A Global Leader in Consultancy and Engineering, Procurement & Construction (EPC) providing Integrated & Customised Solutions for Sustainable Development of Water, Power and Infrastructure Projects
Established under the aegis of Ministry of Water Resources on 26th June, 1969 under The Companies Act, 1956 to:

- Share India’s experience and expertise with friendly developing countries
- Facilitate Diplomatic Initiatives
- Augment endeavors of State and Central agencies

Vision

“A Global Leader in Consultancy and Engineering, Procurement & Construction (EPC) providing Integrated & Customized Solutions for Sustainable Development of Water, Power and Infrastructure Projects”

Mission

Major Fields of Specialization

**Water Resources**
- Irrigation, Drainage and Water Management
- Ground Water Exploration and Minor Irrigation
- Flood Control and River Morphology
- Dam and Reservoir Engineering
- Water Bodies & Lake Conservation
- Agriculture
- Watershed Management
- Natural Resources Management

**Power**
- Hydro Power
- Thermal Power
- Pumped Storage Projects
- Transmission & Distribution
- Rural Electrification
- Non-conventional Sources of Energy

**Infrastructure**
- Water Supply, Sanitation and Drainage
- Environment
- Ports & Harbours and Inland Waterways
- Urban and Rural Areas Development
- Roads and Highway Engineering
- Buildings & Townships
## Range of Consultancy Services

<table>
<thead>
<tr>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary Investigations/ Reconnaissance</td>
</tr>
<tr>
<td>Feasibility Studies/Planning/Project Formulation</td>
</tr>
<tr>
<td>Baseline and Socio-Economic Surveys</td>
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<tr>
<td>Field Surveys &amp; Investigations and Testing</td>
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<tr>
<td>Institutional/Human Resource Development</td>
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<tr>
<td>Project Management and Construction Supervision</td>
</tr>
<tr>
<td>Operation and Maintenance</td>
</tr>
<tr>
<td>EPC/Turnkey &amp; Deposit Works</td>
</tr>
</tbody>
</table>
Ongoing projects in 42 countries
USP WATER RESOURCES

Contributed in development of Irrigation Potential of over 15 million ha

Over 550 Projects
In Irrigation, Water Resources, Flood Control, Groundwater, Agriculture, etc.

Over 250 Projects
In India & Abroad in the fields of Irrigation, Hydro Power, Thermal Power, Ports & Harbours

Environmental and Social Impact Assessment Studies

Introduction (Contd.)
Over 500 Projects
In Water Supply & Sanitation, Rural & Urban Development, Roads and Highways Engineering, etc.

Over 200 Projects
Surveys & Investigation/Modeling/Detailed Engineering/Tender Engineering/PMC

Ports and Inland Navigation Projects

USP INFRASTRUCTURE

WILLINGNESS TO GO ‘EXTRA MILE’

Introduction (Contd.)
USP POWER

Overseas

HYDRO POWER
52 projects
Capacity: 20,500 MW

THERMAL POWER
12 projects
Capacity: 2,900 MW

TRANSMISSION LINES
8 nos.

Indian

105 projects
Capacity: 9,000 MW

37 projects
Capacity : 12,000 MW

Contributed in development of more than 44,000 MW of power generation
Registration with International Organizations

- World Bank
- Asian Development Bank
- African Development Bank
- Japan Bank for International Cooperation
- United Nations Office for Project Services
- French Development Agency
- German Development Bank
WAPCOS EXPERIENCE IN WATER RESOURCES
Salient Features:

- Location: Harirud river, Chist-e-Sharif district, Herat Province, Afghanistan
- Height: 104.30 m, Length: 550 m
- Type: Earth & Rock fill dam
- Gross storage capacity: 633 million cum
- Power House: Installed capacity: 42 MW (3x14)
- Irrigation Potential: 75,000 ha
- Spillway: Capacity: 2,100 cumec (36 m wide & 63 m high)
- Transmission line: 110 kV - 157 km long

