

REFERENCE LIST (as of)

1984-1985

Khamis Mushiat Water treatment Plant (S.Arabia)

The following services for Tekfen, the main contractor, in the potable water treatment plant project in Khamis Mushiat town in Saudi Arabia:

(final acceptance has been made in 1985)

- process selection and responsibility
- design of the pumping station and piping between the dam-equipment specifications and supervision of procurement
- subcontractor arrangements
- project coordination
- supervision of fabrication and erection
- responsibility for start up and commissioning
- 12 months operation period supervision and the treatment plant

1987-1987

Refinery Condensate Treatment

Complete process design of the oily condensate collection and treatment system for refinery in Turkey.

In this project, condensates from the tank farms are collected by field piping, and heat is recovered by heating the process water, and also demineralised to be used as boiler feed water again. The

mechanical completion has been signed in 1987. This project included:

- heat transfer calculations,
- design of the condensate piping,
- process design, equipment specifications,
- equipment fabrication drawings,
- civil drawings,
- electrical and instrumentation drawings,
- supervision of fabrication, erection and start- up

1988-1989

Shell Turkey Grease Plant

The following services for Shell's grease factory capacity doubling project:

- process design of the extension,
 - heat transfer calculations,
 - cooling water calculations,
 - thermal oil system calculations,
 - equipment design and preparation of data sheets,
 - preparation of technical specifications
- The new plant is in operation since 1989.

1989-1989

FGT Plant for Birlik Galvaniz

Treatment of flue gases in Borusan Birlik Galvanizing factory.

This project includes the process design of a packed column type absorber, where the acids are absorbed by a weak alkali solution. The system includes a neutralization stage. The design included all civil, electrical, and instrumentation designs.

It is in successful operation since 1989.

1989-1990

SEKA (Turkish Pulp and Paper Mills) DALAMAN Pulp and Paper Mill-MUGLA

Modification and repair of 900 psig recovery boiler, including water tube panel walls, primary and

secondary superheaters, combustion air ducts, air preheater, fuel oil, black liquor, steam, cooling water and propane piping, burners, soothblowers, platforms, boiler insulation, chemical cleaning, revamping of complete control and instrumentation system.

Engineering: BABCOCK ENTEPRISE-FRANCE

Main contractor: BABCOCK ENTEPRISE-FRANCE/Metis

Control: SEKA/TUV

1990-1991

Toros Fertilizer Co. Domestic Wastewater Treatment Plant

Domestic waste water treatment plant for Toros Gübre In Ceyhan, with a capacity of 100 t/day waste water has been constructed by our company, on a turn key basis in 1990.

Final acceptance has been signed in 1991.

1990-1991

Complete Refinery wastewater and domestic wastewater treatment Plant Engineering

Complete design and engineering of the industrial and domestic waste water treatment plants for petroleum refinery.

The following has been done by tetem in this important project:

- 1.Determining waste water flow rates and characteristics
- 2.Complete process design. The plant consists of 11 units,
- 3.P+I drawings, layout drawings, utility drawings,
- 4.All civil drawings,
- 5.Equipment design and specifications, data sheets
- 6.Complete electrical drawings, (incl. Lighting, communication, etc.)
- 7.Complete instrumentation
- 8.Piping drawings,
- 9.All specifications,

The work has been finished on time. Final acceptance has been made in 1991 for the engineering work done.

1991-1992

PETKIM Holding A.S. Yarimca

The turnkey design, procurement, fabrication and erection of Lactam Unit Stack Gases Treatment plant.

This project included all process, mechanical, civil, electrical and instrumentation work. The unit is based on a packed column design, and treatment of the very corrosive gases with alkali solution.

The project was finished on time, and final acceptance signed in 1992.

Main contractor: TEKFEN IMALAT A.S/TETEM LTD.

Control: YARPET YATIRIM K.K.M

1990-1992

Tekfen A.S. Engineering work-Distillation Columns

Tekfen is one of the international contractors in Turkey, and is the well known pressure vessel manufacturer since 1971.

Pressure vessel fabrication drawings for Tekfen, for TUPRAS Aliaga petroleum refinery, Hydrocracker project. The detail fabrication drawings include 17 vertical pressure vessels.

1990-1992

Tekfen A.S. Engineering work-Heat Exchangers

Similarly, heat exchanger fabrication drawings for the Atas Petroleum Refinery. The detail fabrication drawings include 8 high pressure floating head type of exchangers designed to ASME and TEMA standards.

1992-1992

ISKENDERUN IRON AND STEEL COMPLEX-ISKENDERUN

Fabrication of equipment for the ladle chemistry system, including baghouse filter, alloy bin assembly, supporting structure for alloy bins, steel structure, platforms and stairways, snorkel cover assembly, hinged chute assembly works.

Main contractor: SUMITOMO/VULCAN

Local Engineering and Supply: TETEM

Control: ISDEMIR

1993-1993

R.J REYNOLDS WASTE WATER TREATMENT PLANT

TORBALI-IZMIR

Domestic and industrial waste water treatment plant design, fabrication and erection,

Capacity: 150 m³/day

Design : Biological treatment

This was a one of its kind type of projects, treating all the wastewaters coming from the Cigarette fabrication, and included tobacco in addition to many other organic and inorganic components.

