements	Mounting shall above HFL below a bridge girder wherever available otherwise on a cantilever projection from a mast or pedestal made of structural steel or RCC with sufficient structural strength.
10	Warranty Period	2 years after commissioning at site

6.1.3	**Air Temperature Sensor**	
1	Sensor type	Platinum resistance or equivalent
2	Operational Range	-5 to + 60 ° C
3	Accuracy	Within ± 0.1° C
4	Resolution	0.1 ° C
5	Response time	10 Secs or lesser
6	Self aspirated	To ensure continuous supply of air. Free from turbulence, water droplets and Radiation

Sl. No.	Salient Features	Specification
7	Mounting/Installation arrangements	Mounting shall be done on a mast or tripod made of structural steel with sufficient foundation and structural strength.
8	Warranty Period	2 years after commissioning at site

6.1.4	**Relative Humidity Sensor**	
1	Sensor type	Capacitive/solid state
2	Range	0 – 100% RH
3	Accuracy	3% or better
4	Resolution	1%
5	Response time	10 Secs or lesser
6	Mounting/Installation arrangements	Mounting shall be done on a mast or tripod made of structural steel with sufficient foundation and structural strength.
7	Warranty Period	2 years after commissioning at site

6.1.5	**Wind Speed And Direction Sensor**	
1	Sensor Type	Ultrasonic (no moving part)
2	Range	0-60 m/s for speed , 0-360^{o} for direction
3	Accuracy	Better than 1% full scale
4	Resolution	0.1 m/s for speed, $\pm 5^{o}$ for direction
5	Response time	Less than 1 second lag
6	Threshold	Less than 1 m/sec
7	Averaging	To be introduced in DCU customizable by user
8	Mounting/Installation arrangements	Mounting shall be done on a mast or tripod made of structural steel with sufficient foundation and structural strength.
9	Warranty Period	2 years after commissioning at site

6.1.6	**Solar Radiation Sensor**	
1	Sensor Type	Photo sensor/pyroelectric sensor
2	Threshold	120 W/m^2 of direct solar irradiance
3	Methodology	Alternate shading of sensor to account for sky radiation
4	Resolution	1s of an hour
5	Spectrum range	400nm to 1100 nm
6	Response time	100s
7	Stability	Better than 2% over a year period
8	Temperature dependence	Better than ±2% in the ambient range
9	Error due to changing declination	Less than ±3%
10	Output	High for Sunshine (5 V) Low for No Sunshine (0 V)
11	Mounting/Installation arrangements	Mounting shall be done on a mast or tripod made of structural steel with sufficient foundation and structural strength.
12	Warranty Period	2 years after commissioning at site

Sl. No.	Salient Features	Specification
6.1.7	**Evaporation Sensor**	
1	Operating temperature	-5 to 60° C
2	Diameter of the pan	1.2 m or more
3	Accuracy	± 1%
4	Measuring Cylinder Material	Clean cast seamless acrylic plastic tubing or brass sheet
5	Platform	Rot resistant timber treated with creosote or effective Wood preservative
6	Graduation	in millimeter
7	Mounting/Installation arrangements	Mounting shall be done on ground or on a raised platform or on a roof top along with DCU and all the accessories.
8	Warranty Period	2 years after commissioning at site

6.1.8	**Data Logger**	
1	Slots/Ports	PCMCIA and USB
2	Data Memory	4 MB minimum
3	Operating Temperature	-10^0 C to $+60^0$C
4	Power Consumption	< 2 mA quiescent
5	Analog inputs	4 to 20 mA ; 100% over-range withstand
6	Analog to digital converter	
	a) Resolution	16 bit or better
	b) Conversion Accuracy	± 1 LSB
7	System clock	
	a) Stability Long-term	1 ppm/year or better
	b) Stability (Temp)	3 ppm or better from -40°C to 55°C
8	Battery Backup (internal)	Lithium Battery storage: 2 years
9	Real-Time Clock	GPS synchronized
10	Watchdog Timer	System Reset upon microprocessor failure
11	Sample Intervals	1 sec. to 24 hr. in 1 second increments (user selectable)
12	Keypad	1 no.
13	Visual display	16 Character X 2 lines or more, alphanumeric LED/LCD to operate in temp. range -10°C to +55°C
14	Power consumption	Average over an hour shall be less than 0.5 A at 12V D.C. including that of sensors, GPS and transmitter.
15	Power Supply	
	a) Battery	Single 12V chargeable maintenance-free battery 65 AH capacity
	b) Charge controller	Internal or External
16	Mounting/Installation arrangements	Shall be housed in a weather proof and temper proof housing of NEMA 4 type enclosure of steel or fibre glass and mounted on wall enclosures wherever possible otherwise shall mounted on a mast or tripod made of structural steel with sufficient foundation and structural strength.
17	Warranty Period	2 years after commissioning at site