Client: Ministry of External Affairs, Govt. of India
Project Cost: Rs. 1,675 Crore
Hon’ble Prime Minister of India and His Excellency The President of Afghanistan inaugurated Afghan-India Friendship Dam on 4th June 2016

The project has generated more than 99 GWh of energy during 1st year of operation.
Stung Tasal Water Resources Development Project

Client: Ministry of Water Resources and Meteorology  
Project Cost: USD 30 Million

**Salient Features:**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Storage Capacity</td>
<td>147 million cum</td>
</tr>
<tr>
<td>Culturable Command Area</td>
<td>10,000 ha</td>
</tr>
<tr>
<td>Dam Type</td>
<td>21 m high, 740 m long Concrete Faced Rockfill Dam (CFRD)</td>
</tr>
</tbody>
</table>

**View of completed Dam with Full Reservoir Level**

**Downstream view of Main Spillway**
Development of Six Irrigation Schemes in Champassack Province

Client: Department of Irrigation, Ministry of Agriculture and Forestry
Project Cost: USD 17.34 Million

**Salient Features:**
- Development of the Command Areas in six schemes
- Installation of 10 large pumps for lifting of water from Mekong river
- Conversion and commissioning of Diesel Driven Pump sets to Electric Driven Pump sets
- Improvement of Pump Service Centers at Pakse, Savanna Khet and Vientiane

Pumping of Water from Mekong river to Canal system at Thaposy and Muang Sen Irrigation Schemes
Strategy Papers on Integrated Water Resources Development and Management for various basins in Africa

- SAVE river basin – Zimbabwe
- Sankuru river basin – D R Congo
- Limpopo river basin – Mozambique
- Chad lake basin – Niger, Nigeria, Chad and Cameroon

190 projects amounting to USD 9,430 Million identified in the fields of:
- Irrigation
- Flood Control
- Hydrology
- Catchment Area Treatment
- Ground Water
- Environmental Management
- Agriculture
- Water Supply
- Hydropower
- Sanitation
Refurbishing, Restoring and Installation of Radial Gates for Main Dam of Sardar Sarovar Project, Gujarat

Client: Sardar Sarovar Narmada Nigam Limited

Salient Features:
- Multipurpose river valley project on Narmada
- 30 nos. of Radial Gates
- Chute spillway Radial gates - 7 nos., size 60’ x 60’
- Service spillway Radial gates - 23 nos., size 60’ x 55’

Scope of Work:
- Supervision of refurbishing and restoration work of Gates
- Supervision during servicing of hoist parts-drive unit & gear box assembly
- Preparation of estimate, specifications, and tenders

Lowering of Gates by Hon’ble Chief Minister, Gujarat on 17.06.2017

Erection of Radial Gates

Important Projects - India

Dam Projects
Hon’ble Prime Minister Shri Narendra Modi ji dedicated Sardar Sarovar Dam to the Nation on 17.09.17
Salient Features:

- **Location** - River Narmada, Navagam Village, Bharuch district
- **3,360 villages, 62 talukas, 14 districts, Gujarat**
- **GCA** - 34.28 lakh ha
- **CCA** - 17.93 lakh ha
- **42 nos. of Branches off-take from Main Canal**
- **Length of distribution system** - 66,000 km
- **Provision for supply of irrigation water to every farmer in proportion to their land holding**
- **Total area surveyed** - 10 lakh ha
Diversion of surplus water of Sabarmati Basin for filling of Jawai Dam

- Inter-linking of rivers (Wakal, Pameri, Sabarmati, Sei within Sabarmati basin and Jawai basin) within Rajasthan
- Fulfiling Drinking Water Demand of 4 districts (Pali, Sirohi, Dungarpur & Udaipur) of South-Western Rajasthan
- Consists of 4 Dams and about 110 km of water conductor system
- Water Availability of 135 million cum

Project Cost - Rs. 5,422 Crore
Salient Features:

