

2018



MANAGING DIRECTOR'S
REPORT



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED



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SERVICES

Appraisals, Pre-feasibility and Feasibility Studies

- ▣ Reconnaissance Studies
- ▣ Preliminary Investigations
- ▣ Development of Alternative Proposals
- ▣ Outline Designs and Cost Estimates
- ▣ Evaluation of Technical and Economic Feasibilities

Surveys and Investigations

- ▣ Topographic Surveys and Mapping
- ▣ Geographical Information System (GIS)
- ▣ Geotechnical and Soil Investigations
- ▣ Geophysical, Hydrological and Environmental Surveys
- ▣ Traffic Surveys
- ▣ Commercial Surveys
- ▣ Socio-economic Surveys
- ▣ Data Collection/Analyses
- ▣ Determination of Design Parameters
- ▣ Instrumentation & Monitoring of Structures

Design

- ▣ Design Vetting
- ▣ Engineering Designs
- ▣ Model Tests
- ▣ Computer Simulations
- ▣ Detailed Designs and Specifications
- ▣ Detailed Drawings

Tender and Contract Documents

- ▣ Bill of Quantities, Technical Specifications, Cost Estimates and Schedules
- ▣ Tender Documents for Normal/EPC Contracts

- ▣ Pre-qualification of Contractors
- ▣ Evaluation of Tenders and Recommendations
- ▣ Contract Documents

Construction Supervision and Contract Management

- ▣ Project Management
- ▣ Contract Administration
- ▣ Progress Monitoring and Control
- ▣ Works Supervision and Quality Control
- ▣ Equipment Inspection and Commissioning
- ▣ Measurements
- ▣ Certification of Periodic Payments to Contractors

Post-construction Services

- ▣ Third Party Validation and Monitoring
- ▣ Completion Reports
- ▣ Operation and Maintenance Manuals
- ▣ Routine Maintenance and Safety Inspections
- ▣ Retrofitting and Rehabilitation
- ▣ Conservation of Structures
- ▣ Performance Monitoring

Specialised Services

- ▣ Institutional Strengthening and Capacity Building
- ▣ Tourism Planning
- ▣ Inspection of Dams and Barrages
- ▣ Development of Building Codes
- ▣ Asset Valuation
- ▣ Services for Public-Private Partnership and BOT Projects
- ▣ Trainings
- ▣ Building Codes

FIELDS OF ACTIVITY

- Water Resources Planning, Drainage, Salinity Control and Land Reclamation, Dams and Barrages, Irrigation and Drainage Systems, Water Resources Development and Management, Flood Management and Forecasting/Warning Systems and Institutional and Social Development
- Power Transmission and Distribution, Substations, Hydropower, Thermal Power, Nuclear Power, Rural Electrification, Renewable Energy, Supervisory Control and Data Acquisition (SCADA) and Telecommunications, Oil and Gas
- Motorways, Highways, Urban Roads, Rural Roads, Grade-separated Interchanges, Bridges and Flyovers, Subways and Underpasses, Tunnels, Computer Generated Transport Modelling and Planning, Rapid Mass Transit System, Railways, 3D Animation of Highway Projects (Real-life Simulation), Steel Structure Design, Pedestrian Bridges, Bus Shelters and Intelligent Transport System (ITS) Arrangement for Operational Facility
- Geotechnical, Geo-environmental, Geohazards, Site Investigations, Geological Characterisation, Geophysical Surveys, Construction Materials, Dams, Landslide Mitigation, Seismotectonic Studies, Seismic Risk Evaluation, Ground Improvement, Problematic Ground Mitigation and Deep Excavation Support Systems
- Airport Terminal Buildings, Hangars, Runways, Taxiways and Air Traffic Control Towers
- Deep Seaports, Fish Harbours, Marine Terminals, Container Terminals, Inland River Navigation and Marine Jetties
- Architectural and Engineering Design, Healthcare Buildings, Educational Buildings, High-rise Buildings, Corporate Office Buildings, Commercial and Community Buildings, Sports and Recreational Facilities, Industrial Buildings, Low-cost Housing, Residential Communities, Urban/Rural Planning, Slum Upgradation, Landscaping, Interior Design and Rehabilitation and Refurbishment Works
- Seismic Hazard Microzonation, Disaster Risk Reduction and Management Studies and Trainings, Implementation Strategies, Policy Formulation, Residential Communities, Advocacy Planning, Preparation of Zoning Regulations and Bye-laws, Tourism Planning, Regeneration and Building Codes
- Water Supply, Sewerage, Stormwater Drainage, Solid Waste Management, Plumbing, Water and Wastewater Treatment
- Site Characterisation/Baseline Data for Environmental Impact Assessment, Environmental Risk Assessment, Environmental Planning and Management, Environmental Health and Safety, Air and Noise Pollution Control, Contaminated Site Assessment and Mitigation, Environmental Audit and Resettlement Action Plans
- Steel Mills, Automobile Plants, Cement Plants, Fertilizer Plants, Polyester Plants, Sugar Plants, Chemical Industrial Plants and Textile Units
- Business Process Re-engineering, Management Information System, IT and Software Development, Database Applications, Web Portals, Data Warehousing, Data Conversion, Networking and Data Centres, Satellite Imagery Processing, Digital Terrain Modelling, Global Positioning System (GPS) Survey, Remote Sensing, GIS Development and Map Digitisation
- Land Surveying, Cadastral Surveying, Hydrographic Survey, Geodetic Survey, Drone Survey, Monitoring
- Design and Supervision of Heating Ventilation and Air Conditioning (HVAC), Fire-fighting, Elevators, Escalators, Platform Screen Doors, Building Management Systems and Building Energy Audits
- Agriculture Development and Management, On-farm Water Management, High-efficiency Irrigation Systems, Soil and Water Conservation, Social and Environmental Institutional Development, Natural Resources Development (Aquatic Life Study, Monitoring and Evaluation Tasks, Horticulture/Floriculture Forestry, Rangeland Management, Livestock and Dairy Development and Wildlife Management) and Socio-economic Project Impact Evaluation

FROM THE MD'S DESK

*"Coming together is a beginning.
Keeping together is progress.
Working together is success."
Henry Ford*



NESPAK today stands at the pinnacle of professional glory and enjoys high reputation in the contemporary consultancy industry. It is the apex company in the country, which was established with the aim to reduce foreign dependence and attain self-reliance in the engineering consultancy sector. The Company has achieved this objective to a large extent.

Stellar performance, be it in the profession, business or management, has been a powerful tagline for NESPAK. NESPAK witnessed a stable and steady trend in the business acquisition during the financial year 2017-18 despite not-so-excellent economic indicators due to pre-election activities in Pakistan and ongoing oil recession in the Gulf states. The total fee contracted during the year was Rs. 10.1 billion.

NESPAK secured 96 projects during the fiscal year 2017-2018, out of which 91 were domestic and 5 overseas. Despite stiff competition in the engineering consultancy market, we were able to acquire projects such as 1263MW Regasified Liquefied Natural Gas-based Combined Cycle Power Plant near Trimmu Barrage in Jhang, 409MW Torcamp Godubar Hydropower Project Lower Chitral, Upgradation and Refurbishment of Mangla Power Station, 500kV Guddu-Muzaffargarh Transmission Line, Punjab Intermediate Cities Improvement Investment Programme, Upgradation of Dera Ismail Khan and Muzaffarabad Airports, Upgradation of Main Line-I (ML-I), DHA Peshawar Development Works, Comprehensive

Flood Management Plan for Khyber Pakhtunkhwa, Wadi Middein Dam Jordan, Water Distribution Networks for Nakhal, Awabi and Wadi Maawil Wilayats in Al-Batinah Region Phase-I and Roads for Al-Sahil Area, Wilayat Quriyat, Oman.

An important milestone came for NESPAK in the form of the Company's membership to the Central Development Working Party (CDWP). NESPAK has been honoured by the Planning Commission, Ministry of Planning, Development and Reform, Government of Pakistan by making it permanent member of the CDWP. This has not only showed extreme trust on part of the Government in NESPAK but also has given an opportunity to our organisation to participate in the process of approvals of the Public Sector Development Programme projects which are of national importance. The Membership has also provided a chance to NESPAK to give valuable input at such policy level and play a vital role in the development of the country.

Quality always guarantees bigger profits and well-being for an organisation. Research and development are being promoted at NESPAK, thereby enhancing our efficiency and competence.

The quality of our products is our hallmark. It is achieved through maintaining the ISO 9001 Quality Management System (QMS) effectively as well as continuously upgrading the quality of our services.

The External Transition Audit was conducted by the Lead Auditor/Technical Expert of TUV Austria Bureau of Inspection and Certification at the Lahore and Karachi Offices of NESPAK during the year. Since the QMS was found compliant with the requirements of ISO 9001:2015 Standard, NESPAK was recommended for certification to the new ISO 9001:2015 Standard.

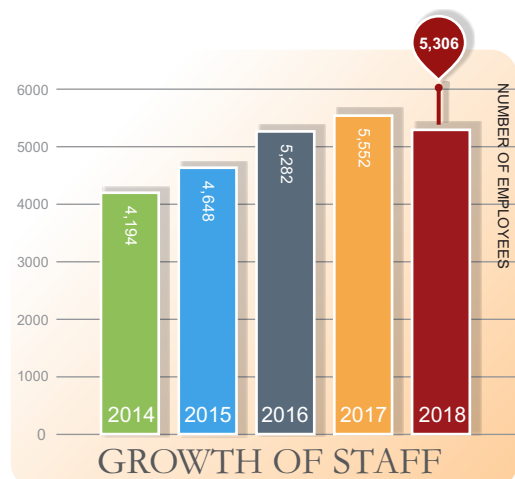
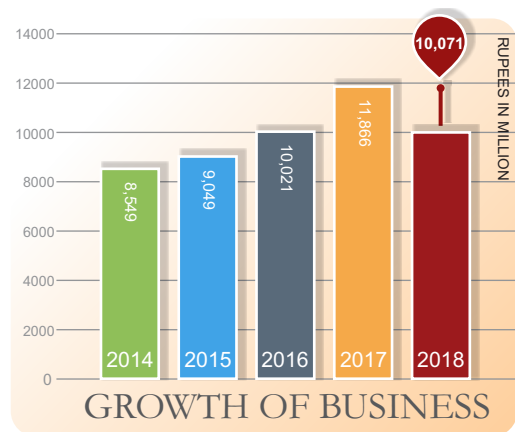
NESPAK achieved another landmark by fulfilling the requirements to acquire certifications of ISO 14001:2015 Environmental Management System and OHSAS 18001:2007 Occupational Health and Safety Standards for the Company and subsequently went through their Audits. The ISO 14001:2015 Standard is environment-oriented and a systematic approach to manage the environmental impacts of products, services and processes. The OHSAS 18001:2007 Standard provides a framework to identify, control and decrease the risk associated with health and safety within the workplace. The External Audits for above two Standards were also conducted by the Auditors to ensure compliance with their requirements. The three certifications together have put NESPAK on the top as the premier engineering consultant to be certified to all the three Standards. These certifications will further increase our trust with Clients and enable us to qualify for and get more projects locally and overseas. The Internal Quality Audits were also carried out on design and construction management related activities at various NESPAK divisions/offices during the year to ensure compliance with the QMS.

Workforce is the most valuable asset of an organisation. NESPAK holds its employees in high esteem, keeping them intact. Presently, the number of NESPAK's staff stands at 5,306 including professional and technical experts in various engineering disciplines.

Having a staunch belief in the blessings of Allah the Almighty, we are committed to serving our Clients to their entire satisfaction. NESPAK is resolved to seek a better performance and working steadfastly to achieve that end. We have firm confidence in NESPAK's strength to win good market share and more Clients in the near future.



DR. TAHIR MASOOD
Managing Director & President





ENERGY S E C T O R

NESPAK acquired six new projects costing Rs. 180 billion in the Energy Sector during the financial year 2017-18. The 409MW Torcamp Godubar Hydropower Project was the breakthrough project won by NESPAK among the fresh jobs. The Company continued to provide its high-tech and up-to-the-minute services for 16 ventures worth Rs. 753 billion and completed 8 projects worth Rs. 63 billion during the year.

Among the fresh projects during the year, NESPAK achieved a landmark in the hydropower sector by winning 409MW Torcamp Godubar Hydropower Project. The Pakhtunkhwa Energy Development Organization entrusted a NESPAK-led joint venture with a German and a local firm with providing consultancy services for this project of prime importance. The scope of work includes feasibility study, detailed design, tender documentation

for this project located in the Chitral District of the Khyber Pakhtunkhwa Province.

NESPAK has been hired for providing consultancy services for the Faisalabad West 500kV Substation. The scope of services includes tender documentation, design review and construction supervision. The project is being financed by the Japan International Cooperation Agency (JICA). The main objective of this Rs. 6 billion project is to

enhance the capacity of National Transmission and Despatch Company (NTDC) system by constructing 500/220/132kV substation at the Faisalabad West to remove transmission system constraints for meeting the growing power demand of the Faisalabad Electric Supply Company.

NESPAK has been selected for the construction supervision of civil works, erection, stringing and testing and commissioning of 500kV Single Circuit Guddu-Muzaffargarh Transmission Line and In/Out Arrangement of the 500kV Dera Ghazi Khan-Multan Double Circuit Transmission Line at the Muzaffargarh Grid Station. The project having a construction cost of Rs. 3 billion is funded by the Asian Development Bank.

Among the ongoing projects, the 969MW Neelum-Jhelum Hydroelectric Project, which is termed an engineering milestone in NESPAK's history, is fast nearing completion. During the year, construction remained in full gear on the dam site, tunneling sections, powerhouse and tailrace structures under the supervision of NESPAK as the local lead consultants. NESPAK has also been reviewing the design of this Rs. 506 billion project.

Construction works on the dam site are in the final stages with the substantial completion of rock-fill dam up to the crest. Civil works for operator's building and 11kV substation and hydro-mechanical works are in progress on all the structures, particularly the debris channel flap gates. Drilling and installation of different instruments at the designed locations have been continuing.

Most part of tunneling works has been completed through the Tunnel Boring Machines (TBMs) with the achievement of important milestones along with the drill and blast in some tunnel sections. Concrete and steel lining in Jhelum River crossing for the headrace tunnel had already been completed. After the completion of excavation for the powerhouse and transformer hall,

installation of power generating units and penstocks has also been carried out. Mechanical testing of the generating units was done before the test runs. Excavation works and concrete lining works for the tailrace tunnel have already been accomplished for this gigantic power project.

The 1263MW Regasified Liquefied Natural Gas (RLNG)-based Punjab Power Plant, Jhang registered good progress during the year. The Rs. 56 billion project was awarded by the Punjab Thermal Power (Pvt.) Limited. The mega contract was signed with the China Machinery Engineering Corporation, China on the Engineering, Procurement and Construction (EPC) basis. NESPAK is responsible for design, tender documentation and construction supervision of this combined cycle power project located near the Trimmu Bridge. Detailed design for the simple cycle of the project has been completed whereas detailed design for the combined cycle partially

1. A bird's eyeview of the dam reservoir for the Neelum-Jhelum Hydroelectric Project, Azad Jammu and Kashmir
2. The Power Island 2 for the RLNG-based Combined Cycle Power Plant at Balloki, District Kasur, Punjab
- 3: A view of the RLNG-based Combined Cycle Power Plant at Haveli Bahadur Shah, Jhang, Punjab



completed. Construction and installation/erection activities at the site are in full swing for this fast-track project.

