

ANNEX 7 / Telecommunications

Sub-sector: **GSM System** with the following main characteristics:

Capacity: 25000 subscribers

Coverage: Entire Baghdad city and 50 km along 6 main roads from it).

No. of BTS sites : 60

Interconnection between sites and with PSTN: Low – medium capacity microwave links

Required Grade of Service: not more than 2% blocking

Assumed average traffic per subscribers: about 40 mErlang

Status of the project: In final negotiation stage with the bidders. The contract is to be signed with the successful bidder before 10th of April 1999 at the latest (in a provisional mode).

Estimated time of completion of the project: 6-9 months from effective date of the contract.

Estimated total cost of the project: 22 – 25 Million USD.

Important Note: Full detail of each of following general items will be given once the final contract is signed with the successful bidder.

Code	Item Description	Unit	Quantity	Complementary Items
07-04-00100	MSC/VLR complete with:	Subsystem	1	Note (1)
07-04-00110	- Power Supply Equipment	Set	1	
07-04-00120	- air-conditioning	Set	1	
07-04-00130	- batteries	Set	1	
07-04-00200	HLR	Subsystem	1	Note(1)
07-04-00210	AUC	Subsystem	1	
07-04-00220	EIR	Subsystem	1	
07-04-00230	SMS	Subsystem	1	
07-04-00240	VM	Subsystem	1	
07-04-00300	BSC Equipment complete with:	Subsystem	3	Note(1)
07-04-00310	- Power Supply Equipment (set)	Lot		
07-04-00320	- Air-conditioning Equipment (set)	Lot		
07-04-00330	- Batteries (set)	Lot		
07-04-00400	BTS Equipment (2/2/2)	Station	60	Note(1)

07-04-00420	TRX Type) complete with: - Power Supply Equipment	Set		Note(2)
07-04-00430	- Air-conditioning Equipment	Set		
07-04-00430	- Batteries	Set		
07-04-00440	- Antennas	Set		
07-04-00450	- Feeders	Set		
07-04-00500	Microwave Links with appropriate capacities to connect the BTS's to BSC's and to MSC and to 5 PSTN exchanges in Baghdad. Complete with:	Link	68	Note(1) Note(2)
07-04-00520	- Indoor & Outdoor equipment	Set		
07-04-00530	- Antennas	Set		
07-04-00540	- Feeders	Set		
07-04-00550	- Power Supplies	Set		
07-04-00600	OMC for BSS Equipment (Servers , PC's , NMS Equipment .. etc. ,) (system)	Subsystem	1	Note(1)
07-04-00700	OMC for NSS Equipment (Servers , PC's , NMS Equipment .. etc. ,) (system)	Subsystem	1	Note(1)
07-04-00800	NMS for the Microwave links with necessary PC's, Software etc.	Subsystem	1	Note(1)
07-04-00900	Billing System & Customer Care System: complete with the necessary servers, PC's, Printers, Software etc.	Subsystem	1	Note(1)
07-04-01000	Radio Network Planning tool/platform	Subsystem	1	Note(1)

	Including necessary Hardware and Software			
07-04-01200	SIM Card Issuing and Personalization system/tool	Set	2	
07-04-01300	Virgin SIM Cards	Units	25000	
07-04-01400	GSM Handsets	Units	25000	
07-04-01500	Miscellaneous:			
07-04-01510	- Shelters for BTS's and Microwave Links Equipment	Unit	30	
07-04-01520	- Towers 40 m	Unit	20	
07-04-01530	- Masts 10-15 m	Unit	40	
07-04-01540	- Maintenance Vehicles	Unit	10	
04-04-01550	- Full Documentation on all systems	Set	3	
07-04-01600	Spare Parts for all Subsystems: 10% of the total cost of the equipment	Lot	1 lot	
07-04-01700	Test Equipment including: Spectrum Analyzer, GSM test set, Power metres, Frequency Counter, Digital Analyser ... etc. and as relevant and absolutely necessary for system operation and maintenance.		3 Sets	
07-04-01800	Installation and Commissioning including the necessary installation tools and materials.	Lot	1	
07-04-01900	Training by the manufacturer personal including Factory training, Local training and On-job training	Lot	2	Note 3

07-04-02000	Training Platform (Simplified) for local training including necessary hardware, software and training aids and material	Lot	1	
-------------	---	-----	---	--

NOTES:

Note (1): Appropriate equipment room will be provided and properly furnished and equipped in all sites.

Note (2): Procurement and preparation of BTS and Microwave antenna sites is the responsibility of ITPC. In many cases existing ITPC towers and facilities will be used. The responsibility of erection of new towers and mast will be agreed upon with the supplier. In some cases shelters will be used either on the ground or on rooftops to provide the necessary space to install the BTS and Microwave links equipment.

Note (3): Existing and newly recruited engineers shall be employed for the project. No problem whatsoever is envisaged in this aspect due to high availability of unemployed engineers in the local market. Special incentives will be given to help in this matter.