- 67.86 m high and 343 m long concrete dam (Mandal Dam) to store 1,160 million cum water
- 819.6 m long barrage at Mohammadganj, 96 km downstream of the dam
- Right Main Canal 109.34 km (31.4 km in Jharkhand and 77.94 km in Bihar)
- Left Main Canal - 11.89 km fully in Jharkhand

Project Cost - Rs. 586 Crore
Aquifer Mapping & Data Generation

Client: CGWB & State Ground Water Department, Uttar Pradesh
Project Cost: USD 58.18 Million

Salient Features:
- Aquifer Mapping (up to 450 m depth in alluvial area and 200 m depth in hard rock area)
- Identification of aquifers vulnerable to over-exploitation
- Demarcation of areas for aquifer recharge management
- Development of GIS-based village-wise Aquifer Information System

Benefits:
- Village wise Groundwater availability including recharge and abstraction pattern in GIS format
- Data used to prepare Groundwater Management Plan by Central Ground Water Board (CGWB) & State Ground Water Department

- Agra Nagar Nigam Area, Agra District (250 sq km)
- NCR Area (25,786 sq km area of Delhi, Haryana & UP)
- Jhansi & Lalitpur District (10,000 sq km)
- Chinhat & Kakori blocks, Lucknow district (600 sq km)
- Kanpur Nagar Nigam Area, Kanpur District (250 sq km)

Village-wise variation of aquifer thickness - UP
Safety Audit of Structures (Dams, Barrages and Bridges)

Client: Irrigation & Waterways Department, Government of West Bengal

- **Dams** - 33 nos. (Purulia, Bankuru, Birbhum, Dumka)
- **Barrages** - 30 nos. (Birbhum, Bankura, Purulia, Jalpaiguri, Darjeeling and Paschim Medinipur)
- **Bridges** - 40 nos.

**Tests to be performed**
- ✓ Non-destructive (Ultra-sonic)
- ✓ Stress Analysis (FEM)
- ✓ Seepage Analysis
- ✓ Permeability Test (Pre-Post grouting)
- ✓ Dam Break Analysis
Salient Features:
- Weir - 32 m high
- Left Bank Flood Canal - 260 km, 48 cumec
- Right Bank Flood Canal - 232 km, 64 cumec
- Benefitted area - 3,57,788 ha
- Recharge per season - 626 million cum (5m/year)
- Maharashtra - Amravati, Akola, Jalgaon, Dhule & Buldhana districts
- Madhya Pradesh - Khandwa, Khargone, Burhanpur districts

Project Cost - Rs. 5,428 Crore
CEIA Study of Par-Tapi-Narmada Link Project, Gujarat & Maharashtra

Client: National Water Development Agency (NWDA)

**Salient Features:**
- Construction of 6 dams and 2 barrages; with a total submergence of 6,065 ha
- Total length of Link - 406.12 km
- Irrigation potential - 2.32 lakh ha
- Envisages transfer of surplus waters (1,330 million cum) available in west flowing Par, Auranga, Ambica and Purna rivers in south Gujarat and neighboring Maharashtra to water deficit tribal areas of Gujarat

**Benefits:**
- Provision of drinking water needs of all villages in Dangs & villages in Dharampur and Kaprada talukas of Valsad apart from the population in the command areas
- Water saved in Miyagam Branch Canal transferred to Saurashtra and Kutch Regions

**Project cost - Rs. 10,211 Crore**
### Monitoring, Management Information System and Evaluation of UPWSRP-II, Uttar Pradesh (World Bank Funded)

**Salient Features:**

- **Rehabilitation and Modernisation of existing canal systems**
  - Lower Ganga
  - Sarda Sahayak
  - Bundelkhand
- **Culturable Command Area (CCA)** - 6,40,681 ha
- **Canal** - 252 nos., **Length** - 2,385 km
- **Districts covered** - 19 (Etah, Kanshi Ram Nagar, Firozabad, Mainpuri, Farrukhabad, Kannauj, Etawah, Auraiya, Kanpur City, Kanpur Dehat, Fatehpur, Kaushambi, Lalitpur, Amethi, Barabanki, Raebareli, Jaunpur, Pratapgarh, Sultanpur)