The RLNG-based 1230MW Combined Cycle Power Plant (CCPP) at Haveli Bahadur Shah, Jhang and 1180MW CCPP at Bhikki are undergoing the Defects Liability Period under the guidance of NESPAK. The Rs. 59 billion Haveli Bahadur Shah CCPP and Rs. 54 billion Bhikki CCPP have been awarded by the Quaid-e-Azam Power Company Limited and the National Power Parks Management Company Limited respectively. The scope of services includes feasibility study, tender documentation, design review and construction supervision for the two projects.

The RLNG-based 1223MW Combined Cycle Power Plant at Balloki, Kasur has entered the advanced stage of completion. The Rs. 55 billion project is in the testing and commissioning phase, readying for the commercial operation. The scope of services includes feasibility study, tender documentation, design review and construction supervision for this project awarded by the National Power Parks Management Company Limited.

The 102MW Gulpur Hydropower Project also made appreciable progress under the supervision of a NESPAK joint venture with a US firm. The NESPAK joint venture is working as owner's engineer to the M/s Mira Power Limited, a subsidiary of Korea South East Power Company Limited, South Korea. The project is being financed by the Import-Export Bank of Korea, Asian Development Bank, the International Finance Corporation and the Islamic Development Bank and the Ecobank, Nigeria. The Rs. 25 billion Build-Operate-Own-Transfer (BOOT) project is located on the Poonch River — a tributary of Jhelum River — in the Kotli District of Azad Jammu and Kashmir.

A NESPAK joint venture started providing consultancy services to the 20MW Hanzel Hydropower Project, Gilgit-Baltistan. The scope of services includes review of feasibility study, design review, tender documentation and construction supervision. Awarded to NESPAK by the Water and Power Department, Gilgit-Baltistan, this Rs. 6 project is being executed on the EPC basis.

Consultancy services for the Mangla Power Station Upgradation and Refurbishment Project were extended through a new contract by the Water and Power Development Authority (WAPDA) during the year. A NESPAK joint venture with US and local consultancy firms will assist WAPDA in bid evaluations, contracting process, design review, schedule management, construction supervision and commissioning of the project. The cost of the project has been increased to Rs. 52 billion. During the year, the contracts for the refurbishment of powerhouse cranes, supply of 220kV main transformers for units 3-6, turbine inlet valves for units 1-6 were completed. However, site activities for generator, turbine, excitation and governor systems for units 1-6 are progressing ahead for this modernisation project.

1. A glimpse of the 500kV New Lahore Grid Station
2. Work underway for the 500kV Transmission Line 3rd Circuit Jamshoro-Moro-Dadu to Rahim Yar Khan and Moro Substation
3. Under-construction Transmission Scheme for Dispersal of Power from the Neelum-Jhelum Hydropower Project



The 500kV 3rd Circuit Jamshoro-Moro-Dadu to Rahim Yar Khan Transmission Line and Moro Substation is fast nearing completion under the supervision of NESPAK. This Transmission Line is to connect the Thar Coal Power Plant with the 500kV Single Circuit Jamshoro-Moro Transmission Line through a special arrangement. The NTDC selected NESPAK for this Rs. 43 billion project and extended the contract by four amendments in appreciation of NESPAK's

services. Additional services comprise survey and design review for this two-phase project, which is being funded by the Asian Development Bank, United States International Agency for Development and the NTDC.

A NESPAK-led joint venture is rendering consultancy services for the Transmission Scheme for Dispersal of Power from the 969MW Neelum Jhelum Hydropower Project. The Rs. 22 billion project is divided into two phases for the purpose of its timely execution. The Phase-I comprises the Neelum-Jhelum Hydropower Plant-Domeli Section (145km) and the Phase-II Domeli Section-Gakkhar Substation Section (130km). The Phase-I of the transmission line was successfully energised during the year under review. The survey and soil investigation activities for the Phase-II have been completed whereas tower foundation and tower erection activities are in full gear. NESPAK scope of services includes tender documentation, design review and construction supervision for this assignment awarded by the NTDC.

Construction work progressed well on the New Lahore 500kV Substation and Associated Transmission Lines under the supervision of NESPAK. NESPAK has carried out the tender documentation and design review services for this Rs. 13 billion project being financed by JICA. Construction activities for the Part-I of the facilities were completed during the year. Work on Part-II of the facilities including design, supply, installation, testing and commissioning and construction of associated civil works is in full swing under this project awarded by the NTDC.

Among the projects wrapped up during the year, a NESPAK-led joint venture completed engineering



1. Transmission Line Interconnection for Dispersal of Power from the Uch-II Power Project
2. A glimpse of the completed AIS Grid Station at Dera Murad Jamali (New), Balochistan

consultancy services for the Rahim Yar Khan 500/220/132kV Substation (Package-I) and In & Out Arrangement of Guddu-Multan 3rd Circuit at the Rahim Yar Khan 500kV Substation (Package-II) during the year. NESPAK undertook tender documentation, bid evaluation, design review and construction supervision of both components of this Rs. 7 billion project awarded by JICA. The main objective of the project was to enhance the capacity of the transmission system. This will improve voltage and stabilise power supply to the Multan Electric Supply Company.

NESPAK successfully completed the construction supervision of the Transmission Line Interconnection for Dispersal of Power from Uch-II Power Project during the year. The Rs. 3 billion project, which is also known as 220kV Double Circuit Twin Bundle Uch-Sibbi Transmission Line, was awarded by the NTDC.

NESPAK successfully completed construction supervision services for the 220/132kV Air Insulated Switchgear (AIS) Grid Station at Dera Murad Jamali (New) in the Balochistan Province. The completion of the project has helped improve the voltage profile of the Quetta Electric Supply Company Limited. The Rs. 2 billion project was awarded by the NTDC.

NESPAK has wrapped up design review and construction supervision services for civil works, erection and testing and commissioning of the 220/132kV AIS Grid Station at Mansehra. The Rs 1 billion project was successfully energised during the year. The project was awarded by the NTDC and financed by the Asian Development Bank.

*"If there is magic on this planet,
it is contained in water."*

Loren Eiseley



WATER RESOURCES DEVELOPMENT S E C T O R

NESPAK has excelled in the Water Resources Development Sector by providing its cutting edge and cost-effective consultancy services for a number of mega projects. The Company has been rendering services for 21 projects worth Rs. 578 billion. The fiscal year 2017-18 saw the completion of 21 projects worth Rs. 110 billion in this Sector at NESPAK.

Among the fresh projects during the year, NESPAK was assigned the feasibility study for "Upgradation of Present Network of Kalri Baghar Feeder Upper and Keenjhar Lake" by the Sindh Irrigation Department. The scope of services includes topographic surveys, bathymetric surveys, water availability study, hydraulic and hydrologic modelling and GIS mapping design. The PC-I cost is estimated to be Rs. 36 billion which is under process for approval by the Planning and Development Department.

Among the ongoing projects, the Kachhi Canal Project Phase-I entered the advanced stage of completion during the year under the supervision of a NESPAK-led joint venture. The construction work is progressing ahead at a fast pace for this Rs. 80 billion project despite hostile security situation in the Dera Bugti District of the Balochistan Province. The Phase-I of the Kachhi Canal Project was inaugurated by the then prime minister during the year 2017-18 by releasing irrigation water to



the command area of one of the distributaries of the Kachhi Canal. This is one of the priority projects under WAPDA's Vision 2025 Programme. The project aims to develop 288540 hectares culturable command area into fertile land. The scope of services also comprises design and Hill Torrents Management Study for this project of national importance.

NESPAK has been providing consultancy services for design review and construction supervision for the Mega Irrigation Projects since 2004. These projects include Irrigation System Rehabilitation Project, Lining of Irrigation Channels under the Public Sector Development Programme (PSDP) and Selective Lining of Irrigation Channels under the Annual Development Programme (ADP) with a cumulative cost of Rs. 75 billion. The project spread all over the Punjab is financed by Government of Pakistan.

Under this project, 20 main canal rehabilitation sub-projects have been completed whereas 106 distributaries/minors have been concrete-lined in a length of 1506 kilometres. The lining of 82 distributaries/minors, three small dams and five sub-projects of the flood protection works on Rivers Indus, Jhelum and Chenab stepped forward during the reporting period.

A NESPAK-led joint venture has completed design review of Trimmu and Panjnad Barrages and is supervising the construction activities of Trimmu Barrage, which are progressing at a good pace. The construction work at the Panjnad Barrage is yet to be started. This Rs. 17 billion

1. An aerial view of Kachhi Canal Project in Dera Bugti District, Balochistan
2. A view of the Kirpal Pur minor in Multan Zone under the Mega Irrigation Projects
3. Installation of gates for the right under-sluice at the Trimmu Barrage for the Trimmu and Panjnad Barrages Improvement Project

project was awarded by the Punjab Irrigation Department and jointly financed by the Punjab Government and the Asian Development Bank (ADB).

Excellent progress was recorded on the Jalalpur Irrigation Project as its design is nearing completion. The PC-I of the project with a total cost of Rs. 37 billion has been approved by the Executive Committee of National Economic Council. The project has been divided into three contract packages for execution. NESPAK has submitted draft bidding documents for Package-I & II of the project to the Punjab Government for review. Preparation of tender documents for Package-III, construction drawings and design report is in progress. The mega project funded by the ADB envisages construction of a new irrigation system and appurtenant structures to irrigate about 70415 hectares of land in the Pind Dadan Khan and Khushab areas. The proposed 116 km long main canal will off-take from the right bank of the Rasul Barrage with the design discharge of 1350 cusecs, benefitting over 225000 people in 80 villages.



1. A Balloki Barrage-Sidhnai minor elevated channel for the Upgrading of Balloki Barrage, Lower Bari Doab Canal and its distribution system
2. A view of the completed section for Warsak Canal System in Khyber Pakhtunkhwa
3. An improved embankment for the Pakpattan Canal Lower under the Pakpattan Canal and Suleimanki Barrage Improvement Project

The project of Rehabilitation and Upgrading of Balloki Barrage, Lower Bari Doab Canal and its distribution system has been divided into 10 contract packages out of which construction on six packages has been completed. Work on the remaining four packages is nearing completion. A NESPAK-led joint venture is involved in design and construction supervision of this project with the PC-I cost of Rs. 30 billion, which is jointly funded by the Punjab Irrigation Department and the ADB. The total length of main canal and distribution system, which is undergoing rehabilitation and upgradation, is 2500 kilometres.

An addendum to the contract for the Remodelling of Warsak Canal System was signed by a NESPAK-led joint venture and the Khyber Pukhtunkhwa Irrigation Department during the year. The project will now be completed at a revised cost of Rs. 12 billion up to the middle of 2021. The scope of services includes detailed design, tender documentation and construction supervision for this project comprising 15 contract packages.

Work started on the "Optimising Watercourse Conveyance Efficiency through Enhancing Lining Length Project" during the year. NESPAK has successfully completed the annual target of the year 2017-18 of the project as per contract obligations, carrying out the verification of work on 900 watercourses. The scope of services includes project planning, detailed design, design review and construction supervision for this Rs. 9 billion project. The project is being financed by the Punjab Government through the ADP.

Under the Pakpattan Canal and Suleimanki Barrage Improvement Project, the Pakpattan Upper Canal was restored to original cross-section by providing stone studs. Eleven new falls/cross-regulators have been constructed, out of which nine regulators were operated under the supervision of NESPAK. The Pakpattan Lower Canal has been improved by strengthening canal banks and a new fall has been constructed to replace the existing problematic structure. The Khadir Branch has been remodelled with gated structures and all structures have been operated while bank strengthening has also been improved. Extension works have been completed at the Suleimanki Barrage along with the construction of silt excluder for the Fordwah Canal. The damaged left divide wall has also been reconstructed/strengthened. Gates for all the head regulators of canals and under-slucies have been replaced while motorisation of these gates is in the final stage. The Rs. 8 billion project was awarded by the Punjab Irrigation Department and funded by the ADB. The project envisages rehabilitation, improvement and reconstruction works for various hydraulic structures and channel prisms for four canals, i.e., Pakpattan Upper, Pakpattan Lower, Khadir Branch and Pakpattan Islam Link and Suleimanki Barrage.

Steady progress was registered on the Lining of Distributaries and Minors in Sindh Project with an extension in the consultancy services agreement during the year. Construction work on this project is progressing at a brisk speed under the supervision of NESPAK. The scope of services also includes design and tender documentation for this Rs. 14 billion project awarded by the Sindh Irrigation Department.

NESPAK started rendering services for the Gomal Zam Dam Command Area Development and On-Farm Water Management (OFWM) for High Value and High Efficiency Agriculture Project in Khyber Pakhtunkhwa. An addendum for the extended consultancy services was signed by NESPAK and the Khyber Pakhtunkhwa Agriculture and Cooperative Department during the year. The scope of services includes detailed design, tender documentation, construction supervision, quality assurance, certification of interim payments to the contractors and validation of the completed works.

Among the projects wrapped up during the year, NESPAK completed consultancy services for the Phase-III of "Assuring Water Supply to Karachi Upgrading Keenjhar Lake." The Company rendered feasibility study, planning, tender documentation, design and construction supervision services for this Rs. 3 billion project awarded by the Sindh Irrigation and Power Department.

NESPAK successfully completed design review and construction supervision for "Replacement of 45 No. Tubewells" during the year. The project was awarded by the Water and Sanitation Agency (WASA), Lahore

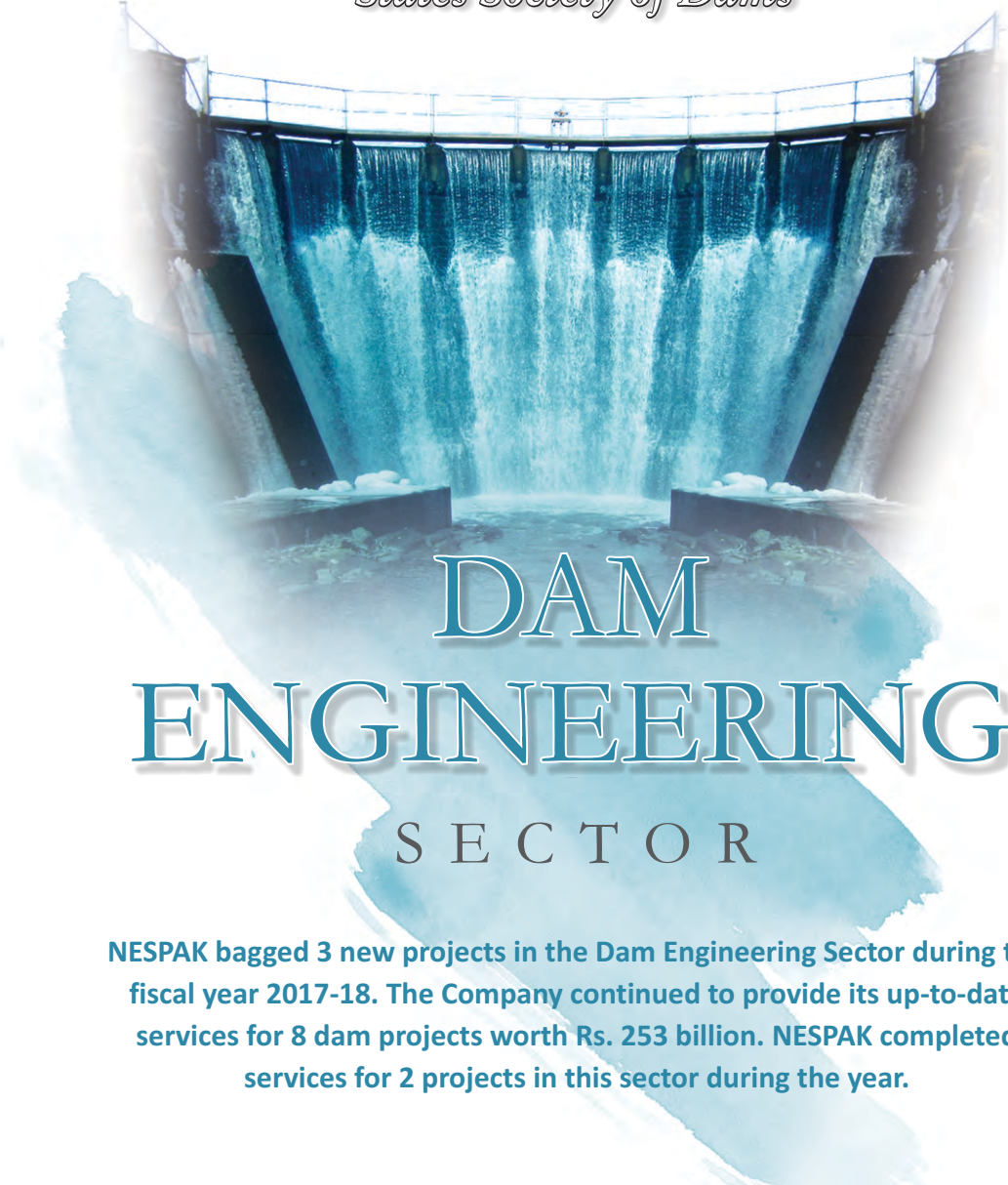
Development Authority. Through the completion of this project, WASA has added 220190 m³/day to the water supply system to meet the shortage caused by the sudden drawdown in the water table and reduction in discharge of old tubewells in Lahore.

