DOLSAR ENGINEERING LIMITED

1. GENERAL

DOLSAR, established in 1971, is a multi-disciplinary engineering firm which performs engineering, architectural, consultancy and supervision services for large-scale projects in a wide range of fields. DOLSAR is completely independent of any contractor or manufacturer and exclusively represents the interest of its clients. DOLSAR has successfully performed services in the fields of water and land resources development, energy production and distribution, environment, transportation and buildings.

As being one of the leading engineering and consultancy companies in Turkey, DOLSAR has undersigned various significant projects, which are financed by various financing institutions such as World Bank (WB), European Investment Bank (EIB) and KfW in Turkey and abroad either by cooperating with worldwide known engineering and consultancy companies or working independently. DOLSAR is a member of FIDIC (International Federation of Consulting Engineers), EFCA (European Federation of Consulting Associations), TMMMB (Association of Turkish Consulting Engineers and Architects), and has substantial experience in the application of FIDIC and international standards. Being a well known engineering and consultancy company internationally, DOLSAR was listed among the top 150 engineering companies in Europe. DOLSAR is also a member of Turkish National Committee of World Energy Congress (WEC), Turkish Association for the Conservation of Nature and National Resources, Turkish Society for Quality, World Water Council (WWC), and International Hydropower Association (IHA) and participates to several international meetings including FIDIC and ICOLD (International Commission on Large Dams).

The DOLSAR staff, a multi-disciplinary group of experienced civil engineers, electrical engineers, mechanical engineers, geological engineers, environmental engineers, agricultural engineers, forestry engineers, architects, economists, city/regional planners and sociologists, have been involved in many major projects from the planning stage to commissioning. This staff of experts, long employed by the firm, is managed by the DOLSAR Head Office in Ankara; an office having approximately 2500 m^2 of office area and equipped with various facilities. DOLSAR also has site offices at various locations providing construction supervision and consultancy services for the projects undertaken by the firm.

DOLSAR is committed to excellence through the implementation of the Quality Management System and hold ISO 9001:2000 certificate numbered 122491.

2. FIELDS OF ACTIVITY

DOLSAR have extensive experience in the following fields:

- ***Water and Land Resources Development:*** dams, hydroelectric power plants, tunnels, irrigation, river basin planning and development, sewerage and storm water drainage, treatment plants, water supply and distribution, pump stations, and regional and rural development projects.

- ***Energy Production and Transmission:*** hydroelectric power plants, thermal power plants, switchyards and substations, energy transmission lines.

- ***Environment:*** Environmental impact assessment, environmental monitoring.

- ***Transportation and Mass Transit Systems:*** roads, highways, ports, bridges, tunnels, LRTS and metro.

- ***Buildings, Mass Housing:*** Industrial buildings, office buildings, business centres, mass housing.

3. SERVICES

The services provided cover all engineering services that may be required at any stage of a project from planning to commissioning. These may be summarized as follows:

- ***Planning Stage:*** reconnaissance studies, master planning, technical and economical feasibility studies, hydrological, geological, hydrogeological and topographical studies, Environmental Impact Assessment (EIA).

- ***Design Stage:*** final design, bill of quantities, cost estimates, technical specifications, tender documents, and loan application reports.

- ***Bidding and Negotiation Stage:*** assisting clients with the bidding and negotiation process for construction of the proposed facilities, finalization of contract documents, invitation to prequalification, prequalification evaluation, invitation to tender, tender evaluation, preparation of special conditions.

- ***Construction and Operation Stage:*** construction supervision, permanent equipment erection supervision, project management, detailed drawings, quality and cost control, temporary and final acceptance, commissioning, preparation of operation and maintenance manuals, consultancy on financial and organization structure.

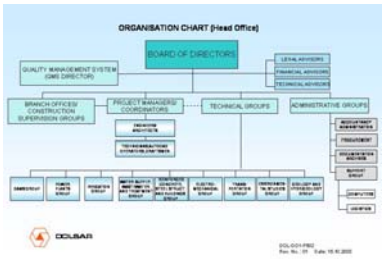
4. SUPPORT FACILITIES

For more than 35 years, DOLSAR has devoted itself to providing services of the highest quality using the latest and most advanced technological facilities and methods in order to achieve its goal. The head office is equipped with a high performance computer system consisting of some high capacity computers where both commercial and special software packages together with the programs developed by DOLSAR engineers are used for various engineering services such as computer aided design, 3 dimensional terrain modelling, Geographic Information System (GIS), hydrology, structural and hydraulic analysis.

