

CHAPTER XII

UNILATERAL DESTRUCTION

12.1. Cease-fire and Iraq's declarations:-

It must be recalled that Iraq was subjected to continuous air bombardments and cruise missile attacks lasting 42 days in which more than 100 000 tons of explosives were dropped all over the country targeting military and non- military industries and infrastructure. After the cease- fire and acceptance of SCR 687 Iraq was troubled by foreign inspired and backed rebellions which lasted for about one month leaving a relatively short time for consideration of the questions related to the declarations required under section C of SRC 687.

It was argued that the most important items of immediate concern to the SC were the hardware items of chemical weapons deployed, bulk chemical agents in stores, as well as the missiles of certain range beyond tactical.

Therefore lists of such items that could generally be located and secured were hastily drawn up and presented by mid April 1991. However, questions pertaining to incomplete projects, inconclusive endeavors, R & D activities etc. were to be subject to future declarations with UNSCOM teams when they visit Iraq. In view of the length of the Iraq-Iran war which lasted eight years and the expansion of the CW activities beyond the scope of the known agents produced and filled into munitions which were identified in the declaration it was decided to avoid possible complications during UNSCOM visits and to trim the size and scope of the programme by unilaterally destroying a number of items given in Chapter -Unilateral destruction.

It must be remembered that the people involved in the implementation of SRC resolution just emerging from a vicious and destructive war, lacking in experience in an entirely new field of work requiring different frame of mind and perceptions, desiring to save as many as possible general purpose equipment, materials and assets from destruction, trying to avoid expanding the area of the work with UNSCOM teams beyond the important items contained in the declarations led to unilateral destruction. There was no intention whatsoever to disregard SCR 687 of rendering harmless all weapons etc. ...

There was no intention to give false or incomplete declarations regarding the above mentioned areas which were considered as the most important. However, activities such as R & D, documentations of whatever kind and other efforts in

non CW production areas were not considered as important information for the declaration purpose.

During that period it was argued that some unimportant items as yet undeclared should be partially or totally concealed and all materials relevant to their existence to be unilaterally obliterated as their revelation would complicate matters and prolong the process with UNSCOM.

The areas covered by that decision concerned the following:

1. Some aspects of the Vx programme concerning the spoiled quantities produced, and the existence of some remaining precursors such as P2S5 and choline.
2. The DF precursor filled in jerrycans at air bases together with the R-400 aviation bombs filled with alcohol as well as 20 Al-Hussain warheads filled with alcohol together with DF additive in jerrycans.
3. Remaining empty munition shells and casings as yet undeclared to UNSCOM teams for being as components for conventional munitions.
4. 125 aerial bombs BR-250 filled with CS stored at airstrip 37 as they were not declared in the first declaration and were not considered an item of importance as they were not intended as chemical weapons but were to be used to mislead the enemy.
5. The documentations especially know-how and production documentations

It is seen from the above instances that there was no criteria for the decisions of unilateral destructions and no obvious logic governing the choice of items concealed.

Rather personal perceptions and some mistaken assessments of the area in question played a major part in those actions. The reasons for the unilateral destruction can be summed up by the wish to avoid complications and to down size the CW programme leaving the essential elements.

It must also be remembered that the minister in charge of MIC was H.K and he was not in favour of cooperation with UNSCOM. In retrospect considering his defection and subsequent revelation of his views it could have been that the decision for unilateral destruction, which was certainly his decision, was made to complicate relation with UNSCOM rather than to simplify the task of the commission as the personnel involved were led to believe.

12.2. UNILATERAL DESTRUCTION OF EMPTY MUNITIONS:

The order for unilateral destruction of all undeclared items, materials and documentations was a blanket order from MIC's highest authority (H.K) communicated orally to all establishments involved directly or indirectly . The destruction was on the responsibility and peril of the establishments themselves except for the important know- how documentations which were to be collected and handed over to H.K personal staff for supervised destruction as the establishments were informed later.

The documentation thus collected appeared in Aug. 1995 in the chicken farm of H.K.

12.2.1. Empty Munitions:

Empty munitions were first considered as unimportant item and due to lack of complete information on the inventory they were not included in the declarations of April and May 1991.

However, at the same time it was argued that any empty munition found later could be useful as components or raw materials for conventional munitions and other valuable materials could be recycled for other industries. So unilateral destruction was carried out in the second half of 1991 (July-Aug. 1991) by teams from Al-Muthana at different sites to implement the oral instruction from D.G of Al-Muthana about the destruction of the items which were regarded as unimportant in order to avoid contradiction with the 1st Iraqi declaration (May 1991) as detailed below:-

12.2.1.1 Mosul Electric Stores:

Different types of empty munition were stored in these warehouses in the second half of 1990 including:

- (2000) 122 mm rocket type Sakar 30
- (4990) 122 mm rocket type firos 25 (carbon steel warhead)
- (4865) 122 mm rocket type firos 25
- (3520) 122 mm aluminium warheads

The destruction was carried out according to the following:

- Sakar warheads were taken to a remote area called Bakhara and destroyed by demolition explosion
- All the Firos 25 warheads were first destroyed by crushing or by cutting by arc welding and then the remains were taken to the foundry of Nassar State Establishment and reformed to ingots.
- The aluminium warheads were first crushed and then taken to Ur foundry and reformed to ingots.

All the above were verified by UNSCOM team (8) lead by Jim Knapp (for the verification See doc. V11 in verification chapter XIV).

12.2.1.2 Haditha Munition Stores:

(4000) empty 122 mm rocket Sakar 30 were stored there. The empty Sakar rockets destroyed in a nearby area by demolition explosion.

(2950) 122 mm rocket type firos 25. The empty 122 mm rocket type firos 25 (warheads) were destroyed at Al-Nassar foundry.

Verification of destruction was carried out by UNSCOM team (8). (for the verification See doc. V11 in verification chapter XIV).

12.2.1.3 Al-Muthana and Al-Tharthar:

(1640) rocket 122 mm type (firos) which had been stored at Al-Muthana were translocated to Al-Tarmiya to open the warheads and transfer them to Nasser foundry to be melted.

(1980) rocket 122 mm type (firos) which had been stored at Al-Tharthar stores (located near Falluja/III site) were translocated to Al-Ramadi in order to open the warheads and then the warhead transferred to Nasser foundry to be melted.

(1000) C.S warhead 122 mm which had been stored at Al-Muthana were translocated to Al-Ramadi then transferred to UR Establishment in Nassariyah in order to molt the aluminium canisters at their foundry and the warhead transferred to Nassir foundry to be melted.

Verification of destruction was carried out by UNSCOM team (8) (for the verification See doc. V11 in verification chapter XIV).

12.2.1.4 Tigris Canal (Kilo 28):

1975 empty aerial bombs gauge 250 (1225 Muthana 1 and Muthana 2 750 aerial bomb type LD 250).

25 empty aerial bomb type Muthana 4 (radiological bomb).

The above were destroyed by cutting the bombs with oxy acetylene, and then transferred to East of Baghdad railway station to be sent afterward to the steel foundry in Basrah.

This was verified by UNSCOM team (8). (See verification chapter Doc. V.11).

12.3. Unilateral Destruction of Filled Munitions:

12.3.1. Aerial bomb R-400 filled with alcohol (Iraqi Binary system)

At the end of the military operations, R-400 stored in different air-bases (which were not declared before) were destroyed in July 1991 by demolition explosion in the same air-base were the bombs were stored as follows:

<u>Location</u>	<u>Quantity</u>
Saddam Air-base	80 (destroyed and buried in a nearby location)
Al-Kadisiyah Air-base	240 (destroyed and buried in a nearby location)
Sa'ad Air-base	28 (destroyed and buried in a nearby location)
Tamoz Air-base	120 (destroyed and buried in a nearby location)
Talha Air-base	60 (destroyed and buried in a nearby location)

These aerial bombs were destroyed according to instruction from DG of MSE to air force in order to destroy the bombs and jerrycans in the air bases. Representatives from Al-Muthana were present at the air bases to supervise the destruction of these bombs which were not declared previously.

(1056) plastic containers (20 liter capacity) containing DF were also destroyed at the above-mentioned sites.

Verification of destruction was carried out later by UNSCOM team (8). (for the verification See doc. V.14, V.15 for the destruction of R-400 at Al-Kadissya and Tamuz air bases and See also the doc. of a letter from MSE to MIC dated 5 Jan. 1991 which was received by UNSCOM in 8 Dec. 1995).

12.3.2 Al-Hussain Warhead filled with Alcohol (Iraqi Binary System):

In July 1991, 15 Al-Hussain Warheads stored in Al-Falluja forest and 5 warheads stored in Al-Tharthar stores were transferred to Alnibae area. There all the warheads (20) were put in a large ditch dug for this purpose and they were destroyed by demolition explosives and some conventional exploded on top.

