

NESPAK IN *Republic of Iraq*

NESPAK established its Regional Office in Republic of Iraq's Capital, Baghdad, and a Project Office at another important Iraqi city, Mosul in 1981. Irrigation, Water Supply & Sewerage and Agriculture were the main sectors for which NESPAK rendered consultancy services in the Republic of Iraq.

NESPAK's performance in the Republic of Iraq remained quite satisfactory as various Clients communicated the same to the Government of Pakistan during the bilateral meetings of the Joint Ministerial Commissions of Pakistan and Iraq.

NESPAK Regional Office in Iraq was temporarily closed in June 1993 as no engineering consultancy jobs were available to the foreign companies. The 1991 Gulf War and the subsequent sanctions against Iraq had resulted into the shortage of foreign exchange reserves in the country, causing problems for the foreign consultancy firms.

NESPAK completed a total of 10 projects costing over US\$ 1,125 million during 12 years of its operations in the Republic of Iraq.

Portfolios of major projects undertaken by NESPAK in Iraq are given in the following pages.



Main Pumping Station for North Jazira Irrigation Project

Project Status: Completed in 1988

Scope of Services: Design Review, Construction Supervision

Project Cost: US\$ 65 million

Client: State General Commission for Irrigation & Reclamation Projects, Department of Jazira Irrigation Project, Ministry of Agriculture & Irrigation, Iraq



The purpose of the Main Pumping Station project was to deliver 34 cumecs of water from the Saddam Dam reservoir to an irrigation system 4.25 kilometres away at a static head of 74 metres. The project comprised a sediment trap, an intake structure, a pump house, a service tunnel, a control building, twin pressure pipelines and an outlet structure. The pump house, being completely under water, was connected to the land through a 130 metres long access tunnel with two compartments. One compartment was for equipment and personnel carrier while the other was for cables, pipes and ducts.

New Rumaitha Irrigation & Drainage Project

Project Status: Completed in 1982

Scope of Services: Feasibility Study, Project Planning, Detailed Design, Tender Documentation

Project Cost: US\$ 443 million

Client: State Organisation for Land Reclamation, General Establishment for Design & Research

The New Rumaitha Irrigation and Drainage Project was located in the southern part of Iraq, covering 51625 hectares of land. The project was aimed at remodelling the existing irrigation canals and surface drains. An additional irrigation and drainage network was also proposed for the development of the area under

intensive cultivation. The project also involved the construction of surface, sub-surface and field drains together with rural infrastructure including water treatment plants, sewage treatment plants and electric transmission lines.

Euphrates East Drain Project

Project Status: Completed in 1982

Scope of Services: Feasibility Study, Project Planning, Detailed Design, Tender Documentation

Project Cost: US\$ 363 million

Client: Ministry of Agriculture & Irrigation, Iraq

The Euphrates East Drain Project was designed to remove saline drainage effluent from an irrigated area of over 400000 hectares. Starting from near the Kifl Town, the Euphrates East Drain follows the alignment of the Shamiya East Drain which was proposed to be remodelled for this purpose. The new construction of the Euphrates East Drain involved its extension over a length of 163 kilometres before joining the Tigris-Euphrates Main Outfall Drain for the ultimate disposal into the Arabian Gulf.

Two evaporation reservoirs – Bahar-al-Najaf and Hor Ibn Najam – were proposed to dispose of the drainage water and ease flow of the Euphrates East Drain. The project also included the construction of 84 structures including pumping stations, siphons, aqueducts, bridges etc and the extension of 33kV electric transmission lines having length of 40 kilometres each.

Zubair Irrigation Project

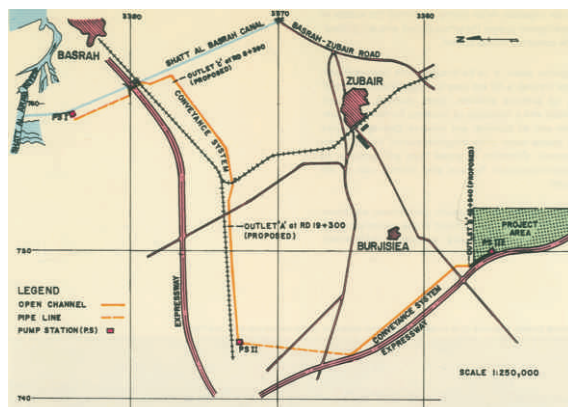
Project Status: Completed in 1993

Scope of Services: Feasibility Study, Project Planning

Project Cost: US\$ 252 million

Client: Ministry of Agriculture & Irrigation, Iraq

Situated in the semi-desert lands southwest of the Basrah City, the project envisaged the supply of 25 cumecs of water for irrigating 1500 hectares of desert area and water supply to Zubair and Safwan towns. The Shatt-al-Basrah





Canal was selected as source of irrigation water. On the 63 km long conveyance system, major structures comprised bridges, control structures, outlet turnouts and wasteway turnouts. The distribution system was based on a network of a main canal, six distributary canals, a minor canal and 48 watercourses comprising concrete lined channels and pre-cast concrete flumes. Drip sprinkler irrigation systems were proposed for the area.

South Jazira Irrigation Tunnel

Project Status: Completed in 1990

Scope of Services: Project Planning, Detailed Design, Tender Documentation

Project Cost: US\$ 363 million

Client: State General Commission for Irrigation & Reclamation Projects, Department of Jazira Irrigation Project, Ministry of Agriculture & Irrigation, Iraq

This 9m diameter and 17 km long Irrigation Tunnel was proposed to be constructed to take flows of South Jazira Canal across the Jebel Sheikh Ibrahim area. Technical considerations regarding the planning and design of this project included accessibility, ventilation & lighting, portal protection against the rolling rock, method of excavation supports during construction, treatment for anhydrides & gypsum, drainage during and post construction stage, structural stability with the considerations of almost maintenance-free design, optimisation for technical efficiency & cost minimisation and construction methodology.



Views of two barrages in Iraq