



Ministry of Oil

State Company for Oil Projects

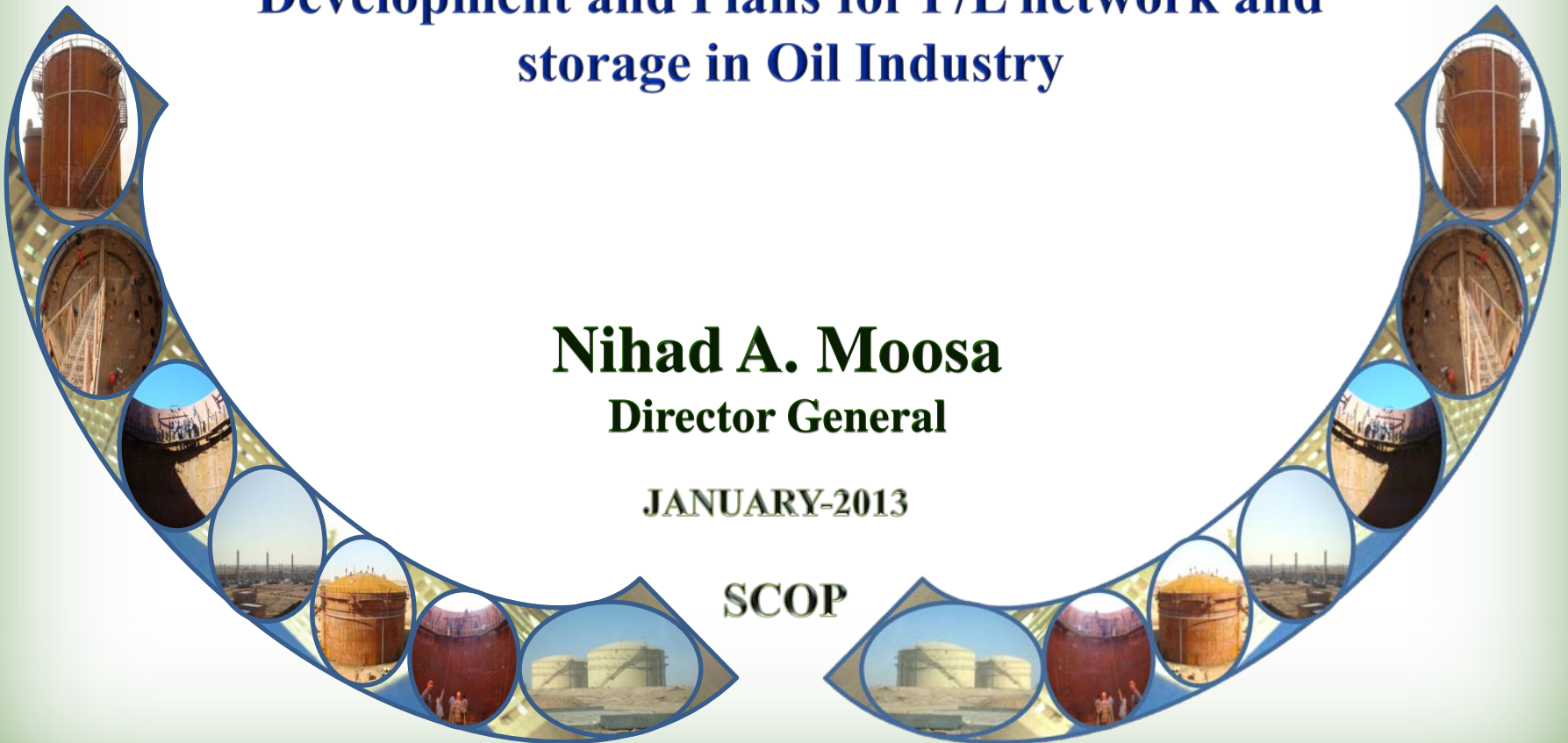


Blueprint for Iraqi Oil & Gas Infrastructure Development and Plans for P/L network and storage in Oil Industry

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SCOP





Iraq hydrocarbon resources and infrastructure

Main Crude Oil Depot in Iraq

There are ten major storage crude oil depots in Iraq [Zubair/ Zubair2/Tuba/PS1/FAO/K1/IT1/ITIA/K3/BUZURGAN] with total storage capacities of (20) Mb/day (approximately).

Oil production of south oil fields [Rumaila/ Zubair/West Qurna/Majnoon/Gharraf/Ahdab/ BUZURGAN/Subba]

Collected in (Z1,Z2,PS1,Tuba) depots then to FAO exporting depot ,Then to existing ports AL Basrah (ABOT)& AL UMIA (KAAOT) for export.