6.0 TECHNICAL SPECIFICATIONS

Sl. No.	Salient Features	Specification
6.1.9	**Transmitter**	
1	Carrier Frequency Band	402.0 MHz - 403.0 MHz
2	Carrier Stability	Carrier frequency 402.658 MHz
3	Modulator	In steps of 100 Hz from 402.0 MHz to 403.0 MHz
4	Data bit rate	PCM/BPSK
5	Data coding	4.8 KBPS (User selectable) NRZ(L)
6	Frequency stability:	
	a) Long term	Transmit frequency inaccuracy including aging of oscillator should not exceed ±400 Hz per year. Oscillator/synthesizer should have provision to adjust for the long term drift
	b) for temperature	1 ppm or better (-40 to +55°C)
7	Signal Bandwidth	6.0 KHz maximum or better
8	Output Power	3-10 W (settable)
9	Power Stability	1 dB
10	Spurious	-60 dB or better
11	Harmonics	-40 dB or better
12	Operating Temperature	-40°C to +55°C
13	Operating Relative Humidity	0 to 100% RH for outdoor equipments
14	Operating power	Switched 12V D.C controlled by data logger.
15	Mounting/Installation arrangements	Shall be housed in a weather proof and temper proof housing of NEMA 4 type enclosure of steel or fibre glass and mounted on wall enclosures wherever possible otherwise shall be mounted on a mast or tripod made of structural steel with sufficient foundation and structural strength.
16	Warranty Period	2 years after commissioning at site

6.1.10	**Antenna**	
1	Polarization	LHCP and RHCP (Switchable in field)
2	Gain	Minimum 11 dBi or better
3	Center frequency	402.50 MHz
4	3dB Beam width	40°
5	VSWR	1.2 : 1
6	Impedance	50 ohms
7	Operating wind speed	250 kmph
8	Wind Survival	300 kmph
9	Operating rain rate	100 mm/hr and water proof
10	Material	Rust-proof and oxidation-proof for use in coastal and saline areas
11	Connector type	Compatible
12	Mounting	Should have engraved elevation angle marking
13	Operating temperature	-40°C to +55°C
14	Operating Relative Humidity	0 to 100% RH
15	Weight	Light weight
16	Size	Small, portable
17	Mounting/Installation arrangements	Mounting shall be done on a mast with sufficient foundation and structural strength.
18	Warranty Period	2 years after commissioning at site

6.2 Technical Specification of High Value Survey Instruments

Sl. No.	Salient Features	Specification
6.2.1	**Total Station**	
1	Telescope Image Magnification Field of view Minimum focus distance Resolving power	 Erect 30X or better ≥22 m @ 1000 m 2.0 m ≤2.5″
2	Angle measurement Tilt compensation method Tilt compensation range Angle accuracy Displayed resolution (Least count)	 dual axis ≥3″ ≤2″ horizontal and vertical ≤1″
3	Distance measurement Range (20 km visibility) Accuracy (in static mode) Resolution (Least count) Measurement time Prism	 ≥1500 m with 1 prism ≥3000 m with assembly of 3 prisms 5 mm + 3 ppm of distance or better ≤1 mm ≤5 s Retro reflective type
4	Optical Plummet Magnification Focussing range Additional features	 ≥2.0X 0.5 to 2 m or better • A small Bull's eye Bubble on alidade. • Two Electronic bubbles 30' sensitivity at right angles to each other on display panel. • One Circular Bubble on Tribrach.
5	key board and display	• Alpha Numeric keyboard on both sides (identical) • 1/4 VGA (320*240 pixels) • graphic LCD • Facility to display graph of entire survey on screen with Zoom & Pan facility
6	Pressure & Temperature sensors	• In built Temperature & pressure Sensors for measurement and display of instant atmospheric temperature and pressure in SI system of unit.
7	Data storage (with pc-software for data retrieval, presentation and archiving)	• Capacity ≥10000 points on board memory or more • SD Card/CF card slot with 256 MB or more • RS232/USB Interface.
8	Focusing Mode:	Three Focusing Mode: Auto Focus mode, Power focus mode and Manual Focus mode

Sl. No.	Salient Features	Specification
9	Physical Weight Operating temperature range Operating Relative Humidity	 ≤10 kg 0 to 55° 0 to 90%
10	Power	• Batteries Li-ion rechargeable • No effect on memory during changing of batteries. • capacity ≥4 hours of continuous measuring
11	Accessories	• Strong carrying case with Data Transfer Cable • Data Transfer Software • Two rechargeable Batteries • One Charger • One CD containing Instruction Manual • Two Single prism with Target Plate • one wooden stand Range • Two Pole • Two Detachable Tribrach • Lens cover set

