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सत्यमेव जयते

# Citizen's / Client's Charter

## Central Water and Power Research Station

Government of India

Ministry of Water Resources, River Development and Ganga Rejuvenation



April 2019

Address: Khadakwasla, Pune- 411024  
Tel: 020-24103200  
Fax: 020-24381004  
Website ID: [www.cwprs.gov.in](http://www.cwprs.gov.in), [www.mowr.gov.in](http://www.mowr.gov.in)  
Date of Issue:  
Next Review:



## **Vision**

To be a world-class centre of excellence in hydraulic engineering research and allied areas; which is responsive to changing global scenario, and need for sustaining and enhancing excellence in providing technological solutions for optimal and safe design of water resources structures.

## **Mission**

- To meet the country's need for basic & applied research in water resources, power sector and coastal engineering with world-class standards.
- To develop competence in deployment of latest technologies by networking with the top institutions globally, to meet the future needs for development of water resources projects in the country effectively.
- To disseminate information, built skills and knowledge for capacity-building and mass awareness for optimization of available water resources.

## **Core Values:**

- Creativity and innovation through R&D
- Integrity - We believe in conducting ourselves in honest and ethical manner with service recipients/providers and each other
- Empathy - We realise that that the best way to interact with each other is by putting ourselves into their shoes and seeing things from their perspective
- Learning - We believe that learning is a continuous process that is essential for growth as professional and as human beings
- Coordination of multidisciplinary tasks
- Capacity building
- Team spirit

## **Details of Business Transacted**

- Undertaking specific research studies relating to development of water resources, power and coastal projects.
- Consultancy and advisory services to Central and State Governments, private sector and other countries.
- Disseminating research findings and promoting/assisting research activities in other organizations concerned with water resources projects.
- Contributions to Bureau of Indian Standards and International Standards Organization.
- Carrying out basic and applied research to support the specific studies.
- Contribution towards advancements in technology through participation in various committees at National and State Levels.

## Services Provided

The Central Water and Power Research Station (CWPRS) Pune, established in 1916, is a premier hydraulic research institute in India, under the Government of India Ministry of Water Resources, River Development and Ganga Rejuvenation.

Water-use scenario of today is centered on sustainable development and environmental issues. The mandate of CWPRS is to find and provide technical solutions to various problems associated with water resources projects, energy, water-borne transport and coastal engineering. Over the years CWPRS has evolved into multidisciplinary institute of international repute in the major area of hydraulics.

CWPRS caters to the project specific R&D needs and provides comprehensive recommendations of practical utility through physical and mathematical model studies, desk studies, field and laboratory experiments in specialized areas such as river training and flood control, hydraulic structures, harbors, coastal protection, foundation engineering, construction materials, pumps and turbines, ship hydrodynamics, hydraulic design of bridges, earth sciences, and cooling water intakes, environmental studies, water resources development, management and planning etc

CWPRS is one of the few institutions of its kind in the world, dealing with the entire life cycle of water, from its occurrence to joining the ocean and dealing with various uses of water on the one hand and water-related disasters on the other. CWPRS is the recognised regional laboratory for the Economic and Social Commission for Asia and Pacific (ESCAP) since 1971. The institution has rendered services for a number of projects from neighbouring, Middle East and African countries.

The total sanctioned staff strength of CWPRS, as of now is 1092; whereas the existing strength as on December, 2018 is 766. The research cadre, comprising a sanctioned strength of 358 personnel in different categories, is supported by technical, auxiliary technical, administration, accounts and ancillary services. The Director is the Head of Department (HoD). The activities of CWPRS encompass varied studies that are undertaken in the major disciplines listed below.

- I. River Engineering
- II. River & Reservoir System Modelling
- III. Reservoir & Appurtenant Structures
- IV. Coastal and Offshore Engineering
- V. Foundation & Structures
- VI. Applied Earth Sciences
- VII. Instrumentation, Calibration and Testing Services

Almost all important irrigation, power, water supply, navigation and ports projects have imprints of this institution. It is one of the few institutions of its kind in the world, dealing with the entire life cycle of water, from its occurrence to joining the ocean dealing with various uses of water on the one hand and water-related disasters on the other. Owing to its receptivity towards incorporating new technology with the changing times, the CWPRS's journey has continued ceaselessly over a century, earning it the stature of a world-class water and power research institution. The institute has proudly completed its 100 years of

existence in the year 2016 and is continued to be in the forefront of hydraulic research and played an important role in providing solutions to a large number of complex problems through physical and mathematical model studies and field, desk and laboratory studies fulfilling the mandate of '**Service to the Nation through Research**'. CWPRS has been awarded **ISO 9001:2015** certificate during the year 2017.

Various kinds of Client sponsored works routinely undertaken by CWPRS is given in Annexure I.