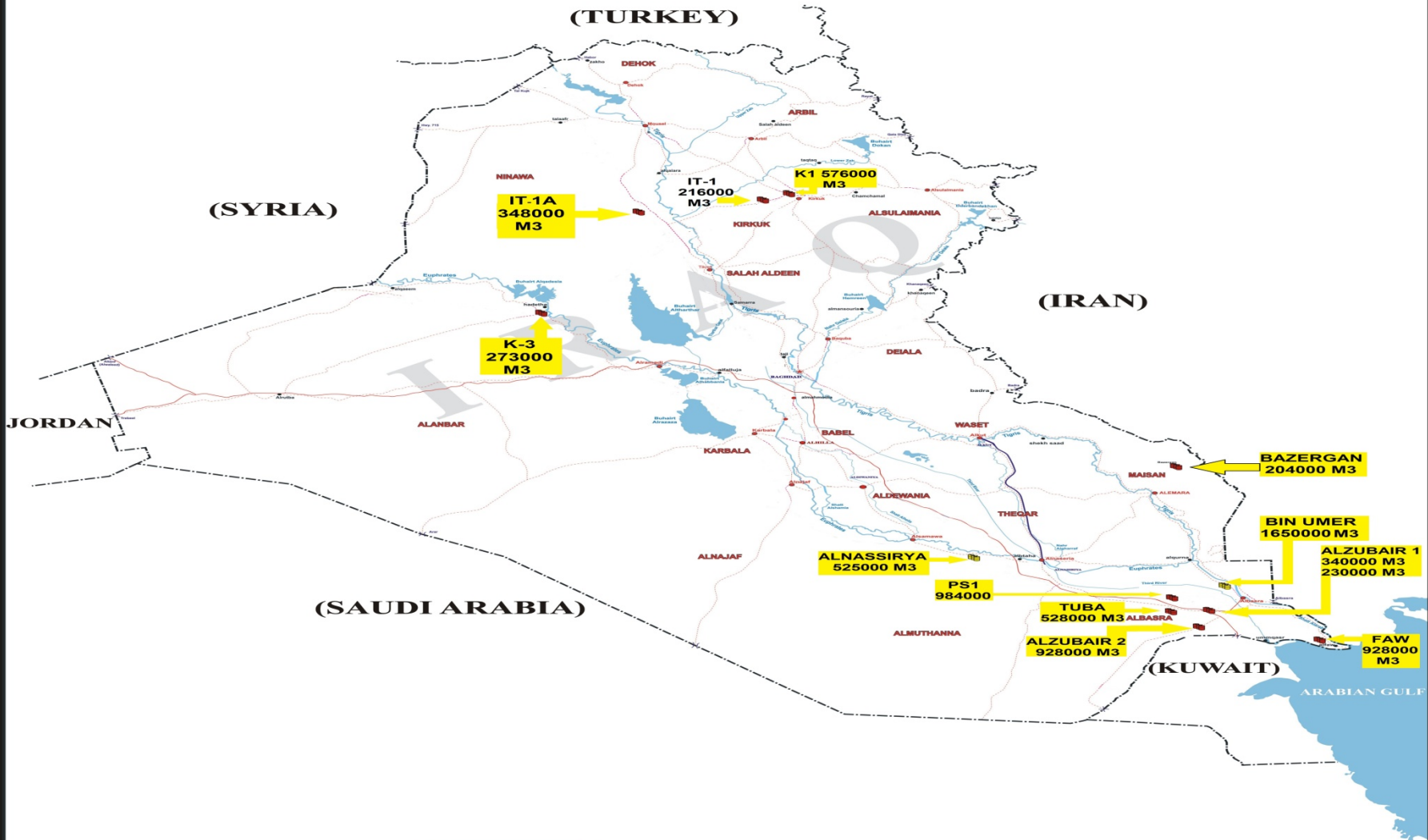
North production collected in (K2/IT1/IT1A) main storage depots then exported via Iraqi Turkey P/L through CYHAN port.

K3 storage depot 1 used for connection of south crude oil system to the north one.

Storage Depots Status Before 2003

Item	Site	No.of Tanks	Capacity Per tanks Cu.M	Total capacity Cu.m	Remarks
1	Zubair	10	34000	340 000	
		10	23000	230 000	
2	Zubair 2	16	58000	928 000	
3	Tuba	8	66 000	528 000	
4	PS1	12	82 000	948 000	
5	Fao	16	58 000	928 000	
6	K1	16	36 000	576 000	
7	IT1	6	36 000	216 000	
8	IT1A	6	58 000	348 000	
9	K3	13	21 000	273 000	
10	Buzurgan	3	28 000	84 000	
		4	30 000	120 000	
Grand total				5555 000	

IRAQI CRUDE OIL DEPOTS



LEGEND

- EXIST
- PROPOSED



ISSUED FOR INFORMATION			
REV. No.	DESCRIPTION	DATE	CHK. APP.
STATE COMPANY FOR OIL PROJECTS BAGHDAD IRAQ SURVEY DEPARTMENT (G.I.S.)		CLIENT:	
		PROJECT:	
SITE LOCATION OF DEPOTS		SITE:	
DRAWN:	ALI TAREQ HAMDAN	SCALE:	DATE:
DESIGN:	JAWAD.A./ALI TAREQ	PROJECT No.	
CHECKED:	JAWAD ALI	DRW. NO. 00.00.00 - SG-1	
APPROVED:	JAWAD ALI	REV. No.	0
APPROVED:	JAMAL FALEH		

Storage capacities lost

Iraq during the last three decades was involved in three big wars,

All the oil industry infrastructure was suffering from either directly aimed by war operation or from bad operation and maintenance, this affects the whole oil and gas industry in the country oil production declined sharply specifically after 2003.