The other component of the Binary system the DF was destroyed by draining into scattered pits in the area. A letter from MSE to MIC dated 5 Jan. 1991 which was received by UNSCOM in 8 Dec. 1995 confirm the total number of Al-Hussain warheads (50 warhead) and showed that (35) of them had been filled with Iraqi binary and the rest (15 warhead) had been filled with mixture (GB, GF). This doc. confirm that the (20 warhead which unilaterally destroyed had been filled with Iraqi binary and never filled with other agents as suspicion raised by UNSCOM about these warheads.

12.3.3 Aerial bombs type 250 filled with CS:

In Summer of 1991, 125 Aerial bombs filled with CS were destroyed by demolition explosives in the Airfield 37.

Verification was carried out by UNSCOM team (8).

The reason for unilateral destruction of all the items under paragraphs 12.2 and 12.3 mentioned above were in order to avoid intrusions in air-bases in general and not to conceal a particular item. Clearly, type 250 bombs filled with CS cannot be considered an item to be concealed from UNSCOM.

- As for the reasons for failure to declare the unfilled munitions which were stored out side MSE by the end of 1990 it was simply because the stores and depots where the unfilled munitions were stored were reported as total losses

- due to their bombardment by allied forces. Later it appeared that some stored material especially unfilled munitions survived the bombardments and when they were found after the declaration they were unilaterally destroyed.
- However, the motors of 122 mm rockets were not destroyed at the time were transferred in 1992 to Al-Qaqa State Establishment as the motors were common to conventional 122 mm rockets. However, Al-Qaqa St. Est. after analysis found that the propellant used was exposed to high temp. and was unstable. The quantity of motors involved about 20000 units were stored at Dijla-2 site. It was moved and destroyed under Al-Qaqa supervision.
 - The empty 122 mm warheads were not transferred to any establishment for use in conventional munitions because their design and internal dimensions were unsuitable and no party was interested in the material. Therefore it was destroyed.

12.4. Unilateral Destruction of Raw Materials, Precursors and agents:

In 1991 the Iraqi declaration did not include Vx since all production attempts failed due to instability problems.

However, large amounts of precursors were imported based on the successful research and development results and the presence of such large quantities hastily imported was difficult to explain and it was decided to obliterate the Vx programme and unilaterally destroy all its precursors.

12.4.1 Choline:

In July 1991 a team was assigned to carry out the destruction of about 55 ton of holine filled in 200 liter barrels and stored in 4 shipping containers. These containers were taken to a site North of Sammara city (West of Kassir Al-Ashiq).

The contents of the barrels were drained on the ground from a level area. The destruction site was inspected by the CG group and samples were taken from soil and barrels found at the site in Oct. 1995 for verification purposes.

This precursor was destroyed according to the oral instruction from DG of MSE to the production manager to destroy every thing related to VX (See doc. IV.3 chap. XIV).

12.4.2 Phosphorus Pentasulphide:

P2S5 (157) tons was stored at Dijla warehouse together with isopropanol, cyclohexanol, ethanol, di- isopropylamine, chlorobenzene, and dichloroethane all of which are general purpose chemicals which were used to be transferred for use in chemical and paint industry. However, the Company "Modern Paint Industry" picked up all the solvents and did not have any use for the P2S5. By that time it was too late for including the material in the declaration and consequently was transferred to a dumping site in Al-Saqlawiya area N: 33 23 E: 43 42 and

destroyed by mixing it with sand and burying it in Oct. 1991 according to oral instruction from the DG of Al- Muthana.

Verification of destruction was carried out by UNSCOM team (8). and CG groups from BMVC visited the site several times and samples was taken for the purpose of verification.

12.4.3 MPS:

The remaining quantity of produced MPS about (1625) kg was destroyed by the Iraqi side, by adding water to the barrels of MPS at Diha'a site in Summer 1991. The unilateral destruction of MPS was for the same reasons given for choline above.

12.4.4 (DFP) Di-isopropyl Phosphoro-fluoridate (2) Tons:

This material was produced in (1987) as pesticide against locust which was expected that year to enter Iraq from Saudi Arabia. However, it is classified as a weak CW agent, but was never adopted by Al-Muthana as Cw agent. Not desiring to enlarge the list of agents produced it was decided to destroy it without declaration. It was hydrolized with caustic soda at Al-Muthana in Summer 1991. The material is found in the inventory list of the final agents and precursors in stores of 31.12.1990 (See Verification Ch. doc. II.2.)

12.4.5 Pyrophosphate (adimer of DMPH of unidentified structure):

There was about 3 tons of this material remaining from a quantity of 22 tons, 19 tons of which were processed to MPC. The 3 tons remaining was considered unimportant and was destroyed when cleaning up Dhiaa Plant site. Refer to scrap of paper where orders for destruction are jotted down. (See Verification Ch. doc. IV.4)

12.4.6 Spoilt Vx:

The spoilt Vx which were produced in 1988 and 1990 which had degraded down to zero as the lab. analysis over a period of 3 weeks show together with other materials was destroyed in Summer 1993 under the eyes of UNSCOM CDG 38 without them knowing the exact nature of the materials in the containers being destroyed. Another quantity about 400 kg which were filled inside aviation bombs at the beginning of 1988 which was also completely spoilt had been disposed off in 1988.

The reasons for destructions were to avoid complications that might arise concerning the actual production of such an important CW agent notwithstanding the fact that the effort was not successful.

All the above mentioned unilateral destruction of the raw materials, precursors and agents have been carried out in order to trim down the CW programme, avoid complications that might arise from contradictions with previous

declarations etc. None of those reasons involve the intention to conceal important programmes for future use.

12.5 Unilateral Destruction of Al-Muthana Documentation:

12.5.1 Late 1990 an order was issued by MIC to evacuate all Al-Muthana documents, to implement this order most of the documents were transferred to air raid shelters within Al-Muthana many times until mid of 1991 where they were gathered, and stored in an unfinished house in Samara.

12.5.2 All the documents were transferred to Baghdad, many of these documents were destroyed in the presence of representatives from different directorates in Al-Muthana, which they classified and burned the documents of their directorate according to their personal assessment. After that the remaining classified documents were gathered.

12.5.3 Some documents from Agargoof site were transferred to Al-Falluja.

All the documents were destroyed except some important documents as follows:-

A- Computer Disks	Central library
B- Important Documents	Central library
C- Microfilm	Central library
D- Contracts of purchasing	Trading dept.
E- Documents of planning dept.	
F- Know-how	R & D dept.
G- Personnel files Directorate	Administrative

Some of these documents were returned back to their directorate and an order to destroy all the documents related to the past chemical programme the remaining documents which were classified as very important documents were packed in 12 boxes in addition to a box for the documents of D.G office (i.e total of 13 boxes) were delivered to persons directed by Hussain Kamil.

The contents of these boxes are as follows :-

- 1- Flow charts of production plants + R&D document.
- 2- Operations catalogue + Flow charts of production plant.
- 3- Flow charts of Nasser factory + financial files.
- 4- Flow charts of Nasser factory.
- 5- Scientific literature + special document of MSE.
- 6- Analytical researches + special document of MSE.
- 7- Computer disk, slides, and studies.
- 8- Microfilm + video cassette and slides.
- 9- Researches + studies + flow charts of production plant.

- 10- Microfilm + know-how (7201).
- 11- Flow charts + microfilm + slides.
- 12- Quality control studies.
- 13- Assorted special documents from the office of the General Director.

12.5.4 The above mentioned movements of the documents were written in a report in 1991 see the report handed over to the U.N. Special Commission in Dec. 1, 1995 and the video tape showing their storage at the unfinished house in Samara.

12.6 Location where chemical weapons were stored (Quantities and Types):-

12.6.1 There were no chemical munitions stored outside AL-Muthana Establishment site until the end of 1987.

12.6.2 When the need appeared to find alternative places for storing other than AL-Muthana Establishment, AL-Muhamadyat site was chosen as an additional storing site for the filled chemical munitions.

12.6.3 The chemical munitions normally stored in AL-Muthana Establishment site. (There were (8) underground stores provided with all conditions required for storing chemical munitions.

In addition those stores were protected against aerial raids and all measures required for the protection of the stores area against any external threat).

12.6.4 Some times the filling station in Al-Muthana were used for temporary storing particularly the newly filled munitions.

2.6.5 Location of filled munition:

12.6.5.1 In July-August 1990 Aerial bombs type R-400 were distributed in different air-bases and they were filled with alcohol 40 liters for each, and also each bomb supplied with two plastic containers in each 20 liters of D.F. so as to be mixed in the base when needed.

The distribution was as follows:

<u>Location</u>	<u>Quantity</u>
Al-Waleed Air-base	176
Saddam Air-base	80
Al-Kadisya Air-base	240
Suad Air-base	28
Tamuz Air-base	120
Talha Air-base	60

Murasana Air-base	160
Al-Tabaat Air-base	160

12.6.5.2. At the beginning of Jan. 1991 and before the war, the chemical munitions were distributed (10-15 Jan. 1991) as shown below :-

(to avoid exposing the cities located near Al-Muthanna site to any risks if the establishment was bombed) and to keep the munition in safe place to avoid direct bombardment.

