

# ANNEX SEVEN / Telecommunications

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : MAMOUN**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-01100	SDH Microwave Radio Equipment, STM-1, 13GHZ (2+1), (3+1) Frequency Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals ( Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	3	
07-03-01101	-Installation materials.	Lot	3	
07-03-01102	-Spare parts & spare units.	Lot	3	
07-03-01103	-Documentation.	Set	1	
07-03-01104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	3	
07-03-01105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	3	
07-03-01106	-Medium Capacity Dehydrator.	Unit	1	
07-03-01107	-10% Spares.	Lot	1	
07-03-01108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(10+2) config. 48V, 1000Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-01109	-Spare Parts & Spare Units.	Lot	1	
07-03-01110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-01111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	0	
07-03-01112	-Spare parts & PCB's.	Lot	0	
07-03-01113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM- 4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) V-S Encoding-Decoding Equipment 34Mb/s ip/op, Access & Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-01114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each . -Primary Multiplex ( PCM-30CH.) Subracks with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.	Lot	1	
07-03-01115	-Spare parts & spare units.			
07-03-01116	-Installation materials & tools.			
07-03-01117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-01118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-01119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-01120	-Factory Training Abroad.	Trainee	4	
07-03-01121	-Training In Iraq.	Trainee	4	
07-03-01222	-Supervision Services (Supplier Expert).	Expert	2	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months



**ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : SINEK**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-02100	SDH Microwave Radio Equipment, STM-1, 13GHZ (2+1) Frequency Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals ( Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-02101	-Installation materials.	Lot	1	
07-03-02102	-Spare parts & spare units.	Lot	1	
07-03-02103	-Documentation.	Set	1	
07-03-02104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	1	
07-03-02105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-02106	-Medium Capacity Dehydrator.	Unit	1	
07-03-02107	-10% Spares.	Lot	1	
07-03-02108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module (10+2) config. 48V, 1000Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-02109	-Spare Parts & Spare Units.	Lot	1	
07-03-02110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-02111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	0	
07-03-02112	-Spare parts & PCB's.	Lot	0	
07-03-02113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM- 4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) V-S Encoder-Decoder Equipment 34Mb/s ip/op. Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-02114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	1	
07-03-02115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-02116	-Spare parts & spare units. -Installation materials & tools.			
07-03-02117	-Network Management Equipment consisting of Central Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-02118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-02119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-02120	-Factory Training Abroad.	Trainee	2	
07-03-02121	-Training In Iraq.	Trainee	4	
07-03-02222	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : BAYAA Microwave Station**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-03100	SDH Microwave Radio Equipment, STM-1, 11,8GHZ (3+1) Frequency, Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals ( Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	2	
07-03-03101	-Installation materials.	Lot	2	
07-03-03102	-Spare parts & spare units.	Lot	2	
07-03-03103	-Documentation.	Set	1	
07-03-03104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	3	
07-03-03105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	3	
07-03-03106	-Medium Capacity Dehydrator.	Unit	1	
07-03-03107	-10% Spares.	Lot	1	
07-03-03108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(5+1)configuration, 48V, 250Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-03109	-Spare Parts & Spare Units.	Lot	1	
07-03-03110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-03111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-03112	-Spare parts & PCB's.	Lot	1	
07-03-03113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-03114 07-03-03115 07-03-03116	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each . -Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames. -Spare parts & spare units. -Installation materials & tools.	Lot	1	
07-03-03117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-03118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-03119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-03120 07-03-03121 07-03-03222	-Factory Training Abroad. -Training In Iraq. -Supervision Services (Supplier Expert).	Trainee Trainee Expert	2 4 1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# ANNEX SEVEN / Telecommunications