Storage capacity have be damaged, also transportation & exporting capacities decreased dramatically.

Storage Tanks destroyed up to 2003

Item	Site	No. of Tanks	Capacity Per Tank (m ³)	Total Capacity (m ³)	No. of Destroyed Tanks	Storage Capacity Out of Use (m ³)	Rest Capacity (m ³)	Note
1	ZUBAIR-1	10	34000	340000	2	68000	272000	
		10	23000	230000	---	----	230000	
2	ZUBAIR-2	16	58000	928000	12	696000	232000	
3	TUBA	8	66000	528000	4	264000	264000	
4	PS1	12	82000	984000	1	82000	902000	
5	FAO	16	58000	928000	16	928000	0	
6	K1	16	--	576000	86000m ³	----	490000	
7	IT 1	6	36000	216000	2	72000	144000	
8	IT 1A	6	58000	348000	---	---	348000	
9	K3	13	21000	273000	12	252000	21000	
Grand Total				5351000			2903000	

After April 2003

After April 2003 the MoO high officials suggested that adequate investment ,daily production could easily reach (6-8) million barrels a day ,but because of the Iraq dramatic political changes and the new democratic system is not stable , the atmosphere were not attractive for investment .

MoO leadership decided to go ahead for up raising the production so the licensing round 1,2,and 3, was the only practical solution to achieve this goal for the first step to have (service contract for on-production fields) this will increase the oil production at the end of 2018 up to (6-8) millions barrel/day.

Iraq has begun an ambitions program to increase its crude oil production , storage ,transportation and export infrastructures .

The on going rehabilitation of main depots

Item	Site	No. of Tanks	Capacity Per Tank (m ³)	Total Capacity (m ³)	No of Rehabilitated Tank	Additional Capacity (m ³)	Total Capacity at Current Time (m ³)	Note
1	ZUBAIR-1	10	34000	340000	2	68000	340000	
		10	23000	230000	---	----	230000	
2	ZUBAIR-2	16	58000	928000	12 Under Construction	-----	232000	
3	TUBA	8	66000	528000	4 Under Construction	-----	264000	
4	PS1	12	82000	984000	1	82000	984000	
5	FAO	16	58000	928000	8	464000	464000	
					8 Under Construction			
6	K1	16	--	576000	---	----	490000	
7	IT 1	6	36000	216000	---	---	144000	
8	IT 1A	6	58000	348000	---	---	348000	
9	K3	13	21000	273000	3	63000	84000	
Grand Total				5351000			3671000	

The additional storage capacity

Item	Site	No. of Tanks	Capacity Per Tank (m ³)	Total Capacity (m ³)	Note
1	BIN UMER	22	75000	1650000	
2	NASSIRYA	7	75000	525000	
3	FAO	8	58000	464000	
4	TUBA	8	66000	528000	
Grand Total				3167000	

Iraq oil pipeline

NO	NAME	KM.	Diamt.
1	Kirkuk to Ceyhan	345	40
2	IT1A to Ceyhan	224	46
3	Alfathah to IT1A	47	28
4	Alfathah to IT1A	47	34
5	Kirkuk IT1 to Bayji Refinery	86	26
6	K2 to East Baghdad to Doura	250	2x12/16
7	North Rumala PS1 to Zubair 1	37	36
8	North Rumala PS1 to Zubair 2	35	36
9	North Rumala PS1 to AlFao	132	48
10	Amarah (Buzurgan)to AlFao	290	28
11	Bin Umar to Shatt AlArb	39	14
12	Tuba to zubair 1	16	48
13	Tuba to Zubair 2	22	30/32/36
14	Fao to khor AlAmea (naval)	46	42
15	Fao to khr Al Amea (navel)	46	2x32
16	Zubair1 to Saudi	122	48