Aerial bomb filled with mustard were distributed between 10-15 Jan. 1991 as follows:

Storing site	Qty.	Munition
AL-Muhamadiyat	200	aerial bomb 250
Saddam air-base	315	aerial bomb 250
Saddam air-base	90	aerial bomb 500
AL-baker air-base	25	aerial bomb 250
AL-baker air-base	135	aerial bomb 500
AL-kadisiya air-base	135	aerial bomb 250
AL-kadisiya air-base	315	aerial bomb 500
AL-Tuz	225	aerial bomb 250
AL-Tuz	135	aerial bomb 500
Tamoz base	200	aerial bomb 250

12.6.5.3 122 mm rocket type Sakar 18 filled with Sarin were distributed between 10-15 January 1991 as follows:

Al-Mymona Munition Stores	4100
Al-Aukhader Munition Stores	2160
Al-Khamysia Munition Stores	2160

12.6.5.4 155 mm Artillery shell filled with Mustard were distributed in the period 10-15 January 1991 as follows:

Al-Aukhader Munition Stores	6394
Al-Nassiriyah Munition Stores	6240

12.6.5.5 Missile corp received (50) Al-Hussain warheads from MSE, 16 of which filled with Sarin and the rest was filled with Iraqi binary the distribution of these warhead to different site was mentioned in this Chapter.

12.6.5.6 125 Aerial bomb gauge 250 filled with CS were distributed in Airfield 37.

12.6.5.7 12 aerial bombs type DB-2 filled with sarin were stored in Al-Mouhamadiyat.

12.7. Location of empty munition:

Since 1983 the empty munition procured through the army to Al-Muthana, these empty casing were stored in several army stores. Then this empty casing withdrawn by Al-Muthana according to their needs.

12.7.1 Al-Aukhader munition stores:

12.7.1.1 Aerial bomb Br500 (2500), stored between 1983-1986
Aerial bomb Br250 (5000), stored between 1983-1986

12.7.1.2 Artillery shell 155mm (40000)-stored between 1984- 1988.

12.7.1.3 Mortar shell 120 mm.

12.7.2 Al-Taji munition stores:

12.7.2.1 (35000) Artillery shell 155mm - stored between 1985- 1990.

12.7.2.2 (1500) Aerial bomb AALD 500 - through 1987.

12.7.3. Salah Al-Deen munition stores:

12.7.3.1 (5000) rocket 122 mm type Firos 25 (carbon steel) stored between 1985-1990.

12.7.3.2 (5000) rockets 122 mm type Firos 25 - stored between 1988-1990

12.7.3.3 (2000) Aerial bomb AALD 500 - stored through 1987.

12.7.3.4 (2500) rockets 122 mm type Sakar 30 - stored between 1986-1990.

12.7.4 Haditha munition stores:

12.7.4.1 (3000) rocket 122 mm type Firos 25 (carbon steel) stored between 1986-1991.

12.7.4.2 (4000) rockets 122 mm type Sakar 30 - stored between 1986-1991

12.7.4.3 (4000) rockets 122 mm type Sakar 18 - stored between 1989-1991

12.7.4.4 (1000) Aerial bomb AALD 500 - stored between 1987- 1990.

12.7.5. Dijlah munition stores:

(2000) Aerial bomb AALD 500 - stored between 1987-1988.

12.7.6 Al-Hadar munition stores:

(1500) Aerial bomb AALD 500 - stored through 1987.

12.8. Al-Hussain Chemical Warhead:

12.8.1 Filling:

12.8.1.1 In June 1990 the filling of chemical warheads were started when the first batch of them dispatched to Al-Muthana.

The filling was carried out in Al-Muthana filling station.

12.8.1.2 Sixteen warheads were filled with GB or mixture of (GB+GF) and completed in mid or end of July 1990.

12.8.1.3 The filling of Iraqi Binary type was started from mid of August 1990 to end of Oct. 1990. The filling of this type was conducted by splitting the GB precursor in two container one of them was in the warhead which contain the mixture of alcohols (IP + cyclohexanol) and the DF which was placed in plastic container of 20 lit. capacity.

12.8.2 Distribution of Chemical Warheads:

12.8.2.1 The warhead filled with (GB+GF) mixture. The total number of those type were sixteen warheads which were distributed as follows.

12.8.2.1.1 The first batch of four warheads were transferred from Al- Muthana to Al-Mohammadeyat in the end of June 1990.

12.8.2.1.2 The second batch of twelve warheads were transferred to Al-Mohammadeyat in mid or the end of July 1990.

12.8.2.1.3 After the 2nd of August 1990 events, the distribution of the (16) warheads was carried out and they were transferred as follows, six of them were stored at Kubisa forest, and ten warheads stored in a site called Abu Yazid Al-Bustamy near Al-Mohamady.

12.8.2.1.4 Collection and redistribution of warheads took place again as follows:

(12) warheads at Falluja forest adjacent to Baghdad -Falluja highway and the rest of them (i.e. four warheads) were stored in a location near Taji bridge.

12.8.2.1.5 After cease-fire all the sixteen warheads were transferred to Al-Dujella site and were declared to UNSCOM.

12.8.2.2 The Warhead of Iraqi Binary System.

The total number of those types were thirty four warheads, which were distributed as follows:

12.8.2.2.1 In mid of August 1990 (fifteen) warheads of type (A + B) (i.e. Iraqi Binary) were transferred to Falluja forest.

12.8.2.2.2 Ten warheads were stored in Tel Zagareed near Tigris canal in Sept 1990.

12.8.2.2.3 In the beginning of Oct. 1990, the last batch of nine warheads of the same type were stored in Tharthar stores near Dujla store.

12.8.2.2.4 After cease-fire, (14) warheads of the 34 (A + B) type were transferred to Dujella, and declared to UNSCOM in April 1991.

12.8.2.2.5 In Summer 1991, twenty warheads of the 34 (A + B) type were destroyed by Iraqi side in Al-Nebbae (unilateral destruction)

12.8.3 Transportation of Warheads:

12.8.3.1 Warheads were transferred from Al-Muthana to the indicated stores or sites, according to security regulations of MSE. a convoy consist two security cars, water tanks, pick-up loaded with decontamination materials and protection equipments.

12.8.3.2 Transportation of warheads by the missile corps was carried out in the same procedure as mentioned above with available facilities, such as security car and number of water containers instead of water tanks if not available as well as protection equipments and decontamination materials to be used in case of emergency.

12.8.4 Unilateral Destruction of Warheads:

12.8.4.1 In Summer 1991, an instruction was issued by MIC to destroy the warheads as well as the other prohibited items. The missile corps was informed to select a site for destruction and to prepare a number of pits to occupy the warheads to be

destroyed and other facilities (i.e. explosives, wires, engineering office's ... etc.). However, the site chosen was Al-Nebaa.

12.8.4.2 Fifteen warheads of type (A+B) were transferred from Falluja forest and (5) warheads of the same type were transferred from Tharthar store (near Dujla stores). The total quantity (twenty warheads) were placed in large pit in their containers.

The containers were arranged one besides one, then 20-40 kg of explosives were placed on each container, wired together and detonated to be destroyed.

12.8.4.3 Most of the scattered fragments were collected by shovel and placed in same pits and buried, then number of expired conventional aerial bombs were exploded

12.8.4.4 Prior the destruction of warheads, a disposing of (DF) was carried out, where all containers of DF were transferred to Al-Nibbae too, and were drained in small muddy area.

12.8.5 Coordination with Missile Command:

12.8.5.1 Coordination between Al-Muthana and Missile Command prior the transferring of first batch of warheads of type A. A small group headed by Mr. R. Manhal was formed to conduct a training to small group from Missile Command to dealing with chemical warheads as well as taking the proper measures in case of emergency using protection equipments and decontaminates.

12.8.5.2 When the warheads were transferred from Al-Muthana, a group from Al-Muthana accompanied the convoy, while the group of Missile Corps accompanied the convoy which transferred the warheads between their units from time to time. However, the Missile would call Al-Muthana group in case of emergency to deal with the situation.

12.8.5.3 After the successful of Iraqi Binary, Al-Muthana group was trained missile group for mixing the GB precursors.

12.8.5.4 Three metal stands for filling warheads were prepared and transferred to Missile Corp and they were distributed in their units to be used in case of mixing the precursors.

12.8.5.5 The personnel were familiarized with the requirement for mixing the precursors known as the Iraqi binary. However, liaison officers were nominated to help the missile command in this task if needed in order to supervise the mixing and to make sure of safe handling absence of leakages.