## **Clientele**

- Central/ State Government Organisations
- Public/ Private Sector Agencies/ Organisations/ Undertakings
- Municipal Corporations and other Local Bodies
- Port Trusts

## **Procedure Followed While Undertaking Studies by CWPRS**

- Step-1: Receipt of formal reference from the project authority to the Director, CWPRS, detailing nature of the problem, scope of the studies, requisite drawings, etc
- Step-2: Preparation of the cost-estimate by subject experts from CWPRS, giving scope of the study, duration, data requirement, methodology etc on a no-profit no-loss basis. Forwarding, in duplicate, of the cost-estimate approved by the Director to the project authority for perusal and sanction
- Step-3: On receipt of the full estimated amount and the specified data, study taken up
- Step-4: During the conduct of the studies, the estimate is operated as per actual, and accounts maintained in accordance with the Central Public Works Account Code
- Step-5: On completion of the studies, a Final Report is submitted to the client. On clearing of all debits by the concerned departments, a Completion Report is sent to the client; and balance amount, if any, refunded.

## **Expectations from Clients**

The clients of CWPRS are expected to:

- Send proposals in respect of proposed studies by following the prescribed procedure
- Prompt compliance as regards CWPRS requirements to facilitate expediently taking up of the studies
- Timely supply requisite hydraulic/ hydrological/ hydrometeorological data for the proposed R&D study
- Intimate feedback on the results/ recommendations by CWPRS, both during implementation and post-implementation stages; so as to enable making amends as needed, learning from experiences, and/ or increasing effectiveness

## **Grievance Redressal Mechanism**

In case of non compliance of the service standards the service recipients/ stake holders can contact the following public grievance officer of CWPRS for redress of their grievance:

Dr. J.D. Agrawal  
Scientist E and Chairman, Grievance Cell  
CWPRS, Pune 411024;  
Tel.: 020-24103402 (O) Fax: 020-24381004 e-mail: agrawal\_jd@cwprs.gov.in

The grievance can also be lodged online on the following link:  
[http:// pgportal.gov.in](http://pgportal.gov.in)

In case of the grievance is not redressed finally, the same can be taken up at higher level to the following nodal authority:

Dr (Mrs) V.V. Bhosekar  
Director  
CWPRS, Pune 411024;  
Tel.: 020-24103500 (O) Fax: 020-24380540 e-mail: director@cwprs.gov.in

## **Evaluation and Monitoring of Citizen's Charter**

Implementation of the Citizen's Charter at CWPRS will be monitored and evaluated periodically and updated as per need. Stakeholders are urged to send their suggestions/ inputs towards improving effectiveness of the Charter, to:

Shri R S Jagtap  
Joint Director  
CWPRS, Khadakwala  
Pune 411024  
Tel.: 020-24103251 (O) Fax: 020-24381004 e-mail: jagtap.rs@gov.in

Suggestions/ inputs for improving the Charter would normally be considered within a time frame of two weeks of receipt of the same; and action taken in the regard intimated to the concerned party.

For more information on CWPRS, you are invited to visit the website:

<http://www.cwprs.gov.in>

### Type of Client sponsored works routinely undertaken by CWPRS

<i>Sl. No.</i>	<i>Services</i>	<i>Service/ Performance Standards</i>	<i>Contact details of the officer responsible for conducting the work/ studies</i>	<i>Supervised by</i>	<i>Rate/ Cost of work</i>
1	Area Drainage Studies for power plants	6-8 months	Division Head Hydrometeorology Division, CWPRS Tel: 020-24103282 e-mail: physics.cwprs@gmail.com OR Division Head Disaster Management Planning Division, CWPRS Tel: 020-2410/3395 e-mail: swh.cwprs@gmail.com	Scientist 'E' HMET/ DMP, CWPRS Tel: 020-24103251 e-mail: jagtap.rs@gov.in	Varies as per requirement of client
2	Determination of Safe Grade Elevation for power plants	8-10 months	- Do -	- Do -	-Do-
3	Water Availability studies for Catchment	6-8 months	- Do -	- Do -	-Do-
4	a) Dam Break Analysis and Emergency Action planning b) Studies for Diversion of Nala /river	8-10 months	Division Head Disaster Management Planning Division, CWPRS Tel: 020-2410/3395 e-mail: swh.cwprs@gmail.com	Scientist 'E' DMP, CWPRS Tel: 020-24103251 e-mail: jagtap.rs@gov.in	-Do-
5	Analysis of physico-chemical parameters of water samples	2 weeks	Division Head River Rejuvenation Division, CWPRS Tel: 020-24103262 e-mail: chemistry.cwprs@yahoo.co.in	Scientist 'E' RR, CWPRS Tel: 020-24103251 e-mail: neena.isaac@gov.in	10000/-
6	Grain-size distribution of sediment samples	2-4 weeks	- Do -	- Do -	12000/-
7	Chemical analysis of construction material	4 weeks	- Do -	- Do -	15,000/-
8	Primary productivity (Density-Diversity Composition)	2 weeks	- Do -	- Do -	15,000/-
9	Alkali Aggregate Reactivity	3 weeks	- Do -	- Do -	35,000/-
10	Ratio of Cement and Sand in Mortar	2 weeks	- Do -	- Do -	20,000/-
11	Mathematical Modeling WQ Studies of rivers and reservoirs	6 -8 months	- Do -	- Do -	10,00,000/- (For 10 km reach)
12	Static Analysis of Stability of earth and Rockfill embankments and foundations (desk studies), Breakwaters and their foundation	6 months	Division Head Geotechnical Engineering (Soil) Division, CWPRS Tel: 020-24103498 e-mail: chhatre_mv@cwprs.gov.in	Scientist 'E' GE (Soil), CWPRS Tel: 020-24103444 e-mail: patil.rg@cwprs.gov.in	Varies as per requirement of client