Documents prepared by the DOLSAR staff are developed by an enhanced computer system, including B/W and colour laser printers, plotters, scanners and digitizers, and produced to desired dimensions and amounts in the documentation centre equipped with B/W and colour photocopying machines. They are then issued in bindings of high quality.

5. PERSONNEL CAPACITY

Being one of the prominent engineering and consultancy companies in Turkey and abroad, it is a tenet of the DOLSAR philosophy to carry out successfully all projects that are undertaken. The strength to do so is derived from DOLSAR's multi-disciplinary, permanent staff of some 150 people, most of whom have been with the company for many years.



The DOLSAR staff, a multidisciplinary group of experienced civil engineers, electrical engineers, mechanical engineers, geological engineers, environmental engineers, agricultural engineers, forestry engineers, architects, economists, city/regional planners and sociologists, have been involved in many major projects from the planning stage to commissioning.

6. MAJOR PROJECTS IN THE RECENT YEARS

Dams and Hydroelectric Power Plants:

KIRIK Dam: Geological investigation, topographical survey, engineering services for final design, Client: General Directorate of State Hydraulic Works (DSİ)

DERİNER Dam and Hydroelectric Power Plant: Construction supervision, engineering and consultancy services (double curvature arch dam, height: 247 m, installed capacity: 670 MW), Client: General Directorate of State Hydraulic Works (DSİ).

ATATÜRK Dam and Hydroelectric Power Plant: Construction supervision, engineering and consultancy services (rockfill dam, height: 169 m, installed capacity: 2400 MW), Client: General Directorate of State Hydraulic Works (DSİ).

ERMENEK Dam and Hydroelectric Power Plant: Final design, preparation of technical specifications, loan application report and Environmental Impact Assessment Report, engineering and consultancy services (concrete arch dam, height: 230 m, installed capacity: 320 MW), Client: General Directorate of Electrical Power Resources Survey and Development Administration (EİE).

ERMENEK Dam and Hydroelectric Power Plant: Detailed design engineering and consultancy services (concrete arch dam, height: 230 m, installed capacity: 320 MW), Client: Verbund Plan.

HAKKARİ Dam and Hydroelectric Power Plant: Final design, preparation of technical specifications, loan application report and Environmental Impact Assessment Report, engineering and consultancy services (rockfill dam, height: 214 m, installed capacity: 190 MW), Client: General Directorate of State Hydraulic Works (DSİ).

ŞANLIURFA Hydroelectric Power Plant: Construction supervision, engineering and consultancy services (Installed capacity: 50 MW), Client: General Directorate of State Hydraulic Works (DSİ).

HAMZALI Weir and Hydroelectric Power Plant: Final design, preparation of technical specifications, and detailed design engineering and consultancy services (installed capacity: 15 MW), Client: MNG Holding Co.

LOWER KELKİT REŞADİYE Hydroelectric Power Plant: Final design, preparation of technical specifications, and detailed design engineering and consultancy services (installed capacity: 53 MW), Client: MNG Holding Co.

MUSABEYLİ Dam: Final design engineering and consultancy services (earth fill dam, height: 61 m), Client: General Directorate of State Hydraulic Works (DSİ).

ŞEHİTLER Dam: Final design and preparation of technical specifications engineering and consultancy services (rockfill dam, height: 78 m), Client: General Directorate of State Hydraulic Works (DSİ).

OYUK Dam: Final design and preparation of technical specifications engineering and consultancy services (concrete fill dam, height: 100 m), Client: General Directorate of State Hydraulic Works (DSİ).

Rehabilitation:

KEBAN Hydroelectric Power Plant: Consultancy Services for the rehabilitation works. Review of feasibility report, tender documents, prequalification, evaluation of tenders, contract negotiations, project management, construction supervision. Client: General Directorate of Electricity Generation Co. (EÜAŞ)

Irrigation:

LOWER ÇEKEREK Project GELDİNGEN Plain: Geological investigations, topographical surveys and detailed design engineering and consultancy services (19,000 ha), Client: General Directorate of State Hydraulic Works (DSİ).

VİRANŞEHİR Pumped Irrigation: Geological investigations, topographical surveys and detailed design engineering and consultancy services (38,000 ha), Client: General Directorate of State Hydraulic Works (DSİ).