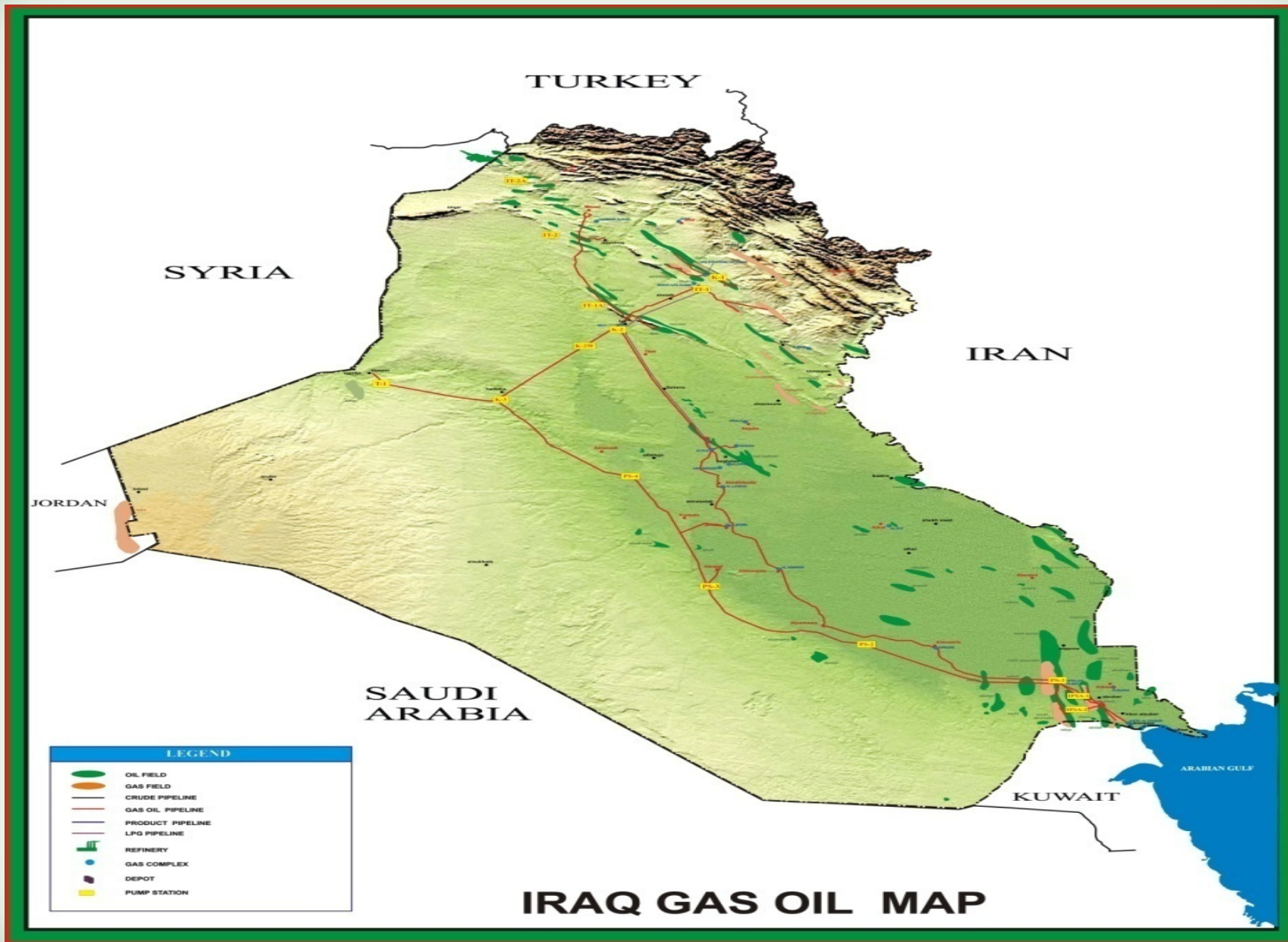
IRAQ GAS P/L

Iraq has a major natural gas pipeline with a capacity to supply around 240 MMcf/d to Baghdad from the West Qurna field & Iraq's Northern Gas System, which came online in 1983, The system supplied LPG to Baghdad and other Iraqi cities, as well as dry gas and sulfur to power stations and industrial plants. Iraq also has a Southern Gas System, which came online in 1985

-National dry gas 42`` is the main gas pipe line is length about 600km

-The total length of all gas pipelines in iraq about 1219 km L.P.G = 1219 km

And dry gas = 1088



LEGEND	
	OIL FIELD
	GAS FIELD
	CRUDE PIPELINE
	GAS OIL PIPELINE
	PRODUCT PIPELINE
	LPG PIPELINE
	REFINERY
	GAS COMPLEX
	DEPOT
	PUMP STATION