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13	Dynamic Analysis of Stability of earth and Rockfill embankments and foundations (desk studies), Breakwaters and their foundation	6 months	- Do -	- Do -	Varies as per requirement of client
14	Liquefaction studies of embankments and foundation	6 months	- Do -	- Do -	Varies as per requirement of client
15	Determination of properties of geotextiles	8 days (5 samples)	- Do -	- Do -	60000/-
16	Determination of physical and strength properties of soils	6 months	- Do -	- Do -	Varies as per requirement of client
17	Determination of strength and elastic properties, thermal properties viz: adiabatic temperature rise, diffusivity, coefficient of thermal expansion and creep properties of mass concrete and roller compacted concrete gravity dams and to estimate suitable placement temperature and devise cooling arrangement for a particular construction schedule of dam.	6-12 months	Division Head Concrete Technology Division, CWPRS Tel: 020-24103383 e-mail: rizwan_ali@cwprs.gov.in	Scientist 'E' CT, CWPRS Tel: 020-24103553 e-mail :bhajantri_mr@cwprs.gov.in	Varies as per scope of work
18	Testing of construction materials such as cement, brick, sand, aggregates for assessing their suitability in civil construction.	2 -4 months	- Do -	- Do -	Varies as per scope of work
19	Testing of repair materials for assessing their suitability towards rehabilitation/ repairs of distressed hydraulic structures such as gravity dam, aqueduct, energy dissipating arrangement etc.	3-6 months	- Do -	- Do -	Varies as per scope of work
20	Assessing structural health of gravity dams by testing extracted cores from dam body and testing in laboratory by determining physical parameters such as density, elasticity, compressive strength, Poisson's ratio.	2-3 months	- Do -	- Do -	Varies as per scope of work
21	Estimation of site-specific seismic design parameters for river valley projects	6 months-12 months	Division Head Engineering Seismology Division, CWPRS Tel: 020-24103553 e-mail: bhajantri_mr@cwprs.gov.in	Scientist 'E' ES, CWPRS Tel: 020-24103553 e-mail: bhajantri_mr@cwprs.gov.in	Varies as per requirement of client
22	Micro-earthquake studies of river valley projects	1 year – 2 years	- Do -	- Do -	Varies as per requirement of client
23	Periodical calibration of water current meters used for discharge measurement.	2 weeks	Division Head Current Meter Calibration Division, CWPRS Tel: 020-24103210 e-mail: gupta_rp30@yahoo.co.in	Scientist 'E' CMC, CWPRS Tel: 020-24103341 e-mail: ynsccwprs@gmail.com	For Govt. 1484/- per current meters For private 1855/- per current meters.
24	Drag force evaluation for water bodies	3 months	- Do -	- Do -	4,00,000/-