CHAPTER XIII

Miscellaneous

13.1 Relations with Individuals, Agents, and Companies:

13.1.1 The following explanations are given in answer to questions raised during meetings with UNSCOM on different occasions. Relationship between Mr. Frans, Mr. Tanaka and Oriac Company:-

Mr. Tanaka purchased all the chemicals from Japan in accordance with orders from Mr. Frans. Oriac purchased from United States Companies recommended by Mr. Tanaka. The name of the U.S. Company is called Galvanized Steel and the owner called Harold Greenberg.

Mr. Greenberg made the purchase from Alcolac through a company called UN-Kraf.

13.1.2 Mr. Frans one of the main suppliers to the programme; a meeting with UNSCOM team gave the following answers upon questioning regarding documentations:-

Am not possession of any documents at all with regard to shipping or business documents related to the subject in question.

Firstly; shipping documents have never been in my possession and if anything at all would still exist than it should be with the shipping company in Italy, named Italteco-Milan and the person in charge was Mr. Massimo Dallago.

Secondly; any business documents whatsoever were seized by Swiss authority in my absence from my residence as well as my office, therefore any records if any are not in my possession nor do I know where they might be, if any.

Concerning the possible existence of shipping documents in Amman or Aqaba, once again this would have to be asked to the shipping co., Italteco in Milan. I had no correspondence with any of the shipping companies or its agents.

The procurement process was as follows :

Through verbal or written request from Seorgi for some so called precursor materials, an offer was made. Sometimes the prices were discussed in Baghdad and an order was given. Payment was usually through a Letter of Credit with Companies as beneficiary or with Oriac as beneficiary.

Both Companies and Oriac were responsible to procure the goods up to European ports, where its responsibilities terminated.

A shipping company took over the responsibility, as far as I know this company was Italteco in Milan Italy.

FCA has not procured any of these so called precursor materials. FCA has supplied 6 electric steam boilers, some Hastelloy plate (small quantity) and some valves and fittings. This order was for Seorgi and carried out in 1988/89.

FCA was founded in Switzerland in 1985? and registered in Bissone, Canton Ticino. by F. van Anraat and fully owned, there is no relation between FCA and any other company.

Oriac was based in Luxembourg, however a Panamanian registered company. Foundation date not known to me nor the owners. Oriac was run by a certain Mr. Benoit of a financial management company which was called Ficed (abbreviation).

Companies was based in Switzerland, but also Panamanian registered. Foundation date known. As executive of companies was Mr. Enderlin in Lugano. There is no organizational linkage between FCA and Oriac and Companies, nor was there any business relation. In order to proceed with orders for Companies and Oriac, I have signed on behalf of Companies and Oriac the offers and correspondence orders were the sole responsibility of Companies and Oriac.

13.1.3 Universal Trading Company :-

It was a Canadian company , the contact person was Mr. Abdul Kadir Thakib claim at that time that the origin of TMP which he intend to supply from China, this L/C was cancelled in 1988 because he could not supply the chemical.

13.1.4 In 1989 (400) ton of NaCN was re-exported from Iraq to Melchemie company (Holland) as it was not needed by Al- Muthana.

13.1.5 In 1990 a contact was carried out with several foreign companies (Astra/Sweden, Duphar/Belgium and another German Company) to transfer the technology for local manufacturing of Atropine auto-injector, the German Company submitted an offer for transfer of technology under the condition that the Iraqi side imported from the same company two million ready made Atropine auto- injector after several technical negotiations nothing materialized and no agreement achieved.

13.1.6 In April 1987 an attempt was carried with Sinia PBD representative to procure liquids filling line, but this was abandoned.

13.1.7 An offer was submitted by Exomit Company in 1988 for thionyl chloride plant but this was not materialized.

13.1.8 Negotiation with Cojarate Company (India) to procure glass line reactors. The Indian Company refused the negotiation or to permit the Iraqi side to visit the coating site.

13.1.9 An attempt was carried with Deditrich Company to obtain the know-how for manufacturing glass lined tanks, but this was not materialized.

13.2 Codes Used:

During the chemical programme, each civil construction work executed had a code No. related to 922 for example:

The chemical stores (Bankers) and the four production building (H1,H2,H3 and H4), the residential village, the Cafeteria were given the code No. 9221, 9222, 9223, 9224 and so on because of lack of documentation it was difficult to remember which code No. related exactly to the specific civil work mentioned.

During 1985 - 1987 the directorates in Al-Muthana given a code number and as follows:-

- Director general office (70)
- Legal department (71)
- Planning and follow up (72)
- Tactical group (74)
- Technical directorate (80)
- Administrative directorate and personal (81-82)
- Production directorate (77)
- R & D directorate (76)
- Handling directorate (79)
- Trading and financial directorate (73)

Color codes and sample designation for produced and synthesized agent and precursors Color codes were used to identify the produced agents and filled munition although there is a sample designation for each agent and precursor in general, as usual codes. Also many codes rather than the specific codes were used by researchers in R & D or workers in production plants when they were sent a sample for analysis to follow the reaction whether synthesized or produced, or to follow the agents stored in different containers. In these cases the sample sent for analysis may take another code in addition to the main code to identify the requested analysis. The following shows the main color code and the main sample designation for produced and synthesized agents and precursors.

- | | |
|--------------------|---------------|
| - Cs | White |
| - Mustard (MG)* | Yellow |
| - Tabun (GA)** | Red |
| - Sarin (GB) | Black |
| - Cyclo sarin (GF) | Green |
| - mixture(GB+GF) | Black + Green |
| - VX *** | Blue |

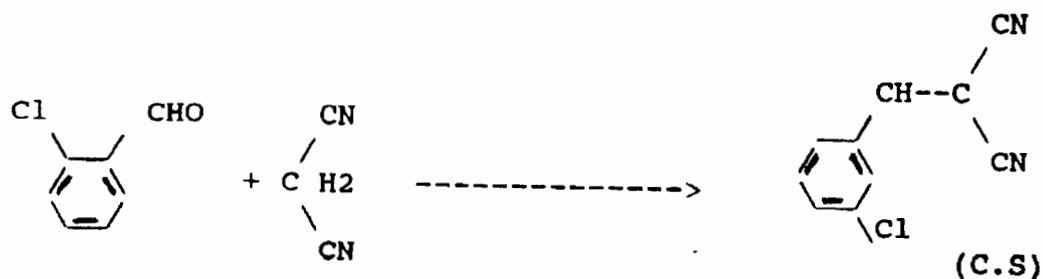
- (*) Artillery shell 155 mm filled with mustard sometimes marked CA.
 (**) Tabun designated GF in Mass production and R & D during the period from 1983 till beginning of 1987.
 (***) Vx sometime designated as (SO, SM, SN and SG)

- Soman (Z)	No colour code
- Lewsite (LW & AW)	No colour code
- BZ	No colour code
- BZ (JB 339)	No colour code
- Sec. Butanol Sarin (GS)	No colour code
- Cyclopentanol Sarin (CG)	No colour code
- Cyclohexanol Sarin (S) or thiosarin (GBX)	
- Cyclopentanol Sarin (S)	
- DFP	No colour code
- Nitrogen Mustard (NMG)	Yellow
- Isobutanol Sarin (NB-GB)	No colour code
- Isopentanol Sarin (NP-GB)	No colour code
- Dx mean either D4 or Vx	No colour code
- Thiodiglycol TDG	No colour code
- DMMP	No colour code
- TMP or MPT (Trimethyl phosphite)	
- Mix. (MPC+MPE) called RTF	
- Choline two type	
- Choline - SM	
- Choline - OH	No colour code
- Monoester(O) called monoester(O)	No colour code
- Monoester(S) called monoester	No colour code
- MPS	No colour code
- Hydrazin either (H) or UDMH	
- Admsite (DM)	No colour code
- Vx. Hcl (D) or syrup	
- MPF (PF)	
- MPC (PC)	

13.3 The Chemical Activity at Al-Salman Site:-

- Preparation of CS agent at AL-SALMAN Site was carried out in 1981, and during two months at a production rate of 30 kg / day, One ton of this agent was produced. This agent was produced through the reaction of the following materials :-O-chlorobenzaldehyde and Malononitrile.

The produced quantity had been filled in Plastic hand grenade to be used for anti-riot control.



The agent was produced by mixing the materials in metal container, then to filtered and packed in Plastic container.

- In 1988 a research group at TRC (T3 Dept.) conducted some experiment on the synthesis of GB & derivative of V-agent in Lab. Scale in order to be used for a binary system. Artillery shell (152 mm) was chosen as the proper munition to be used for the binary system by using two canisters (plastic or aluminum) several static tests were conducted using simulant to examine the mechanism of mixing by destroying the rapture disc.

These researches were stopped according to order from MIC because MSE conducting the same research in advance.