A NESPAK-led joint venture has carried out a feasibility study report and PC-I for "Reclaiming Agriculture Land affected by Waterlogging in the Bahawalnagar, Bahawalpur and Rahim Yar Khan Districts." Detailed surveys were conducted in the project areas to develop the best possible solution and prepare a comprehensive feasibility study report. The problem was addressed with the proposal of a new drainage system in the affected areas. The PC-I proformas of the project amounting to the cost of Rs. 5 billion have been completed for the study.

1. A minor under the Gomal Zam Dam Command Area
2. Work underway for Installation of 45 No. Tubewells in Lahore, Punjab
3. A view of the Keenjhar-Gujjo Canal escape regulator for the Keenjhar Lake System Project.



"Throughout the history of the world, dams and reservoirs have been used successfully to collect, store and manage water resources needed to sustain civilisation." United States Society of Dams



DAM ENGINEERING SECTOR

NESPAK bagged 3 new projects in the Dam Engineering Sector during the fiscal year 2017-18. The Company continued to provide its up-to-date services for 8 dam projects worth Rs. 253 billion. NESPAK completed services for 2 projects in this sector during the year.

Among the fresh projects during the year, NESPAK has been appointed sub-consultant by the Jordan Valley Authority for engineering and environment in the areas of dam design, geology and grouting. Under the contract, NESPAK will provide services for the updating of feasibility study, detailed design, preparation of tender documents, construction supervision and maintenance of the Wadi Middein Dam Project in Jordan.

Located in Wadi Middein at Karak Governorate, the earth core rock-filled dam will be a recharging dam of the

regional aquifer and in the long run, it can be used for direct yield through the outlet works.

Among the ongoing projects, sound progress was made on the "Feasibility Study of Dams on Kaha, Chachar, Vidore and Mithawan Hill Torrents in the Dera Ghazi Khan and Rajanpur districts during the year. A NESPAK-led joint venture is providing services for this project awarded by the Punjab Irrigation Department.

The inception report for all the four dams has been submitted to the client. The feasibility reports for the



Chahcar and Vidore Dams and PC-I performa for Chachar and Vidore Dams and Environmental and Social/Resettlement Report for the Chachar Dam have been presented for review. The Environmental and Social/Resettlement Report for the Vidore Dam and feasibility of the Mithawan Dam are progressing well. The overall cost of the project is estimated at Rs. 24 billion.

Overseas, NESPAK is involved in the construction supervision of dam projects under two different contracts in the Kingdom of Saudi Arabia. During the year, the Shahdaan Dam and Al-Thifan dam were handed over to the Client viz the Ministry of Environment, Water and Agriculture after substantial completion. The construction work on other projects is moving forward at a good pace. The jobs under two different contracts i.e., "Dam projects in Jizan, Aseer & Najran and "Qanunah & Yabah Dam Projects" will be completed at a total cost of US\$170 million. The purpose of these dams is to control floods and supply drinking water. This also includes the construction of gabion structures on upstream of the existing dams to restrict the sedimentation. The dam types are of concrete gravity, earth-filled and roller-compacted concrete gravity structures.

In the Kingdom of Jordan, construction work for the Raising of Walla Dam Project is going ahead after design review was completed during the year. NESPAK in association with a Jordanian consultancy firm is involved in the design review and construction supervision of this project awarded by the Ministry of Water and Irrigation, Jordan Valley Authority, Amman. The project will be completed at an estimated cost of US\$ 35 million.

NESPAK in association with the M/s Gauff Consultants Germany is providing services for a three-year training programme for dam safety regulation framework and guidelines for the capacity building of officials from various Nigerian government departments. Inception,

1. A view of the Chacher Dam site at hill torrents in Rajanpur
2. A view of the completed Shahdaan Dam in Saudi Arabia
3. Raising of Walla Dam Project, Jordan

Baseline and Assessment Reports have been submitted to the Client. As part of scope of work, seven NESPAK experts have conducted two workshops on topics related to various aspects of dam safety.

Among the projects wrapped up during the year, NESPAK completed "Strengthening Works of Mangla Reservoir Rim along Mirpur-Kotli Road." The project was divided into two packages for the purpose of its trouble-free execution. The strengthening works for both the packages were carried out near the Khaliqabad Chowk near Shinwari Restaurant (Package-I) and along the Mirpur Bypass Road (Package-II). NESPAK scope of services included detailed design, tender documentation and construction supervision for this project. Defect liability periods of both packages were also finished during the year. This important task was assigned to NESPAK by the Water and Power Development Authority.

NESPAK completed design review and construction supervision for the Baran Dam Intake Structure, Bannu during the fiscal year. The project costing Rs. 1 billion was awarded by the Khyber Pakhtunkhwa Irrigation Department.

*"Beauty is and always will be
blue skies and open highway."*

Dave Hickey



HIGHWAYS & TRANSPORTATION ENGINEERING S E C T O R

NESPAK came up with a remarkable performance in the Highways and Transportation Engineering Sector by getting 27 new projects worth Rs. 1,242 billion during the year 2017-18. The Company continued to provide its outstanding professional services for 46 jobs worth Rs. 888 billion, including some important projects related to the China-Pakistan Economic Corridor (CPEC). NESPAK completed services for 40 projects worth Rs. 262 billion during the fiscal year.

Among the fresh projects during the year, the National Highway Authority (NHA) selected NESPAK for providing design review and construction supervision for Dualisation and Improvement of Indus Highway Package-I Sarai Gambila-Karak (61km) in the Khyber Pakhtunkhwa Province. The project road starts from Sarai Gambila and ends at Karak. It connects with the Kohat interchange, crossing the River Kurram at Topai and some of its tributaries. The scope of work includes a 2-lane dual carriageway road facility and construction of bridges/culverts at an estimated cost of Rs. 30 billion.

NESPAK was awarded Dualisation of Rawalpindi-Kahuta Road (28km) and Kallar-Manianda Road (13km) by the NHA. A 4-lane Overhead Bridge at Sihala Railway Pass, Sihala Bypass and Kahuta Bypass will also be constructed as part of the project. NESPAK services include feasibility study, design, design review and construction supervision for this Rs. 20 billion project.

The NHA appointed NESPAK as consultants for design review and construction supervision for Dualisation and Improvement of old Bannu Road Project in the KP. The 127km Bannu Road starts from Gandhi Chowk and ends at Krapa, passing through the Bannu Township, Domail,

Latambar, Banda Daud Shah and Khurram. The scope of work includes Dualisation of sections of the Old Bannu Road including Gandhi Chowk-Sarai Naurang, (8km) and Domail-Khurram-Krapa (75km) under this Rs. 18 billion project.

NESPAK was awarded various projects worth Rs. 15 billion by the Defence Housing Authority Lahore under an umbrella consultancy contract during the year. The projects include a signal-free corridor, two flyovers and five underpasses. NESPAK will provide design, design review and construction supervision services for this project.

NESPAK has been selected for providing services for the Improvement and Widening of Chakdara-Mingora-Fatehpur Section of the Chakdara-Kalam Highway. The scope of services includes design review and construction supervision for this Rs. 3 billion project awarded by the NHA.

NESPAK has been entrusted with providing detailed design and construction supervision of underpasses at the Kashmir Chowk on both sides of the RB Canal Faisalabad. The Rs. 2 billion project has been awarded by the Faisalabad Development Authority.



1. Excavation work in progress for the Old Bannu Road Project
2. Improvement and Widening of Chakdara-Mingora-Fatehpur Road
3. Alignment map for the Dualisation/Rehabilitation of the Jamshoro-Rajanpur Section



The Khyber Pakhtunkhwa Highways Authority has selected NESPAK for New RCC Bridge at Khazana Bypass Road over the Panjkora River near Timergarah in District Lower Dir. NESPAK will provide design review and construction supervision services for this project.

NESPAK has been hired for design review and technical assistance for the Upgradation of Pakistan Railways' Main Line-I (ML-I) and Establishment of a New Dry Port near Havelian by the Pakistan Railways. The project will be carried out under the CPEC through an agreement signed by Pakistan's Ministry of Railways and China's National Railway Administration. NESPAK services include verification of Bill of Quantities (BoQs) and cost estimates by a Chinese consultancy firm, structural design review of 30 bridges, site visits and surveys for verification of design schemes along the track. NESPAK will also provide assistance in preparing bidding documents for this Rs. 872 billion project.

NESPAK has been entrusted with preparing feasibility study and detailed design for Dualisation/Rehabilitation of Jamshoro-Rajanpur Section by the NHA. The 604km Jamshoro-Rajanpur Section is part of the Central Asian Regional Economic Corridor (CAREC). The 2-lane carriageway project will be upgraded at an estimated cost of Rs. 150 billion.

NESPAK was awarded feasibility study and preliminary design for Dualisation of Kuchlak-Zhob Section by the NHA. The project involves upgradation, widening and improvement of Kuchlak-Zhob Section (305km) which serves as the main road link between Balochistan and Khyber Pakhtunkhwa Provinces. The Kuchlak-Zhob Section shall be upgraded as a 4-lane dual carriageway with the addition of two new lanes and six bypasses at a cost of Rs. 62 billion.

NHA selected NESPAK for preparing detailed design for Rehabilitation of Portions of Dera Ismail Khan–Peshawar Section (374km) of the Indus Highway. The project will be executed as part of CAREC at an estimated cost of Rs. 24 billion.

NESPAK has been assigned feasibility study and detailed design of the Rs. 20 billion Hyderabad Southern Bypass Road Project under the Sindh Provincial Road

1 & 2. Views of the Lahore Orange Line Project

3. Work in progress for Roads in Al-Sahil Area, Wilayat Quriyat, Oman





Improvement Project. Funded by the Asian Development Bank, the 46km bypass road will take off from right side of the M-9 from Karachi and will cross the Thatta-Kotri Road, having a bridge on the Indus River.

NESPAK has been assigned the design and construction supervision of Dualisation of Muzaffargarh-Dera Ghazi Khan Road (52km) by the Punjab Communication and Works Department. This Rs. 12 billion project is likely to be completed in two years.

Overseas, NESPAK has been entrusted with the design of Roads in the Al-Sahil area, Wilayat Quriyat in the Sultanate of Oman. The US\$ 34 million project has been awarded by the Muscat Municipality, Oman.

Among the ongoing projects, the Lahore Orange Line Metro Train Project is nearing completion at a good pace under the supervision of a NESPAK joint venture with the China Railway Engineering Consulting Group Co. Limited. Major construction activities have been completed and interface and finishing works are progressing well. The NESPAK joint venture also prepared detailed design for this 163 billion project awarded by the Punjab Masstransit Authority. The train will run on a state-of-the-art 27km track between the Ali Town and Dera Gujran. The overall objective of the project is to provide a safe, reliable and fast mode of transportation for the commuters and improve traffic flow in the Metropolitan City.

Construction work on the Havelian-Thakot Section (120km) under the CPEC is moving ahead as per schedule.



1&2. Two different views of the under-construction Havelian-Thakot Road Project for the China-Pakistan Economic Corridor

3. Work underway for the Kot Belian-Tarap Road under the Hakla-Dera Ismail Khan Package-III

Awarded by Pakistan's Ministry of Communications, the project is envisaged to be financed under the Chinese concessional loan arrangement. Under the CPEC, infrastructure projects will link the Gwadar City to China's Xinjiang Region through a vast network of highways and railways. The Karakoram Highway Phase-II of this project connects Havelian to Thakot through a greenfield alignment. The project is an important part of the Asian Highway-4, Urumqi-Karachi and south-north main frame of the National Highway network of Pakistan. A NESPAK joint venture with a Turkish consultancy company was hired for providing services as "Assistant to the Employer's Representative." The consultancy services include design review, contract management and construction supervision for this Rs. 133 billion project.

NESPAK has prepared design for the western corridor of the CPEC from Hakla on M-I to Dera Ismail Khan. The construction for the 110km portion of this 285km project



1. The Karachi-Hyderabad Motorway (M-9) Project
2. A view of the Southern Loop, Lahore Ring Road
3. The Widening of the Canal Bank, Lahore Project
4. Construction of Flyover at the Shaukat Khanum Intersection, Lahore in progress

is moving ahead under the supervision of NESPAK. The project lies mainly in the Punjab and partly in Khyber Pakhtunkhwa. The 4-lane highway project includes the construction of three major bridges at Sawan, Indus and Kurram Rivers. Assigned by the NHA, this Rs. 125 billion project is expected to be completed in one and a half years. The Package-III of Hakla-Dera Ismail Khan Section—Kot Belian Road-Tarap (52km) — is nearing completion. The Package-III starts near Tarap and crosses two major roads i.e., Jand-Tarap Road and Kalabagh-Mianwali Road, crossing River Sawan.

NESPAK has carried out major components of the Southern Loop of the Lahore Ring Road. However,

construction works on the Lahore Ring Road Authority (LRRRA) Office Complex building and intelligent transportation system are progressing forward at a satisfactory pace. NESPAK is providing services as Independent Engineer for construction supervision of this Build-Operate-Transfer (BOT) project. Under this Rs. 45 billion project, a 6-lane expressway has been constructed with a number of Interchanges, underpasses, service roads, overhead pedestrian bridges and efficient street lights system. Awarded by the LRRRA, the 22km Southern Loop Project is on the way to completion in a record time.

Work on the Karachi–Hyderabad Motorway (M-9) is moving towards completion at a quick pace. NESPAK is providing design review and quality control services for this 136km project. The Rs. 44 billion BOT project comprises conversion of the 4-lane Karachi-Hyderabad Super Highway into a 6-lane motorway.

Excellent progress was reported on the projects awarded to NESPAK by the Lahore Development Authority (LDA) under an umbrella consultancy agreement. NESPAK is involved in design and construction supervision services for the Widening of Canal Bank Road, Construction of Flyover at Shaukat Khanum Intersection and

Rehabilitation/ Improvement of Khyaban-e-Jinnah Road. The projects will be completed at an estimated cost of Rs. 20 billion.

