

## CHAPTER-10

### Technical Assistance from Abroad

During the past chemical program support from several foreign companies was sought for the activities: construction, erection, installation, training, consultation and technology transfer at Al-Muthana as follows:

#### 10.1 Construction of Production Building and Stores:

Company	Activity
- W. T. B.	Construction of Falluja 1,2,3
- Massar for Reinforcement concert / Egypt	Construction of (8) bunkers
- Heberger	* Construction of (4) pilot plant H1, H2, H3 and H4 * Construction of production site Malik, Mohammed and Dhiaa
- Schwender	* Installation shelves at the main stores * Installation and training on the machines and equipment of the aerial bomb workshop in Al-Muthana.

#### 10.2 Erection of Production Equipment

Company	Activity
- Pilot plant	* Erection of pilot plant equipment at H1, H2 and the inhalation chamber at H4 * Erection of Ahmed plant equipment (Ahmed 1 and 2) also erection of Malik and Mohammed production plant equipment.
-	* A joint work was conducted

between the Iraqi-experts and pilot plant Co. expert in the executive of DHIAA project.

\* Installation of coating unit (hallar unit) and training on coating.

\* Erection of filtration unit (by centrifuge) at Malik plant.

- Auda

Erection of Chlorine plant at Falluja 2 / (Al-Ma'moon) site.

- IT

Installation of filling line for aerial bombs at the filling station.

### 10.3 Erection of Utilities and General Equipment

Company  
- Warmald

Activity  
Erection of fire fighting system at different sites of Al-Muthana.

- Prussag

Erection of water treatment system

Training and erection of the cooling container.

- Sitac

Erection of water treatment station

- W. E. T.

Installation of filling line for insecticide (aerosol cans)

- Karl Kolb

Erection of Scrubber units for R&D buildings.

## 10.4 Training

Company	Activity
- Schott	* Training course for glass blowing * Erection of glass pilot plant.
- W. E. T.	* Training course for special welding
-Ludwig hammer	* Training course on how to maintain the electrical equipment.
- Arabian org. industries (Sakar factory)	Assembling 122 mm rocket (Sakar 30) in Al-Shala site
- Buchi	Training on Erection and maintenance of Rotary evaporator type RX-185 (50 L. Capacity).
- Ceilcot	Training on Scrubber unit and maintenance of this unit.
- GIG	Training on Design the production unit.
- Herbert Arnold	Training on equipment of glass workshop
- George Fisher	Training on plastic welding
- FCA	A group from Al-Muthana visited HF plant in Italy.
- Foxboro	Training on control instrument

- Ducker

A group from Al-Muthana visited glass lined plant in Frankfurt in 1986.

- Coulter Counter

Training on the coulter counter machine in U.K.

#### 10.5 Consultation / Technical Assistance

##### Company

- Kim-Khaleeg/Exomit

##### Activity

- Personal consultation for determining the specification of supplied  $PCl_3$

- Supplying R&D method for preparation of choline without request from MSE. This happen because the company delivered 13 ton of 2-chloroethanol 48% which was refused by MSE at that time.

- IT

- Supplied specification for machinery which used in the Aerial bomb workshop.

#### 10.6 Technology Transfer

##### Company

- W. E. T.

##### Activity

Supplying know-how for production  $PCl_3$  &  $POCl_3$  plant

- Kim-Khaleeg

Suppling know-how for TMP production plant