6.2.2	Differential Global positioning system	
1	Accuracy Operating range Horizontal accuracy of rover unit location Vertical accuracy of rover unit location	 within 1 km of the reference unit ±1 m ±2 cm
2	GPS Reference Unit Data logging Positioning mode Update rate	 1 – 30 seconds RTK, SBAS, DGPS 10 Hz – 20Hz
3	Internal Memory	• At least 256 MB memory • Removable 1 GB data storage card • 72 hours of 10 satellites at 1 second intervals
4	Technology	PRISM or NMEA 0183
5	Display/Interface	• Full Colour TFT liquid Crystal display with backlight • Keyboard with backlight • USB host and slave • Point-to-point and point-to-multi point • Serial port OBEX dial up modem
6	Field Software	GPS utilities, Bluetooth Manager, Operating system (Data back-up, Restore etc.)
7	Physical and Performance	• Battery life: 20 hours or greater • Waterproof • High-sensitivity receiver • Interface high-speed USB and NMEA 0183 compatible

Sl. No.	Salient Features	Specification
8	Maps and Memory	• Basemap display • Ability to add maps • Built-in memory: 500 MB or greater • Capable to accept data cards in widely available format • Waypoints/favorites/locations: 2000 or greater • Routes: 200 or greater • Track log: 10,000 points, 200 saved tracks or greater
9	Additional Features	• Automatic routing (turn by turn routing on roads • Electronic compass: tilt-compensated, 3-axis • Barometric altimeter • Unit-to-unit transfer (shares data wirelessly with similar units) • Comprehensive user manuals

6.2.3	**Acoustic Doppler Current Profiler**	
1	Sensor	
	Mode of operation	Real time from a sailing boat
	Measuring range	±10 m/s (velocity relative to instrument)
	Stream velocity range	-5 to 5 m/s
	Stream velocity accuracy	0.25% ±0.005 m/s or better
	Resolution	≤0.01 m/s
	Ping interval	≤0.1 s
	Configuration	3 or 4 beams
	Beam angle	20º to 30°
	Acoustic frequency	highest possible frequency for adequate bottom tracking at depths of 30 m in fast flowing, sediment laden waters
	Number of depth cells	programmable, 1 to 128
	Depth cell (bin) size	programmable, 0.25 to 2 m
2	Bottom tracking (or GPS)	
	Accuracy	1 cm/s @ 5 m/s
	Stream velocity range	0 to 5 m/s
	Depth range	3.0 m or more
3	Tilt sensor	
	Range	-15° to +15°, both X and Y axis
	Accuracy	2°
4	Power supply	220 VAC ±25%; 47 to 53 Hz 10 to 15 VDC or 20 to 30 VDC
5	Housing	corrosion proof
6	Ingress protection	waterproof, compliant with IP68
7	Operating temperature	5 to 60°C (equipments except ADCP) 5 to 45°C (for ADCP)
8	Operating Humidity	up to 100 %

Sl. No.	Salient Features	Specification
9	Hardware and software	Laptop PC suitable for communicating with the ADCP, DGPS and other devices for running the associated ADCP software in the field, and for communicating with office based PCs for subsequent data transfer.
10	Accessories	• Tools • Spare parts • Mounting brackets • Shipping case
11	Installation	• Deployed on its own bespoke trimaran. The trimaran should have unbreakable polyethylene hulls with a minimum 3 years warranty, a proven stable design, a waterproof electronics compartments and stainless steel fasteners and safety lines. • The instrument shall be set up for data collection, setting of depth-cell size, number of depth cells and ping rate, averaging, storage interval. In case the instrument features an in-built compass then software assisted compass calibration shall be supported. Set-up of bottom tracking and/or on line DGPS
12	Warranty	2 years

6.2.4	**Auto Level**	
1	Image	erect
2	Magnification	≥ 25 x
3	Aperture of objective	≥ 30 mm
4	Field of view	1°20′ to 1°30′
5	Shortest focusing distance	1.5 m
6	Resolving power	1.5 mm @ 60 m
7	Stadia multiplying constant	100
8	Stadia additive constant	0
9	Sensitivity of level plate	20 sec/2 mm run
10	Tribrach circular bubble	8 min/2 mm run
11	Compensation range	12 to 16 seconds
12	compensation accuracy	0.3 second
13	Accuracy for levelling the line of sight	± 0.8 second
14	Levelling accuracy	± 2 mm in 1 km of double levelling
15	Centering provision	30 – 50 mm
16	Instrument life time	>5 years of continuous operation
17	Operating temperature range	0 to 50 °C
18	Housing	splash waterproof

Sl. No.	Salient Features	Specification
19	Accessories	
	Centering plumb bob with adopter	one
	Tripod with clamping Screw	one unit made of well seasoned wood or light and strong alloy telescopic with mounting for battery, illumination unit and clamping arrangement for the instrument
	Carrying case	one unit made of light metallic or plastic (unbreakable type) or well seasoned wood with padded inserts and receptacles for holding accessories with lock, handle, carrying shoulder strap etc.
	Cleaning brush	one unit
	Tool-set	spanner, Tommy pins, screw driver, etc. – one set
	Lens cover set	one set
	Telescopic levelling staffs and accessories	2 no
	Measuring tape 30 m (fibre glass)	2 no