IRAQ GAS OIL MAP

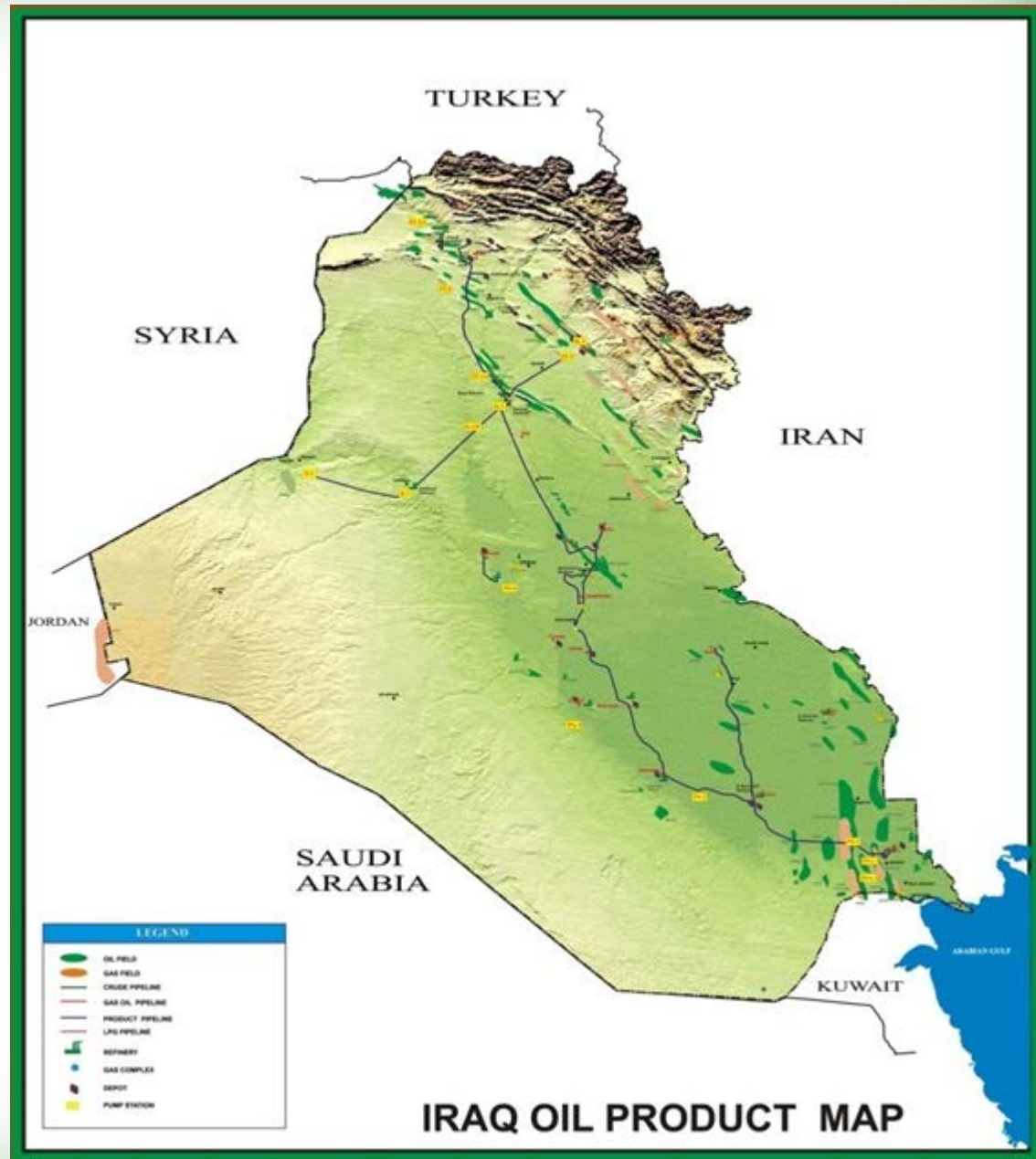
IRAQ OIL PRODUCT P/L

The main product pipeline is two pipelines:-

1- shaiba – दौरا 10 inch

2- shaiba – karkh 14 inch

The total length of all product pipelines in Iraq about 1750 km



History of exporting infrastructure in Iraq

First Iraqi crude oil shipment was exported from Haifa port through Haifa obsolete P/L in 22nd of May 1934.

On 1943 crude oil was exported from Banias port through Iraqi Syrian P/L.

The first South Port was AL FAO which has been used in 1951 for exporting through Arab Gulf.

Before 2003 the main two south ports AL Basrah (ABOT) with total exports.

The North exporting System is Iraqi Turkish P/L (ITP) which transport the crude oil of the north fields to cheyhan port in Turkey,

It consists of two lines 40" & 46" with the total exporting capacity of 1.75 Mb/day with total length of 1043km and the length in side Iraqi land is 350km, [the first line 40" is out of use now].

There was another exporting P/L [48" & 56"] which has been built in 1985 for exporting 1.6 Mb/day through "Red Sea".

The total length of two lines is 1600km approximately, but this exporting line is closed after 1990.

The Iraqi MoO plan is to have alternative south exporting ports to the existing one's [ABOT & KAAOT], and to increase the export capacity from South ports to 4.5-5 Mb/day.