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25	Studies for River training works	6-8 months	Division Head River Hydraulics Division, CWPRS Tel: 020-241003444 e-mail: rsrpg@rediffmail.com	Scientist 'E' RH, CWPRS Tel: 020-24103444 e-mail: patil.rg@cwprs.gov.in	Varies as per requirement of client
26	Morphological Studies for behaviour of rivers	6-8 months	- Do -	- Do -	Varies as per requirement of client
27	Hydraulic model studies for bridges, barrages, weirs, spurs, etc	12 months	- Do -	- Do -	Varies as per requirement of client
28	Hydraulic model studies for channelization of rivers for improving flow conditions	12 months	- Do -	- Do -	Varies as per requirement of client
29	Hydraulic model studies for gate operation patterns of barrages/ weirs	12 months	- Do -	- Do -	Varies as per requirement of client
30	Desk studies for water availability/low flow in river and canals	6-8 months	- Do -	- Do -	Varies as per requirement of client
31	2-D flume studies for bridge piers	6-8 months	- Do -	- Do -	Varies as per requirement of client
32	Mathematical/ Physical model studies for assessing extend of back water in barrage/ weirs	6-12 months	- Do -	- Do -	Varies as per requirement of client
33	Laboratory studies for determination of engineering properties of rock	2-3 months	Division Head Geotechnical Engineering (Rock Mechanics), CWPRS Tel: 020-24103498 e-mail: chhatre_mv@cwprs.gov.in	Scientist 'E' GE (Rock Mechanics), CWPRS Tel: 020-24103444 e-mail: patil.rg@cwprs.gov.in	Varies as per requirement of client
34	Laboratory studies for determination of shear strength parameters of rock	2-3 months	- Do -	- Do -	Varies as per requirement of client
35	Measurement of In-situ stress & deformation modulus	3-4 months	- Do -	- Do -	Varies as per requirement of client
36	Determination of in-situ shear strength	3-4 months	- Do -	- Do -	Varies as per requirement of client
37	Determination of deformation modulus by plate load test	3-4 months	- Do -	- Do -	Varies as per requirement of client
38	Determination of rock Permeability	2-3 months	- Do -	- Do -	Varies as per requirement of client
39	BEM and FEM analysis of underground openings.	2-3 months	- Do -	- Do -	Varies as per requirement of client
40	Mathematical Model studies for assessment of wave tranquillity in the harbour basin for design of harbour layouts	6 months	Division Head Mathematical Modelling for Coastal Engineering I Division, CWPRS Tel: 020-24103446 e-mail: pardeshi_ab@cwprs.gov.in	Scientist 'E' MMCE I, CWPRS Tel: 020-24103450 e-mail: prabhat.chandra@gpv.in	Varies as per requirement of client
41	Mathematical Model studies for assessment of shoreline changes due to construction of coastal structures	6 months	- Do -	- Do -	Varies as per requirement of client



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42	Non- destructive studies for assessment of in-situ quality of concrete and masonry of massive engineering structures.	6 – 8 months	Division Head Vibration Technology, CWPRS Tel: 020-24103425 e-mail: ghosh_ak@cwprs.gov.in	Scientist `E` VT, CWPRS Tel: 020-24103553 e-mail: bhajantri_mr@cwprs.gov.in	Varies as per requirement of client
43	Seismic qualification studies of various equipment and installation for their seismic safety using shaking table. Vibration studies for in-situ dynamic properties of foundation rock using shaker. Monitoring of vibrations on structures using online data acquisition system.	- Do -	- Do -	- Do -	- Do -
44	Controlled blasting studies at construction sites to minimize the unwanted effects of blasting viz. ground vibration, air blast, fly rocks, over breakage and propagation of cracks at the perimeter.	- Do -	- Do -	- Do -	- Do -
45	Monitoring of blast vibrations during rock excavation.	- Do -	- Do -	- Do -	- Do -
46	Hydraulic model studies for bridges	Depend upon the requirement	Division Head Bridge Engineering Division, CWPRS Tel: 020-24103274 e-mail: pawar_mk@cwprs.gov.in	Scientist `E` BE, CWPRS Tel: 020-24103455 e-mail: agrawal_ak@cwprs.gov.in	Varies as per requirement of client and site conditions
47	Morphological studies for deciding location of Intake	6-8 months	- Do -	- Do -	10-15 Lakhs
48	One dimensional mathematical studies for bridge/intake etc.	5-6 months	- Do -	- Do -	10-12 Lakhs
49	Desk studies for location and hydraulic design of Intake	4-6 months	- Do -	- Do -	8-10 Lakhs
50	Sectional model studies for bridge / barrages	Depend upon the requirement	- Do -	- Do -	Varies as per requirement of client and site conditions
51	Stress and Stability analysis of Gravity Dam by FEM	6-8 months	Division Head Structural Modelling and Analysis Division, CWPRS Tel: 020-24103383 e-mail: rizwan_ali@cwprs.gov.in	Scientist `E` SMA, CWPRS Tel: 020-24103553 e-mail : bhajantri_mr@cwprs.gov.in	Varies as per requirement of client
52	Analysis and Interpretation of Instrumentation Data Pertaining to Gravity Dams /Hydro Power Plants/ Water Conductor System	3-6 months	- Do -	- Do -	Varies as per requirement of client
53	In-situ/Prototype Hydro Static Test of Water Conductor System for Assessing Structural Safety.	3-4 months	- Do -	- Do -	Varies as per requirement of client
54	Extreme value analysis of meteorological parameters	4-5 months	Division Head Hydrometeorology Division, CWPRS Tel: 020-24103279 e-mail: physics.cwprs@gmail.com	Scientist `E` HMET, CWPRS Tel: 020-24103251 e-mail: jagtap.rs@gov.in	8.00 lakh