**Sub - sector : Digital Microwave Link Between BAGHDAF & BASRAH With Extension To Port UM QASR**

**Site - Name : MUSSAIEB**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-04100	SDH Microwave Radio Equipment, STM-1, 11,6,8 GHZ(1+1) ,(3+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals ( Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	4	
07-03-04101	-Installation materials.	Lot	4	
07-03-04102	-Spare parts & spare units.	Lot	4	
07-03-04103	-Documentation.	Set	1	
07-03-04104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	7	
07-03-04105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	7	
07-03-04106	-Medium Capacity Dehydrator.	Unit	1	
07-03-04107	-10% Spares.	Lot	1	
07-03-04108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(4+1)configuration, 48V, 250Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-04109	-Spare Parts & Spare Units.	Lot	1	
07-03-04110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-04111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-04112	-Spare parts & PCB's.	Lot	1	
07-03-04113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power supply unit (duplicated ) and cable head, Digital	Lot	1	



07-03-04114	Distribution Frames & Documentation for each . -Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.	Lot	1	
07-03-04115	-Spare parts & spare units.			
07-03-04116	-Installation materials & tools.			
07-03-04117	-Network Management Equipment consisting of Local Network Management System platform (Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-04118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-04119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-04120	-Factory Training Abroad.	Trainee	1	
07-03-04121	-Training In Iraq.	Trainee	2	
07-03-04222	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : HILLA**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-05100	SDH Microwave Radio Equipment, STM-1, 8GHZ (3+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals ( Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	2	
07-03-05101	-Installation materials.	Lot	2	
07-03-05102	-Spare parts & spare units.	Lot	2	
07-03-05103	-Documentation.	Set	1	
07-03-05104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	4	
07-03-05105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	4	
07-03-05106	-Medium Capacity Dehydrator.	Unit	1	
07-03-05107	-10% Spares.	Lot	1	
07-03-05108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(3+1)configuration, 48V, 250Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-05109	-Spare Parts & Spare Units.	Lot	1	
07-03-05110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-05111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-05112	-Spare parts & PCB's.	Lot	1	
07-03-05113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-05114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each . -Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.	Lot	1	
07-03-05115	-Spare parts & spare units.			
07-03-05116	-Installation materials & tools.			
07-03-05117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-05118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-05119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-05120	-Factory Training Abroad.	Trainee	1	
07-03-05121	-Training In Iraq.	Trainee	2	
07-03-05222	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : KUFFA**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-06100	SDH Microwave Radio Equipment, STM-1, 11,8 GHZ (1+1), (3+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals ( Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	3	
07-03-06101	-Installation materials.	Lot	3	
07-03-06102	-Spare parts & spare units.	Lot	3	
07-03-06103	-Documentation.	Set	1	
07-03-06104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	5	
07-03-06105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	5	
07-03-06106	-Medium Capacity Dehydrator.	Unit	1	
07-03-06107	-10% Spares.	Lot	1	
07-03-06108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(4+1)configuration, 48V, 300Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-06109	-Spare Parts & Spare Units.	Lot	1	
07-03-06110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-06111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-06112	-Spare parts & PCB's.	Lot	1	
07-03-06113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-06114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .			
07-03-06115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.	Lot	1	
07-03-06116	-Spare parts & spare units.			
	-Installation materials & tools.			
07-03-06117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-06118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-06119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-06120	-Factory Training Abroad.	Trainee	1	
07-03-06121	-Training In Iraq.	Trainee	2	
07-03-06222	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With Extension To Port UM QASR**

**Site - Name : DIWANIYA**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-07100	SDH Microwave Radio Equipment, STM-1, 8GHZ (3+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals ( Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	2	
07-03-07101	-Installation materials.	Lot	2	
07-03-07102	-Spare parts & spare units.	Lot	2	
07-03-07103	-Documentation.	Set	1	
07-03-07104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	4	
07-03-07105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	4	
07-03-07106	-Medium Capacity Dehydrator.	Unit	1	
07-03-07107	-10% Spares.	Lot	1	
07-03-07108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(3+1)configuration, 48V, 300Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-07109	-Spare Parts & Spare Units.	Lot	1	
07-03-07110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-07111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-07112	-Spare parts & PCB's.	Lot	1	
07-03-07113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-07114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .			
07-03-07115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.	Lot	1	
07-03-07116	-Spare parts & spare units.			
	-Installation materials & tools.			
07-03-07117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-01-07118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-07119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-07120	-Factory Training Abroad.	Trainee	1	
07-03-07121	-Training In Iraq.	Trainee	2	
07-03-07222	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

**ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : ABU TABIK REP.**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-08100	SDH Microwave Radio Equipment, STM-1, 8 GHZ (3+1) Frequency & Space Diversity Radio Repeter All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals ( Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-08101	-Installation materials.	Lot	1	
07-03-08102	-Spare parts & spare units.	Lot	1	
07-03-08103	-Documentation.	Set	1	
07-03-08104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	4	
07-03-08105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	4	
07-03-08106	-Medium Capacity Dehydrator.	Unit	1	
07-03-08107	-10% Spares.	Lot	1	
07-03-08108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 200Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-08109	-Spare Parts & Spare Units.	Lot	1	
07-03-08110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-08111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-08112	-Spare parts & PCB's.	Lot	1	
07-03-08113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	0	



07-03-08114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	0	
07-03-08115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.	Lot	0	
07-03-08116	-Spare parts & spare units.	Lot	0	
	-Installation materials & tools.	Lot	0	
07-03-08117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-08118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	0	
07-03-08119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-08120	-Factory Training Abroad.	Trainee	0	
07-03-08121	-Training In Iraq.	Trainee	0	
07-03-08222	-Supervision Services (Supplier Expert).	Expert	0	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# ANNEX SEVEN / Telecommunications

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : SAMAWA T.**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-09100	SDH Microwave Radio Equipment, STM-1,11,8GHZ (1+1), (3+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals ( Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	3	
07-03-09101	-Installation materials.	Lot	3	
07-03-09102	-Spare parts & spare units.	Lot	3	
07-03-09103	-Documentation.	Set	1	
07-03-09104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	5	
07-03-09105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	5	
07-03-09106	-Medium Capacity Dehydrator.	Unit	1	
07-03-09107	-10% Spares.	Lot	1	
07-03-09108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(4+1)configuration, 48V, 300Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-09109	-Spare Parts & Spare Units.	Lot	1	
07-03-09110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-09111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-09112	-Spare parts & PCB's.	Lot	1	
07-03-09113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-09114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .			
07-03-09115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.	Lot	1	
07-03-09116	-Spare parts & spare units.			
	-Installation materials & tools.			
07-03-09117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-09118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-09119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-09120	-Factory Training Abroad.	Trainee	1	
07-03-09121	-Training In Iraq.	Trainee	2	
07-03-09222	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# ANNEX SEVEN / Telecommunications

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : DARADJHI REP.**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-10100	SDH Microwave Radio Equipment, STM-1, 8 GHZ (3+1) Frequency & Space Diversity Radio Repeter All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed inRack with 48V. d/c unit (duplicated).	Lot	1	
07-03-10101	-Installation materials.	Lot	1	
07-03-10102	-Spare parts & spare units.	Lot	1	
07-03-10103	-Documentation.	Set	1	
07-03-10104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	4	
07-03-10105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	4	
07-03-10106	-Medium Capacity Dehydrator.	Unit	1	
07-03-10107	-10% Spares.	Lot	1	
07-03-10108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 200Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-10109	-Spare Parts & Spare Units.	Lot	1	
07-03-10110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-10111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-10112	-Spare parts & PCB's.	Lot	1	
07-03-10113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	0	

07-03-10114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	0	
07-03-10115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-10116	-Spare parts & spare units.			
	-Installation materials & tools.			
07-03-10117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-10118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-10119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-10120	-Factory Training Abroad.	Trainee	0	
07-03-10121	-Training In Iraq.	Trainee	0	
07-03-10222	-Supervision Services (Supplier Expert).	Expert	0	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# ANNEX SEVEN / Telecommunications