- In 1988 a research group from TRC were synthesized one liter of flouromethyl acetate (S2) as an incapacitating agent. 9

13.4 Second Hand Equipment Obtained from (SDI):

The used equipment obtained from SDI which remained at Al- Muthana and are all now out of commission are listed below:

- Two Porcelain lined reactors (1 m³) were used in Al- Muthana (in 1983).
- One S.S reactor (100 l.) was used in Al-Muthana (in 1983).
- One vessel (1 m³) in the hydrolysis plant was used in Al-Muthana (in 1983).
Destroyed under U.N supervision.
- Two tanks porcelain lined (1m³) were used in Al-Muthana in (1984).

13.5 Local Production:

Attempts of precursors

- 13.5.1 In 1985 an attempt was made to initiate the local production of the main precursors used by Al-Muthana such as: SOCl₂, PCl₃, POCl₃, choline and TEM

which were subject to export restrictions according to the Australian Group list. Other chemicals like phosphorus and HF were to be produced by the Ministry of Industry.

- The organizational body which undertook the planning was Al-Muthana.
- The establishments involved were :

Al-Muthana

Al-QAQAA (to supply Al-Muthana with SO₃ to produce SOCl₂ in late 1987)

AL-Kaim (to supply H₂SiF₆ to HF plant which was supposed to be established in 1988)

Ministry of Industry / project No. 7 to supply Phosphorous to Al-Muthana to produce PCl₃ and POCl₃.

- The following were achieved:-

SOC₁₂: The project was erected in 1988 and produced 70 tons of SOCl₂ only. Then stopped due to technical difficulties.

PCl₃ + POCl₃ (Project A+B): erected in 1988 but not commissioned due to incompleteness and contractual problems.

TMP: Contract was signed with Kim-Khaleeg the Know-how was received for the (LC/No. 88/10/24) project, and some equipments (decanter, dissolver, and nitrogen plant). The plant was incomplete and was not erected.

Choline : Produced in Al-Muthana in 1988.

- The HF and P plants were not implemented.

13.5.2 Al-Tahady project:-

In the end of 1990 a plant for production of DMPH was erected next to Mohammed plant, where two reactors, tanks, pumps & pipes used in the erection (about 70% of the equipment of plant were erected). The erected equipment was destroyed in Jan. 1991 during the bombardment of the site.

13.6 Project Site Allocation:

Ownership and protective measures for important structures.

13.6.1 Al-Muthana inherited project 922 through SOTI from the liquidated Al-Hassan Ibn Al-Haitham. The buildings were completed by SAAD State Establishment which belonged to SOTI. Legally the site plot was therefore owned by SOTI which later became MIC.

13.6.2 Protection measures and as well site allocations for projects in general are overseen by a Special Department for strategic projects affiliated to MOD

Planning Directorate which gave consultations and recommendations for suitable site locations for important projects and the protective measures to be incorporated in the design of buildings as well as measures implemented for camouflage to safeguard important installation and vital locations.

13.7 Relations with other Iraqi Establishments:

13.7.1 Where the special steel production equipment were manufactured or repaired?

- The Heavy Engineering Equipment State Establishment at Al-Daura.

13.7.2 Where the cladding of production equipment were made?

- Al Sadda Rayon Factory and Al Kaim Phosphate Establishment for rubber lining.

In 1986 the scrubber and storage tank were lined with rubber at Al-Sadda Rayon Factory.

13.7.3 The facilities which can perform high alloy steel welding are:

- The Heavy Engineering Equipment Establishment at Al- Daura.
- Al Nida'a State Establishment
- Al Karama Centre
- Ibn Al-Haitham Centre

13.7.4 The names used for correspondence for on behalf of Al- Muthana?

- SEPP, SORGI, SOTI, and SOCI

13.7.5 Al-Muthana acted on behalf of PC3 project to procure in 1988 chemicals:

- Activated Alumina
- Molecular sieves
- HF
- KOH

13.7.6 Al-Muthana performed the job of coating several steel vessels with Haller for PC3 project.

13.7.7 In 1990 an attempt to transport Ethylene liquid from PC1 in Basrah to Al-Muthana by using a modified liquid nitrogen truck. The modification was to be carried out at Al-Tarmia site (Nuclear site) but the suggestion was not implemented.

13.7.8 In mid-1990 the Institute for vaccine and serum was affiliated to Al-Muthana which previously belonged to the Ministry of Health and was experiencing administrative difficulties. Al-Muthana could run at as a production facility and

offer the same incentives given to Al-Muthana employees for the purpose of improving the performance.

13.7.9 At the end of 1991 some chemicals were transferred to the (Modern Paint Industry) these chemicals were stored at Dujla Store near Falluja city which belong to Al- Muthana.

The chemicals were as follow:

- Isopropyl alcoholabout 500 Ton.
- Cyclohexanolabout 15 Ton.
- Butanolabout 3.4 Ton.
- Methanolabout 76 Ton.
- Ethanolabout 1.8 Ton.
- Isopropyl amineabout 1.2 Ton.
- Triethyl amineabout 2.4 Ton.
- Di-isopropyl amineabout 12 Ton.
- Dichloro methaneabout 196 Ton.
- Chlorobenzeneabout 3.5 Ton.
- Dichloro ethaneabout 6.8 Ton.

13.7.10 Several unused warehouse at Sugar Factory in Mosul were used in 1990 to store the machines of the aerial bomb workshop which were evacuated from Al-Muthana before the bombardment.

In 1991, these machines were returned back to Al- Muthana and then destroyed in 1992 under UNSCOM supervision.

13.7.11 The Radiation Bomb

13.7.11.1 In 1987, and idea was suggested for an "area denial weapon" to be used in connection with the campaign for liberating Al-Fao from the Iranian occupation forces, to construct a radioactive bomb. The weapon was based on the dissemination of an isotope of temporary radioactivity over a wide area to be denied to enemy forces.

13.7.11.2 The idea involved the use of the vertical channels of 14 July reactor through the introduction of a selected material capable of acquiring radioactivity after exposing it to an affluence of neutrons for a certain period of time . Then this material is to be transferred to special containers surrounding an explosive charge and shielded with lead and inside an aerial bomb body.

13.7.11.3 Zirconium dioxide was chosen to be radiated for the following reasons:-
a- It was available in sufficient quantity at Al- Qaqa establishment.
b- The half life is short (65 days).

c- It contains some impurities like Hafnium characterized by its suitable cross section.

13.7.11.4 During the study of using this weapon the following points were taken into consideration:-

- a- Possible exposure of the workers to the danger of radiation during irradiation, charging, handling and even during the field using.
- b- The revelation of using such a weapon will be exploited by the hostile mass media against Iraq.
- c- The radiating capacity of the reactor was limited.
- d- The atmospheric factors like wind speed and direction, rain and humidity affect to a large extent the dissemination of the material on the ground.
- e- The limitations on aircraft loading of the large number of bombs needed per sq.km.

13.7.11.5 In laboratory, several grams of zirconia was radiated inside an aluminum container, after making sure of the efficiency of welding and the safety of the reactor from radiation heat increasing. The radioactivity was measured after the process of radiation and compared to the theoretical radioactivity . And in order to prepare a suitable sample for the weapon an aluminum container 87 Cm long was filled with 2.4 Kg. of Zirconia. Then, the container was radiated in the vertical channel (16) at the reactor core for 14 hours under neutron affluence of about 10^{12} N/Cm²/Sec. The experiment was conducted on 22 Aug. 1987. The level of the sample radiation ranged between 1 and 25 Roentgen/hr without the lead plate, but it declined to (0.1 - 0.25) Roentgen /hr with the existence of the lead plate.

13.7.11.6 At the beginning it was found that the suitable bomb for containing the radio active charge was Al-Qaqa 28 (see the enclosed figure).

Two static and dynamic experiments were conducted as follows:-

- a- One experiment on 18 Aug. 1987 at Al-Haswa field for making sure of the rupture of the lead cover and metal case to ensure the dissemination of the radioactive material.
- b- An experiment was conducted on 27 Aug. 1987 at the Western Desert to determine the nature of the radioactive intensity near the explosion center (which was more than 2.5 ml Roentgen/ hr). While part of the material thrown in the air as a cloud driven by wind was impossible to determine as the radioactive material in it was very small.
- c- The experiment conducted on 14/12/87 using aircraft in the test range near (160)Km point.

This experiment was to ensure the suitability of this weapon for flying. The experiment was conducted in two stages the first was a dummy and the

second was an active bomb with a time fuse. The bomb was heavy (1400 kg) and one bomb only could be carried by the aircraft. Radioactivity measurement results were approx 2 mrad/h, (which was unsatisfactory), 10m from the explosion center and that is close to the permitted level allowed to personnel operating in radiation fields. However the remainder of radioactivity was spread out by the wind.

13.7.11.7 The theoretical calculations show and that the required number of aerial bombs to cause lethal effect on the enemy were too high, in case of internal exposure and higher still in case of external exposure in addition to the reactors limited capacity and the need for a large number of planes to cause the required effect on an area of 12 km².