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55	Assessment of dependable flow and Water availability studies	4-5 months	- Do -	- Do -	12.00 lakh
56	Assessment of low flows using statistical approach	4-5 months	- Do -	- Do -	8.00 lakh
57	Rating curve analysis using regression methods	3 months	- Do -	- Do -	6.00 lakh
58	Hydrological modelling of river basins (Rainfall - Runoff)	4-5 months	- Do -	- Do -	12.00 lakh
59	Development of flood forecasting models for water resources projects	9-12 months	- Do -	- Do -	20.00 lakh
60	Assessment of sediment yield for catchments/ mine area	4-5 months	- Do -	- Do -	12.00 lakh
61	Studies on backwater effect due to dams/ barrages/ weirs- Flood inundation	5-6 months	- Do -	- Do -	15.00 lakh
62	Studies on backwater effect due to dams/ barrages/ weirs- Power generation	5-6 months	- Do -	- Do -	15.00 lakh
63	Installation, Testing of Automatic Tide Generating System (A.T.G) for various tidal physical models.	12 months	Division Head Hydraulic Instrumentation II, CWPRS Tel: 020-24103477 e-mail: selvabalan_m@cwprs.gov.in	Scientist 'E' HI- II, CWPRS Tel: 020-24103206 e-mail: ranade_sd@cwprs.gov.in	Varies as per requirement of work
64	Installation, Testing of Discharge control system for various river models.	12 months	- Do -	- Do -	Varies as per requirement of work
65	Hydrographic Survey of lakes and Reservoirs for estimation of water storage capacity and evaluating sedimentation.	6 months	- Do -	- Do -	Varies as per requirement of work
66	Advice and supervision of dam instrumentation for various dams.	6 months	- Do -	- Do -	Varies as per requirement of work
67	Reservoir Sedimentation studies for hydroelectric power project	8-12 months	Division Head Hydraulic Analysis and Prototype Testing Division/ Sediment Management Division, CWPRS Tel: 020-24103331 e-mail: n_isaac@rediffmail.com	Scientist 'E' HAPT, CWPRS Tel: 020-24103331 e-mail:neena.isaac@gov.in	Varies as per requirement of client
68	Flushing of sediment from reservoir	12-18 months	- Do -	- Do -	Varies as per requirement of client
69	Flood protection measures for river	8-12 months	- Do -	- Do -	Varies as per requirement of client
70	Studies for desilting basin for hydroelectric power project	8-12 months	- Do -	- Do -	Varies as per requirement of client
71	Studies for barrages	12-18 months	- Do -	- Do -	Varies as per requirement of client
72	3D Mathematical modelling for Thermal /Salinity dispersion	6-8 months	Division Head Mathematical Modelling for Costal Engineering II Division, CWPRS Tel: 020-24103293 e-mail: jsinha_cwprs@yahoo.com	Scientist 'E' MMCE-II, CWPRS Tel: 020-24103450 e-mail: prabhat.chandra@gpv.in	25-30
73	2D Mathematical modelling for Thermal /Salinity dispersion	4-6 months	- Do -	- Do -	23-26

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74	2D Mathematical modelling for Sediment /Mud transport	4-6 months	- Do -	- Do -	18-22
75	2D Mathematical modelling for Water Quality parameters	6-8 months	- Do -	- Do -	20-22
76	Littoral Drift and shoreline evolution studies	4-6 months	- Do -	- Do -	10-12
77	Scour depth determination in tidal condition	4-6 months	- Do -	- Do -	8-10
78	Physical Wave Model studies in Multipurpose Wave Basin	4-10 months	Division Head Ports and Harbour-I Division, CWPRS Tel: 020-24103295 e-mail: rameshen@yahoo.com	Scientist 'E' PH-I, CWPRS Tel: 020-24103450 e-mail: prabhat.chandra@gpv.in	Varies as per the scope of the studies.
79	2D MMS for Littoral drift/Shoreline evaluation	4-6 months	- Do -	- Do -	Varies as per the scope of the studies
80	1D MMS for evaluation of water level and flow conditions.	3-4 months	- Do -	- Do -	Varies as per the scope of the studies
81	Physical tidal model studies in the existing facilities.	6-12 months	- Do -	- Do -	Varies as per the scope of the studies
82	2D MMS for Hydrodynamic and siltation.	4-6 months	- Do -	- Do -	Varies as per the scope of the studies
83	Desk studies for development of Ports and Harbors	3-6 months	- Do -	- Do -	Varies as per the scope of the studies
84	Study of Shoreline Changes using Satellite Remote Sensing (SRS) Techniques	4 - 6 months	Division Head Remote Sensing Analysis Division, CWPRS Tel: 020-24103206 e-mail: ranade_sd@cwprs.gov.in	Scientist 'E' RSA, CWPRS Tel: 020-24103206 e-mail: ranade_sd@cwprs.gov.in	Varies as per requirement of client
85	River Morphological studies using Satellite Remote Sensing (SRS) Techniques	4 - 6 months	- Do -	- Do -	Varies as per requirement of client
86	Estimate of reservoir sedimentation using Satellite Remote Sensing (SRS) Techniques to	4 - 6 months	- Do -	- Do -	Varies as per requirement of client
87	Training and demonstration of canal automation	3 days	Division Head Hydraulic Analysis and Prototype Testing Division, CWPRS Tel: 020-24103331 e-mail:	Scientist 'E' HAPT, CWPRS Tel: 020-24103331 e-mail: neena.isaac@gov.in	Varies as per requirement of client
88	Rating of canals	6-10 months	- Do -	- Do -	Varies as per requirement of client
89	Physical model studies for tidal hydrodynamics for port layout optimisation.	6 - 12 months	Division Head Ports and Harbour-II Division, CWPRS Tel: 020-24103402 e-mail: agrawal_jd@cwprs.gov.in	Scientist 'E' PH-II, CWPRS Tel: 020-24103402 e-mail: agrawal_jd@cwprs.gov.in	Varies as per the scope of the studies.
90	Mathematical model studies for wave transformation from deep sea to shallow coastal region for feasibility study.	3- 4 months	- Do -	- Do -	Varies as per the scope of the studies
91	Mathematical model studies for wave tranquillity for port layout optimisation.	4 -5 months	- Do -	- Do -	Varies as per the scope of the studies