**Project Cost** - Rs. 2,835 Crore
Kaleshwaram Project, Telangana (A Mega Lift Irrigation Scheme)

- A Mega Lift Irrigation Scheme for irrigating
  - New Command Area of 18.25 lakh acres
  - Stabilization of 18.82 lakh acres
- Overall Diversion of Godavari Water - 180 TMC (5,098 million cum)
- Drinking & Industrial water for towns & villages - 50 TMC (1,416 million cum)
- Benefitted seven districts includes:
  - Adilabad  • Karimnagar  • Medak  • Nalgonda
  - Nizamabad  • Ranga Reddy  • Hyderabad
- Project Cost - Rs. 80,500 Crore
Salient Features:

- Reclaim 1,30,000 ha of Sodic Affected soils in 25 districts
- Reclaim 5,000 ha of Ravine Land in 5 districts
- Total number of beneficiaries - 2,40,000
- 90% of beneficiaries shall be small and marginal farmers
WAPCOS EXPERIENCE IN WATER SUPPLY SECTOR
DPR and PMC for extension of Lake Victoria Pipeline to Tabora, Igunga and Nzega Towns

Client: Ministry of Water  
Project Cost: USD 268 Million

<table>
<thead>
<tr>
<th>Location</th>
<th>Pipe Dia.</th>
<th>Pipe Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solwa to Igunga junction at Nzega</td>
<td>900 mm</td>
<td>95.2 km</td>
</tr>
<tr>
<td>Igunga junction at Nzega to Nzega &amp; Tabora junction in Nzega town</td>
<td>900 mm</td>
<td>4.3 km</td>
</tr>
<tr>
<td>Nzega &amp; Tabora junction in Nzega town to Tabora</td>
<td>900 mm</td>
<td>105.1 km</td>
</tr>
<tr>
<td>Igunga junction at Nzega town to Igunga town</td>
<td>400 mm / 350 mm</td>
<td>79.8 km (45 km /34.8 km)</td>
</tr>
<tr>
<td>Nzega &amp; Tabora junction in Nzega town, Ushirika Hills</td>
<td>300 mm</td>
<td>0.25 km</td>
</tr>
</tbody>
</table>

Benefitted population – 0.8 Million
Augmentation of Water Supply Scheme for Dar-es-Salaam and Chalinze

Client: Dar-es-Salaam Water and Sewerage Authority
Project Cost: USD 179 Million

### Dar Es Salaam
- WTP capacity - 130 MLD (Existing 80 MLD, Total 210 MLD)
- DN1200 - DN900 Transmission mains (Steel & GRP) - 70 km
- Kibamba Reservoir capacity - 10,000 m³
- Total Length of Distribution Network (PVC and HDPE) - 250 km

### Chalinze
- Capacity of elevated reservoir - 2000 m³
- Water storage tanks (19 nos.) with capacities 50 m³ - 700 m³
- Length - Distribution Network to feed 21 villages - 246 km
- Number of new pumping stations - 3
- Number of pumping equipments to be replaced - 18

Benefitted population – 1.1 Million

Inauguration by H.E. The President of Tanzania in the presence of Hon’ble Minister of Water, Tanzania, H.E. High Commissioner of India on 21st June 2017
Design Check and Supervision of rehabilitation and expansion of Cuamba City Water Supply
(World Bank funded)

Client: Fundo De Investimento E Património Do Abastecimento De Água (FIPAG)
Project Cost: USD 22 Million