GELİNGÜLLÜ Project, ÇERİKLİ Irrigation: Feasibility (8 500 hectars); Client: General Directorate of State Hydraulic Works (DSİ)

Operation, Maintenance and Management of Irrigation Systems within the Scope of Southeastern Anatolia Project (GAP): Engineering and consultancy services for 1.7 million hectares of irrigation land, Client: TR Prime Ministry, GAP Regional Development Administration.

ŞANLIURFA Tunnels: Construction supervision, engineering and consultancy services (total length 52.8 km, diameter 7.62 m), Client: General Directorate of State Hydraulic Works (DSİ).

YASLICA Tunnel and Pump Station: Construction supervision, engineering and consultancy services (total length 1.5 km, diameter 5 m, installed capacity 12.5 MW),Client: General Directorate of State Hydraulic Works (DSİ).

Basin Planning Studies (hydropower, irrigation, water supply and flood control):

LOWER ARAS Basin: Feasibility study engineering and consultancy services, (218 MW), Client: General Directorate of Electrical Power Resources Survey and Development Administration (EİE).

GELİNGÜLLÜ Project, ÇERİKLİ Irrigation: Feasibility study engineering and consultancy services and preparation of Environmental Impact Assessment Report (9,000 ha), Client: General Directorate of State Hydraulic Works (DSİ).

YOZGAT-MUSABEYLİ Dam Irrigation and Water Supply Project: Feasibility study and preparation of final design engineering and consultancy services and preparation of Environmental Impact Assessment Report (2,500 ha), Client: General Directorate of State Hydraulic Works (DSİ).

OBRUK-DUTLUDERE Irrigation Project: Feasibility study and preparation of final design engineering and consultancy services and preparation of Environmental Impact Assessment Report (7,200 ha), Client: General Directorate of State Hydraulic Works (DSİ).

ANKARA-ÇUBUK Project: Feasibility study engineering and consultancy services and preparation of Environmental Impact Assessment Report (5,000 ha), Client: General Directorate of State Hydraulic Works (DSİ).

KONYA-ÇUMRA Stage III Irrigation Project: Feasibility study engineering and consultancy services and preparation of Environmental Impact Assessment Report (251,000 ha), Client: General Directorate of State Hydraulic Works (DSİ).

ACICAY-KOYUNBABA Project: Feasibility study engineering and consultancy services and preparation of Environmental Impact Assessment Report (12,000 ha), Client: General Directorate of State Hydraulic Works (DSİ).

KIZILIRMAK-HAMZALI Project: Feasibility study engineering and consultancy services and preparation of Environmental Impact Assessment Report (8,600 ha), Client: General Directorate of State Hydraulic Works (DSİ).

GAP-SURUÇ Project: Feasibility study engineering and consultancy services and preparation of Environmental Impact Assessment Report (100,000 ha), Client: General Directorate of State Hydraulic Works (DSİ).

BÜYÜK KARAÇAY Project: Feasibility study engineering and consultancy services and preparation of Environmental Impact Assessment Report, Client: General Directorate of State Hydraulic Works (DSİ).

Regional Planning:

YEŞİLIRMAK Region Development Project (NUTS II Region): Consultancy services for the regional development including 4 cities with a total population of 3 million people, Client: TR Prime Ministry, State Planning Organization (SPO).

Water Supply, Sewerage, Storm Water Drainage, Treatment Plants:

İZMİT Water Supply, Sewerage and Storm Water Projects for Various Regions: Survey and detailed design engineering and consultancy services. Client: İzmit Municipality.

ESKİŞEHİR Waste Water Project: Master plan study and planning engineering and consultancy services. Client: Eskişehir Municipality.

SİİRT Water Supply and Sewerage Project: Feasibility study engineering and consultancy services, Client: Siirt Municipality.

AFYONKARAHİSAR Water Supply Project: Geological investigations, topographical surveys and detailed design engineering and consultancy services. Client: General Directorate of State Hydraulic Works (DSİ).

İZMİR Water Supply, Çağlayan and Gördes Project: Geological investigations, topographical surveys and final design engineering and consultancy services. Client: General Directorate of State Hydraulic Works (DSİ).

CYPRUS Potable Water Supply Project: Feasibility Study + Engineering and Consultancy Services for Final Design; Client: General Directorate of State Hydraulic Works (DSİ)

ANKARA Water Supply Project: Master Plan and Feasibility Study; Client: General Directorate of State Hydraulic Works (DSİ)

BODRUM Peninsula Urgent Water Supply Project: Feasibility study, geological investigations, topographical surveys and final design engineering and consultancy services. Client: General Directorate of State Hydraulic Works (DSİ).