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92	Mathematical model studies for tidal hydrodynamics for identification of circulation pattern in the area of port development.	4 - 5 months	- Do -	- Do -	Varies as per the scope of the studies
93	Mathematical model studies for identification of siltation pattern and quantity of sediments for development of the port.	4 - 5 months	- Do -	- Do -	Varies as per the scope of the studies
94	Mathematical model studies for shoreline evolution and littoral drift distribution due to coastal structures.	3 - 4 months	- Do -	- Do -	Varies as per the scope of the studies
95	Thermal dispersion studies for locating intake and outfall of a Thermal Power Plant	12 months	Division Head Costal Hydraulic Structures- III Division, CWPRS Tel: 020-24103415 e-mail: manjunatha_sg@cwprs.gov.in	Scientist 'E' CHS-III, CWPRS Tel: 020-24103402 e-mail: agrawal_jd@cwprs.gov.in	Varies as per requirement of client
96	Analysis of meteorological data	6 months	- Do -	- Do -	Varies as per requirement of client
97	Studies for improvement and optimization of Cooling Water system using innovative techniques	6 months	- Do -	- Do -	Varies as per requirement of client
98	Physical hydraulic model studies for the development of Port	12 months	- Do -	- Do -	Varies as per requirement of client
99	Field data collection and analysis	6 months	- Do -	- Do -	Varies as per requirement of client
100	Design, Development, Installation, testing commissioning, maintenance of computer based data acquisition systems for measurement of various hydraulic parameters such as Water Level, Velocity, Temperature, Pressure, Wave height etc. On physical hydraulic models	8 -10 months	Division Head Costal Field Instrumentation Division, CWPRS Tel: 020-24103410 e-mail: atkekar_nd@cwprs.gov.in	Scientist 'E' CFI, CWPRS Tel: 020-24103206 e-mail: ranade_sd@cwprs.gov.in	Varies as per requirement of client
101	Underwater seismic reflection survey for delineating sediment and rock topography for reservoirs, ports and harbours	7 - 9 months	Division Head Geophysics Division, CWPRS Tel: 020-24103459 e-mail: krishnaiahc@yahoo.com	Scientist 'E' GP, CWPRS Tel: 020-24103455 e-mail: agrawal_ak@cwprs.gov.in	Rs.28,980/- per line km plus mobilization and de-mobilization extra
102	Seismic tomography survey for delineating weak zones for Dams and power projects	6 - 7 months	- Do -	- Do -	Varies as per requirement of client
103	Seismic refraction survey for finding depth to bedrock, rock quality, fractures and joints for foundation of dams, power projects and other civil structures	6 - 8 months	- Do -	- Do -	Varies as per requirement of client
104	Cross-hole seismic studies for finding P-wave, S-wave velocity, Young's and shear moduli for foundation of dams and power projects	4 - 6 months	- Do -	- Do -	Varies as per requirement of client
105	Ground Penetrating Radar survey for finding cavities, pipes, buried objects, landmines for dams and various civil projects	4 - 6 months	- Do -	- Do -	Varies as per requirement of client