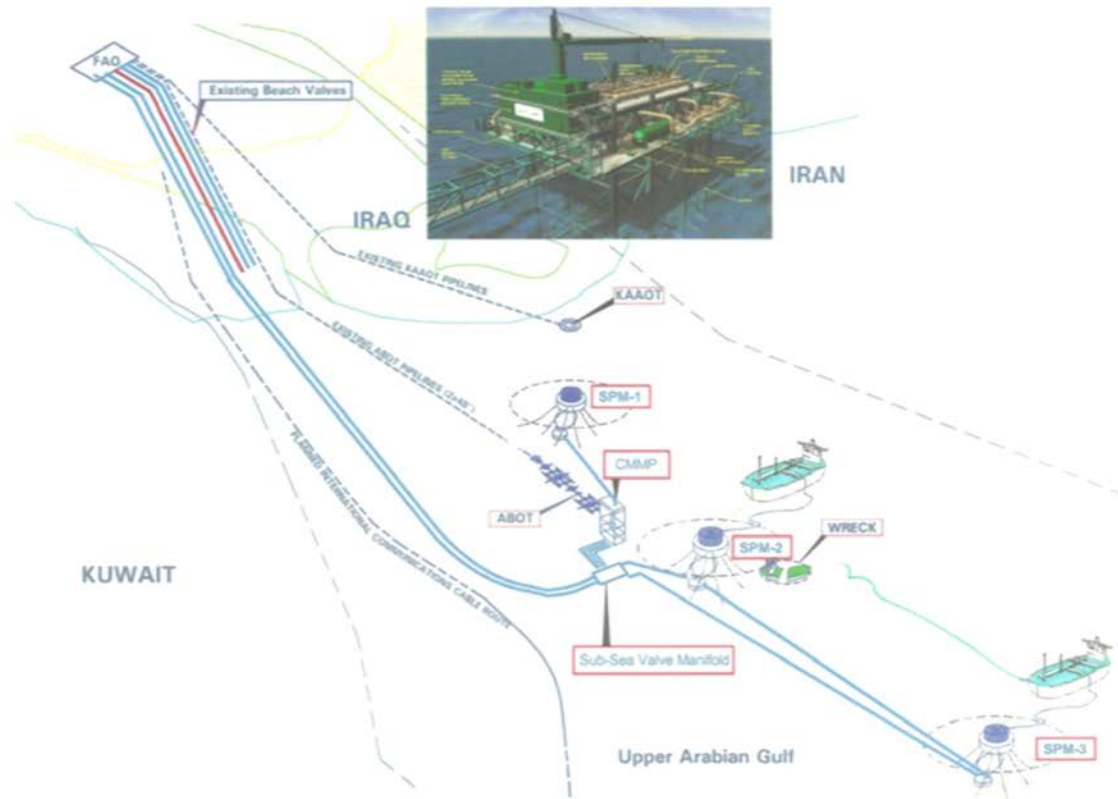
We started with very big projects on 2010 which is "IRAQ CRUDE OIL EXPORT EXPANSION PROJECT", project Contains:

-Phase (1) adding exporting capacity of 1.8 Mb/day by using two exporting P/L of 48" Ø, and two single point mooring (SPM). This phase has been finished in the first quarter of 2012.

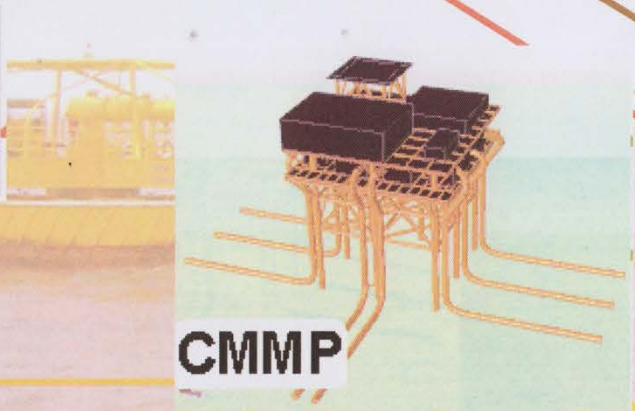
-Phase (2) will add 1.8 Mb/day exporting capacity by using two SPM's.

-Phase (3) Sea line project line (SLP) will add 0.9 Mb/day by using one exporting sea line of 48" Ø and one SPM also contain connecting between two existing ports [ABOT & KAAOT]. phase three is executed by using the Japanese loan (JICA).