BOLU Potable Water Treatment Plant: Geological investigations, topographical surveys and detailed design engineering and consultancy services. Client: General Directorate of Bank of Provinces.

BERGAMA (İZMİR) Waste Water Treatment Plant: Geological investigations, topographical surveys and detailed design engineering and consultancy services. Client: General Directorate of Bank of Provinces.

GÖLMARMARA (Manisa) Waste Water Treatment Plant: Geological investigations, topographical surveys and detailed design engineering and consultancy services. Client: General Directorate of Bank of Provinces.

TOKAT Waste Water Treatment Plant: Geological investigations, topographical surveys and detailed design engineering and consultancy services. Client: General Directorate of Bank of Provinces.

KIRŞEHİR Waste Water Treatment Plant: Geological investigations, topographical surveys and detailed design engineering and consultancy services. General Directorate of Bank of Provinces.

AHMETLİ (MANİSA) Waste Water Treatment Plant: Geological investigations, topographical surveys and detailed design engineering and consultancy services. General Directorate of Bank of Provinces

ZONGULDAK City and Metropolitan Area Drinking Water Treatment Plant: Geological İnvestigatins, topographical survey, final design, technical specifications; Client: General Directorate of Bank of Provinces

Solid Waste:

SİİRT Solid Waste Disposal and Storage Project: Geological investigations, topographical surveys and detailed design engineering and consultancy services. Client: TR Prime Ministry, GAP Regional Development Administration.

ÇORUM Solid Waste Management Project: Feasibility study and design engineering and consultancy services. Client: European Union.

Buildings:

KIRKLARELİ Combined Cycle Power Plant: Construction supervision, engineering and consultancy services (installed capacity: 74.5 MW), Client: ALTEK Inc.

Business Centres in YALOVA, GÖLCÜK and KOCAELİ: Construction supervision, engineering and consultancy services (50 buildings), Client: TR Prime Ministry, Project Implementation Unit (PIU).

Muş, Bingöl, Erzurum, Ağrı and Kars Schools, Lodgings, Sport Facilities Turkey Basic Education Project: Construction Supervision, energy and defects liability period engineering services; Client: European Union Delegation

Diyarbakır, Siirt, Şanlıurfa, Adıyaman Schools, Lodgings, Sport Facilities turkey Basic Education Project: Construction Supervision, energy and defects liability period engineering services; Client: European Union Delegation

İstanbul, Sakarya, Bursa, Antalya, Adana and Mersin Schools, Lodgings, Sport Facilities turkey Basic Education Project: Construction Supervision, energy and defects liability period engineering services; Client: European Union Delegation

Gürbulak, İzmir Port, Mersin Port and Ankara Vehicle Search Sheds and Archive Center: Detailed Design, Tender Dossiers, Terms of Reference for Construction Supervision of Works Contract; Client: Central Finance and Contracts Unit (CFCU) Beneficiary: Turkish Custom Authority

Transportation:

ÇANDARLI Port: Feasibility study and preparation of Environmental Impact Assessment Report, engineering and consultancy services, Client: Ministry of Transportation General Directorate of DLH.

DERİNCE Port: Master plan and feasibility study engineering and consultancy services, Client: TCDD, Turkish State Railways.

ARTVİN-ERZURUM Road: Geological investigations, topographical surveys and detailed design engineering and consultancy services (28 km tunnels, bridges, balanced cantilever bridges, viaducts, culverts, concrete retaining walls), Client: General Directorate of State Hydraulic Works (DSİ) and General Directorate of State Highways.

ADAPAZARI City Centre and New Settlement Areas: Detailed design, construction supervision, engineering and consultancy services (12 km), Client: ADAPAZARI Municipality.

İNEBOLU-ÇATALZEYTİN Road: Geological investigations, topographical surveys and detailed design engineering and consultancy services (45 km), Client: General Directorate of State Highways.

SALİHLİ-KÖPRÜBAŞI Road: Geological investigations, topographical surveys and detailed design engineering and consultancy services (46 km), Client: General Directorate of State Highways.

GÜNEYCE-BÜYÜKKÖY Road: Geological investigations, topographical surveys and detailed design engineering and consultancy services (11 km), Client: General Directorate of State Highways.