**Salient Features:**

- **WTP capacity**: 10 MLD
- **DN 500 Raw Water Pipeline (DI Pipe)**: 29 km
- **Slow Sand Filters (4 nos.)**: 2.5 MLD each
- **Grade Level Reservoirs (2 nos.)**: 2500 m³ each
- **Elevated Water Tower (35 m from NGL)**: 250 m³
- **DN 500 Transmission Main (DI Pipe)**: 11 km
Water Services and Institutional Support Project- Design Check and Supervision of Network Expansion for Nacala, Mozambique

**Salient Features:**
- Population: 224,483
- No. of Water connections: 3460
- Existing pipe network length: 60 km
- Existing treatment capacity: 6 MLD
- Proposed distribution network: 42 km
Detailed Design and Supervision of Bondo and Siaya Water Supply and Sanitation Project (African Development Bank funded)

Client: Lake Victoria South Water Services Board (LVSWSB)
Project Cost: USD 18 Million

**Salient Features:**

- New Water Treatment Plant - 10.2 MLD
- Rehabilitation of existing WTP - 7.3 MLD
- Length of steel pipe transmission main - 18.7 km
- Length of Distribution System pipes (DN 450) - 50.2 km
- Capacity of Storage Tanks – 1,000 m³, 3,300 m³ and 3,300 m³
- Length of sewers - 10 km
- Length of DN 450 trunk sewer capacity - 4 km
Supply and Installation of 1,500 Hand Pumps for Augmentation of Rural Water Supply

- 1,500 Hand Pumps to be installed in Kampong Cham, Bantey Meanchey, Svay Rieng and Kampong Chhanang
- Increase in population coverage with water supply from 27% to 40%

H. E. Dr. Ouk Rabun, Minister of Rural Development, Cambodia and H.E. Mr. Naveen Srivastava, Ambassador of India during the Inaugural Function
Project Features:

- Engineering Services for Water Distribution Projects for six communities
- Potable Water Supply has to be supplied through Stand posts.

Project Cost: US$ 150 Million

Salient Features:

- Population – 850,000
- Daily Water Allowance – 40 lpcd
- Gravity Main – 15 kms
- Network Length – 95 kms
- WTP – 6 nos
Client : Rural Water Supply and Sanitation Department, Govt. of Telangana

**Salient Features:**
- Creating Water Grid in entire Telangana for providing drinking water to every household
- Water Distribution System Lines -
  - Main trunk pipeline length - 5,000 km
  - Secondary pipeline length - 49,260 km
  - Village level pipeline network - 1,15,440 km
  - Total pipeline network - 1,69,700 km
- Water Source -
  - 34 TMC from Godavari river
  - 21.5 TMC from Krishna river

**Project Cost** - Rs. 42,853 Crore

<table>
<thead>
<tr>
<th>Total households</th>
<th>62,01,552</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural households</td>
<td>49,19,007</td>
</tr>
<tr>
<td>Urban households</td>
<td>12,82,545</td>
</tr>
<tr>
<td>Intake Structures</td>
<td>19 nos.</td>
</tr>
<tr>
<td>Overhead Balancing Reservoirs</td>
<td>549</td>
</tr>
<tr>
<td>Ground level Reservoirs &amp; Sumps</td>
<td>550</td>
</tr>
<tr>
<td>Village Service Reservoirs</td>
<td>35,573</td>
</tr>
<tr>
<td>Water Treatment Plants (WTPs)</td>
<td>153 nos.</td>
</tr>
</tbody>
</table>
Salient Features:

- **Source of water** - Vihar Lake near Powai
- **Treatment capacity** - 90 MLD catering to 6.5 lakh population of Kurla area
- **Demolition of Existing WTP and replacing it with new technology**
- **Fully automated SCADA enabled designed plant**

Scope of Work:

- Proof checking for all civil, mechanical, electrical & instrumentation equipment/structures
- Project Monitoring
- Supervision of work
- Inspection of mechanical & electrical equipment
- Commissioning & Trial Run Report & issuance of completion certificate to contractor