6.2.5	**Theodolite**	
1	Image	erect
2	Magnification	≥ 30 x
3	Aperture of objective	≥ 40 mm
4	Field of view	1°30′ to 1°40′
5	Shortest focusing distance	2.0 m
6	Resolving power	±2.5 to 3.0 sec
7	Stadia multiplying constant	100
8	Stadia additive constant	0
9	Sensitivity of level plate	20 sec/2 mm run
10	Tribrach circular bubble	8 min/2 mm run
11	Vertical circle level	1 sec per 2 mm run
12	Compensation range	12 to 16 seconds
13	Compensation accuracy	0.3 second
14	Accuracy for levelling the line of sight	± 0.8 second
15	Levelling accuracy	± 2 mm in 1 km of double levelling
16	Centering provision	30 – 50 mm
17	Optical plummet	
	magnification	≥ 2.3 x
	focussing range	≤ 0.5 m
18	Graduation error	
	horizontal circle	1 sec (least count of micrometer)
	vertical circle	1 sec (least count of micrometer)

Sl. No.	Salient Features	Specification
19	Instrument life time	>5 years of continuous operation
20	Operating temperature range	0 to 60 °C
21	Housing	splash waterproof
22	Accessories Centering plumb bob with adopter Diagonal eye-piece Electrical illuminating units Tripod with clamping Screw Carrying case Cleaning brush Tool-set Lens cover set Telescopic levelling staffs and accessories Measuring tape 30 m (fibre glass)	 one two (one for telescope, one for micrometer) two one unit made of well seasoned wood or light and strong alloy telescopic with mounting for battery, illumination unit and clamping arrangement for the instrument one unit made of light metallic or plastic (unbreakable type) or well seasoned wood with padded inserts and receptacles for holding accessories with lock, handle, carrying shoulder strap etc. one unit spanner, Tommy pins, screw driver, etc. – one set one set 2 no 2 no

F. No. 4/2/2009-O&M/390-396
Government of India
Central Water Commission

Room No. 326(S), Sewa Bhawan
R.K. Puram, New Delhi-66
Dated the 03rd August 2010

OFFICE ORDER

Subject : Delegation of Work Powers to CWC Officers.

The Government in its various communications [Ministry of WMP letter No. 80/33/49 dated 14.05.1949, Ministry of WMP UO No. DW.80/33/49 dated 30.05.49, Ministry of WMP letter No. DW-121(3) dated 30.09.1946 and Ministry of I&P letter No. DW-11-27(18) dated 06.01.53 decided that CWC Officers are to discharge the same functions and exercise the same financial and works powers for the purposes of CPWD, CPWA Codes and Public Works Rules as their counterparts in the CPWD.

Further, CWC vide OM No. 4/3/87-O&M&WS dated 26.08.1983 and 23.08.1984, clarified that the CWC Officers are authorized to exercise only such powers as are extended to them by formal departmental orders in this regard.

In view of that, Commission has been reviewing the work power needed by the CWC Officers and notifying the extent of works power available to CWC officers in line with powers available to CPWD Officers from time to time. Last such delegation of power was made vide CWC Office Order No. 4/2/98-O&M dated 3rd December 1999 and OM No. 4/2/98-O&M dated 18th February 2000.

Since the year 1999, many changes have taken place and cost of execution of works have gone up. CPWD has also revised its works manual several times vide which financial powers are delegated to its subordinate formations/levels. The latest revision in Works Manual was done in the year 2007 and last modified delegation of power in CPWD was issued vide Office Memorandum No. DGW/MAN/186A dated 24.09.2009.

In view of the increased requirements in this regard keeping in view the increased cost of works, revision by CPWD as mentioned above and availability of powers to CWC officers equivalent to CPWD Officers, the competent authority has decided to rescind the above mentioned CWC OM No. 4/3/87-O&M&WS dated 26.08.1983 and 23.08.1984, CWC Office Order No. 4/2/98-O&M dated 3rd December 1999 and OM No. 4/2/98-O&M dated 18th February 2000. It has also been decided that CWC officers will exercise the same financial powers for works as available to their counterparts in CPWD last notified vide CPWD Works Manual 2007 and modifications/enhancement/revisions made there in from time to time as the same is originally available to them. Nomenclature of equivalent posts in CWC shall be as under:

Designation of CPWD	Equivalent CWC Officers
AE/AEE	SDE/AEE/AD-II/AD
EE	EE/Dy. Director
SE	SE/Director
CE	CE
ADG	Member, CWC
DG (W)	Chairman, CWC

Exercise of these powers will be subject to the rules, restrictions and provisions of orders issued by the Ministry of Finance from time to time and also subject to the provisions/procedures contained in the CPWD, CPWA and other related codes and general and special orders issued by Government and CWC from time to time.

Sd/-
(Poornima Malik)
Under Secretary (O & M)

Copy to :

1 PPS to Chairman
2 PPS to Member (WP&P/RM/D&R)
3 JS & FA, Ministry of Water Resources, Shram Shakti Bhawan, Rafi Marg, New Delhi.
4 All Chief Engineers
5 All Directors/Superintending Engineers
6 Director (Adm.)/Director (Estt.I)/Director (Estt.II)/Director (Trg.)/Director (TC)
7 All USs/AO
8 All Section Officers.