Environment:

REVIEW AND EVALUATION OF THE ENVIRONMENTAL LEGISLATION IN TURKEY: Comprehensive review of Turkish environmental legislation. Client: Confidential

KONYA ÇUMRA III STAGE Project: Environmental Impact Assessment Report (EIAR). Client: General Directorate of State Hydraulic Works

GELİNGÜLLÜ Project: Environmental Impact Assessment (Yozgat). Client: State Hydraulic Works, V. Regional Directorate

YOZGAT MUSABEYLİ Project: Environmental Impact Assessment Report (EAIR) (Yozgat). Client: State Hydraulic Works, XII. Regional Directorate

YEŞİLIRMAK Regional Development Plan: Environmental Impact Assessment (Samsun, Amasya, Çorum, Tokat). Client: State Planning Organization (SPO)

ANKARA ÇUBUK Project: Environmental Impact Assessment Report (EAIR). Client: State Hydraulic Works, V. Regional Directorate

ÇANDARLI Port Project: Environmental Impact Assessment Report (EIAR). Client: General Directorate of Railways, Ports and Airport (DLH)

HAKKARİ Dam and HEPP Project: Environmental Impact Assessment Report (EIAR). Client: General Directorate of State Hydraulic Works

GAP SURUÇ Project: Environmental Impact Assessment. Pre Evaluation Report Client: General Directorate of State Hydraulic Works

CLUB VARUNA Holiday Village: Environmental Impact Assessment – Pre-Assessment. Client: Varan Tourism

ERMENEK Dam and HEPP Project: Environmental Impact Assessment Report (EAIR). Client: General Directorate of Electrical Power Resources Survey and Development Administration (EİE)

MERSİN Thermal Power Plant: Environmental Impact Assessment Report (EIAR). Client: Çukurova Electric Company (EIAR)

ANKARA Water Supply Project - Gerede System Environmental Impact Assessment Report.(EAIR). Client: General Directorate of State Hydraulic Works

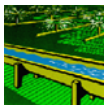
BEŞKONAK 1 + BEŞKONAK 2 (Köprüçay) Project: Environmental Impact Assessment Report (EAIR). Client: KEPEZ

7. EXPERIENCE IN THE FIELD OF WATER RESOURCES PROJECTS

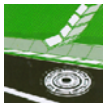
DOLSAR is the leading engineering firm in Turkey in the field of water resources development and management. Firm's remarkable vast amount of experience covering a period of 35 years in this field can be summarized as follows:

- DOLSAR has performed engineering services for more than 60 dams of various types with the heights ranging from few meters up to 247 m.

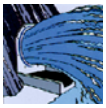
- DOLSAR has performed engineering services for more than 70 hydroelectric power plants with heads ranging from 5 m to 650 m with a total installed capacity of some 14000 MW.



- DOLSAR has performed engineering services for small and large scale irrigation projects covering an area of about 2 million hectares.



- DOLSAR has performed engineering services for waste water, sewerage and storm water projects of many cities including some large cities with population more than 2 million.



- DOLSAR has performed engineering services for water conveyance tunnels including one of the longest water tunnels in the world.

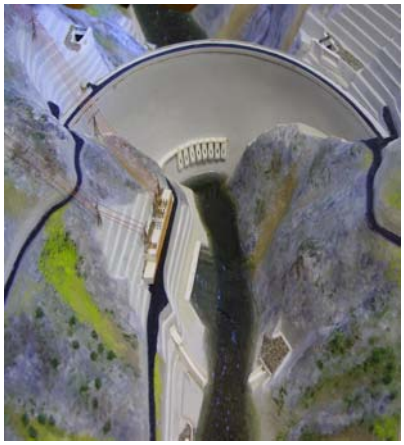
- DOLSAR has performed engineering services for water supply and distribution projects of many cities including some large cities such as Ankara, Adana and İzmir.

8. MAJOR PROJECTS IN THE FIELD OF WATER RESOURCES DEVELOPMENT

- ***Atatürk Dam & Hydroelectric Power Plant Project :*** The project, comprising a rock fill dam of 169 m high and a power plant of 2400 MW, is the key project of the Southeastern Anatolia Project (GAP) which is the most ambitious regional development project in the world. With the realization of the project 8.9 billion kWh of energy is produced annually and in addition to this, an area of 900,000 hectares will be irrigated. The power plant is the biggest hydropower plant in Turkey and ranked 23rd in the world. With respect to its volume (84.5 mio m^3, height (169 m) and reservoir capacity (48.7 bio m^3), the dam is ranked 6th, 13th and 20th respectively in the world. DOLSAR has been involved in the services covering the **planning** and **preparation of final design, contract documents, technical specifications.** DOLSAR also **performed construction supervision, engineering, consultancy and commissioning** services. The dam and HEPP is in operation since 1992.