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106	Electrical Resistivity Imaging survey for determining depth to bedrock, mapping of faults and fractures, finding groundwater potential zones and location of buried drums for dams, power projects and other civil structures	4 - 6 months	- Do -	- Do -	Varies as per requirement of client
107	Mathematical model studies for tidal hydrodynamics and estimation of siltation for the development of port facilities	4 - 6 months	Division Head Ports and Harbour-III Division, CWPRS Tel: 020-24103508 e-mail: purohit_aa@cwprs.gov.in	Scientist `E` PH-III, CWPRS Tel: 020-24103402 e-mail: agrawal_jd@cwprs.gov.in	Varies as per requirement of client
108	Physical hydraulic model studies for the assessment of flow conditions for finalising alignment of berth/terminal navigational channel/ effect of reclamation etc. In Mumbai area	6 - 8 months	- Do -	- Do -	Varies as per requirement of client
109	Mathematical model studies to assess the wave conditions at berths/ terminals/ waterfront facilities	4 - 6 months	- Do -	- Do -	Varies as per requirement of client
110	Mathematical model studies to identify dumping grounds for disposal of dredged material	4 - 6 months	- Do -	- Do -	Varies as per requirement of client
111	Desk and Wave flume studies for design of Breakwaters/ groynes for development of major/ minor/ fishery ports	3 - 4 months	Division Head Costal Hydraulic Structures- I & II, CWPRS Tel: 020-24103224 e-mail: mahalingaiah_av@cwprs.gov.in	Scientist `E` CHS-I/ CHS-II, CWPRS Tel: 020-24103450 e-mail: prabhat.chandra@gpv.in	Varies as per requirement of client
112	Desk and Wave flume studies for design of coastal protection structures	2 - 3 months	- Do -	- Do -	Varies as per requirement of client
113	Desk studies for design of fish landing centres	2 - 3 months	- Do -	- Do -	Varies as per requirement of client
114	Desk and Wave flume studies for design of Breakwaters/ Sea walls for development of major/ minor/ fishery ports	3 - 4 months	- Do -	- Do -	Varies as per requirement of client
115	Desk and Wave flume studies for design of coastal protection structures	2 - 3 months	- Do -	- Do -	Varies as per requirement of client
116	Desk studies for Storm surge analysis and Wave Hind casting for different projects	2 - 4 months	- Do -	- Do -	Varies as per requirement of client
117	Hydraulic model studies for Power Intake to observe (a)Flow condition near intake (b) possibility of any air entering vortices (c)Design of Anti-vortex device, if required	12-18 months	Division Head Control Structures and Water Conductor Systems Division, CWPRS Tel: 020-24103455 e-mail:akhilesha1961@gmail.com	Scientist `E` CSWCS, CWPRS Tel: 020-24103455 e-mail: agrawal_ak@cwprs.gov.in	Varies as per requirement of client
118	Hydraulic model studies for Vertical Lift gates to assess (a)Hydrodynamic forces on it (b)Air demand on downstream of gate for proper size of airvent	12-18 months	- Do -	-Do-	Varies as per requirement of client

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119	Hydraulic model studies for performance of sluice outlets	12-18 months	-Do-	-Do-	Varies as per requirement of client
120	Hydraulic model studies for performance of Tailrace channel/ tunnel	12-18 months	-Do-	-Do-	Varies as per requirement of client
121	Hydraulic transient analysis for water hammer pressure and to check the adequacy of surge tank by way of physical/ mathematical modelling	18-24 months	-Do-	-Do-	Varies as per requirement of client
122	Identification of seepage through hydraulic structures using borehole logging	12-18 months	Division Head Isotope Hydrology Division, CWPRS Tel: 020-24103459 e-mail:	Scientist 'E' IH, CWPRS Tel:020-24103455 e-mail: agrawal_ak@cwprs.gov.in	Varies as per requirement of client
123	Detection of seepage through hydraulic structures using tracer studies	12-18 months	-Do-	-Do-	Varies as per requirement of client
124	Innovative solutions to complex hydraulic problems through physical modelling.	6-8 months	Division Head Spillways and Energy Dissipation Division, CWPRS Tel: 020-24103553 e-mail: bhajantri_mr@cwprs.gov.in srivastava_yn@cwprs.gov.in	Scientist 'E' SED, CWPRS Tel: 020-24103553 e-mail: bhajantri_mr@cwprs.gov.in	Varies as per requirement of client
125	Physical and Numerical flow model of Reservoir & Appurtenant structure of Dam.	6-8 months	-Do-	-Do-	Varies as per requirement of client
126	Studies pertaining to the hydraulics of Spillways & Outlet works.	6-8 months	-Do-	-Do-	Varies as per requirement of client
127	Studies for spillways, Energy dissipater devices, selection of proper energy dissipater arrangement.	6-8 months	-Do-	-Do-	Varies as per requirement of client
128	Hydraulics of Diversion Tunnel.	6-8 months	-Do-	-Do-	Varies as per requirement of client
129	Studies for Power Intakes of hydroelectric power plants.	6-8 months	-Do-	-Do-	Varies as per requirement of client
130	Studies pertaining to hydraulics of Headrace, Tailrace and Water conductor system of Hydropower Plants.	6-8 months	-Do-	-Do-	Varies as per requirement of client
131	Studies for Intakes of pumped storage plants.	6-8 months	-Do-	-Do-	Varies as per requirement of client
132	Hydraulics of Drop Shaft, de-aerator of water conveying tunnels.	6-8 months	-Do-	-Do-	Varies as per requirement of client
133	Hydraulic transient analysis and design recommendation for control of pressure surge and surge protection, safe opening/closing of valves.	6-8 months	-Do-	-Do-	Varies as per requirement of client
134	Water hammer analysis of water conveyance system of Hydropower Plants.	6-8 months	-Do-	-Do-	Varies as per requirement of client
135	Transient analysis for load rejection and acceptance, load variation at hydroelectric power plants to evaluate penstock designs.	6-8 months	-Do-	-Do-	Varies as per requirement of client