The Rs. 20 billion Dualisation of Khanewal-Lodhran Project achieved notable progress, meeting the quality targets for the design and construction supervision. The road is a 2-lane single carriageway being dualised to a 4-lane dual carriageway. This route will save a travel of 29 kilometres.

Sufficient progress was documented on the Allied Works for the Islamabad Metro Bus System (MBS) from Peshawar Morr to New Islamabad Airport during the year. NESPAK is rendering design and construction supervision for the Rs. 17 billion MBS facility infrastructure project awarded by the NHA.

Work started for different roads and flyovers under the Quetta Development Package, Balochistan during the year. NESPAK has undertaken the Traffic Model Study, detailed design and construction supervision for the extension and rehabilitation of Sariab Road and adjoining roads, Sabzal Road, Joint Road and Nawa Killi Airport-Balleli Road Flyover, having a total length of 93 kilometres. The Rs. 10 billion project was awarded to NESPAK by the Balochistan Planning and Development Department.

Good progress was reported on the Ring Road in Madinat Al-Ilam, Muscat, Oman during the year. The project with the execution of additional works is progressing well under the supervision of NESPAK. The scope of services also includes detailed design and tender documentation for this US\$ 70 million project awarded by the Royal Office, Sultanate of Oman.

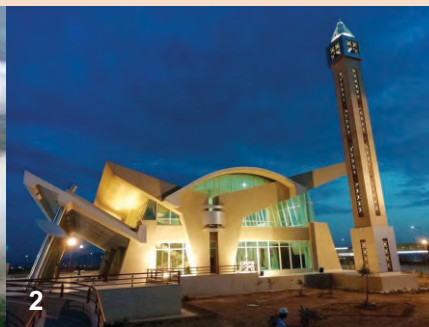
Among the projects wrapped up during the year, NEPAK carried out feasibility study and detailed design for Signal-Free Movement at Liaquat Bagh and Marrir Chowk, Rawalpindi during the year. The Rs. 3 billion project was assigned to NESPAK by the Rawalpindi Development Authority.

NESPAK has completed feasibility study and detailed design of the Farooqabad Interchange and the Kot Pindi Das Interchange on the Motorway M-2, Sheikhpura. The Farooqabad Interchange will be located at 67 kilometres between the Hiran Minar Interchange and Khanqah Dogran Interchange. Awarded by the NHA, both the interchanges will be constructed at a cumulative cost of Rs. 1 billion.

NESPAK has completed the construction supervision of the Main Road Improvement Project at the Duqm Centre in the Governorate of Duqm Al-Wusta Region, Sultanate of Oman. The project comprised a 7km dual carriageway, service roads, roundabouts, intersections, box culverts, Irish crossings and parking areas. The US\$ 35 million venture was awarded by the Special Economic Zone Authority Duqm.

1. A perspective view of the Khanewal-Lodhran Road Project
2 & 3. Two different views of the landscaped area for the Main Road Improvement Project Duqm, Oman





1. An aerial view of the Islamabad International Airport
2. The mosque at the Islamabad International Airport
3. The Air Traffic Control Tower, Islamabad International Airport
4. A view of the Sialkot International Airport
5. A glimpse of the Bacha Khan International Airport, Peshawar

AIRPORTS

Among the fresh projects during the year, the United Energy Pakistan Pvt. (UEP) appointed NESPAK to provide consultancy services for its Naimat Airstrip at a site near Tando Adam in the Sindh Province. The airstrip will be utilised for the UEP's staff movement from the Naimat Base Camp. NESPAK has completed design and tender documentation for the project and will provide construction supervision services once construction activities are undertaken.

Pre-design surveys and studies were carried out by NESPAK for the upgradation of Muzaffarabad Airport and Dera Ismail Airport projects awarded during the year. NESPAK scope of services includes planning, feasibility study, design and construction supervision for the upgradation of the two airports at an estimated cost of Rs.10 billion.

Among the ongoing projects, the New Islamabad International Airport (NIIA) commenced full operations during the year 2017-18. Constructed at a cost of Rs. 100

billion, it is Pakistan's largest airport that has been designed for handling all types of aircraft including the A-380 super jumbo. The airside and landside infrastructure spreading over 1296 hectares, were designed by NESPAK in a joint venture with a leading French consultancy firm, Aéroports de Paris Ingénierie. The NIIA is equipped with the most modern equipment and facilities including CAT-III Airfield Lighting System, navigational aids, a state-of-the-art Air Traffic Control Tower as well as aircraft rescue and fire-fighting facilities. NESPAK's supervision services are continuing on the development of various facilities for the Airport Security Force at the NIIA.

Development work progressed well on Pakistan's first private sector airport, the Sialkot International Airport during the year. NESPAK has been involved on the project since its inception in the early 2000s and has undertaken design of various landside and airside facilities. The airport has been fully functional since 2007 and during the year 2017-18, additional consultancy services were rendered for the construction of 2nd Departure Lounge,



expansion of SIAL Secretariat, New Custom Hall and upgradation of the allied infrastructure facilities including the construction of Link Taxiway with new dumbbell and related airfield lighting works.

Construction work continued at a brisk pace at the Passenger Terminal Building of the Bacha Khan International Airport, Peshawar. During the year, new Domestic and International Wings were inaugurated by the then prime minister of Pakistan. NESPAK is providing design and construction supervision services on this Rs. 3 billion project. The expanded facility will be more than double the size of the terminal area and offer passengers a much higher level of comfort, safety and security through its new and modern lounges and check-in and arrival areas. The addition of passenger boarding bridges has enhanced the airport experience for users. Plans are also underway to construct a multi-level car parking facility at the airport.

SEAPORTS & HARBOURS

Among the ongoing projects, NESPAK continued to maintain a high level of involvement at two major ports of Karachi while providing its services on various projects. NESPAK completed the feasibility study for establishing a Multipurpose Bulk Cargo Terminal at East Wharf, Karachi Port. The project which is being constructed on the Build-Operate-Transfer (BOT) basis, is at bidding stage. The Terminal, which is part of the Karachi Port Improvement Project, is being planned to handle various bulk commodities in an environment-friendly manner.

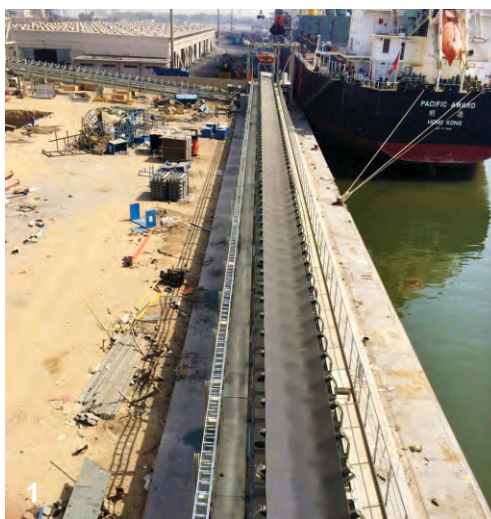
Construction supervision services continued on the Ship Lift and Transfer System project at the Karachi Shipyard and Engineering Works. The Rs. 4 billion project is nearing completion at a good speed.

At Port Qasim, works were underway for Conversion of Marginal Wharf Berths 3 & 4 into Coal Terminal for handling 4 million tonnes of imported coal per annum for power plants. NESPAK was awarded this Rs. 4 billion project by the

Port Qasim Authority for vetting of design and quality audit of construction works undertaken by a private sector sponsor on the BOT basis. The project is substantially completed and has been put into operation.

Among the projects wrapped up during the year, construction of Pakistan International Bulk Terminal (PIBT), the country's first dedicated coal, clinker and cement terminal, was completed. NESPAK was responsible for design vetting, construction quality audit and progress monitoring of the project. The Rs. 30 billion terminal has been developed on the BOT basis by a private sector group. The facility comprises a jetty to handle ships of up to 65000 dead weight tonnes (DWT). Linked with a 2.5km long trestle to storage sites on shore, the Terminal will be able to handle 12 million tonnes of cargo per annum.

NESPAK completed concept design, feasibility report and tender documents for the development of Coal Conveying System from Pakistan International Bulk Terminal to existing Railway Network at the Port Qasim. All the relevant reports have been submitted to the Port Qasim Authority for a 5km conveyor, coal stockyards and train load-out station.

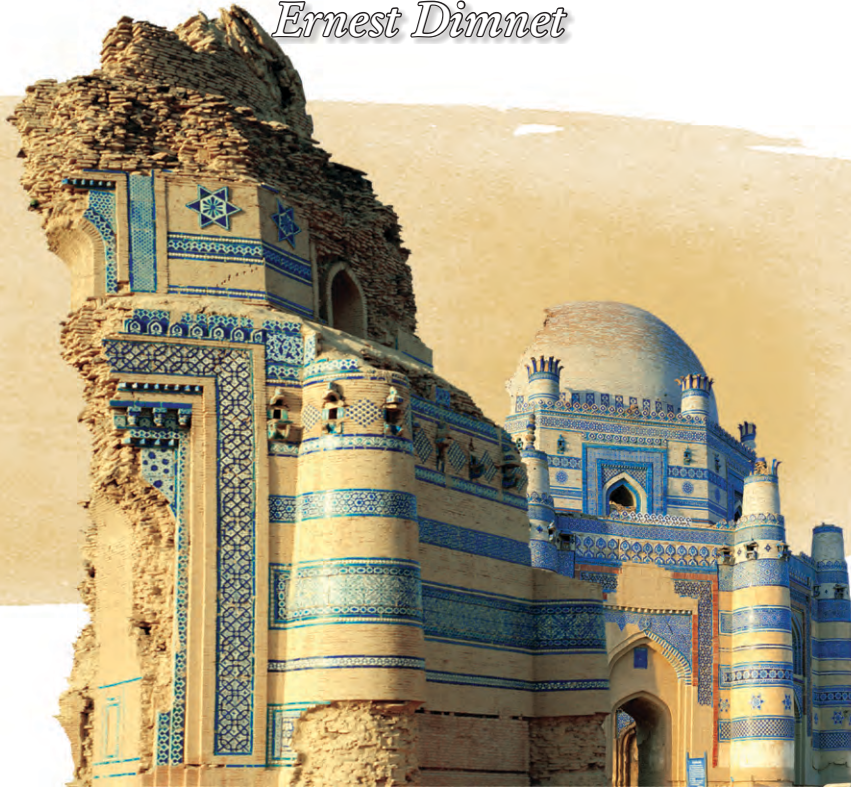


1. Work in progress for the Conversion of Marginal Berths 3 and 4 into the coal terminal at the Port Qasim, Karachi
2. An aerial view of the Pakistan International Bulk Terminal, Karachi



*"Architecture, of all the arts, is the one
which acts the most slowly, but the
most surely, on the soul."*

Ernest Dimnet



ARCHITECTURE & PLANNING

S E C T O R

NESPAK's Architecture and Planning Sector grew into a steadfast and sturdy performer as it acquired 30 new projects worth Rs. 46 billion during the financial year 2017-18. The Company continued to render its innovative and modernised services for 104 projects worth Rs. 728 billion and completed 44 jobs worth Rs. 33 billion during the year.

Among the fresh projects during the year, NESPAK has been hired by the Frontier Works Organization for topographic surveys, geotechnical investigations, master planning, detailed design, tender documentation and construction supervision for development of Sector F-14 and F-15 Islamabad. The state-of-the-art master plan will accommodate around 6800 residential plots of various sizes along with all civic amenities and public facilities under this Rs. 12 billion project.

A landmark project secured by NESPAK was the Development Works of Defence Housing Authority (DHA) Peshawar. NESPAK has been engaged for detailed designing of road infrastructure, cross surface drainage, water supply and sewerage system in all the 10 residential and commercial sectors for two years with an estimated cost of Rs. 10 billion. NESPAK has also won project planning and detailed design for infrastructure works for the DHA Housing Scheme Gujranwala through a tough competition.

NESPAK has signed an agreement with the Central Power Generation Company Limited, GENCO-II, Guddu for master planning and renovation/rehabilitation of over 2800 houses of the Residential Colony Thermal Power Station at Guddu. NESPAK scope of services includes detailed design and construction supervision for this Rs. 2 billion venture.

The CCCC-FHDI Engineering Co. Limited China has selected NESPAK as its local consultant through a competition for undertaking the Gwadar Smart Port City Master Plan Project. The aim of the project is to update the existing city plans and reflect the new strategic direction of Gwadar's development keeping in view the China-Pakistan Economic Corridor (CPEC) requirements.

NESPAK has been entrusted by Aviation City, Pakistan to provide feasibility studies, master planning, detailed design and construction supervision for the Aerospace

Science and Technology Park Aviation City, Pakistan at Kamra.

NESPAK won master planning, design and construction supervision of New Expo Centre, Karachi for the Trade Development Authority of Pakistan (TDAP). The expansion and upgradation of the Karachi Expo Centre will meet major shortcomings in the trade-related activities for the coming decades. The master plan includes construction of nine new halls including replacement/reconstruction of the six halls, an international standard Convention Centre accommodating 800-200 capacity auditoriums and seminar halls, a multi-storey IT Tower/ TDAP's office building and multi-storey car parking under this Rs. 11 billion project.

In recognition of the high-quality services rendered by NESPAK for 550-bed New Surgical Oncology Complex at the Jinnah Post-graduate Medical Centre (JPMC) Karachi, the Patients' Aid Foundation has awarded NESPAK two more prestigious buildings namely the Jinnah Institute of Cancer Research Centre and Neurology and Psychiatry

1. An artistic view of the Expo Centre, Karachi
2. A conceptual view of the Jinnah Institute of Cancer Research Centre, Karachi
3. An artistic view of the Kahna Kacha Green Corridor under the Development of Green Corridor and Recreational Areas along the Shahdara-Raiwind Railway Track, Lahore





1. A glimpse of eight Basic Health Units in Mansehra under the Earthquake Reconstruction and Rehabilitation Project
2. An artistic view of the Multan Cricket Stadium for the PCB Projects
3. The glimpse of a tower for the Crescent Bay Project, Karachi

Project at the JPMC under two separate contracts. The JICRC comprises a ground plus 10-storey building and Neurology & Psychiatry building is a ground plus three storey building. NESPAK services include detailed design and construction supervision for these two projects costing Rs. 5 billion.

The Pakistan Public Works Department, Islamabad has tasked NESPAK with two new projects for design and construction supervision of the Model Custom Collectorate Gilgit, Directorate of CPEC Transit Trade and E-Facilitation Centre, Transit Accommodation, Barracks for Customs Sepoys and Custom Forensic Laboratory in Sost. The projects also include the design and construction supervision of Federal Audit Complex, Mauve Area, Sector G-8/1, Islamabad. The cumulative cost of the project stands at Rs. 1 billion.

Other major new projects include the Rs. 1 billion University of Buner, Swari, Rs. 1 billion New Blocks in the Islamia College, Peshawar, University of Science and Technology, Bannu, Girls Cadet College Mardan and Development of Green Corridor and Recreational Areas

along the Shahdara-Raiwind Railway Track worth Rs. 722 million.

In the State of Qatar, M/s Dynamic Management Group W.L.L. engaged NESPAK for design review and acquiring statutory approvals from the relevant authorities for the HBK Labour Camp at Muither, Umm Al-Zebar. The US\$ 25 million project comprises construction of six blocks of workers residential buildings, dinning, kitchen, clinic, mosque and substation with allied facilities.