- ***Karakaya Dam & Hydroelectric Power Plant Project:*** The project comprises a 174 m high concrete gravity dam and a power plant of 1800 MW. The power plant produces 7.4 billion kWh of energy annually and is the second largest hydropower plant in Turkey. DOLSAR has been involved in the services covering the **planning, preparation of final design, contract documents, technical specifications and loan application report** and also performed **construction supervision, engineering, consultancy and commissioning** services. The dam and HEPP is in operation since 1987.

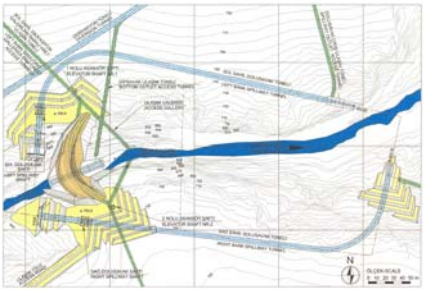
- ***Keban Dam & Hydroelectric Power Plant Project:*** The project is located 10 km downstream of the confluence of Karasu and Murat rivers and comprises a 211 high dam and a 1340 MW capacity hydroelectric power plant with 8 units. DOLSAR had prepared the **detailed drawings of units 5,6,7 and 8** and also performed the **engineering and construction supervision services** during the construction and erection of these units. The dam and HEPP is in operation since 1975.

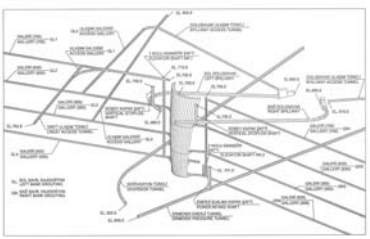


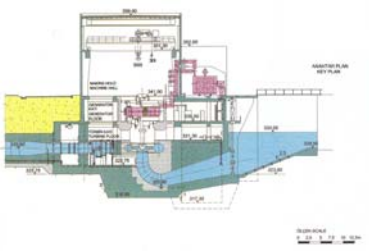
- ***Deriner Dam & Hydroelectric Power Plant Project:*** The project comprises 247 m high double curvature concrete arch dam and an underground power plant of 670 MW. The power plant will produce 2.1 billion kWh of energy per annum. With respect to its height the dam is ranked 5th among the concrete dams in the world. DOLSAR has been involved in the services covering the **preparation of final design, technical specifications**, as well as **construction supervision, engineering, consultancy and commissioning** services. The dam and power plant are under construction since 2000.

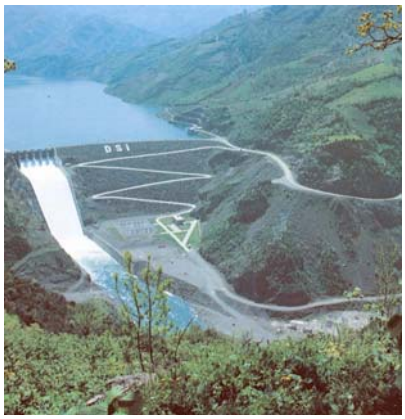
- ***Hakkari Dam & Hydroelectric Power Plant Project:*** Hakkari project is the first of the three consecutive dam and hydroelectric power plant projects planned to be constructed on the Zap River in the south eastern Anatolia. Hakkari project comprises a rock fill dam of 220 m from the foundation and an underground power plant with an installed capacity of 190 MW. The power plant will produce 648 million kWh per year. DOLSAR performed the services covering the **revision and update of feasibility study**, **final design, preparation of contract documents, technical specifications, loan application report and environmental impact assessment report.**

- ***Ermenek Dam & Hydroelectric Power Plant Project:*** Ermenek project is located on the Göksu river and comprises a concrete thin arc dam 230 m high above the foundation and an hydroelectric power plant with an installed capacity of 320 MW which will produce an energy of 1.04 billion kWh/year. DOLSAR had performed the services covering the **revision of feasibility study**, **preparation of the final design, contract documents, technical specifications, loan application report and environmental impact assessment report** and currently prepares the **detailed drawings** for the project including the roads. The dam and HEPP is under construction since 2002.