Client: Municipal Corporation of Greater Mumbai (MCGM)
WAPCOS EXPERIENCE IN ROADS & INFRASTRUCTURE SECTOR
**Design Review, Pre-contract and Supervision for Multinational:**
**Nacala Road Corridor Project-Lot B-Ribaue-Malema (AfDB Funded)**

**Client:** National Roads Administration (ANE)
**Project Cost:** USD 60 Million

<table>
<thead>
<tr>
<th>Salient Features:</th>
<th>Bridges:</th>
<th>Structures:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecting Nacala Port of</td>
<td>• Monapo Bridge - 31m</td>
<td>• 87 nos. of Pipe Culverts</td>
</tr>
<tr>
<td>Mozambique and Western</td>
<td>• Lalaua Bridge - 47 m</td>
<td>• 69 nos. of Box Culvert</td>
</tr>
<tr>
<td>countries of Malawi and</td>
<td>• Nataleia Bridge - 63 m</td>
<td></td>
</tr>
<tr>
<td>Zambia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Important international</td>
<td></td>
<td></td>
</tr>
<tr>
<td>trade road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length - 103 km</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane - Two-lane</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road thickness - 830 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Laying of bituminous layer  
Laying of gravel layer
Salient Features:

FPERP-RR3: It includes the rehabilitation and reconstruction of priority damaged segments along
- BIN AIFAN – AL ABR ROAD (127+000 km)
- AL KHASHAA – RAKHI ROAD (61+000 km)
- SEIYUN – BIN AIFAN ROAD (61+000 km) of the regional roads and the main items of works would cover:
  • Culvert – 14 Nos. of varying cells and sizes
  • Irish Crossings – 4 Nos on Al Khashaa - Rakhia Road of length from 50m to 200 m
  • Retaining Wall – Approx. 1200 m of varying heights
Salient Features:

- River - Ganga
- Type of Bridge - Rail cum Road – 2 lines of BG, 3 lanes of roadways
- Length – 1,027.50 m

Project Cost - Rs. 393 Crore

Reinforcement of well curve at site

Speed Concreting by Boom Placer
CONSULTANCY SERVICES FOR KERALA SUSTAINABLE URBAN DEVELOPMENT PROJECT DESIGN AND SUPERVISION CONSULTANCY FOR PACKAGE 2 (KOCHI, THRISUR AND KOZHIKODE) DSC (ASIAN DEVELOPMENT BANK FUNDED), INDIA

Client: Kerala Sustainable Urban Development Project, Local Self Government Department, Government of Kerala

Funding Agency: Asian Development Bank

Total Project Cost: USD 240 Million
Client: Karnataka Urban Infrastructure Development & Finance Corporation (KUIDFC)

Date of start: August -2006

Value of the project: Rs100 Crores.

Total Road Length- 275 km (Including Road Restoration work)

Funding Agency: World Bank

KUIDFC have awarded the consultancy work of Package – I towns (8 ULBs) to WAPCOS to work as project consultant. The project is implemented in two phases.

Phase – I – Planning Phase – 6 months
Phase – II – Implementation Phase – 18 months

Detailed Project Reports (DPRs) and Tender Documents for different subcomponents like Underground Drainage Scheme, Water Supply, Roads, Storm Water Drains, etc have been prepared and submitted to KUIDFC by WAPCOS under Phase –I of this project. Implementation of works of UGD, Water Supply, Roads, Storm Water Drains, etc worth about Rs 100 Crores (INR) are Completed (except one town) in all the 8 project towns in Karnataka.
Client: Karnataka Urban Infrastructure Development & Finance Corporation (KUIDFC)

Date of start: August -2007
Date of Completion: Under Progress
Value of the project: Rs100 Crores.
Total Road Length- 150 km
Funding Agency- World Bank

KUIDFC have awarded the consultancy work of Package – 2 towns (5 ULBs) to WAPCOS to work as project consultant. The project is implemented in two phases.
Phase – I – Planning Phase – 6 months
Phase – II – Implementation Phase – 18 months