The Lamela Design Consultancy, a Spanish Consultant, hired NESPAK for detailed design and acquiring statutory approvals from the relevant authorities for a residential building at Lusail. The project comprises 30 apartment units with allied facilities. The project will cost US\$ 7 million.

Among the ongoing projects, a total of 204 sub-projects were completed under the Earthquake Reconstruction and Rehabilitation Project (ERRP) during the year, taking the tally of completed facilities to 1950 in the sectors of health, education, governance and roads in Azad Jammu and Kashmir and Khyber Pakhtunkhwa. Work is in progress on the remaining sub-projects under this Rs. 200 billion project. In addition to that, all the 113 sub-projects of the Chinese-Funded Urban Development Program amounting to Rs. 32 billion have been completed in Muzaffarabad, Bagh and Rawalakot cities in the AJK.

Emaar-Pakistan is developing the Crescent Bay Project which enjoys a beautiful two-km seafront along the shores of Arabian Sea in the DHA Phase-VIII Extension, Karachi. Work on the project moved forward as two

towers entered the final stages of completion. NESPAK is providing construction supervision services for these two 27-storey towers having a cost of Rs. 6 billion. In addition, NESPAK has completed design services for five additional towers, each of 27 storeys through a separate design services agreement and is providing field design support services. The project cost for additional five towers is Rs. 20 billion.

Renovation work on the eight railway stations including Bahawalpur, Sahiwal, Okara and Nankana Sahib is moving forward at a good pace with the completion of the Okara and Narowal Railway Stations during the year. NESPAK is carrying out detailed design, tender documentation and construction supervision for these sub-projects under the "Master Plan of 12 major Railway Stations across Pakistan." The project costing Rs. 3 billion has been awarded to NESPAK by the Pakistan Railways.

A NESPAK joint venture has started to render architectural and engineering design and construction supervision services for the Pakistan Cricket Board. The project scope comprises feasibility study, master planning, detailed design and construction supervision for the development of various sports facilities including stadiums, hotels, shopping arcades along with allied facilities and infrastructure works in Karachi, Lahore and Rawalpindi. The project will be completed at a cost of Rs. 3 billion.

Construction work for the Pakistan Kidney and Liver Institute (PKLI) and Research Centre, Lahore Hospital, Package-C showed a moderate progress during the year. The Package-C consists of construction of patients' apartments, doctors' apartments, nurses' dormitories and the PKLI Bazaar for this project awarded by the

Infrastructure Development Authority, Punjab. NESPAK is involved in the detailed design, tender documentation and construction supervision of this Rs. 3 billion.

Construction work for the 7-storey New Surgical Oncology Complex at the JPMC Karachi is fast nearing completion under NESPAK supervision. NESPAK services also include detailed design and tender documentation for this Rs. 2 billion project awarded by the Patients' Aid Foundation.

Work on the refurbishment and allied electrical and mechanical works for the National Database and Registration Authority (NADRA) offices progressed according to the schedule during the year. NESPAK scope of services mainly comprises detailed design and construction supervision of new works, renovation of existing buildings, maintenance works and assessment in purchase of owned properties under this Rs. 2 billion project. NESPAK has successfully completed NADRA

1. A view of the renovated Narowal Railway Station as part of Pakistan Railways upgradation project
2. The New Surgical Oncology Complex of the Jinnah Post-graduate Medical Centre, Karachi
3. A view of the proposed Patients' Apartments Block under the Pakistan Kidney and Liver Institute, Lahore



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1. A view of the under-construction Navy Housing Scheme, Karachi

2. A view of the Boys Hostel, University of Malakand

3. The front view of the Jinnah Hospital, Kabul, Afghanistan

4. An inside view of the National Database and Registration Authority (NADRA) Mega Centre at the North Nazimabad, Karachi

5. An interior view of the NADRA Executive Passport Office, Sargodha

6. Work in progress for the Port Allied Structures in Mullah Band Area, Gwadar, Balochistan

Executive Passport Offices at Quetta, Peshawar, Sargodha and Faisalabad and NADRA Registration Centres at Peshawar and Karachi. NADRA Registration Centres at Gujranwala, Gujrat and Lahore. Some miscellaneous projects of NADRA are under execution.

NESPAK is involved in the design and construction supervision services for the Ghulam Ishaq Khan Institute of Engineering Sciences and Technology Swabi, University of Sciences and Technology Mirpur, University of Malakand Lower Dir, Hazara University Mansehra and University of Kotli AJK. The cumulative cost of these projects is Rs. 5 billion.

Construction activities on the Port Allied Structures in Mullah Band Area, Gwadar are continuing at a brisk pace under NESPAK supervision. NESPAK was also involved in architectural and engineering design and tender

documentation for this project. The Rs. 2 billion project comprises four packages out of which two packages headed towards substantial completion during the year. The Mullah Band Area serves the starting point of the CPEC adjacent to the Free Development Zone of China, thus placing it at a highly strategic setting.

Construction work on 6 Residential Towers of Navy Housing Scheme, Karachi was in full swing during the year under NESPAK supervision. Civil works for three Towers are marching towards completion and the other three Towers are also undergoing a good speed of progress under this Rs. 5 billion project. NESPAK has already provided design and tender documentation services for this project.

Good progress was made on the construction work for the Hydropower Training Institute Mangla under NESPAK

supervision during the year. NESPAK services also include detailed design, tender documentation for this project awarded by the Water and Power Development Authority. The project is supported and funded by the European Union through a French development agency, AFD.

In Afghanistan, NESPAK continued construction supervision of the Rs. 1 billion Jinnah Hospital at Kabul. The civil works of the project have substantially been completed. Finishing touches are being given to the allied works for this healthcare project.

Construction activities for Naeb Aminullah Logari Hospital at Logar, Afghanistan have entered the final phase. The Rs. 1 billion project is ready to be placed under the defects liability period.

In the State of Qatar, NESPAK continued to provide post-contract professional consultancy services for supervision and project management to Qatar Real Estate Investment Co. (Alaqaria) for construction, completion and maintenance of the Al-Khor Housing Project. The project comprises construction of 110 4-bed villa units and a Friday Mosque. The project cost is US\$ 42 million.

Work is in progress on Al Meera-New Convenience Stores at Jeryan Junaihat, Qatar and construction supervision of

the New Pakistan Embassy Complex at the Diplomatic Enclave, Doha, Qatar.

Among the projects wrapped up during the year, NESPAK completed master planning, detailed design, tender documentation and construction supervision services for Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan. The Rs. 4 billion project comprises academic blocks, central library, administration building, student hostel and residences for teaching staff along with infrastructure and external developments.

In the State of Qatar, design services for Alaqaria South Development at Al-Wakra, Qatar, were completed during the year under review. The project comprises 12 blocks of residential accommodation for 429 family apartments and allied facilities, costing US\$ 68.5 million.

1. A glimpse of the newly constructed Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan, Punjab
2. Construction activities in full swing for the Hydropower Training Institute, Mangla
3. A conceptual view of the Pakistan Embassy, Qatar
4. The conceptual design of the Alaqaria South Development Scheme at Al-Wakra, Qatar



*"We won't have a society if we
destroy the environment."
Margaret Mead*



ENVIRONMENTAL & PUBLIC HEALTH ENGINEERING

S E C T O R

NESPAK came forward with an impressive performance in the Environmental and Public Health Engineering Sector by getting 10 projects worth Rs. 42 billion during the year 2017-18. The Company continued to provide its advanced and trendsetting services for 31 major projects worth Rs. 545 billion. Two projects worth Rs. 322 billion were completed by NESPAK during the financial year.

Among the fresh projects during the year, the Punjab Local Government and Community Development Department engaged NESPAK-Led Joint Venture for planning, designing and construction supervision for the Punjab Intermediate Cities Improvement Investment Programme in the cities of Sahiwal and Sialkot in the Punjab Province. The main objective of the project is to improve urban sectors including water, sanitation and urban transport and spaces in these cities. The priority projects include upgradation of parks, bus terminals and procurement of solid waste machinery for the two cities. The project costing Rs. 28 billion shall be completed in three years.

NESPAK has signed an agreement with the Water and Sanitation Agency (WASA), Gujranwala Development Authority for "Resident Supervision of Five Nos. Water Supply, Sewerage/ Drainage Schemes." The scope of this Rs. 2 billion project includes construction supervision of sewerage/drainage schemes in various areas of the Gujranwala City. The project area comprises Jinnah Road, Raj Colony, Gulzar Colony, Satellite Town, Model Town, Sialkot Bypass Aroop, Lohianwala, Mandiala Warraich, Rakh Kikran Wali Union Council No. 70, External Khiali Shahpur UC 71, Kohluwala UC 72, Eminabad Gharbi UC 73, Green Town, Kangniwala, Rana Colony, Asghar Colony and Peoples Colony.

The Directorate of Estate Projects Air Headquarters, Pakistan Air Force has entrusted NESPAK with consultancy services for land use planning and infrastructure designing for the Fazaia Housing Scheme, Gujranwala. NESPAK scope of services includes topographic survey, geotechnical investigations, land use planning and designing of infrastructure works including roads, electrification, water supply, sewerage, and stormwater drainage network. The Project Management Unit, Economic Revitalisation of Khyber Pakhtunkhwa and Federally Administered Tribal Areas have awarded NESPAK a World Bank-funded project titled "Preparation of Environmental Social Safeguard Documents for Tourism sites of KP."



NESPAK has won the construction supervision contract of Annual Development Programme (ADP) schemes of WASA Multan for the financial year 2017-18. The scope of this Rs. 750 million project includes installation of three tubewells, 51 water purification plants in the city, three overhead reservoirs along with 210000 ft. water supply lines. In addition, sewerage lines of 12" to 36" dia will be provided with the construction of disposal stations as per requirement.

The Lahore Waste Management Company (LWMC) has engaged NESPAK for "Environmental Impact Assessment (EIA) of Establishment of Autoclave for Treatment of Infectious Hospital Waste at Compost Plant, Mehmood Booti, Ring Road Lahore." NESPAK scope of services includes establishment of baseline environmental conditions, identification of anticipated environmental impact and their mitigation measures, formulation of Environmental Management Plan and preparation of EIA Report.

The Water and Power Development Authority has awarded the World Bank-funded project "Preparation of Detailed Ecological/Biodiversity Management Plans for Dasu Hydropower Project" to a NESPAK joint venture with the MWH International Inc., United States.

Among the ongoing projects, satisfactory progress was achieved on the master planning for water supply, sewerage, stormwater drainage and groundwater management system of Sheikupura, Kasur and Nankana Sahib Districts during the year. The project costing

1. Laying of Reinforced Cement Concrete (RCC) sewer at the Fazaia Housing Scheme, Gujranwala, Punjab
2. A view of construction of RCC drain near Chauburji, for Haji Camp-Ravi Stormwater Drainage Project, Lahore





1. A view of the completed brick-lined Sullage Carrier Project under the Prime Minister's Package, Multan

2. Pipe bedding in Abyad for the Nakhal Water Supply Project in the Al-Batinah Region, Oman

3. Construction of flow meter chamber in Hubra area for the Nakhal Water Supply Project in the Al-Batinah Region, Oman



Rs. 150 billion has been awarded by the Lahore Development Authority. NESPAK scope of work includes identification/prioritisation of physical infrastructure for water supply, groundwater management, sewerage, stormwater drainage systems and wastewater treatment. It also includes detailed design and costing of priority areas having a population of 10,000 people. The planning horizon of the project is up to year 2040 to cater for the current and future requirements through efficient and effective infrastructural facilities.

NESPAK submitted detailed engineering design along with tender documents and Environmental Impact Assessment (EIA) Report to the client for the laying of Sewerage System from Larech Colony to Gulshan-e-Ravi, Lahore. This Rs. 10 billion venture which is Pakistan's first trenchless sewerage project is ready for the construction phase. This is a landmark project as the entire sewerage network will be laid through trenchless technology, using micro tunnel boring machine.

NESPAK has submitted PC-I to the Punjab Planning and Development Department for the preparation of Master Plan of Sewerage System of Tehsil Municipal Administration Jhang. NESPAK scope of work comprises master planning and design of sewerage and drainage system for the urban area of Jhang. The total cost of master planning projects is estimated to be Rs. 21 billion. Subsequent upon approval of Master Plan of Jhang City sewerage system, amendment No. 1 of the agreement was signed for preparation of engineering design, PC-I and tender documents of priority areas.

Construction activities stepped forward at a good speed for "Stormwater Drainage System from Haji Camp to River Ravi via Lakshmi Chowk, McLeod Road, Nabha Road, Chauburji and Sham Nagar, Lahore" during the year. NESPAK is providing design and construction supervision services for this Rs. 4 billion project awarded by WASA Lahore.

Construction work is progressing fast on both parts of the Prime Minister's Package Multan under the supervision of NESPAK. These components of the PM's Package was awarded by WASA, Multan under two separate contracts and will be completed at an estimated cost of over Rs.3 billion. The project entails the improvement of water and sewerage systems including establishment of sewage treatment plants in the Multan City.

Work is fast nearing completion for the Relocation of various WASA services to clear the 27km route for the Orange Line Metro Train Project from Dera Gujran to Ali Town, Lahore. NESPAK is providing construction supervision services for this Rs. 2 billion project assigned by WASA.

NESPAK has submitted design review, design vetting, tender documents and topographic survey report to the LWMC for the Lakhodair Landfill Site Lot 3 & 4 Lahore. The project is ready for construction. The scope of services also includes preparation of pre-qualification document and construction supervision for this Rs. 2 billion project.

In the Sultanate of Oman, NESPAK has submitted the preliminary design report, detailed design report and tender documents for the Infrastructure Facilities in the Town of Duqm (Package-I) and the project is ready for construction. The four-zone project costing US\$ 604 million has been awarded by the Special Economic Zone Authority at Duqm (SEZAD).

Construction activities are marching ahead at a quick speed for the Water Distribution Networks for Nakhal, Awabi and Wadi Al-Maawil Wilayats in the Al-Batinah Region—Phase-I in Oman under NESPAK supervision. Trench excavation, pipe laying and backfilling works are in progress in Hubra, Nakhal, Awabi, Mahani and Abyad areas under this project. Construction of chambers for gate valves, washout, air valves, flow meters and installation of direct burried gate valves are progressing well in Hubra, Nakhal and Awabi areas. The installation of fire hydrants and gabion mattress for pipe protection in wadis has also been started in Hubra, Nakhal and Awabi areas. The project costing US\$ 248 million has been awarded by the Public Authority for Electricity and Water, Oman.

In the Kingdom of Saudi Arabia, construction work for the “Water Transmission from Khulais and Rabigh Dams to Jeddah, Phases I & II” is gearing ahead at a fast pace under the supervision of NESPAK. NESPAK is also reviewing the design of this US\$ 220 million project awarded by the Ministry of Environment, Water and Agriculture, Saudi Arabia.



1

Among the projects wrapped up during the year, a NESPAK joint venture completed master planning of Water Supply, Sewerage and Drainage System of WASA Multan. NESPAK has submitted surveys, sectoral assessment report and final master plan for this Rs. 227 billion project. Design reports were submitted for the priority projects and the master plan has been approved by the Multan Development Authority.

NESPAK has successfully carried out consultancy services for “Delineating Negative and Positive Mining Areas for Installation of Cement Plants in the Salt Range. The final report submitted by NESPAK has been approved by the Client, Punjab Mineral Company.

NESPAK has completed construction supervision of an Integrated Waste Treatment, Storage and Disposal Facility in Duqm, Sultanate of Oman. The US\$ 19 million project was awarded by SEZAD.