Expand of south exporting capacity



JICA
1 X 48" P/L
1 X SPM
2 X Tie In



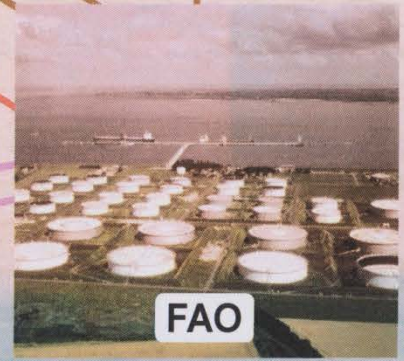
2 X SPM
1 X CMMP



Subsea Manifolds

First Oil
2 X 48" P/L
2 X SPM

Existing
1 X 42" P/L
2 X 48" P/L



Expand of south exporting capacity

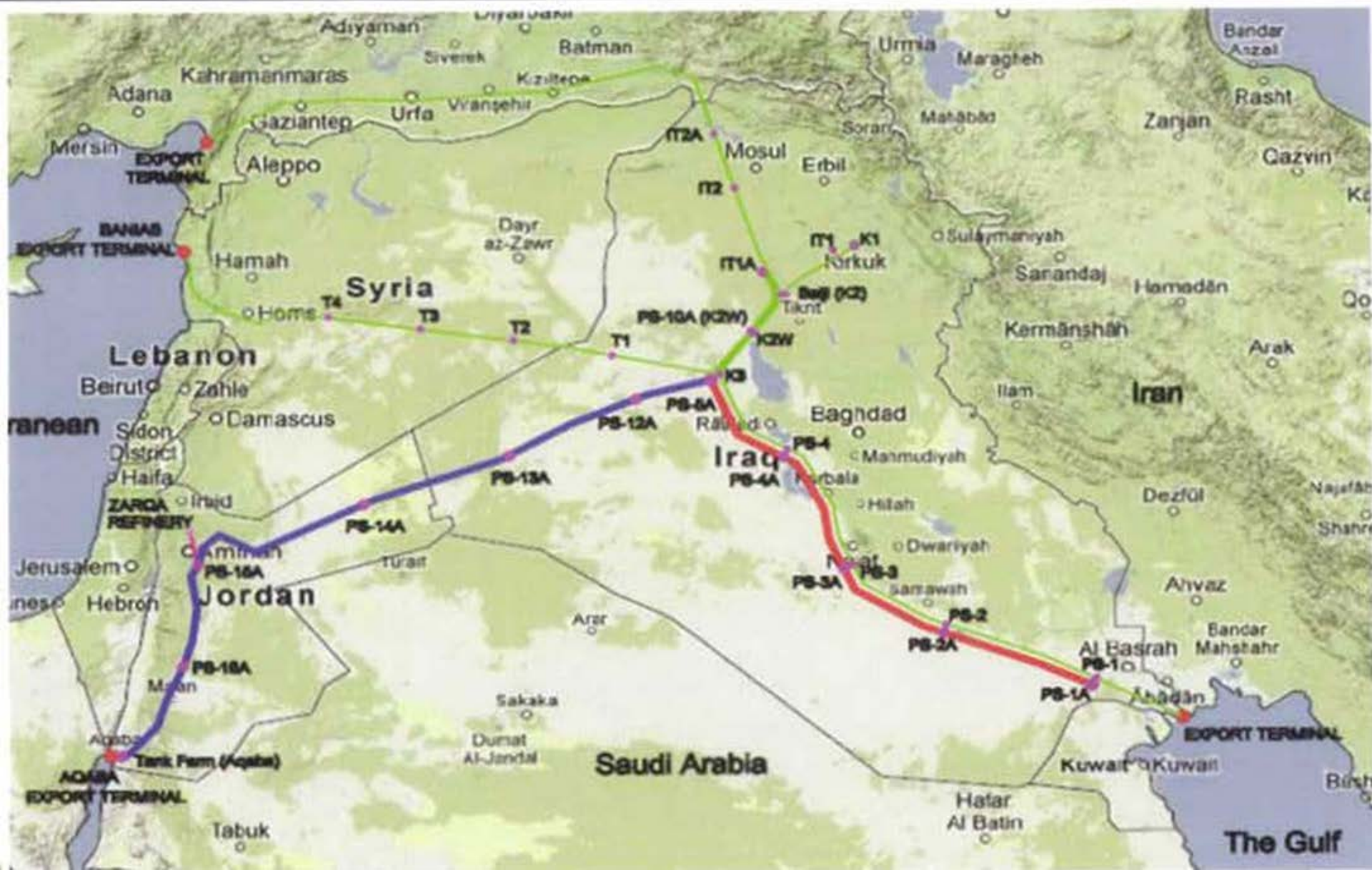
New main Exporting project

Iraqi Syrian Jordanian export pipeline

Iraq has begun an ambitious program to increase its crude oil production and export infrastructure.

- **Iraq's crude oil production will increase from today's (3.4) million barrels per day (“Mb/d”) to approximately (8.0) Mb/d by 2018.**
- **Fundamental to this increase, is an increase in Iraq's existing export pipeline infrastructure, in particular access to alternative export routes .**
- **Basrah, in the south of Iraq, is the main point of export, Logistically constrained to approximately 5.0 million bpd;**
- **The Iraq Turkey pipeline, 10 Ceyhan, is over 25 years old, with a design capacity of 1.6 million bpd and a current operational capacity of only 0.6 million bpd.**
- **The MoO planned export schemes are from Basrah to Jordan. Syria and Turkey.**
- **Phase 1 of the MoO Export plan, is the installation of a new crude oil export pipeline. from Basrah to the Port of Aqaba, in Jordan (the “Project”).**
 - **The Project will constitute:**
 - **A 2.25 million bpd pipeline from Basrah (PS1A) to Haditha (K3) in the North of Iraq; and**
 - **A 1.0 million bpd pipeline from Haditha, Iraq to the Port of Aqaba, Jordan .**
- **This presentation outlines the two segments of the Project, the method of development, the risks and Iraq's objectives.**

Iraq's Existing and Planned Export Network



Major Refineries in Iraq

There are three major refineries in Iraq,

Dura refinery 140 kbl/d

Basrha refinery 140 kbl/d and by the end of this year will become 210 kbl/d by adding a new unit of 70 kbl/d

Baji refinery 310 kbl/d

We have a no. Of ongoing projects for improving the performance of those refineries and enhancing their production. Like adding hydrotreater reformer units , isomrization units , lp6 unit Etc .