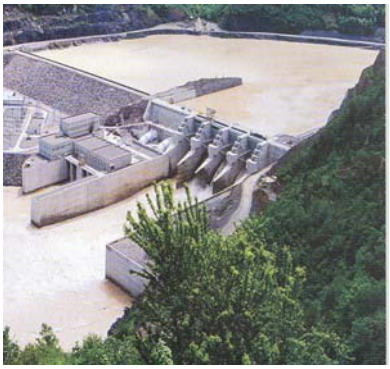






- ***Hasan Uğurlu Dam & Hydroelectric Power Plant Project:*** The project comprises a 179 m rock fill dam and an underground power plant of 500 MW with five units. The power plant produces 1.2 billion kWh of energy per annum and is the first underground hydroelectric power plant constructed in Turkey. DOLSAR has prepared the **detailed drawings** (civil, architectural, mechanical, and electrical) for all the underground structures including the power plant, transformer hall, water intake structures, switchyard and etc. The project is in operation since 1981.

- ***Borçka Dam & Hydroelectric Power Plant Project:*** The project is located on Çoruh river and comprises a rockfill dam of 93 m high the foundation and a hydroelectric power plant of 300 MW installed capacity with 2 units which will produce an annual energy of 1.04 billion kWh. DOLSAR has revised the feasibility study and prepared the **final design, contract documents, technical specifications, and loan application report**. The dam and HEPP is under construction since 1998 and will start operation in 2006.



- ***Muratlı Dam & Hydroelectric Power Plant Project:*** The project comprises a 44 m high concrete face rock fill dam (CFRD) and a power plant of 115 MW with two units. The power plant produces 444 million kWh of energy per annum. DOLSAR has revised the feasibility study and prepared the **final design, contract documents, technical specifications, and loan application report**. The project is in operation since 2005.

- ***Şanlıurfa Hydroelectric Power Plant Project:*** The project is located at the outlet of the Şanlıurfa Tunnels, for which the engineering services were also performed by DOLSAR. Power plant has an installed capacity of 50 MW and produces 124 million kWh of energy per year. DOLSAR had prepared the **final design, contract documents, technical specifications,** and also performed **construction supervision, engineering, consultancy and commissioning** services. The HEPP will start operation in 2006.

- ***Tohma Hydroelectric Power Plant Project:*** Tohma HEPP is located on Tohma river, 6km downstream of Medik dam and has two units with an installed capacity of 12.5 MW. This project is implemented by a private investor under the BOT regulation and it is in operation since 1999. In relation with this project DOLSAR has prepared the **feasibility report, final design (civil, architectural, mechanical, electrical, geological), technical specifications and detailed drawings**. DOLSAR also performed the **construction supervision services** during the construction and erection of the permanent equipment.



- ***Berdan Hydroelectric Power Plant Project:*** Berdan HEPP is located on Berdan river, next to the Berdan dam and has two units with an installed capacity of 10 MW. This project is implemented by a private investor under the BOT regulation and it is in operation since 1996. In relation with this project DOLSAR has prepared the **feasibility report, final design (civil, architectural, mechanical, electrical, geological), technical specifications and detailed drawings**. DOLSAR also performed the **construction supervision services** during the construction and erection of the permanent equipment.



- ***Gönen Hydroelectric Power Plant Project:*** Gönen HEPP is located on Gönen river, next to the Gönen dam and has two units with an installed capacity of 10.6 MW. This project is implemented by a private investor under the BOT regulation and it is in operation since 1998. In relation with this project DOLSAR has prepared the **feasibility report, final design (civil, architectural, mechanical, electrical, geological), technical specifications, loan application report and contract documents.** DOLSAR also performed the **construction supervision services** during the construction and erection of the permanent equipment.

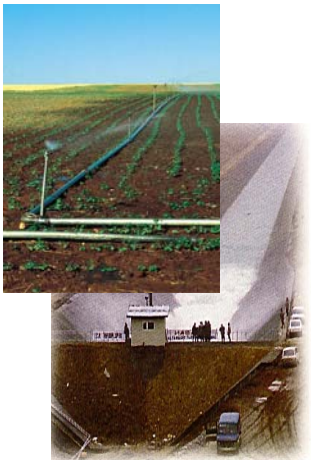


- ***Pamukova Hydroelectric Power Plant Project:*** Pamukova HEPP is located on Sakarya river, 7 km southwest of Pamukova province situated on the right bank of Pamukova weir and has three units with an installed capacity of 9.3 MW. This project is implemented by a private investor under the auto producer regulation and it is in operation since 2000. In relation with this project DOLSAR has prepared the **feasibility report, final design (civil, architectural, mechanical, electrical, geological), technical specifications, loan application report and contract documents.** DOLSAR also performed the **construction supervision services** during the construction and erection of the permanent equipment.