1. Work in progress for the Water Transmission from Khulais and Rabigh Dams to Jeddah Project, Saudi Arabia
2. A disposal station at the PIA Planetarium, Chauburji for the Relocation of WASA Services for the Lahore Orange Line Metro Train Project
3. A view of the Industrial waste storage building in Duqm, Oman



2



3

"Wealth can only be accumulated by the earnings of industry and the savings of frugality." John Tyler



OIL, GAS & INDUSTRIAL S E C T O R

NESPAK attained 4 fresh projects worth Rs. 29 billion in the Oil, Gas and Industrial Sector during the year 2017-18. The Company continued to render its professional services for 10 projects worth Rs. 1,095 billion and completed 4 projects worth Rs. 4 billion during the fiscal year.

Among the fresh projects during the year, the Punjab Industrial Estates Development and Management Company (PIEDMC) engaged NESPAK for carrying out feasibility studies for the development of Special Economic Zone at the Kot Sarwar Interchange on Motorway M-2. The main objective of the study is to develop an integrated economic zone with the objective to create a platform for industries, create mass employment opportunities, skill development of local

population and to make best use of the resources to boost the country's economy. The estimated cost of this project is Rs. 29 billion.

NESPAK has been awarded construction supervision of Provincial Cold Chain Warehouse in Peshawar. In this regard, an agreement has been signed with the United Nations High Commissioner for Refugees. The Refugees Affecting and Hosting Areas Programme is funding the

project. The Warehouse is to be used by the Expanded Programme on Immunisation (EPI) Directorate, Department of Health, Government of Khyber Pakhtunkhwa.

Among the ongoing projects, NESPAK is providing master planning, detailed engineering design and construction supervision of Infrastructure Development of the Economic Zone at Jalozai, Nowshera. Satisfactory progress has been recorded on this Rs. 6 billion project awarded by the Khyber Pakhtunkhwa Economic Zones Development and Management Company.

NESPAK has completed topographic survey, ground water study, hydraulic and hydrologic study and geotechnical investigations of the project area for the development of the Bahawalpur Industrial Estate. NESPAK has also developed master plan of the industrial estate and submitted it to the Client, Punjab Industrial Estates Development and Management Company, which has approved the document. NESPAK has prepared and submitted final feasibility study report. NESPAK scope of work also includes detailed engineering design of infrastructure i.e., roads, water supply, sewerage, drainage, electrification and tender documentation for this Rs. 3 billion project.

Pakistan's first modern process plant for production of seamless pipe is in process of installation at the Peoples Steel Mills at Manghopir, Karachi. NESPAK has been involved in the preparation of tender documents, bid evaluation and detailed structural design of the steel shed along with crane gantry beams and foundations for rotary furnace and piercer for this Rs. 350 million project. The foundation design of some components of plant was in progress during the year.

Exploration work continued for the "Feasibility Study for the Exploration of Barite-Lead-Zinc Ore Deposits at Gunga, Khuzdar in Balochistan" during the year. As many as 9445 metres of cumulative drilling were carried out in

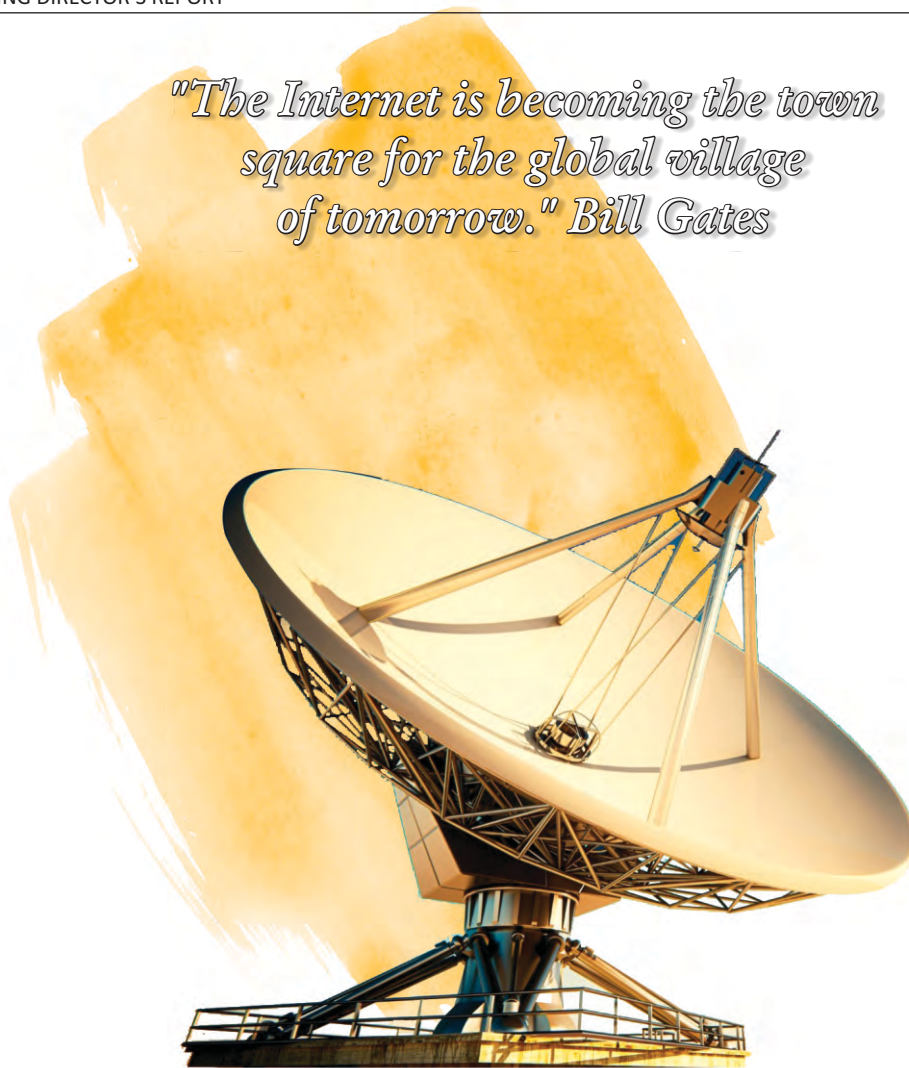
25 drill holes for this project. NESPAK supervised field exploration activities including updating of geological map, drilling, core logging of drill cores, down hole survey, sample marking, sample preparation, core photography, specific gravity determinations and geotechnical/hydrological investigations. On the basis of the results of the additional exploration, resource reserve estimation has been redefined in terms of inferred reserves and indicated reserves – a pre-requisite to establish the feasibility of mining resource. The finalisation of feasibility report is in progress. This unique project is being undertaken by NESPAK in association with a German firm for the Bolan Mining Enterprises, Quetta.

Among the projects wrapped up during the year, NESPAK has completed the design and construction supervision of 36 inches diameter gas pipeline crossing over River Sutluj near Uch Sharif. The pipeline will boost Pakistan's natural gas system as it provides the main transmission line from Sindh to Punjab. The project was awarded by the Sui Northern Gas Pipelines Limited.

1. Master plan for the Special Economic Zone at the Kot Sarwar Interchange on Motorway
2. Master plan for the Bahawalpur Industrial Estate
3. Work in progress for the Exploration of Barite-Lead-Zinc ore Deposit in Khuzdar, Balochistan



"The Internet is becoming the town square for the global village of tomorrow." Bill Gates



INFORMATION TECHNOLOGY & GIS S E C T O R

NESPAK fared well in the Information Technology and Geographical Information Sector (GIS) as it secured 7 new projects during the year 2017-18. The Company continued to provide its pragmatic and effective services to 9 jobs. NESPAK completed services for 3 projects during the fiscal year.

INFORMATION TECHNOLOGY SECTOR

Among the fresh projects during the year, NESPAK was engaged for the design of Internet Protocol-based surveillance system for "Improvement and Reconstruction of Central Prison Peshawar Phase-I" Project. NESPAK services include designing and resident supervision for this project which is under construction.

A state-of-the-art IP-based surveillance system will be designed to provide high level of security and record live footage of the installed cameras. Corridor of Block-1, external area of each block including courtyard, watch towers, patrolling area, internal and external boundary wall and rooftop of the prison shall be monitored and recorded by the Surveillance System. There will be a Central Control Room in the existing premises of the Central Prison Peshawar to monitor all the activities.

NESPAK scope of services also includes master planning, design, tender documentation and construction supervision for this Rs. 1 billion project awarded by the Khyber Pakhtunkhwa Communication and Works Department.

NESPAK has been tasked with providing consultancy services for the establishment of Local Area Network (LAN), Wireless Local Area Network (WLAN), microphone conferencing system, video conferencing system, electronic notice boards/display screens, walkthrough gates, baggage scanning machines and IP-based surveillance system for the Innovation Centre and auditorium for the University of Engineering and Technology Lahore, Narowal Campus. The scope of services includes design, engineering cost estimate, tender documentation and construction supervision for this project.

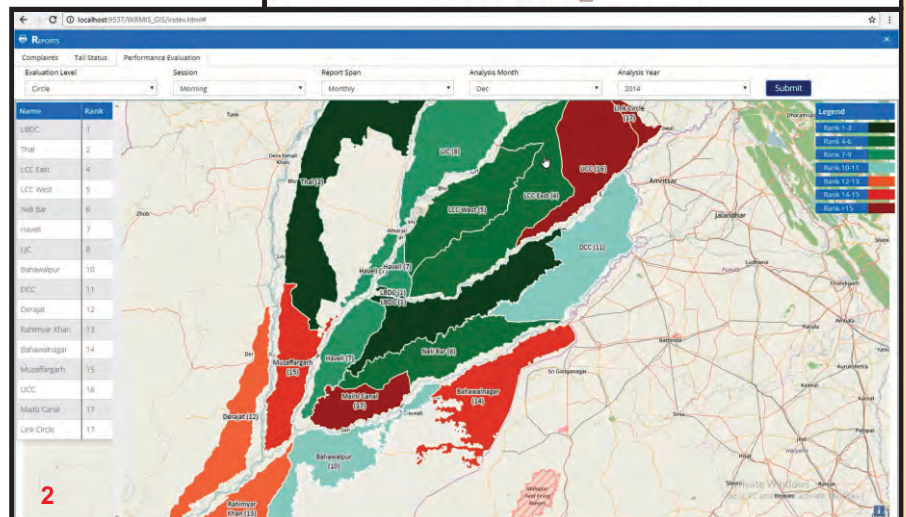
Among the ongoing projects, NESPAK in association with the Radtac Limited, UK completed bid evaluation for the Quetta Safe City Project and the evaluation report was submitted to Balochistan Science and Technology Department. The main objective of the project is to create a

safeguard system using centralised video surveillance that will help the law-enforcement agencies in fighting crime and terrorism in the Quetta City. NESPAK will also undertake design review of this project.

NESPAK has submitted tender documents of IT and audio/video systems and IT-enabled security systems for the project, "IT/BMS Works at New Buildings of Punjab Assembly". NESPAK services include designing and construction supervision of various IT systems including establishment of Data Centre, LAN, WLAN, network management and monitoring, bullet-proof steel security gates etc.

Under the software development project of Composite Schedule of Rates, NESPAK has delivered the baseline

1. Central Control Room for the Improvement and Reconstruction of Central Prison Peshawar, Khyber Pakhtunkhwa
2. Performance evaluation and ranking of irrigation zones in web-GIS application for the Water Resources Management Information System along with a Decision Support System in Punjab



web application to the Balochistan Planning and Development Department. The software solution helps in analysing and using the composite rates which would ultimately reduce a significant amount of time for project planning, budgeting and release of payments to contractors as per physical progress of a project.

NESPAK continued inspections of equipment installed for the Lahore Orange Line Metro Train Project during the year. A NESPAK team conducted inspections of ticketing and fare collection systems and various other equipment for this project. The remaining equipment will be inspected after it is shipped to Pakistan.

Among the projects wrapped up during the year, NESPAK successfully completed designing of Video Wall Solution and Video Conferencing System for the Conference Room of the Prime Minister's House, Islamabad. The project was awarded by the Pakistan Public Works Department.

NESPAK has carried out IT and GIS services for development of Water Resources Management Information Systems and Decision Support System (WRMIS) for Efficient Irrigation Water Management in Punjab having 25 modules. The solution covers Management Information System, GIS and DSS, providing facilities to the Punjab Irrigation Department to perform their operations with the help of web-based and android applications. The application has been successfully deployed in a Tier-3 Level Data Centre at the Punjab Information Technology Board, Lahore with complete high availability solution consuming state-of-the-art hardware/software procured in the project tenure.

An enterprise web GIS application has also been developed, highlighting performance evaluation of irrigation zones based on complaints, water theft cases, rotational plan violations in the form of dashboard screens. The monitoring of canal flows is linked with the web GIS maps and relevant field information is available through GIS database.

Satellite imagery has been used for crop identification and water requirement on the near real-time basis through the remote sensing image classification algorithms. Under the WRMIS Project, crop water stress maps have also been developed on every seven-day cycle to substantiate water demand.

GEOGRAPHICAL INFORMATION SYSTEM SECTOR

Among the fresh projects during the year, NESPAK was engaged for rendering consultancy services for "Field Survey, Mapping through Web-based Enterprise GIS Application for Distribution Network of Islamabad Electric Supply Company." The scope of work includes pole-to-pole field survey of electricity feeders using Differential Global Positioning System equipment. Final outcome is in the form of enterprise web GIS application for online analysis of distribution losses through the integrated SynerGEE software.

NESPAK services have been hired for development of "Detailed Ecological/Biodiversity Management Plans for Dasu Hydropower Project." The scope of work includes Forestry Management Plan, Integrated Watershed Management Plan and GIS services to all the sub-disciplines involved in the study. GIS has a cross-cutting role in the project and the task mainly requires development of a database covering all aspects of ecological parameters.