Financial Powers Delegated to CWC Officers

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
1	To accord Administrative Approval and expenditure sanction to minor works for residential and non- residential buildings.	**EE/DD**	5 lac	
		SE/Director	25 lac	
		SE promoted on in situ basis	12.5 lac	
		CE	150 lac	
		Member	250 lac	
		Chairman	500 lac	
2	Petty works, repairs, addition & alteration to hired and requisitioned buildings	**CE**	5,000 p.a. for non-recurring expenditure	
			1,000 p.a. for recurring expenditure	
3	To issue orders declaring stores including spare parts of vehicles, other than those not involving losses, as surplus or unserviceable, the original purchase value of articles being estimated if not known.	**EE/DD**	7,500	
		SE/Director	40,000	
		SE promoted on in situ basis	20,000	
		CE	2,00,000	
		Member	5,00,000	
4	Losses due to depreciation of stock	**SE/Director**	15,000	
		SE promoted on in situ basis	7,500	
		CE	40,000	
		Member	Full powers	
5	Write-off losses:			
	(1) On stores due to theft and/or negligence of individuals.	**SE/Director**	4,000	
		SE promoted on in situ basis	2,000	
		CE	25,000	
		Member	50,000	
	(2) On stores not due to theft or negligence of individuals	**SE/Director**	4,000	
		SE promoted on in situ basis	2,000	
		CE	25,000	
		Member	50,000	

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
6	Issue of order of disposal of stores declared by competent authority to be unserviceable (subject to any orders, the SE may have passed) where the stores were so declared by himself or by Government.	**EE/DD**	10,000	
		SE Promoted on in situ basis	20,000	
		SE/Director	Full Powers	
7	Write off from returns of unserviceable T&P of which part value is recovered.	**EE/DD**	10,000	
		SE/Director	20,000	
		SE Promoted on in situ basis	10,000	
		CE	Full Powers	
8	Sale of stores to private parties on full value plus 10% unless waived off by competent authority	**CE**	Full Powers	
	Notes: 1.Recovery in all cases should be made in cash in advance. 2.Losses mentioned against S. No. 4 above may be broadly attributed to : (i) Normal fluctuation of market prices (ii) Fair wear and tear (iii) Lack of foresight in regulating purchases (iv) Neglect after purchase 3. Powers mentioned against S. No. 5 (1) & (2) will be exercised in respect of actual losses of stores as opposed to losses of stock due to depreciation. Losses against 5(2) may be due to natural disasters and other calamities such as fire, enemy action, damages, obsolescence etc. 4. The authority issuing orders against S. No. 6 should, after disposal of stores, of which value accounts are kept, determine and intimate to the audit officer concerned, the net amount to be written off to the final head (to be specified) as loss on stocks. 5. Against item No. 8, see also paragraph 120 of CPWA Code.			
9	Accord of sanction to expenditure on ceremonies connected with laying of foundation stone and opening of public buildings	**CE**	2,500	
		Member	10,000	
10	To make advance payment to private firms/autonomous bodies for chemical analysis and testing of materials	**CE**	65,000*	
	* Notes: In each case out of project contingencies subject to the fulfillment of the following conditions: (i) Advance payments are made only in cases where it is considered absolutely necessary. (ii) Advance payments made on the basis of a valid expenditure sanction of the competent authority. (iii) The firm should be well established and has reputation for fair dealings. (iv) The officer drawing the money for making advance payment shall be responsible for its adjustment for which purpose he will send the detailed bills to the Accounts Officer within a period of one month from the date of drawl of the advance. If an advance cannot be adjusted within one month of the drawl, a detailed report should be sent to the component authority concerned. (v) The amount of advance shall be drawn on a simple receipt and accounted for under the final head to which the expenditure on service in question would be debited.			

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
11	To write off infructuous expenditure on construction	**SE/Director**	1% of contract value subject to ceiling of Rs. 7,500	
		SE promoted on in situ basis	0.5% of contract value subject to ceiling of Rs.3,750	
		CE	1% of contract value subject to ceiling of Rs. 30,000	
12	(a) Grant of extension of time and rescheduling of mile stones	**SDE/AEE/AD-II/ AD**	Full powers in respect of contracts amounting up to his power to accord TS	
		EE/DD	-do-	
		SE/Director	Full Powers	
		SE promoted on in situ basis	Full powers in respect of contracts amounting up to his power to accord TS	
	(b) Levy of compensation	**SE/Director**	Full Powers	
13	Augmentation of electrical power supply to the residences of VIPs up to maximum electrical load sanctioned (a) Ministers (b) Judges of Supreme Court/High court (c) Members of Parliament (d) Secretaries/Additional Secretaries & equivalent officers.	**Chairman**	Full powers	
14	To undertake deposit works (a) At full rates of departmental charges or all Central Govt. works and works of autonomous bodies fully funded by the Central Govt. where no departmental charges are to be levied.	**CE**	1350 lac	
		Chairman/ Member	Full powers	
	(b) At rates lower than full rates of departmental charges	**Member**	900 lac	
		Chairman	Full powers	
	Note: Delegation of full powers will be subject to the condition that the departmental charges to be charged shall not vary by more than 20% of the standard departmental charges and subject to the following conditions:			
	(a) Such departmental charges will be reviewed at every upward revision of normal departmental charges; and (b) Deposit work will be accepted to utilize spare capacity of the CWC at the Regional level and should not in any way affect departmental working.			