13.7.11.8 For technical reasons it was impossible to measure the radioactivity level in the air, so mathematical models were adopted to calculate the dissemination of suspended materials in the air, for various atmospheric factors. For ground measurements portable detection equipment were used, TLD, and soil samples were taken from polluted areas and measured in the IAEA labs.

13.7.11.9 The possible use of natural uranium instead of zirconia was considered and rejected for various reasons.

13.7.11.10 Al-Muthana bomb(LD-250) : The Air force during the flight test objected to the heavy weight of the Al-Qaqa (2) bombs (weight 1400 kg), Al- Muthana bomb with a weight of 400 Kg was chosen On 27/Jan/1988 flight tests were conducted by mirage, Su-22 and Mig-23. The tests results were acceptable.

13.7.11.11 Conclusion :

The use of radio active bomb was excluded due to the a.m limitation and the difficulty to achieve the required effects.

13.8 Alternative Production Sites:

During 1988 Al-Muthana production sites became well known internationally especially after several articles appeared in the Western press. An idea was therefore evolved to use Al- Muthana for chemical and pharmaceutical production and to move the CW core-production units elsewhere. The project named 4x2 where four sites with two production units each were to be established. However, the project was not implemented beyond the inquiry stage for production equipment from suppliers.

13.9 Answers to Questions raised by letter of UNSCOM dated 27 July 1995 concerning the following:

13.9.1 Project MC-3:

In 1988 procurement effort for technical equipment was given code name Project MC3 in order to differentiate it from other orders.

- The first supplier was FCA Contractor SA Via delle Ale 1/A 6900 Lugano through Mr. Frans Van Anraat as mediator. The letter of credit was 88/3/1873 and the value 393,455.50 \$ from FCA Contractor.
- The item procured through the above L/C as follows:
 - Flow meter for HF gas.
 - Conveyor belt.
 - Steam generator.
 - Hastalloy sheets.
 - Spare parts for pumps.
 - Spare parts for air compressor.

All the above technical equipment which was procured through SORG were used in Al-Muthana State Establishment.

- The second supplier of the MC-3 was KIM-Khaleej. The Letter of Credit was 88/3/899 of value 539,160.00 DM.

The items procured through the above L/C was as mentioned in the attached documents (10 pages) provided by Mr. Kamal Saudi.

These technical equipment were used also in Al-Muthana.

13.9.2 Project M3-A:

- The project M3-A was an attempt to procure material and equipment for a plant to be used in manufacturing aerosol cans and a filling line for domestic insecticide.
- The L/C No. 87/3/2790 opened in favour of ORIAC International S.A. 30, Boulevard DE La Foier, Luxembourg, through Mr. F. Van Anraat as mediator.
- The correct value of the above L/C was 2,574.530.00 \$ as mentioned in Arabic original copy of the L/C's list handed in April, 1994 to UNSCOM. There is typing error in English Version for the list of L/C's in the FFCD (missing Zero the last figure of the value of this L/C).
- The material procured through this L/C 88/3/2790 was only TDG as mentioned in the FFCD and after the cease-fire between Iraq-Iran in 1988; the rest of the value remaining in this L/C was changed to procure material, equipment and machines for plant for manufacturing cans and filling for pesticide (M3-A). Later this L/C was cancelled and did not supply any equipment or machinery by the remaining value of this L/C.
- No Contract was signed between ORIAC and SORG for the procurement of a plant for the manufacture of cans and their fillings.

Through FCA, SORG received an offer for filling lines from Coster Company, Italy this offer never materialized into a Contract or an order for the supply of such:

- Another offer for can making and filling line was obtained from a Company called FMI, Naples, Italy. Once again this offer never materialized into a Contract or order.
- Concerning L/C No. 10/65736, it was opened in favour of FCA Contractor S.A./Switzerland to procure machines and equipment for cans and filling (M3-A).

This L/C was cancelled as the supplier did not fulfill his obligations.

13.9.3 FCA Involvement in Delivery to the Daura Refinery:

FCA had acted without success as mediator for delivery from paramins to Al-Daura Refinery.

The intended supply concerned additives for the production of lubricant oil.

Enclosed a complete information provided by Al-Daura refinery about suppliers, description of items and quantities, dates and financing covered by the L/C's (Attached herewith full information (40 pages) regarding the following L/C's).

L/C 88/2/248

L/C 88/2/248

L/C 87/2/437 and not 88/2/437

L/C 87/2/716 and not 88/2/716

as mentioned in your letter dated 28 July, 1995.

There is no relation to Mr. Frans Anraat concerning the above L/C's.

All the above information obtained from:

- KIM-Khaleej - Mr. Kamal Saudi
- Mr. Frans Van Anraat
- Al-Daura Refinery.

13.9.4 Imported Precursors:

Thorough reassessments of the contracts and procurements for precursors in general was carried out and all the quantities have been declared. Some contracts and L/Cs which UNSCOM team have enquired about as possibly covering precursors import have been fully explained as mentioned above.

13.10 Additional sites involved in CW program :

13.10.1 Administration offices for Al-Muthana

- One floor occupied by SEPP from state org. for chemical industries during 1981-1982.

Address : Al-Jamhoria street, AL-Sinak P.O. Box : 5367

- Building in AL-Sinak (previously occupied by SOTI), during 1983-1985.
- Building in AL-Mansour sector during 1985-1987.
- AL-Shuala site during 1987-1990.
- Drug Information Bureau / Al-Alwiyah sector /
Baghdad P.O.Box 13033 -Aqrguf site end 1990-1992.

The above offices for Al-Muthana consist of:

- The general director office.
- The financing department.
- Procurement department.
- Telex office.

13.10.2 Storage site for AL-Muthana

- Dijla storage site near Falluja city was used to store chemicals, (P2S5, Di isopropyl amine, Isopropanol and other general chemical) -Other sites belonging to MOD were used for distribution and storing of munitions, both filled and empty. (See chapter Unilateral Destruction)

13.10.3 Attempt to establish a filling line in Hutteen State Establishment in 1983 to fill artillery shell 130 mm with Mustard, this was not implemented.

13.11 Ricin Production:

UNSCOM team enquired whether ricin was produced at Al- Muthana. Ricin was never produced at Al-Muthana in any quantity. However, Al-Muthana specialists participated in ricing field tests carried out for a small quantity produced by TRC laboratory for details see FFCD/BW programme. In addition Al-Muthana provided TRC with some chemicals like CS, CN, and mustard and evaluation of toxic effects.

Caster oil:

Caster oil production was suggested at the St. Est. for Chemical Industries in the beginning of 1992 needed for the production of brake fluid since castor oil was the main component of brake fluid also there was a demand on castor oil from other establishment such as State Establishment for Rubber Industries.

The castor oil unit was erected after the completion of erection of brake fluid unit.

Brake fluid unit :

The brake fluid project started in 1991 due to the embargo on imports and the unit was completed and production started in 1992, at that time the unit used the imported castor oil.

Castor oil unit :

The date of erection the project was in Aug. 1992 and the unit was completed in Aug. 1993 but the production did not start because the unavailability of the seed of castor oil needed for the production of castor oil at that time. In June 1994 the production of castor oil started.

Due to high demand on castor oil from other establishments (i.e. Rubber industry, Al-Qaqa ...) therefore it was suggested to increase the production capacity by erecting a new unit with larger capacity.

Therefore, as explained above, the need to formulate brake fluid and to provide castor oil for the Rubber and Chemical Ind. and the embargo imposed on Iraq to import essential materials for legitimate civilian needs was the driving force for the local production of castor oil.

The attached documents explain the procedure of destruction of documents of MSE in addition to the video tape received by UNSCOM in Dec. 1995.

0095

These documents showed that all the documents were destroyed except some important documents which kept in boxes and send to the chicken farm.

0396

VI- No. of L/C s

List of L/Cs Nos. (38 copies) which explain the importation of chemicals, equipment spare parts and different materials by MSE during (1981-1989). Each list include the LC value, currency, Companies Names and the imported materials. These L/C's Nos. support the material balance for the imported equipment and the financial budget for the past CW programme.

ADDENDUM **TO IRAQ'S CHEMICAL FFCD**

In order to clarify certain aspects of Iraq's chemical programme particularly relations with the Ministry of Defence and other areas where UNSCOM felt that documentary supporting evidence was lacking a seminar was organized on 20th and 21st May 1996 and attended from UNSCOM by a joint team . From the Iraqi side, in addition to the personnel involved in the two programmes were present high ranking officers from the Ministry of Defence who held positions of responsibility in the Chemical Corps, Missile Force, and Air Force in addition to five of the original six members (one member deceased) of the planning committee for the special munitions.

The account given in this addendum is considered by Iraq as further clarifications in support of the May 1996 final draft FFCD addressing many of the issues raised during the seminar.