A map for development of Detailed Ecological/Biodiversity Management Plans for the Dasu Hydropower Project

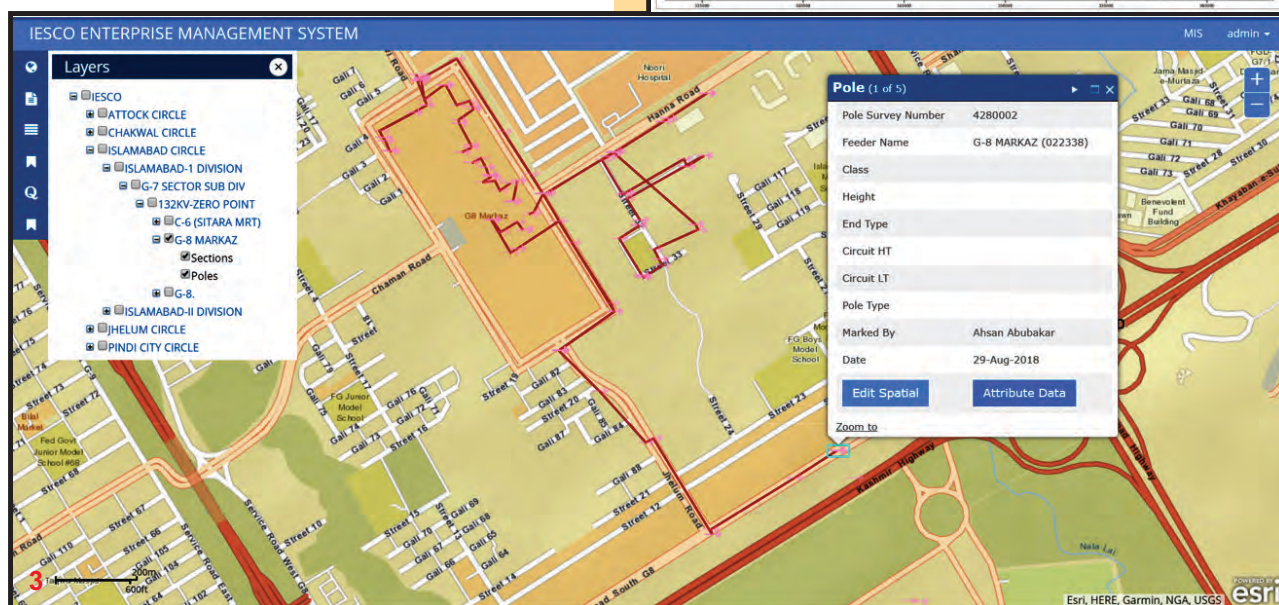
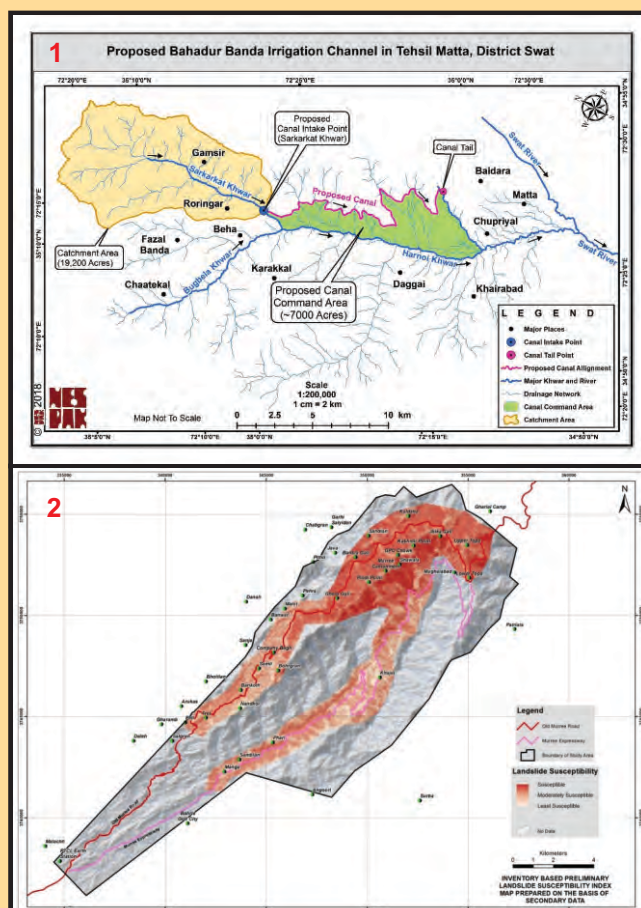


NESPAK has been engaged for providing consultancy services for Comprehensive Flood Management Plan for Khyber Pakhtunkhwa. The main objective of the project is to prepare feasibility/master plan for 31 major rivers of the Khyber Pakhtunkhwa Province. Major GIS activities include spatial data extraction from the latest satellite imageries, calibration and application of elevation data available from public domain and thereby development of land use, river slope maps and flood inundation maps.

Among the ongoing projects, NESPAK is providing GIS services for Feasibility Study for Improvement/Construction of Irrigation Canals and Channels in Khyber Pakhtunkhwa. During the year, remote sensing/GIS techniques were used to identify water potential for irrigation in the hilly and remote terrain of Khyber Pakhtunkhwa. Using satellites, perennial nullah and fertile patches of land have been identified for irrigation. Various gravity and lift canals have been proposed under this study. Crop yield estimation of various seasonal crops have been done through satellite imagery. Various thematic maps have been prepared for delineating watershed potential, drainage density, digital elevation model, contours, slope and land use/land cover of the project area.

NESPAK is carrying out topographic survey and geotechnical studies for Landslide Zonation of Murree Hills Area. Various thematic maps of landslide susceptibility are being developed by using available secondary data for this project. The scope of work includes identification and assessment of landslide-prone areas. The initiative has been launched by the Punjab Building Department.

1. The mapview of an irrigation channel for Feasibility Study for the Improvement/Construction of Irrigation Canals and Channels in Khyber Pakhtunkhwa
2. A map for Topographic Survey and Geotechnical Studies for the Landslide Zonation of Murree Hills Area
3. The Islamabad Electric Supply Company Management System



List of Major New, Ongoing and Completed Projects

a) Feasibility Study
b) Project Planning

c) Detailed Design
d) Tender Documents

e) Construction Supervision
f) Design Review/Evaluation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US\$ Million
ENERGY SECTOR				
MAJOR NEW PROJECTS				
409MW Torcamp Godubar Hydropower Project Lower Chitral, Khyber Pakhtunkhwa	Pakistan	Pakhtunkhwa Energy Development Organisation, Government of Khyber Pakhtunkhwa	a c d	157,695 1,500
500kV Transmission Line Between Guddu and Muzaffargarh	Pakistan	National Transmission & Despatch Company	e	7,860 75
500kV Faisalabad West Grid Station and associated 500/220/132kV Transmission Lines	Pakistan	National Transmission & Despatch Company	d e f	6,872 65
MAJOR ONGOING PROJECTS				
969MW Neelum-Jhelum Hydropower Project	Pakistan	Water & Power Development Authority	c e f	404,000 6,273
1263MW Regasified Liquefied Natural Gas Based Combined Cycle Power Plant near Trimmu Barrage in Jhang District	Pakistan	Punjab Thermal Power (Pvt.) Limited	a d e f	55,640 529
1180MW Regasified Liquefied Natural Gas Based Combined Cycle Power Plant at Bhikki, District Sheikhpura	Pakistan	Quaid-e-Azam Thermal Power (Pvt.) Limited	a d e f	54,000 535
1223MW Regasified Liquefied Natural Gas Based Combined Cycle Power Plant at Balloki, District Kasur	Pakistan	National Power Parks Management Company Limited	a d e f	55,000 536
1230MW Regasified Liquefied Natural Gas Based Combined Cycle Power Plant Haveli Bahadur Shah	Pakistan	National Power Parks Management Company Limited	a d e f	58,900 583
102MW Gulpur Hydropower Project	Pakistan	Mira Power Limited	e f	32,000 243
20MW Hydropower Project, Hanzel, Gilgit-Baltistan	Pakistan	Water & Power Development, Gilgit Baltistan	a b d e f	6,274 60
16MW Naltar-III Hydropower Project, Gilgit-Baltistan	Pakistan	Heavy Mechanical Complex, Taxila	a b c d e f	3,000 34
Establishment of SCADA System at Tubewells, Disposal and Lift Stations for WASA Lahore	Pakistan	Water & Sanitation Agency, Lahore	b c d e f	700 7
500kV Transmission Line 3rd Circuit Jamshoro-Matiari-Moro-Dadu-Rahim Yar Khan and Moro Substation	Pakistan	National Transmission & Despatch Company	Survey d e f	43,000 517
Transmission Line for Neelum-Jhelum Power Dispersal	Pakistan	National Transmission & Despatch Company	d e f	21,630 258
220/132kV Gujrat Substation along with allied Transmission Lines	Pakistan	National Transmission & Despatch Company	d e f	1,966 23
500kV New Lahore Substation and associated Transmission Lines (Lot-I)	Pakistan	National Transmission & Despatch Company	d e f	12,524 146
Transmission Line Interconnection for Dispersal of Power from Uch-II Power	Pakistan	National Transmission & Despatch Company	e	3,000 29
220/132kV Gas Insulated Switchgear Ghazi Road Substation, Lahore	Pakistan	1. National Transmission & Despatch Company 2. Water & Power Development Authority	b e	2,000 19
MAJOR COMPLETED PROJECTS				
Refurbishment/Upgradation of Generating Units at Mangla Power Station	Pakistan	Water & Power Development Authority	d e f	52,000 516

a) Feasibility Study
b) Project Planning

c) Detailed Design
d) Tender Documents

e) Construction Supervision
f) Design Review/Evaluation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US\$ Million
220/132kV Mansehra Substation	Pakistan	National Transmission & Despatch Company	e f	1,300 13
220/132kV Air Insulated Switchgear Grid Station Dera Murad Jamali (New), Balochistan	Pakistan	National Transmission & Despatch Company	e	2,000 19

WATER RESOURCES DEVELOPMENT & DAM ENGINEERING SECTOR

MAJOR NEW PROJECTS

Upgradation of Present Network of Kalri Baghar Feeder and Keenjhar Lake	Pakistan	Irrigation Department, Government of Sindh	a c	35,600 339
Wadi Middein Dam	Jordan	Jordan Valley Authority, Ministry of Water & Irrigation	a c d	3,836 30

MAJOR ONGOING PROJECTS

Kachhi Canal Project	Pakistan	Water & Power Development Authority	c e	80,000 1,394
Rehabilitation and Upgradation of Trimmu and Panjnad Barrages Improvement Project	Pakistan	Irrigation Department, Government of the Punjab	b d e f	17,000 166
Jalalpur Irrigation Project	Pakistan	Irrigation Department, Government of the Punjab	a c	37,000 360
Rehabilitation and Upgradation of Balloki Barrage and Lower Bari Doab Canal System	Pakistan	Irrigation & Power Department, Government of the Punjab	c e	30,000 381
Mega Irrigation Projects, Punjab	Pakistan	Irrigation & Power Department, Government of the Punjab	e f	52,000 887
Remodelling of Warsak Canal System in Peshawar and Nowshera Districts	Pakistan	Irrigation Department, Government of Khyber Pakhtunkhwa	c d e	12,000 46
Pakpattan Canal and Suleimanki Barrage Improvement Project	Pakistan	Irrigation Department, Government of the Punjab	e	8,000 58
Improvement/Construction of Irrigation Canals and Channels in Khyber Pakhtunkhwa	Pakistan	Irrigation Department, Government of Khyber Pakhtunkhwa	a	34,000 326
Punjab Irrigated Agriculture Productivity Improvement Project	Pakistan	Agriculture Department, Government of the Punjab	c e	36,000 372
Lining of Distributaries and Minors in Sindh Province	Pakistan	Irrigation & Power Department, Government of Sindh	c d e	14,000 231
Optimising Watercourse Conveyance Efficiency through Enhancing Lining Length in Punjab	Pakistan	Agriculture Department, Government of the Punjab	b c e f	9,287 89
Gomal Zam Command Area Development and OFWM for High Value & High Efficiency Agriculture Project, Government of Khyber Pakhtunkhwa	Pakistan	Gomal Zam Dam Command Area Development Project	c d e	N.A N.A
Dams on Kaha, Chachar, Mithawan and Vidore Hill Torrents in Districts of Dera Ghazi Khan and Rajanpur	Pakistan	Irrigation Department, Government of the Punjab	a c	24,245 231
Raising of Walla Dam	Jordan	Jordan Valley Authority, Ministry of Water & Irrigation	e f	3,690 35
Technical Assistance for Dam Safety Assurance and Training of Dam and Reservoir Operation Department and River Basin Development Authority Staff under Transforming Irrigation Management in Nigeria	Nigeria	Federal Ministry of Water Resources, Nigeria	I Training	N.A N.A

a) Feasibility Study
b) Project Planning

c) Detailed Design
d) Tender Documents

e) Construction Supervision
f) Design Review/Evaluation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US\$ Million
MAJOR COMPLETED PROJECTS				
Strengthening Works of Mangla Reservoir Rim along Mirpur-Kotli Road near Khaliqabad Chowk, Mirpur Bypass Road	Pakistan	Water & Power Development Authority	c d e	1,300 13
Assuring Water Supply to Karachi by Upgrading Keenjhar Lake System	Pakistan	Irrigation & Power Department, Government of Sindh	a b c d e	3,423 57
Replacement of 45 Nos. Tubewells	Pakistan	1. Lahore Development Authority 2. Water & Sanitation Agency, Lahore	e f	487 5
Baran Dam Intake Structure Bannu	Pakistan	Irrigation Department, Government of Khyber Pakhtunkhwa	e f	1,000 1

HIGHWAYS & TRANSPORTATION ENGINEERING SECTOR

MAJOR NEW PROJECTS

Dualisation of Rawalpindi Kahuta Road (28km), 4-Lane Overhead Bridge at Sihala and Kalar Manianda Road (12km)	Pakistan	National Highway Authority	a c e f	30,000 105
Dualisation and Improvement of Indus Highway Package-I Sarai Gambil-Karak (61km)	Pakistan	National Highway Authority	e f	30,000
Upgradation of Main Line (ML-1) and Establishment of Dry Port Near Havelian under China-Pakistan Economic Corridor	Pakistan	Pakistan Railways	d f Tech. Assistance	872,000 8,000
Dualisation and Improvement of Old Bannu Road Project, N-55 Gandhi Chowk-Sarai Naurang (8km) and Domail-Khurram (75km) Sections	Pakistan	National Highway Authority	e f	18,000 81
Dualisation/Rehabilitation of Jamshoro-Rajanpur Section of N-55 as 4-Lane Highway (604km)	Pakistan	National Highway Authority	a c	150,000 809
Hyderabad Southern Bypass Road (46km)	Pakistan	Works & Services Department, Government of Sindh	c d	20,000 200
Dualisation of Kuchlak-Zhob Section of N-50 (305km)	Pakistan	National Highway Authority	a c d	65,000 95
Roads for Al-Sahil Area, Wilayat Quriyat	Oman	Muscat Municipality, Oman	c	3,574 34