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136	Surge protection practices for design & operation of pump stations and pipe lines.	6-8 months	-Do-	-Do-	Varies as per requirement of client
137	Hydraulics of surge tank & Penstocks.	6-8 months	-Do-	-Do-	Varies as per requirement of client
138	Recommendation on design for large diameter water transmission system.	6-8 months	-Do-	-Do-	Varies as per requirement of client
139	Studies for hydraulics of high head hydraulic gates and valves of water conveyance system of hydroelectric power plants, spillways and outlet works of dam.	6-8 months	-Do-	-Do-	Varies as per requirement of client
140	Regular Calibration of flowmeters and Cv/Kv test of various types of valves	One day after installation of test element in the rig	Scientist 'D' Hydraulic Machinery and Cavitation Division, CWPRS Tel: 020-2410 3391 e-mail:rah4uin@yahoo.co.in	Scientist 'E' HMC , CWPRS Tel: 020-2410 3444 e- mail: patil.rg@cwprs.gov.in	For Govt clients: Upto 250 mm NB- Rate @20190, Above 250 mm NB to 500 mm NB, Rate @ Rs. 51640/-, Above 500 mm NB to 1000 mm NB, Rate@ Rs. 96610/- For Private clients: Upto 250 mm NB- Rate@ Rs. 25230/-; Above 250 mm NB to 500 mm NB Rate@ Rs. 64540/-; Above 500 mm NB to 1000 mm NB, Rate@ Rs. 120760/-
141	Regular pressure drop test of various types of Filters	One day after installation of test element in the rig	-Do-	-Do-	For Govt clients Upto 250 mm NB- Rate @ Rs. 35320/-, Above 250 mm NB to 500 mm NB-Rate @ Rs. 65750/-, Above 500 mm NB to 1000 mm NB-Rate @ Rs. 147560/- For Private clients Upto 250 mm NB-Rate @ Rs. 44140/-, Above 250 mm NB to 500 mm NB- @ Rs. 82190/-, Above 500 mm NB to 1000 mm NB-Rate @ Rs. 184450/-
142	Periodic performance test of submersible test	One-two days after installation of test element in the rig	-Do-	-Do-	For Govt clients Rating -1-75 kW @ Rs. 103325/- without temp.rise, Rate @ Rs. 125790/- with temp.rise For Private clients Rating -1-75 kW @ Rs. 129160/- without temp.rise, Rate @ Rs. 157240/- with temp.rise

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143	Periodic accuracy test of water meters	One day after installation of test element in the rig	-Do-	-Do-	For size up 50 mm NB @ Rs. 3050/- Size
144	Flow measurement and calibration of flow meters at site	Varies as per site conditions and client requirements	-Do-	-Do-	Rs. 5-6 Lakhs (May vary as per site conditions and client requirements)
145	Performance evaluation of hydro turbines at site	Varies as per site conditions and client requirements	-Do-	-Do-	Rs. 8-16 Lakhs (May vary as per site conditions and client requirements)
146	Fabrication and installation of Radial gates and its operating mechanism for Tide Generation physical models in the field hydraulic model studies.	8-10 months	Scientist 'D' Mechanical Workshop Division, CWPRS Tel: 020-2410 3391 e-mail:rah4uin@yahoo.co.in	Scientist 'E' MW, CWPRS Tel: 020-2410 3444 e- mail: patil.rg@cwprs.gov.in	As per the basic daily rates of CWPRS and material cost (Work specific)
147	Miscellaneous and residuary matters and emerging studies	--	Scientist D Technical Coordination Division, CWPRS Tel: 020-24103378 e-mail:cro_tc@cwprs.gov.in	The Director CWPRS Tel: 020-24103500 e-mail: director@cwprs.gov.in	--