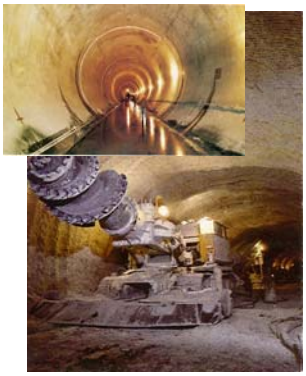
- ***Konya-Çumra Stage III Irrigation Project:*** Services performed cover the engineering services for the flood control, irrigation of 251,000 ha land in Konya closed basin, discharge facility of Konya main drainage channel and energy production. Project also included the preparation of Environmental Impact Assessment Report.

- ***Operation, Maintenance and Management of Irrigation Systems within the Scope of Southern Anatolia Project:*** For this project technical, economical, socio-economical, environmental, agronomical, legal and institutional studies were carried out. The purpose of the project is to identify the most suitable operation, maintenance and management model for the 1.7 million hectares of irrigation area, to select the most appropriate model for the region, implement it, educate the staff, monitor the results and propose the necessary modifications. A preliminary GIS study is also performed for the area.



- ***Euphrates-Karasu Master Plan Study:*** During the Fırat (Euphrates) - Karasu Basin Master Plan Studies various alternatives were considered and eventually a formulation consisting of 7 dams and hydroelectric power plants has been proposed. According to this formulation 2.3 billion kWh of energy will be produced annually versus 576 MW of installed total capacity. Furthermore, the Sivas-Erzurum railway has been relocated within the scope of the studies.

- ***Adana Water Supply Project:*** With this project it is planned to meet the water demand of about 4 million inhabitants in 2040 by the water which will be diverted from Çatalan Dam. The project consists of intake structure and tunnel, 20 km long water transmission line, treatment plant, water tanks, pumping station and a mains distribution network approximately 500 km long. Furthermore, the Loan Application Report and Preliminary Environmental Impact Assessment Report have also been prepared within the scope of the project.



- ***Şanlıurfa Tunnels Project:*** This project comprises two parallel 7.62 m tunnels, each 26.4 km long. These tunnels with a total length of 52.8 km and with a total capacity of 328 m^3/s are among the longest irrigation tunnels in the world. The services performed for this project include feasibility study, preparation of final design and technical specifications and supervision for construction and equipment erection works.

- ***Ankara Water Supply Project:*** This project aims to meet the drinking, domestic and industrial water demand of 7 million inhabitants in the target year of 2050. The project is divided into two phases. The first phase, which will be commissioned in 2004 and called the Gerede system, consists of the Işıklı and Körler Dams about 65 km of water transmission lines, 44 and 41 MW pumping stations, Çamlıdere hydroelectric power plant, and expansion of Ivedik Treatment Plan. The second phase which will be commissioned at a later date and called the Kızılırmak system, consists of a water transmission lines some 63 km long, two pumping stations of 73 and 88 MW respectively, intermediate storage facilities, hydroelectric power plant and a new treatment plant. Within the scope of this project the Master Plan and Feasibility studies have been conducted.

- ***Diyarbakır Sewerage and Storm Water Drainage Project:*** Within the scope of the project a sewerage network totaling 740 km and a main collector system of 4.5 km have been designed for a population of 2.5 million people. The total design discharge is 17 m^3/s. The project also included the design of the storm water drainage system.

Certification

Awarded to

DOLSAR MÜHENDİSLİK LTD. ŞTİ.
DOLSAR BİNASI, KENNEDY CADDESİ, 43, 06660
KAVAKLIDERE, ANKARA, TURKEY

BVQI certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

Standards

ISO 9001:2000

Scope of supply

PREPARATION OF PLANNING REPORTS, FEASIBILTY REPORTS, LOAN APPLICATION REPORTS, ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORTS, FINAL DESIGN, DETAILED DESIGN, TECHNICAL SPECIFICATIONS, CONSTRUCTION SUPERVISION, SUPERVISION OF EQUIPMENT ERECTION, ENGINEERING AND CONSULTANCY SERVICES

Original Approval Date: **17 OCTOBER 2003**

Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until:
17 OCTOBER 2006
To check this certificate validity please call (+90 216 518 38 60)
Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation

Date: **27 OCTOBER 2003**

Certificate Number: **122491**

Deutscher Akkreditierungs Rat
DAR
TGA-ZM-02-92-00

MANAGING OFFICE ADDRESS
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