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
15	Acceptance of lowest tender with or without negotiations	**SDE/AEE/AD-II/ AD**	3 lac	
	Where SDE (Head Quarter) is not provided	**EE/DD**	30 lac	
	Where SDE (Head Quarter) is provided	**EE/DD**	45 lac	
	Under his own power	**SE/Director**	250 lac	
		SE promoted on in situ basis	125 lac	
		CE	1000 lac	
	With prior approval of Member	**CE**	1300 lac	
	With prior approval of Chairman	**CE**	1600 lac	
	With prior approval of MoWR	**CE**	Full powers	
16	Acceptance of single tender with or without negotiations	**SDE/AEE/ AD-II/ AD**	75,000	
		EE/DD (i) Under his own authority (ii) With prior approval of next higher authority (para 95 of CPWD code)	4.5 lac 30 lac	
		SE/Director (i) Under his own authority (ii) With prior approval of next higher authority	125 lac 250 lac	
		SE promoted on in situ basis (i) Under his own authority (ii) With prior approval of Chief Engineer	62.5 lac 125 lac	

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
		CE (i) Under his own authority (ii) With prior approval of Member (iii) With prior approval of Chairman (iv) With prior approval of MoWR	 500 lac 800 lac 1000 lac Full Powers	
	Note : Full reasons should be recorded by the approving authority who should also guard against contractor holding out unjustifiably higher rates.			
17	Award of work without call of tenders	**SDE/AEE/AD-II/ AD**	60,000	
		EE/DD	4 lac	
		SE/Director	12 lac	
		SE promoted on in situ basis	6 lac	
		CE (i) Under his own authority (ii) With prior approval of Member (iii) With prior approval of Chairman (iv) With prior approval of MoWR	 25 lac 100 lac 180 lac Full Powers	
18	Award of work to labour co-operative societies without call of tenders	**EE/DD**	3 lac	
		SE/Director	6 Lac	
		SE promoted on in situ basis	4.5 lac	
	Notes: (a) Award of minor works upto Rs. 6.00 lakh. (b) Award of works at current market rates provided the same are certified as reasonable by the officers of CWC.			
19	Award of work by negotiations ab-initio after infructuous call of tender or with a firm which has not quoted for execution of the remaining work after rescission of the contract	**SDE/AEE/AD-II/ AD**	60,000	
		EE/DD	5 lac	
		SE/Director	12 lac	

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
		SE promoted on in situ basis	6 lac	
		CE (i) Under his own authority (ii) With prior approval of Member (iii) With prior approval of Chairman (iv) With prior approval of MoWR	 30 lac 150 lac 300 lac Full powers	
20	(i) Splitting up projects/works/sub-heads	**EE/DD**	Where sanctioned cost of Work/ Distinct Sub Head to be split up is up to 30 lac	
		SE/Director	Where sanctioned cost of Work/ Distinct Sub Head to be split up is above 30 lac and up to 250 lac	
		SE promoted on in situ basis	Where sanctioned cost of Work/ Distinct Sub Head to be split up is above 30 lac and up to 125 lac	
		CE	Full powers	
	(ii) Acceptance of tenders for the split up components	**EE/DD**	Where sanctioned cost of Work/total cost of all split up component against each distinct sub head is up to 30 lac	

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
		SE/Director	Where sanctioned cost of Work/total cost of all split up component against each distinct sub head is above 30 lac and up to 250 lac	
		SE promoted on in situ basis	Where sanctioned cost of Work/total cost of all split up component against each distinct sub head is above 30 lac and up to 125 lac	
		CE	Where sanctioned cost of Work/total cost of all split up component against each distinct sub head is above 250 lac and up to 1000 lac	
		Member	Where sanctioned cost of Work/total cost of all split up component against each distinct sub head is above 1000 lac and up to 1300 lac	
		Chairman	Where sanctioned cost of Work/total cost of all split up component against each distinct sub head is above 1300 lac and up to 1600 lac	
		MoWR	Full powers	