New refineries

Ministry of oil plan to build four main refineries

Karbala refinery 150 kbl/ d

Nassiriya refinery 300 kbl/ d

Kirkuk refinery 150 kbl/ d

Maissan refinery 150 kbl/ d

Feed studies for the those refineries have been completed , we already starting execution of karbala refinery project , and now it is in phase of selecting the pmc contractor

Nassiriya refinery project will be announced with announcing of the development of Nassiriya field in the next licensing round

(IRAQI REFINERIES)

(TURKEY)

(SYRIA)

(IRAN)

(JORDAN)

(SAUDI ARABIA)

(KUWAIT)

ARABIAN GULF



ISSUED FOR INFORMATION		DATE	BY	CHK.	APP.
REV. No.	DESCRIPTION				
STATE COMPANY FOR OIL PROJECTS BAHRAIN		CLIENT:			
SERVEY DEPARTMENT (G.I.S)		PROJECT:			
		SITE:			
(SITE LOCATION OF REFINERIES)					
DRAWN	ALI TAREQ HAMDAN	SCALE:	DATE:		
DESIGN	JAWAD A / ALI TAREQ	PROJECT No.			
CHECKED	JAWAD ALI	DRW. NO.	80.08.00 - EG - 1		
APPROVED	JAWAD ALI	REV. No.	4		
APPROVED	JAMAL FALEH				

Current P/L Works

SCOP completed the execution of the followings main P/L projects as EPC:

- Dry Gas P/L of 42"X, 557km length from Rumaila to Taji power plant, this P/L is transporting gas to seven power plants at Nassiria/Najaf/Mussaib/Youssiffia/Dura/Taji/&Quds, this P/L will be extended to Baji .
- Crude Oil P/L (Zubair 1 – Fao) of 48"x 105km , Also (Zubair 2- Zubair 1) of 48"x27km,
Those two lines are used now for the supply of the new exporting project (four SPM's).
- New strategic crude oil P/L from PS1 to K3 (670KM - 42"X) as a replacement to the existing two lines.
- Product P/L of 14"x - 125km from Diwaniyah depot to Mussaib connection.
- Crude Oil P/L of 26"x - 117km from strategic P/L to Dura Refinery.
- No. of Crude & Gas P/L of 10"x → 24"x for supply fuel to electrical power plants.
- 32"X - 74KM length crude P/L from Majnoon Oil Field to Zubair 1.
- 48"X - 27KM length water P/L from Garmmat Ali to Rummiala field.
- 18"X - 105KM Gas P/L from Zubair 1 to Al FAO Depot.
- 42"X - 86KM Oil P/L from West Qurna to Zubair 1 Depot.

Main Current Projects

- **Karbala Refinery of 150000 b/d.**
- **Common sea water injection for south fields.**
- **Four products storage depots:**
 - **At karbala with 74000m³ capacity.**
 - **At najaf with 126000m³ capacity.**
 - **At samawa with 85000m³ capacity.**
 - **At messan with 30000m³ capacity.**
- **Rehabilitation of Btralegic pumping stations at ps3 , ps4 & k3.**
- **Rehabilitation of southern depots.**
- **Utilization of zubair gas projects .**
- **Development of suba&luhais project (capacity 150000b/d).**
- **Development of Himmren oil field.**
- **Al FAO Exporting Depot.**
- **West Quran Gas project .**
- **West Quran water Injection project.**
- **Enhancing gasoline unit for Basra Refinery.**
- **Isomerization unit for Basra Refinery .**
- **HDS unit for al Nasiriya Refinery .**
- **HDS units for Dura &Basra Refineries.**

Other Main Projects

- 42''- 86Km oil P/L from, West Qarna to Zubair 1 storage Depot.
- 42''x Oil P/L from Tuba Depot to AL FAO terminal.
- 42''x Oil P/L from Ps1 to AL FAO terminal.
- 52''x – 600Km 2nd National Gas P/L from North Rumail to,
Taji Power station.

SCOP Role and Structure

Iraq's State Company for Oil Projects is widely known within Iraq by its acronym, SCOP. Although SCOP may not yet be a globally known brand, we believe it will become one, and well known in global energy circles.

Some 46 years ago, Iraq's Ministry of Oil created SCOP to design and organize oil industry projects, such as export depots and strategic pipelines. SCOP fulfills this function in support of the other 15 state operating companies, under the authority of the Minister of Oil.

SCOP applied modern methods followed by engineering and consulting international companies in preparing basic and detailed designs, supplying materials and equipments related to projects execution. SCOP's organizational structure is based on centralized Engineering, Procurement and Construction (EPC), oversight capacity in Baghdad, together with regional offices in the south, middle, north and Baghdad, which are responsible for implementing actual construction projects and ensuring all MoO objectives and requirements.