MAJOR ONGOING PROJECTS

Lahore Orange Line Metro Train System (27km)	Pakistan	Punjab Masstransit Authority	c e f	162,600 1,583
Havelian-Thakot Section (120km) under China-Pakistan Economic Corridor	Pakistan	National Highway Authority	d e f	134,000 1,364
Hakla-Dera Ismail Khan Motorway (285km) and 4-lane Road from Yarak to Zhob including Zhob Bypass (255km)	Pakistan	National Highway Authority	c e	125,000 1,071
Quetta Development Package – Road Projects	Pakistan	Planning & Development Department, Government of Balochistan	c e	10,000 115
Karachi-Hyderabad Motorway (M-9) 136km	Pakistan	Frontier Works Organization	e f	44,000 370
Permanent Reconstruction Works in Federally Administered Tribal Areas	Pakistan	Temporarily Dislocated Persons Support and Management Secretariat	c e	8,000 77
Infrastructure including Allied Works for Islamabad Metro Bus from Peshawar Morr to New Airport (27km)	Pakistan	National Highway Authority	e	16,860 162
Dualisation of Muzaffargarh-Dera Ghazi Khan Road pertaining to Highway Circle, Dera Ghazi Khan (52km)	Pakistan	Communication & Works Department, Government of the Punjab	c e	12,000 114
Dualisation of Khuzdar-Chaman Road along with Technical Study and Alternative Route at Lakpass and Tunnel at Khojak Bypass (425km)	Pakistan	National Highway Authority	c Studies	8,000 77

a) Feasibility Study
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e) Construction Supervision
f) Design Review/Evaluation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US\$ Million
Karachi Bus Rapid Transit Red Line Project (21km) Package-II	Pakistan	Integrated Transport Planning Limited	b	50,000 192
Revival of Karachi Circular Railway (50km)	Pakistan	Transport & Mass Transit Department, Government of Sindh	b c d	210,000 1,998
Rehabilitation of Rural Access Roads and Mobility Project-II	Nigeria	Government of Enugu, State of Nigeria	e	25,460 244
Madinat Al-Illam Ring Road	Oman	Ministry of Transport & Communication	c d e	5,260 87
Asphalt Road from Biayaiq to Aqir Al-Abriyyin in Wadi Shafan	Oman	Ministry of Transport & Communication	c d e	8,337 75
Paved Road in Wilayat Madha, Governorate of Musandam	Oman	Ministry of Transport & Communication	e	4,211 40
MAJOR COMPLETED PROJECTS				
Lahore Ring Road Project Southern Loop (Kamahan to Adda Plot 22km)	Pakistan	Lahore Ring Road Authority, Government of the Punjab	a b c d e	45,000 1,684
Improvement of Main Road at Duqm	Oman	Economic Zone Authority Duqm, Oman	c d e	3,473 34
AIRPORTS				
MAJOR NEW PROJECTS				
Naimat Airstrip at Tando Adam, Sindh	Pakistan	United Energy Pakistan (Pvt.) Limited	c d	N.A N.A
MAJOR ONGOING PROJECTS				
New Islamabad International Airport	Pakistan	Civil Aviation Authority	c d e	100,000 952
Upgradation of Dera Ismail Khan Airport	Pakistan	Civil Aviation Authority	a b c e	5,000 48
Upgradation of Muzaffarabad Airport, Azad Jammu & Kashmir	Pakistan	Civil Aviation Authority	a b c e	5,000 48
Extension of Terminal Building at Bacha Khan International Airport, Peshawar	Pakistan	Civil Aviation Authority	c e	2,500 32
Expansion of Terminal Building, Taxiways and other Infrastructure Facilities including an Auditorium at Sialkot International Airport	Pakistan	Sialkot International Airport Limited	c d e	N.A N.A
SEAPORTS & HARBOURS				
MAJOR NEW PROJECTS				
Upgradation of Shipyard for Project 313	Pakistan	Karachi Shipyard and Engineering Works	e f	1,700 16
MAJOR ONGOING PROJECTS				
Establishment of Environment-friendly Multipurpose Bulk Cargo Terminal at East Wharf of Karachi Port on BOT Basis	Pakistan	Karachi Port Trust	a b d IEE Study	50,000 480
Marine and General Civil Works for Ship Lift and Transfer System at KS&EW, Karachi	Pakistan	Karachi Shipyard and Engineering Works	e	4,000 39
Dedicated Coal Terminal at Marginal Wharf Berths # 3 & 4 at Port Qasim on BOT Basis	Pakistan	Port Qasim Authority	f t	3,670 35

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PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US\$ Million
Rehabilitation & Renovation of Karachi Fish Harbour	Pakistan	Karachi Fisheries Harbour Authority	e f	N.A N.A
MAJOR COMPLETED PROJECTS				
Coal Conveying System from PIBT to Existing Railway Network at Port Qasim, Karachi	Pakistan	Port Qasim Authority	a c d e	13,332 130
Coal and Clinker/Cement Terminal on BOT Basis at Port Qasim, Karachi	Pakistan	Port Qasim Authority	e f Audit	30,000 310

ARCHITECTURE & PLANNING SECTOR

MAJOR NEW PROJECTS

Infrastructure Development Works of Sectors F-14 & F-15, Islamabad	Pakistan	Frontier Works Organization	b c e Geotechnical Investigations	12,820 122
Remodelling/Expansion of Expo Centre, Karachi	Pakistan	Trade Development Authority of Pakistan	b c e	11,000 72
Development Works in various Sectors of DHA Peshawar	Pakistan	Defence Housing Authority, Peshawar	c e	10,000 9
Infrastructure Works for DHA Housing Scheme, Gujranwala	Pakistan	Defence Housing Authority, Gujranwala	b c	N.A N.A
University of Buner, Swari	Pakistan	University of Buner, Swari, Buner	b c d e Geotechnical Investigations	1,305
Jinnah Institute of Cancer & Research Centre at JPMC, Karachi	Pakistan	Jinnah Post-graduate Medical Centre, Karachi	c e	5,000 38
Gwadar Smart Port City Master Plan	Pakistan	CCCC-FHDI Engineering Co. Ltd., China	b	N.A N.A
Renovation/Rehabilitation of over 2800 Houses of Residential Colony Thermal Power Station at Guddu	Pakistan	Central Power Generation Company Limited	c e	1,500 14
Master Plan for National Aerospace Science & Technology Park, Aviation City	Pakistan	Aviation City, Pakistan Pvt Limited	a b c e	N.A N.A
Infrastructure Upgradation Project at Karachi Shipyard and Engineering Works Limited, Karachi	Pakistan	Karachi Shipyard and Engineering Works	c e f	N.A N.A
Residential Building at Fox Hill, Lusail	Qatar	Mr. Fareed Mohamed Al Abdulla, Qatar	c d	955 8
HBK Labour Accommodation	Qatar	Dynamic Management Group	f	3,514 34

MAJOR ONGOING PROJECTS

Reconstruction and Rehabilitation of Earthquake-affected Areas	Pakistan	Earthquake Reconstruction and Rehabilitation Authority	b c d e f General Consultancy	200,000 3,324
Crescent Bay Development Project, Karachi	Pakistan	Emaar Giga Karachi Limited	c e	246,000 2,395
Pakistan Kidney & Liver Institute and Research Centre (Package-C) Lahore	Pakistan	Infrastructure Development Authority Punjab	c d e	3,400 33
Various Facilities and Infrastructure Works on PCB Land	Pakistan	Pakistan Cricket Board	a b c e	2,657
Port Allied Structures in Mullah Band Area, Gwadar	Pakistan	Gwadar Port Authority	c d e Survey	2,400 23
Establishment of Rangers Wings in various Cities of Punjab	Pakistan	Pakistan Rangers, Punjab	b c e	3,000 29

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e) Construction Supervision
f) Design Review/Evaluation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US\$ Million
Construction/ Upgradation of NADRA Offices at Various Locations	Pakistan	National Database & Registration Authority	c e	1,750 17
Consultancy Services at Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Swabi	Pakistan	Society for the Promotion of Engineering Sciences and Technology in Pakistan	b c e Topo Survey	1,765 17
Naval Housing Scheme at Karsaz Phase-II, Phase-III and Phase-IV, Karachi	Pakistan	Pakistan Navy	c d e	5,000 35
Renovation/Upgradation and Reconstruction of Existing Railway Station Buildings across Pakistan	Pakistan	Pakistan Railways	b c d e Geotechnical Investigation	2,000 54
Airport Security Force Camp (Phase-I) at Islamabad International Airport	Pakistan	Civil Aviation Authority	c e	3,000 23
New OPD & Surgical Complex at JPMC, Karachi	Pakistan	Jinnah Post-graduate Medical Center, Karachi	c d e	2,250 19
Kohat Institute of Medical Sciences	Pakistan	Communication & Works Department, Government of Khyber Pakhtunkhwa	a b c d e f	2,197 20
Uplifting of Chaman Town, District Qila Abdullah, Balochistan	Pakistan	Communication & Works Department, Government of Balochistan	c e	1,233 12
Hydropower Training Institute at Mangla	Pakistan	Water & Power Development Authority	e	241 2
Jinnah Hospital Kabul and Naeb Amin Ullah Khan Logari Hospital, Logar	Afghanistan	Pakistan Public Works Department	c e	1,000 4
110 Villas at Al-Khor Housing Project Package-9	Qatar	Alaqaria Real Estate	e	5,845 42
Pakistan Embassy Complex	Qatar	Embassy of Pakistan, Qatar	b c d e	955 7
MAJOR COMPLETED PROJECTS				
Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan	Pakistan	Khwaja Fareed University of Engineering & Information Technology, Rahim Yar Khan	b c d e	3,847 25
Alaqaria South Development Project at Al-Wakra	Qatar	Qatar Real Estate Investment Company	c	7,137 68

ENVIRONMENTAL & PUBLIC HEALTH ENGINEERING SECTOR

MAJOR NEW PROJECTS

Punjab Intermediate Cities Improvement Investment Programme	Pakistan	1. Punjab Intermediate Cities Improvement Investment Programme 2. Local Government & Community Development Department, Punjab	b c e	28,000
Water Supply, Sewerage/Drainage Schemes in WASA, Gujranwala	Pakistan	1. Gujranwala Development Authority 2. Water & Sanitation Agency, Gujranwala	e	1,839 17
Land Use Planning and Infrastructure Designing for Fazaia Housing Scheme, Gujranwala	Pakistan	Pakistan Air Force	b c Topo Survey	N.A N.A
Preparation of Environmental Social Safeguards Documents for Khyber Pakhtunkhwa	Pakistan	Project Management Unit, Government of Khyber Pakhtunkhwa	ESIA Study	6,377 61
MAJOR ONGOING PROJECTS				
Master Plan for Water Supply, Sewerage, Drainage and Groundwater Management System for Sheikhpura, Kasur and Nankana Sahib Districts	Pakistan	Lahore Development Authority	b c EIA Study	148,928 1,450

a) Feasibility Study
b) Project Planning

c) Detailed Design
d) Tender Documents

e) Construction Supervision
f) Design Review/Evaluation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US\$ Million
Construction of Landfill Site Lot No. 3 & 4 at Lakhodair, Lahore	Pakistan	Lahore Waste Management Company	d e f	2,000 19
Stormwater Drainage System from Haji Camp to River Ravi Via Lakshmi Chowk, McLeod Road, Nabha Road, Chauburji & Sham Nagar, Lahore	Pakistan	1. Lahore Development Authority 2. Water & Sanitation Agency, Lahore	b c e	4,000 23
Provision of Clean Drinking Water, Sewerage System P.C.C. of Streets and Allied Facilities in various areas of Lahore	Pakistan	1. Lahore Development Authority 2. Water & Sanitation Agency, Lahore	EIA Study e f	6,000 58
Relocation of WASA Services for Orange Line Metro Train Project, Lahore	Pakistan	Water & Sanitation Agency, Lahore	e	1,788 17
Master Plan of Sewerage System for Tehsil Municipal Administration, Jhang	Pakistan	Tehsil Municipal Administration, Jhang	a b c	21,000 204
Laying of Sewerage System from Lareh Colony to Gulshan-e-Ravi, Lahore	Pakistan	Water & Sanitation Agency, Lahore	c d e f	10,000 97
Roads and Infrastructure in Town of Duqm (Package-I)	Oman	Economic Zone Authority Duqm, Oman	c	62,002 604
Water Distribution Networks for Nakhal, Awabi & Wadi Al Maawil Wilayats in Al-Batinah Region, Phase-I	Oman	Public Authority for Electricity and Water, Oman	e	25,470 248
MAJOR COMPLETED PROJECTS				
Delineating Negative & Positive Mining Areas for Installation of Cement Plants in the Salt Range	Pakistan	1. Industries & Mineral Development Department, Government of the Punjab 2. Punjab Mineral Company	Studies	N.A N.A
Master Planning of Water Supply, Sewerage and Drainage System of WASA, Multan	Pakistan	1. Multan Development Authority 2. WASA, Multan	b c d EIA Study	227,000 68
Integrated Waste Treatment, Storage and Disposal Facility in Duqm	Oman	Special Economic Zone Authority at Duqm, Oman	c e	1,904 19

OIL, GAS & INDUSTRIAL SECTOR

MAJOR NEW PROJECTS

Prioritised Special Economic Zone near Kot Sarwar Interchange (Sukheki-Hafizabad) on Motorway M-2	Pakistan	Punjab Industrial Estates Development & Management Company	a	29,000
Provincial Cold Chain Warehouse at Peshawar	Pakistan	United Nations High Commissioner for Refugees	e	131 1

MAJOR ONGOING PROJECTS

North South Gas Pipeline Project	Pakistan	M/s Seigl Preskey Smith Financing Limited, UK	a b c d m n p r Survey	257,500 2,471
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MAJOR COMPLETED PROJECTS

36" dia Overhead River Sutluj Pipeline Crossing near Uch Sharif	Pakistan	Sui Northern Gas Pipelines Limited	c e	N.A N.A
Infrastructure Development of Jalozei Economic Zone, Nowshera	Pakistan	Khyber Pakhtunkhwa Economic Zones Development & Management Company	b c e	6,000 48
Exploration of Barite-Lead-Zinc Ore Deposits at Gunga, Khuzdar, Balochistan	Pakistan	Bolan Mining Enterprise, Balochistan	a b Investigations	N.A N.A
Bahawalpur Industrial Estate	Pakistan	Punjab Industrial Estates Development and Management Company	b c d	2,000 19

a) Feasibility Study
b) Project Planning
c) Detailed Design
d) Tender Documents
e) Construction Supervision
f) Design Review/Evaluation
g) Software Requirement Specification

h) Functional Specifications Document
i) System Study Design
j) Software Development
k) Testing, Debugging & Implementation
l) Documentation & Training
m) Satellite Imagery
n) Map Digitisation

o) Digital Terrain Model
p) Global Positioning System Survey
q) GIS Database & Model Development
r) Map Analyses
s) Evaluation/Validation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US\$ Million
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INFORMATION TECHNOLOGY & GEOGRAPHICAL INFORMATION SYSTEM SECTOR

MAJOR NEW PROJECTS

Improvement and Reconstruction of Central Prison, Peshawar	Pakistan	Communication & Works Department, Government of Khyber Pakhtunkhwa	b c e h i j k	N.A N.A
Web-based Enterprise GIS Application for Distribution Network of IESCO	Pakistan	Islamabad Electric Supply Company Limited	m n q	N.A N.A
Preparation of Comprehensive Flood Management Plan for Khyber Pakhtunkhwa	Pakistan	Irrigation Department, Government of Khyber Pakhtunkhwa	a m n q s	N.A N.A
Detailed Ecological & Biodiversity Management Plans for Dasu Hydropower Project	Pakistan	Water & Power Development Authority	b m n p q	N.A N.A

MAJOR ONGOING PROJECTS

Automated Fare Collection System for all Stations of the Lahore Orange Line Metro Train Project	Pakistan	Punjab Masstransit Authority	f i k	N.A N.A
Punjab Police Integrated Command, Control and Communication Centre, Lahore	Pakistan	Punjab Safe Cities Authority	e f	15,000 146
IT/BMS Infrastructure at New Punjab Assembly Building, Lahore	Pakistan	Provincial Assembly of the Punjab	c d e f i k	348 4
Quetta Safe City Project	Pakistan	Science & IT Department, Government of Balochistan	f s	N.A N.A
Topographic Survey and Geotechnical Studies for Landslide Hazard Zonation of Murree Hills	Pakistan	Buildings Department, Government of the Punjab	m n o p q r	N.A N.A
Hazard Mapping & Landslide Treatment along Major Roads in Azad Jammu & Kashmir	Pakistan	Central Design Office, Government of Azad Jammu & Kashmir	c d l m n o p q r	N.A N.A
Grey Cement Plant Line III, Maple Leaf Cement Factory, Iskandarabad	Pakistan	Maple Leaf Cement Factory Limited	a c m n o p q r	N.A N.A

MAJOR COMPLETED PROJECTS

Development of Water Resources Management Information System and Decision Support System for Efficient Irrigation Water Management in Punjab	Pakistan	Irrigation Department, Government of the Punjab	a b c d f g j k l m n o p q r	N.A N.A
Audio/Video System for 200-Seat Auditorium under the Design/Construction of Housing Complex for 1180MW Combined Cycle Power Plant Bhikki	Pakistan	Quaid-e-Azam Thermal Power (Pvt.) Limited	i k	N.A N.A
Video Conferencing System for Conference Room of the Prime Minister's House, Islamabad	Pakistan	Pakistan Public Works Department	i k	N.A N.A



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