Detailed Project Reports (DPRs) and Tender Documents for different subcomponents like Underground Drainage Scheme, Water Supply, ROADS, RWH, Solid Waste management, Storm Water Drains, etc have been prepared and submitted to KUIDFC by WAPCOS under Phase –1 of this project. Implementation of works of UGD, Water Supply, Roads, Storm Water Drains, etc are in progress in all the 5 project towns in Karnataka.
Upgradation of Jawahar Highway Tunnel, Jammu & Kashmir

Client: Border Road Organization

Salient Features:
- Jawahar Tunnel has two tubes - Eastern Tube 2,531 m long & Western Tube 2,547 m long
- Height of the tunnel upto crown level - 5.54 m
- Height earmarked for traffic movement - 4.5 m

Present Status:
- Up gradation of the existing systems
- Meet the requirement of future traffic intensity
- Efficient traffic management
- Preparation of updated DPR and Tender Documents

Project Cost - Rs. 80 Crore
Construction of Residential and Non-residential Buildings for 6th Bn of ITBP, Chhapra

Client: Indo-Tibetan Border Police Force (ITBP), Ministry of Home Affairs, Govt. of India

Architectural 3D View of Admin Block

Architectural 3D View of Barrack

Constructed Admin Block

Constructed Barrack
Construction of various Sports Infrastructure

Client: Sports Authority of India (SAI), Ministry of Sports and Youth Affairs, Govt. of India
SMART CITY PLAN - GUWAHATI

IMPROVEMENT IN QUALITY OF LIFE
WAPCOS EXPERIENCE IN POWER SECTOR
Hydropower Development by WAPCOS in Bhutan

Hydropower Potential of Bhutan is 30,000 MW, feasible is 23,760 MW
## Other Ongoing Projects

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of the Project</th>
<th>Capacity</th>
<th>WAPCOS’ Role</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Punatsangchu-I &amp; II H.E. Project</td>
<td>1200 &amp; 1,020 MW</td>
<td>Design Engineering</td>
<td>Under construction</td>
</tr>
<tr>
<td>2.</td>
<td>Kholongchhu H.E. Project</td>
<td>600 MW</td>
<td>Design Engineering</td>
<td>Under construction</td>
</tr>
<tr>
<td>4.</td>
<td>Mangdechhu Transmission Line</td>
<td>400 kV</td>
<td>Project Management Consultancy and Construction Supervision</td>
<td>Under construction</td>
</tr>
<tr>
<td>5.</td>
<td>Jigmeling 400 kV GIS Substation</td>
<td>400 kV</td>
<td>Project Management Consultancy and Construction Supervision</td>
<td>Commissioned in December 2017</td>
</tr>
</tbody>
</table>
Pancheshwar Multipurpose Project (5,040 MW)

Client: Pancheshwar Development Authority
Project Cost: Rs. 33,108 Crore

Salient Features:

- Pancheshwar Dam Complex (4,800 MW)
  - 300 m high Rockfill with Clay Core dam

- Rupaligad re-regulating Dam Complex (240 MW)
  - 95 m high Concrete dam
### Other Key Ongoing Projects

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Project</th>
<th>Capacity</th>
<th>Status</th>
<th>Funded by</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rahughat H.E. Project</td>
<td>40 MW</td>
<td>Under construction</td>
<td>Govt. of India Line of Credit (LoC)</td>
</tr>
<tr>
<td>2.</td>
<td>Kulekhani - III H.E. Project</td>
<td>14 MW</td>
<td>Under construction</td>
<td>Govt. of Nepal</td>
</tr>
<tr>
<td>3.</td>
<td>Kosi Corridor Transmission Line</td>
<td>220 kV</td>
<td>Under construction</td>
<td>Govt. of India Line of Credit (LoC)</td>
</tr>
<tr>
<td>4.</td>
<td>Rain Water Harvesting and Solar Project for Embassy of India, Kathmandu</td>
<td>-</td>
<td>Work Awarded</td>
<td>Govt. of India</td>
</tr>
</tbody>
</table>
Ayago Hydro Power Project 840 MW (6 x 140 MW)  
(Qatar Development Bank funded)