1993-1993

TEKFEN - WATER TREATMENT PLANT - RUSSIA

Water treatment package design, fabrication and installation.

Potable water treatment equipment consisting of filtration, activated charcoal filter, softening and chlorination. The unit was delivered as a complete package.

Capacity:40-80 m³/day

The package is designed according to W.H.O (World Health Organization) Standards.

1994-1995

EREGLI IRON AND STEEL COMPLEX-EREGLI

Fabrication of equipment for the ladle chemistry system, including scrap bin assembly, supporting structure for scrap bins, Oxygen, Argon lances, Sample and Temperature lances, alloy car, snorkel hoisting device parts, and similar equipment.

Main contractor: VULCAN ENGINEERING-SUMITOMO

Supply: Simge/Tetem

Control: ERDEMIR

1994-1994

ATABAY KIMYA VE ILAC SANAYI A.S - GEBZE

Atabay Pharmaceutical Plant Cleanroom Installation

A complete cleanroom installation has been made in Atabay Gebze factory.

The total area made was around 900 m².

The work included installation of all the partition and ceiling panels, installation of all electrical equipment, and supply and installation of ductwork, a very special one without leakages, etc. in order to serve for the cleanroom application.

Design : CLESTRA CLEANROOM

1994-1994

SEKA DALAMAN Pulp and Paper Mill-MUGLA

Engineering, supply, and erection for the modernization of viscous cellulose baling press. The project also included a new baghouse filter.

Engineering: PINETTE EMIDÉCAU IND.

1994-1995

KOMBASSAN PAPER MILL, Waste water treatment plant

A 1500 m³/day capacity waste water treatment plant has been made, and under successful operation. The plant includes dosing, flocculation, clarification, and filter press.

1995-1995

ADEKA ILAC SANAYI A.S – SAMSUN Adeka Pharmaceutical Plant Cleanroom Installation

A complete cleanroom installation has been made in Adeka factory. The total area made was around 150 m².

The work included installation of all the partition and ceiling panels, installation of all electrical equipment, and supply and installation of ductwork, very special without leakages, etc. in order to serve for the cleanroom application.

Design : CLESTRA CLEANROOM

1995-1995

ADEKA ILAC SANAYI A.S – SAMSUN Adeka Pharmaceutical Plant HVAC System

The complete design, procurement, supply and installation of a new HVAC System for the plant.

The total area made was around 1500 m².

The work included the design, supply and installation of installation of a new HVAC equipment together with complete ductwork.

1996-1996

Pelit Hotel Domestic Wastewater Treatment Plant

Domestic waste water treatment plant for Pelit Hotel in Bodrum, with a capacity of 120 t/day waste water has been constructed by our company, in 1996.

1996-1996

ISKENDERUN IRON AND STEEL COMPLEX-ISKENDERUN

Iskenderun steel mill chemical heating and refining station additional instrumentation:

Slack switches for the snorkel hoists, drum coupled up/down limit switches, overcurrent stop systems for the hoists, and various additional safety equipment has been designed, and supplied in 1996.

Final acceptance of the additional work has been signed in June 1996.

1996-1998

Various Cleanroom or Office partitions installations

Our company completed installation of many Clestra Projects in Turkey for Cleanrooms, or offices, serving many well known companies in Turkey.

Some of these projects include the installation of ceiling panels for 2100 m² covered area in Abdi Ibrahim pharmaceutical plant, and sterile area partitions in Bayer pharmaceutical plants, and other work made for Genpa, WD Bank, Henkel, Yapi Kredi Bank, Hoechst, Demirbank, Yapi ve Kredi Bank General Management Building, etc. etc.

1998-1999

Kardemir Oxygen Lance Project

Detail engineering, fabrication and supply of equipment for the O₂ lance stations (4ea.) and Lance and Trunnion cooling water systems built in Kardemir Steel mills.

Tetem's supply included the moving bridges, service crane, Hoist drives, Fixed and moving frames for the carriages, Main pumps, Plate type heat exchangers, piping, etc.

Main contractor: VULCAN ENGINEERING

Local Supply: Tetem

1998-1999

Tekfen Derince Factory Domestic Wastewater Treatment Plant

Domestic waste water treatment plant for Tekfen Derince Factory, with a capacity of 120 t/day.

1999-1999

T.A.V. Partition installation

Another project that has been completed is the complete office partition installation work done for the new terminal buildings of the Istanbul Ataturk Airport. The projects consisted of partitions in the order of 1800 LM. It has been completed in just 1 month, which is one of the projects done in the shortest time in the world, to enable opening of the terminals before the scheduled date.

1999-2000

Office partitions installations

Our company completed installation of various other Clestra Projects.