1. The Role Of The Chemical Corps In The Chemical Programme During 1988 - 1991

In order to answer the questions asked in the seminar about the Chemical Corps role in the CW programme, a historical brief is quite in order so that the apparent lack of involvement during the period from 1988-1991 may be put in its proper perspective:

- 1.1 The Chemical Corps was established in the Iraqi army in the sixties to provide the necessary information and training in defensive measures against chemical warfare as in all modern armies around the world. Training courses in this field were attended by officers of the newly formed Chemical Corps in the USSR and USA. The chemical Corps became the main source for expertise in chemical protection and decontamination measures as well as for the equipment and materials necessary for those measures.

- 1.2 In 1981 the Iraq-Iran war became a war of attrition in which Iran began successive campaigns launched to wear down Iraq's defences and to occupy Iraqi territories using their superiority in numbers. The Chemical Corps Director in 1981 submitted a study to MOD suggesting the reactivation of the cancelled chemical project of Al-Hussian Ibn Al Haithem in Sammara. The proposal was accepted and project 922 was created to complete the unfinished structures of the old project and to install the equipment procured which were kept in boxes. The Director of the Chemical Corps Gen. Nizzer Al Attar became at the same time the Director of project 922 until 1983. For that period project 922 was an MOD project overseen directly by the Chemical Corps Director together with a large number of Officers and men drawn from the Chemical Corps. However, the project remained a separate

entity and was not merged in any way with the Chemical Corps. In the second half of 1983 the project Director Gen. Al Attar became a full time Director of project 922 and a new Director for the Chemical Corps was appointed. The affiliation to MOD continued until 1986. However, overlapping with this period another affiliation was made with SOTI to provide administrative and technical management expertise to MSE leaving the planning and financial decisions to MOD (the Minister himself). In 1987 MSE severed its affiliation to MOD and became a fully fledged MIC establishment.

1.3 Early in 1983 when the production began to appear necessitating the creation of an organ to coordinate between MOD requirements and production activity. Thus in that year a group of two staff officers from the Chemical Corps was formed which was called the tactical group. The group moved from the Chemical Corps to project 922 when a new director was appointed to the Chemical Corps. This group by the end of 1983 was enlarged and became the planning committee as will be explained later in this addendum.

1.4. The Chemical Corps participated through one representative in the planning committee. However late in 1987 with the appointment of a new chief of staff Gen. Nizzar Al Khazraji, he conducted some reorganization of MOD's tasks and procedures and ordered that a more active role is to be played by the Chemical Corps than was practiced. However, the Chemical Corps depleted from most of its best and most active officers and men by the creation of project 922 and later by MSE when the production was expanded was not in a position to assume the complicated responsibilities that MSE was shouldering throughout the past 6 years.

Essentially the chief of staff order meant that the Chemical Corps was to assume the leading role in the planning committee and to play a more active role in the implementation of the tasks after the chemical munition is supplied by MSE. In response to that MIC proposed to the chief of staff that MSE henceforth would be only a supplier of munitions in the same way other munitions and weapons manufacturers within MIC supply MOD with their requirements and would consequently hand over responsibilities for all stocks and stores of munitions and the responsibility for checking and maintenance of the stocks. And would no longer, carry out any duties and services that MSE had been rendering to MOD. MIC was quite clear in drawing the lines of responsibility and was not prepared to compromise on that unless the order of the chief of staff is changed and the procedure reverts back to what it had been for the past 6 years. Thus the order of the chief of staff was changed and the role of the Chemical Corps remained limited as described above until 1991.

In 1989 a new Director was appointed for the Chemical Corps who attempted to overhaul the Chemical Corps and to define a new relationship with MSE,

but as MOD was not prepared to place orders for Chemical munitions for 1989 and 1990, any new ideas about the role of Chemical Corps had no opportunity to express itself vis a vis MSE.

1.5. On 9 January 1991 a general order was issued to all MIC's establishments to evacuate all stored munitions and weapons and products in general and to disperse them in various available storage sites. As that order required considerable logistical support many storage sites were needed it was decided that the MOD Corps would take the responsibility of storing and guarding all stocks of munitions of weapons in accordance to specialization. That is for example, all aerial bombs would be stored at Air Force sites chemical munitions would be stored with the Chemical Corps, and Missile warheads would be stored with the Missile Force and so forth. That order was to be carried out regardless of whether the items concerned have been contracted for or not. As MSE and the stores within its boundaries were considered certain targets for bombardments the chemical munitions stored there under contract or outside the contract which had not been already dispersed became a subject of cooperation between MSE and the Chemical Corps. The munitions (included 122 mm rockets filled with sarin, 155 mm art. shells filled with mustard, and 120 mm motor shells filled with CS) were transported on MSE trailers to various army depots and sites under the supervision of the Chemical Corps which also assumed responsibility for guarding the stores and protecting them in general. The Chemical Corps also assumed responsibility for measures taken when some of the stored munition was damaged during the war. This period lasted about 3 months when stocks were returned to MSE for declaration and destruction.

To sum up the Chemical Corps (in the personal capacity of its director and a considerable number of its best officers and men) may be said to have had a pivotal role in the establishment of project 922 in 1981 and the success in realizing the status Al-Muthana State Establishment achieved in 1986/1987. After that and due to the continuous depletion of the Chemical Corps personnel its task remained restricted to protection and training activities in the armed forces and the supplier of protective gear and materials to all who required them in the armed forces. On a few occasions there were some attempts to give the Chemical Corps a bigger role than it had in the Chemical weapons area particularly in 1987 but that attempt failed due to lack of expertise and resources to assume the responsibilities MSE had assumed for several years in the past. In 1991 a minor role was thrust upon the Chemical Corps to store and protect Chemical munitions stocks for a period of a little more than 3 months. However, the Chemical Corps was represented by one officer in the planning committee as a permanent member throughout its working life. The Chemical Corps did not initiate any activities such as production of new agents or proposing an R & D project.

2. Planning Committee:

The Planning Committee's role was confined to the study of a particular threat pointed out by other analysts to recommend ways and means of dealing with that threat. The Committee was affiliated to the Directorate of Planning at MOD.

2.1 The committee was first formed according to a proposal submitted by the D.G of the project 922 General Nazar Al-Attar in the second half of 1983. However, MSE's two representatives in the Planning Committee were also called the tactical group within MSE organization, who had the additional task of verifying and giving consultations on MSE's field tests.

2.2. The Committee carried out its task through the following procedure:

- a. The committee convened its meeting upon notification from the directorate of planning through its representative who was also the secretary for the committee.
- b. The committee had no designated chairman and usually such committees are chaired by the highest ranking officer present in the meeting.
- c. The committee studied the hostile threat and recommended ways and means to deal with it and its recommendation were recorded by its secretary who at the end of the meeting read out the conclusion.
- d. The secretary takes the necessary measure through his Directorate for obtaining the necessary approvals and notifying MSE for implementation.
- e. MSE carried out the necessary measures and informed the Planning Directorate and MIC about the measures taken in writing.

Remarks:

- The committee convened its meetings only upon notification through its secretary, and it did not hold regular meetings.
- The committee had no role in the planning for production or R & D activities at MSE.
- Its last meeting was held at the end on 1988 upon instruction to study and elaborate what was called "Strategic Reserves " for chemical munition. Although the committee was not formally terminated no activities were performed after that meeting.
- The committee had no role in activities and the events of 1990 and 1991 referred to in this addendum.
- The committee had no role whatsoever in the BW programme at any time.

3. The Role of MOD in the planning of the CW programme:

3.1. Period 1981-1986

The initiative to reactivate the CW programme came from the Director of the Chemical Corps Gen. Nizzar Al-Attar in 1981 and the project 922 was

Namely that Hussain Kamal after rewarding the leading personnel at MSE so generously wanted to increase the pressure on them to work harder and faster in the production effort by causing the demand to come from MOD procurement channel (the Directorate of Armament and Supply) as an added motivation to fulfil the task he gave to them.

Opinions still differ regarding which explanation is the more likely, but they all agree that Vx was not produced let alone weaponized and that the order send from the Directorate of Armament and Supply was not in accordance with the established procedure.

As for the actual fulfillment of that order it is clear from the letter of the DG of MSE which navigates around the question of supplying Vx munition by offering alternative agents like mustard or GB derivatives instead until the production of Vx is achieved providing the raw materials arrive to MSE etc.. This explanation supported by the letter of MSE dated 2 Dec. 1987 (see the document received by UNSCOM-138 in 21 May 1996). referred to above practically show beyond any doubt that Vx was not in production prior to the date of the attempts given in detail in Chapter-VI.

- 4.2. At the end of Iraq- Iran war in 1988, MOD prompted by MSE to state its requirement of stocks of chemical munitions for the year 1989, so as to enable MSE to plan its activities for peacetime. MOD instructed the planning committee to study and elaborate what was called "strategic reserves" of chemical munitions. The planning committee worked out types and quantities of chemical munitions which correspond to seven days requirements or 21 days requirements based on MSE present and projected possibilities and the document was sent to MSE for comments.