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
	(i)The tenders for the split up portion shall be accepted by the same competent authority who permitted such splitting for projects/works costing up to Rs. 1000 lacs. The fact that the project/ work has been split up for the purpose of inviting tenders should, however, be clearly brought to the notice of the authority competent for split up, explaining the reasons while forwarding the tenders for such works. (ii) The tenders for the split up portions of projects/works costing more than Rs. 1000 lakh, shall be accepted by the Member/ Chairman/ MoWR as the case may be. The fact that the project has been split up for the purpose of inviting the tenders should be clearly brought to the notice of Member/ Chairman/ MoWR explaining the reasons while forwarding the tenders for their consideration/ approval. (iii) Tenders relating to component parts of the project, if the amount of such component parts appears as distinct sub-head will be dealt with by the authorities concerned according to their powers of acceptance of the tenders and sanction of estimates and not referred to the higher authorities even though they may form part of the project beyond their acceptance as a whole. (iv) The procedure mentioned in note (iii) above will also apply in respect of tenders for sanitary and water supply and electrical and furniture work for which provision is made under the distinct sub-heads. The tenders for such works need not to be submitted to the higher authorities if the amount is within the competency of the authority concerned and the provision exists in the estimates under distinct sub-heads even if the total cost of work may be more.			
21	Acceptance of tenders for smaller works likely to crop up during the execution of work /project and for which no provision exists in the sanctioned project estimates	**CE**	Full powers to accept tenders for such works subject to availability of funds under sub head "contingencies" in the sanctioned project estimate.	
22	Award of work order (Annual limit)	**SDE/AEE/AD-II/ AD**	6 lac	
	In addition to sub-division powers	**EE/DD**	45 lac	
	In addition to Sub-Division and Division powers	**SE/Director**	125 lac (Per Division)	
		SE promoted on in situ basis	62.5 lac	
23	(a) To accept highest tender bid for disposal of govt. buildings without land at/and above the reserve price fixed by CE / Chairman	**EE/DD**	9 lac	
		SE/Director	75 lac	
		SE promoted on in situ basis	37.5 lac	
		CE/ Member/ Chairman	Full Powers	
	(b) Below reserve price	**EE/DD/SE/ Director/CE**	Decision to be taken by next higher authority	
		SE promoted on in situ basis	Decision to be taken by next higher authority	

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
		Member/ Chairman	Full Powers	
	(c) Acceptance of single tender/ bid at/ and above the reserve price	**EE/DD**	45,000	
		SE/Director	45 lac	
		SE promoted on in situ basis	22.5 lac	
	Under his own power	**CE**	135 lac	
	With prior approval of Member	**CE**	150 lac	
	With prior approval of Chairman	**CE**	200 lac	
	With prior approval of MoWR	**CE**	Full Powers	
	(d) (i) Sale/dismantlement of public building other than purely temporary structure	**CE**	15 lac	
		Member/ Chairman	Full Powers	
	(ii) Purely temporary structure	**EE/DD**	Full powers subject to the conditions mentioned in Para 127 of CPWD code	
		SE/ Director	Full powers if the structure is to be sold at lower than reserve price	
	Note : (i) Reserve price shall be fixed on assessed salvage value of dismantled materials only. (ii) Authority competent to fix reserve price will be competent to fix salvage value of dismantled materials also.			
24	Purchase of inspection vehicles	**Chairman**	Only for replacement of vehicles survey reported in accordance with government instructions on the subject from time to time	
25	Accord of technical sanction to detailed estimates (Civil and Electrical Works)	**SDE/AEE/ AD-II/ AD**	3 lac	
		EE/DD (i) where SDE(HQ) is not provided	30 lac	
		EE/DD (ii) where SDE(HQ) is provided	45 lac	

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
		SE/Director	250 lac	
		SE promoted on in situ basis	125 lac	
		CE/Member/ Chairman	Full powers	
	Note: This delegation of power is subject to restriction and provision of orders issued by the Ministry of Finance from time to time and as also the provision contained in various codes. In this context, instructions contained in the Ministry of Finance O.M. F-10(28)/EE Coord./77 dt. 20.1.1978 should be kept in view.			
26	Acceptance/challenge of arbitration award	**CE**	15 lac	
		Member	45 lac	
		Chairman	Full powers	
27	Accord of A/A & E/S for construction of houses for CWC project staff for major projects	**Member**	225 lacs	
		Chairman	Full powers	
	Note: This will be subject to the condition that the cost of construction will be met out of the contingencies of the project where there is no separate provision for the same.			
28	(i) Accord of Administrative Approval & Expenditure sanction for construction of houses for CWC maintenance staff.	**Member**	*60 lac	
		Chairman	*150 lac	
	*In case of project costing more than Rs. 15 lakh, pre budget financial scrutiny should have been done by the competent authority i.e. Budget Section, MoWR. Note: (i) Due care should be taken to ensure that powers are not used to create separate pool of accommodation and to ensure that Member/Chairman would draw up a list of maintenance staff for whom the quarters near the inquiry office are essential. (ii) Power should be exercised by CE/Member/Chairman consultation with Financial Advisor, MoWR.			
29	Powers to modify contract conditions	**Member**	*15%	
		Chairman	**25%	
	* Where financial implication is up to 15% of the contract amount. ** Where financial implication is up to 25% of the contract amount.			
30	Acceptance of tender conditions not in line with the standard conditions	**Chairman**	Full powers	
31	Purchase of Tools and Plants	**CE**	Full powers	
		SE/Director	Up to 10 lac	
		SE promoted on in situ basis	Up to 7.5 lac	
		EE/DD	Up to 5 lac	
32	To allow State PWD contractors to tender for the works of CWC outside the State in which enlisted	**Member**	Full powers	