2000-2001

PAK Maya Fermentation tank modifications:

We have renovated the fermentation tanks at the PAK Maya Izmit Factory, Fermentation Unit, in accordance with the worldwide requirements applicable for food industry. All of the fermentation tanks have been modernized within this project, by changing the bottom heads with torispherical shape, all in SS material, and new skirts have been made for this revision to be possible.

2000-2001

PAK Maya Renovation of process tanks.

We have installed spirally welded rectangular cooling coils on some yeast tanks at the PAK Maya Duzce Factory, Production Unit, that includes 24 yeast tanks in SS. This project has started in Feb.2000, and has been completed in 2001

2000-2000

PAK Maya Instant Yeast Production Unit:

In this project, we have made the installation of the complete system, and all piping, and have started the unit successfully.

Project included dismantling of the existing unit, installation of 2 rotary filters, SS process tanks, Pumping units, instrumentation, and complete piping. Due to the urgency of the project, each Rotary Filter unit was completed in only one month.

2000-2000

Saglık Sitesi, Domestic WasteWater Treatment Plant

Complete process design, supply, installation, training, and start-up and commissioning will be done by our company. Capacity 100 tons/day. The project is presently under construction, and will be finished in May 2000.

2000-2001

PAK Maya Izmir Factory tank Renovations.

We have installed spirally welded rectangular cooling coils on 12 ea. yeast tanks at the PAK Maya Izmir Factory, Production Unit, and also renewed the supporting systems, added new agitators, and have increased the capacities by adding new sections to the shells of the existing tanks.

2000-2001 PAK Maya Izmit Factory tank Renovations.

We have modernized the 28 tanks at the Izmit Factory. We have similarly installed spirally welded rectangular cooling coils on the yeast tanks, and also renewed the supporting systems, added new

agitators, and have increased the capacities of 6 of these tanks by adding new sections to the existing shells.

2000-2001

PAK Maya other tank Renovations.

We have modernized also Main Yeast tanks (2 ea.) at Izmit factory, Portion Tanks (4 ea.) at Duzce Factory, and 10 ea. Various SS tanks, within the scope of their modernization project.,

2001-2001

Clestra Office Partition or Cleanroom Projects:

We have made the installations of various office partitions and/or Cleanroom renovations at the following sites:

Abdi Ibrahim Pharmaceutical Plant, 2 different projects,

Conoco, office partitions installation,

Demirbank Office partitions installation

2002-2002

Kartonsan, Deinking Project, SS Tanks fabrication and Installation Project

In this important project, 12 ea. SS 316 L and Ti tanks have been fabricated and installed at site.

Due to the urgency of the project, all the work was completed in only 3.5 months, including material purchasing, and installation at site during winter season.

9 ea. Tanks were manufactured in our shop, and installed in their place at site.

3 ea. Tanks had to be manufactured and installed at site due to their sizes.

One of these tanks were the largest process tank made, with a special conical shape, increasing the diameter from 4700 mm to 7500 mm. Pictures has been included elsewhere in this catalog.

2003-2003

Cpie Capac and Petrofac JV, 14 ea. SSTP units

We have received and completed the order for 4 different sizes of SSTP units that are operating in Azerbaijan and Georgia. These units are:

5 ea. 25 m³/day-24 hr units,

1 ea. 25 m³/day-10 hr units, and

3 ea. 50 m³/day-24 hr units.

5 ea. 2 m³/day units

The contract has been completed by mid June, 2003. All the units have been operating since then successfully.

2003-2003

CCIC, Consolidated Contractors Int. Co., 8 ea. SSTP units

We have received an order for 8 ea. 50 m³/day units with tertiary treatment, guaranteeing best results required by EU standards for SSTP units. These units are in operation in Azerbaijan.

2003-2004

Proctor and Gamble, Gebze Detergent Project

We have completed a turnkey detergent plant for Proctor+Gamble, in Gebze Turkey. The project included all process package equipment, as well as installation of vessels, complete piping, tankfarm, and instruments.

Our company worked together with our sister company, and supplied all of the Stainless Steel vessels in this project.

The project has been completed on time and was successfully operated.

2005- Istanbul-Ankara Highway, Bolu Mountains crossing, Erection of Steel Viaducts

Together with our sister company, we have erected the steel viaducts, with special equipment, supplied by the customer. The project was completed in June 2006.

The project includes erection of 17,000 tons of steel viaducts and 6,000 tons of secondary elements. Work is being done for ASTALDI Spa., and Cimolai.

2007- 2008

Bilim Pharmaceutical Plant, Gebze – Cleanroom installation.

7000 m2 Cleanroom facility complete with all doors, panels, ceiling has been done in a few months to the complete satisfaction of the owner. The cleanroom is already in successful operation.

Material supply by Clestra Cleanroom- France.

2009 -2009

Renovation of domestic wastewater treatment Unit, Tekfen factory, Derince

We have renovated the existing unit (built by our company 11 years ago) to meet the more strict regulations imposed recently. The unit has been completely dismantled, and the existing space has been utilized to install the new design, which meets all local and EU standards without the need of a tertiary treatment unit. The unit has been started successfully.

To be completed soon