**Client:** Ministry of Energy and Mineral Development  
**Project Cost:** USD 2.1 Billion

**Salient Features:**

- 24 m high Concrete Gravity Dam
- Length - 595 m
- Installed Capacity - 840 MW
- Design Discharge - 938 cumec
- Design Flood - 2,970 cumec
- Diversion Flood - 2,500 cumec
- Head - 82 m
- Underground Power House of 6 units of 140 MW each
- TRT - 3 nos. of length 7.2 km each
- Annual Energy - 5,875 million units
Pumped Storage Projects

Purulia Pumped Storage Project (4 x 225 MW)

<table>
<thead>
<tr>
<th>Type</th>
<th>Pumped Storage Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed capacity</td>
<td>4 x 225 MW</td>
</tr>
<tr>
<td>Power</td>
<td>5,400 MWh</td>
</tr>
<tr>
<td>Project Cost</td>
<td>Rs. 2,952 Crore</td>
</tr>
<tr>
<td>Peak full load generation duration</td>
<td>6 hours</td>
</tr>
<tr>
<td>Location</td>
<td>West Bengal</td>
</tr>
</tbody>
</table>
Operation and Maintenance of Hwange Thermal Power Station (920 MW)

Client: Zimbabwe Power Company

Salient Features:

- Generation capacity has increased from 250 MW in year 2011 to 760 MW in year 2013 onwards
- Revived Hwange Power Station (920 MW)
- 47% of the country’s power demand is met
- Operation & Maintenance Support
- Saving of USD 30 million per year to Government of Zimbabwe by reducing the import
Enhancement of Capacity of Grid Substation and Transmission Lines for Rural Electricity Transmission and Distribution (T&D) Project (World Bank Funded)

Client: Power Grid Company of Bangladesh Limited (PGCB)

Project Cost: USD 98 Million

Salient Features:

- Execution of 230 kV & 132 kV substations
- Execution of 107 km Transmission Lines in four districts
Salient Features:
- 241 nos. of new 33/11 kV sub-stations
- GIS sub-station in densely populated area
- AIS Indoor sub-station in other areas
- RTUs and SCADA compatibility
- AIS Indoor and Outdoor Type

Benefits:
- Uninterrupted Power Supply to Rural Consumers for at least 14 hours
- Contribution in the infrastructure development of Odisha

Project Cost - Rs. 1,824 Crore

Client: Odisha Power Transmission Corporation Limited

Transmission & Distribution

Construction of 241 nos. of 33/11 kV sub-stations under Phase I, II & III of Odisha Substation Strengthening Project (ODSSP)
Non Conventional Energy Sources Projects

500 MW Dondaicha Solar Park Project, Maharashtra

Client: Maharashtra State Power Generation Company (MAHAGENCO)

Salient features:
- 500 MW Solar Park Project as Part of National Solar Mission (NSM), in Dondaicha, District Dhule
- Total Area Requirement for 500 MW - 825 ha
- Annual Energy Generation - 865 million units
- Project Cost - Rs. 2,155 Crore

Benefits:
- Maharashtra DISCOM to purchase entire power from the project
- Barren land with high solar insolation utilized to generate 500 MW Power
- Lower energy generation cost
200 MW Dadanpatra Solar Park Project, West Bengal

Client: West Bengal State Electricity Distribution Company Limited (WBSEDCL)

Salient features:
- 200 MW Solar Park Project as Part of National Solar Mission (NSM), in Dadanpatra, East Medinipur
- Total Area requirement for 200 MW - 1,062 acres
- Annual Energy Generation - 286.2 million units
- Project Cost - Rs. 1,216 Crore

Benefits:
- WBSEDCL to purchase entire power from the project
- Barren land with high solar insolation utilized to generate 200 MW Power
- Lower energy generation cost
THANK YOU!