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
33	Accord of sanction to extra /substituted items	**SDE/AEE/ AD-II/ AD**	30% of contract amount or 30% of power to accord TS, whichever is lower	
		EE/DD	30% of contract amount or 30% of power to accord TS, whichever is lower	
		SE/Director	30% of contract value or equal to the power to accord technical sanction, which-ever is lower.	
		SE promoted on in situ basis	30% of contract value or equal to the power to accord technical sanction, whichever is lower.	
		CE	Full power	
34	Accord of sanction to deviation in quantities of agreement items	**SDE/AEE/ AD-II/ AD**	10% of contract amount or 50% of power to accord TS, whichever is lower	
		EE/DD	15% of contract amount or 50% of power to accord TS, whichever is lower	
		SE/Director	30% of contract amount	
		SE promoted on in situ basis	15% of contract amount	
		CE	Full power	
	Note: 1. Deviation means increase or decrease in quantities of agreement items. 2. Deviations upto $\pm$ 10% of agreement quantity will not require any sanction. 3. Items deviating beyond $\pm$ 10% of agreement quantity needs sanction for total deviation (including initial $\pm$ 10%) 4. The amount of a deviation statement shall be the sum of absolute value of deviated amounts of all individual items.			

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
35	Purchase of Materials from open market through quotations or tenders or through DGS & D rate contracts		**Individual supply order**	**Annual ceiling**
		SDE/AEE/ AD-II/ AD	10% of powers to accord TS	Powers to accord TS
		EE/DD	-do-	-do-
		SE/Director	-do-	-do-
		SE promoted on in situ basis	-do-	-do-
		CE	10% of power to accept the tender under his own authority	Power to accept the tender under his own authority
		Member (i) Under his own Authority (ii) With prior Approval of Chairman	20% of power to accept the tender Full Power	No Limit No limit
	Explanation: Para 37.3 & 37.4 under section 37 of CPWD Works Manual 2007 may be referred. Manual Provisions are very clear in this regard that financial powers to purchase materials through DGS&D or through open market shall be as laid down in Appendix - 1. Purchase of the materials from open market may be either by issuing supply order after call of quotations or by call of tenders. Materials can also be purchased by placing supply order through DGS&D contract. But financial powers are same in all situations as mentioned above irrespective of method of procurement. To bring more clarity financial powers under para 35 to approve supply order has now been replaced with Purchase of Materials from open market through quotations or tenders or through DGS&D rate contracts			
36	(a) Local purchase of petty stationery stores	**SDE / AEE / AD-II / AD**	Nil	
		EE / DD	15,000 PA	
		SE / Director	70,000 PA	
		SE promoted on in situ basis	35,000 PA	
		CE	1.2 lac PA	
		Member	1.5 lac PA	
		Chairman	1.5 lac PA	
	(b) Local purchase of Drawing Stationery	**SE/Director**	30,000 PA	
		SE promoted on in situ basis	15,000 PA	
		CE	1.2 lac PA	
		Member	1.5 lac PA	
		Chairman	1.5 lac PA	

Sl. No	Nature of Power	Designation of Officer	Extent of Power (in Rupees)	Remarks/ Reference
37	(i) Permanent imprest to AE provided imprests are not allowed to JEs at the same time		9000	
	(ii) Local Purchase powers of AE out of permanent imprest		1500/- for petty payments	
38	Engagement of private Architects/ Consultants	**Member**	Full power	
		Chairman	Full power	
	Note : The power is subject to fulfillment of conditions laid down in Section 6 of the CPWD Manual.			
39	To sanction Mobilization Advance	**EE / DD**	Upto 50% of the advance or Rs. 30 lac, whichever is lower. Balance advance with the prior approval of the SE	
	Note : The mobilization Advance can be sanctioned to the contractors as per term of the contract on their specific request.			
40	Declaration of specialized items	**Member**	For works in their respective wings.	
41	Contingencies and its utilization		**When sanctioned cost of the work is within his power to accord TS**	**other Works**
		EE / DD	Full powers to utilize available contingencies	5 lac
		SE / Director	Full powers to utilize available contingencies	15 lac
		SE Promoted on in situ basis	Full powers to utilize available contingencies	7.5 lac
		CE	Full powers to utilize available contingencies	
	Authority under which the competency of the work falls should be kept informed about utilization of contingencies for every utilization indicating utilized and available amount			
42	Invitation of tender for components/parts	**EE / DD**	Upto 10 % of TS Power	
		SE / Director	Upto 10 % of TS Power	
		SE promoted on in situ basis	Upto 10 % of TS Power	
		CE	Full Powers	

Additional Information and Subsequent Changes