However, MSE worked out the cost of production for the two options and awaited MOD decision for the preferred option. MOD dropped the matter having noted that the cost (85 M ID and 307 MID respectively) was too high even for the smaller option as MOD was actively undertaking large cuts in its budget for 1989. Furthermore, MSE warned that the types of munitions it produced deteriorate with storage and some types deteriorate more rapidly like sarin and in any case the stock must be renewed every year. Quite obviously MSE had over played its hand and consequently received no orders from MOD for 1989 and 1990.

- 4.3. Late in 1990, MOD urged by MIC to state its requirements for chemical munitions since MSE was actively producing munitions since May. 1990, without specific orders from MOD which would put MSE in financial difficulties if no order from MOD was forth- coming. MOD in Dec. 1990 resorted to the last study preformed by the planning committee at the end of 1988 and sent it for MIC as its requirement choosing the smaller option. However, as can be seen from MSE's comments on MOD's requirement

contained in the letter of D.G of MSE dated 5 Jan. 1991 addressed to MIC some changes have taken place on the types that MSE had actually produced in 1990 prior to receiving the order. The table below illustrate the changes:

4.3.1 Table

<u>Item</u>	<u>Type</u>	<u>Agent</u>	<u>Qty.</u>	<u>Comments of MSE</u>
(a)	AALD-500	GB Derv.	1232	About 90% of the order was delivered and distributed to airbases namely 1024 R-400 bombs Iraqi binary. Of the remaining quantity about 200 only 35 are available filled according to the old system (sarin)
(b)	AALD-500	Mustard	1232	Fulfilled
(c)	122 mm rocket	Sarin	33264	Largely fulfilled and the remainder will be ready by 9 Jan. 1991.
(d)	155 mm artillery	Mustard	12474	Fulfilled

It is thus quite clear that MSE had produced more munitions than was specifically asked for by MOD. As the letter of 5 Jan. 1991 goes on to state that the following items were produced outside the order namely:

4.3.2 50 Al-Hussain warheads 35 of which Iraqi binary and 15 filled with sarin (N.B the figure 35 is first written as 34 and then corrected to 35 !).

4.3.3 500 LD 250 bombs filled with mustard.

4.3.4 1006 art. shell 155 mm filled with mustard in addition to 100% of the order.

4.3.5 18000 mortar shell 120 mm filled with CS outside the order.

4.3.6 Also there are several thousands of empty munitions of rocket warheads (122 mm), aviation bombs and artillery shells which can be filled on demand. In addition we have bulk agents of 220 tons mustard and 380 tons under production at the rate of 10 tons per day. Regarding the GB agents the stock is exhausted and fresh stock is being built at the rate 1 ton per day.

It is worth mentioning that as late as Jan. 1991 there is no mention of Vx as being one of the current production which puts an end to UNSCOM speculation about the Vx account given by Iraq.

Chapter-XII paragraph 12.8.2.2) under the responsibility of the Missile Corps with the presence of MSE members at the storage sites at all times in accordance with the previously agreed procedure. Moreover the Missile Corps, with cooperation of Project 144, had conducted the integration of the warheads and airframes for test purposes before the filling. In addition to that members from Al-Muthana State Establishment had conducted trainings for a group from the Missile Corps on the way of adding (B) material to the warheads when necessary.

6.4 When the date for the start of the military operations against Iraq was approaching, orders were received by the Missile Corps in coordination with MIC concerning the Chemical warheads. These warheads were to be ready for use in case of orders to do so, but no order was issued concerning the use of these warheads.

6.5. After the end of military operation against Iraq, (16) warheads, filled with sarin and its mixtures, were transferred to Al-Dijela site and were declared to UNSCOM. In addition to that (14) warheads from the Iraqi binary were declared to UNSCOM in April 1991 after transferring them to Al-Dijela site. The remaining (20) warheads from the binary were destroyed by the Iraqi side at Al-Niba'e area. The Missile Corps had prepared the destruction area after receiving the orders of destruction through MSE (see unilateral destruction, chapter-XII from the FPCD). In conclusion it is worth mentioning that the Missile Force enjoyed a special relationship with MIC due to the on going development throughout the period from 1987 onwards in the missile area. Several versions of Al-Hussain missile were developed in close cooperation with the Missile Force which established continuous contacts which facilitated the joint tasks.

7. How the Quantities were specified for producing R-400, DB-2 and Al-Hussain Warheads for the Chemical programme:

7.1 R-400 Bomb: In April 1990 discussions took place between MIC and Air Force on the type and quantity of aerial bombs which would be the most suitable for the new threat. (1000) R-400 bombs were chosen based on the consideration of the available tail units that the Air Force can supply from its stock, the raw materials available at Nasser State Establishment for the production of bomb bodies, and the quantity of precursor (DF) material necessary for production the binary type of munition.

7.2 DB-2 Bomb: In 1985, the original need for those bombs, manufactured from aluminium, was specified by the Air Force for Napalm purposes. However the Air Force after production of limited quantity lost interest in the product

and the production was stopped. MSE was looking for containers with large capacity made from Aluminum in order to overcome the corrosion effect of acids in the sarin it produced. MSE studied some of the DB-2 containers produced by the State Establishment For Mechanical Industries and found them acceptable. MSE ordered about (1300) pieces of DB-2 based on the raw material available with the manufacturer. Of those only (155) DB-2 were filled and the remainder were stored empty at Al-Muhamadiyat sits. It is obvious that the choice of DB-2 was not considered a success.

7.3 Al-Hussain Warheads: (50) Al-Hussain chemical warheads, were specified by MIC after coordinating with Missile Force Command, which project 144 had manufactured for the benefit of Al-Muthana State Establishment in 1990 according to the order of MIC. Those Warheads were filled with chemical agents (sarin and its mixtures 16 warheads), and the Iraqi binary (alcohol mixture 34 warhead). The Ministry of Defence had no role in specifying the quantity for this weapon (A letter from MSE to MIC dated 5 Jan.1991 which was received by UNSCOM in 8th Dec. 1995 which shows that MSE has produced (50) Al-Hussain chemical warheads (16+34) and were submitted to the Missile Force without any order.

8. The Distribution, Storing and Responsibilities for these munitions were as follows:

8.1 R-400 bomb: R-400 bombs, filled with the Iraqi binary (Alcohol Mixture only), were distributed to the air- bases in 1990 according to the number of the air squadrons working in each air-base in the western area, and the type of the aircraft and its capacity. The transferred R-400 bombs remained under the supervision of MSE personnel assigned to each storage site throughout the period of their storage (see chap XII). Whereas the responsibility of the air-base towards these bombs was only to protect and store them in safe places.

8.2 Al Hussian Wearhead : Al-Hussain Warheads were distributed as mentioned in chapter (XII), and transferred by Al muthana State Establishment to Missile Forces. After receiving these warheads, their distribution and storing became under the responsibility of Missile units, supervised by specialists from Al Muthana State Establishment for protection measures in emergency cases.

9. Role of the Air Force in the Chemical Program:

9.1 For the period from the beginning of the chemical programme until the end of Iraq-Iran war, the Air Force had no role in the planning of production of chemical munition, neither in the types of munitions nor the agents filled. The

representative of the Air Force in the planning committee coordinates with the other members about the Air Force tasks after the evaluation of the required chemical munition by the planning committee depending on the hostile threats.

- 9.2 In 1990, when Israel threatened preemptive strikes against Iraq, Iraq declared that if Israel strikes, Iraq will not hesitate to use the binary chemical in retaliation. Therefore a group from MIC and the Air Force was formed to study the requirements of the Air Force for the aviation bomb which can be used from low levels. R-400 was chosen as the aviation bomb to be used for the binary chemical. A thousand (1000) R-400 bombs were proposed depending on the capabilities of Nasser State Establishment in production of these bombs, MSE in production of the agents and the available tail fins and parachute of the bomb BRIP-400, which were to be used with R-400 bomb.
- 9.3 In Aug. 1990 the aerial bomb R-400 which were filled with Iraqi binary (mixture of alcohol) distributed in different air-bases and airfields as mentioned in chap. (XII). The distribution of R-400 (1024 bomb) were carried out according to the availability of aircraft and the storage sites at the air-bases and the type of the aircraft and its capacity.

9.4 In 1991, the aviation bombs type LD-250 filled with mustard and AALD-500 filled with mustard (which were evacuated from MSE) were distributed near air-bases and airstrips in isolated pits until the end of the war actions when some of these bombs were unilaterally destroyed and the rest were transferred to MSE and then destroyed under UNSCOM supervision. To sum up the Air Force had no role in the planning or production of the chemical programme and was not properly consulted on weapon selections for the chemical munitions. Only in one case which relates to the selection of the R-400 bomb there was any meaningful consultation regarding the type and quantity of the aerial bomb to be produced. Apart from that the Air Force carried out tasks assigned to it through the established procedures including storing and protection of dispersed munitions to various and air-bases and sites.