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : NASSYRIAH**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-11100	-SDH Microwave Radio Equipment, STM-1, 11,8GHZ (1+1), (3+1) Frequency Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	3	
07-03-11101	-Installation materials.	Lot	3	
07-03-11102	-Spare parts & spare units.	Lot	3	
07-03-11103	-Documentation.	Set	1	
07-03-11104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	5	
07-03-11105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	5	
07-03-11106	-Medium Capacity Dehydrator.	Unit	1	
07-03-11107	-10% Spares.	Lot	1	
07-03-11108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(4+1)configuration, 48V, 300Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-11109	-Spare Parts & Spare Units.	Lot	1	
07-03-11110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-11111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms,	Lot	1	
07-03-11112	Installation Materials, Documentation & Tools -Spare parts & PCB's.	Lot	1	
07-03-11113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-11114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	1	
07-03-11115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-11116	-Spare parts & spare units. -Installation materials & tools.			
07-03-11117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-01-11118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-11119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-11120	-Factory Training Abroad.	Trainee	1	
07-03-11121	-Training In Iraq.	Trainee	2	
07-03-11222	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

**ANNEX SEVEN / Telecommunications**  
**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With**  
**Extension To Port UMQASR**

**Site - Name : SUOK AL CHIOUH**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-12100	SDH Microwave Radio Equipment, STM-1,11 ,8 , 6 GHZ (1+1),(3+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals ( Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	3	
07-03-12101	-Installation materials.	Lot	3	
07-03-12102	-Spare parts & spare units.	Lot	3	
07-03-12103	-Documentation.	Set	1	
07-03-12104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	4	
07-03-12105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	4	
07-03-12106	-Medium Capacity Dehydrator.	Unit	1	
07-03-12107	-10% Spares.	Lot	1	
07-03-12108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(4+1)configuration, 48V, 300Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-12109	-Spare Parts & Spare Units.	Lot	1	
07-03-12110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-12111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-12112	-Spare parts & PCB's.	Lot	1	
07-03-12113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subracks with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) V-S Encoder-Decoder Equipment 34Mb/s ip/op., Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire,	Lot	1	



07-03-12114	Installation Materials & Tools, Racks with power supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each . -Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.	Lot	1	
07-03-12115	-Spare parts & spare units.			
07-03-12116	-Installation materials & tools.			
07-03-12117	-Network Management Equipment consisting of Local Network Management System platform (Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-12118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-12119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-12120	-Factory Training Abroad.	Trainee	1	
07-03-12121	-Training In Iraq.	Trainee	2	
07-03-12122	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# ANNEX SEVEN / Telecommunications

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : GABAYCHIA REP.**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-13100	SDH Microwave Radio Equipment, STM-1, 6 GHZ (3+1) Frequency & Space Diversity Radio Repeater All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-13101	-Installation materials.	Lot	1	
07-03-13102	-Spare parts & spare units.	Lot	1	
07-03-13103	-Documentation.	Set	1	
07-03-13104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	4	
07-03-13105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	4	
07-03-13106	-Medium Capacity Dehydrator.	Unit	1	
07-03-13107	-10% Spares.	Lot	1	
07-03-13108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 200Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-13109	-Spare Parts & Spare Units.	Lot	1	
07-03-13110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-13111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-13112	-Spare parts & PCB's.	Lot	1	
07-03-13113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	0	

07-03-13114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	0	
07-03-13115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-13116	-Spare parts & spare units.			
	-Installation materials & tools.			
07-03-13117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-01-13118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	0	
07-03-13119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-13120	-Factory Training Abroad.	Trainee	0	
07-03-13121	-Training In Iraq.	Trainee	0	
07-03-13122	-Supervision Services (Supplier Expert).	Expert	0	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : NIKAIYLA REP.**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-14100	SDH Microwave Radio Equipment, STM-1, 6 GHZ (3+1) Frequency & Space Diversity Radio Repeater All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-14101	-Installation materials.	Lot	1	
07-03-14102	-Spare parts & spare units.	Lot	1	
07-03-14103	-Documentation.	Set	1	
07-03-14104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	4	
07-03-14105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	4	
07-03-14106	-Medium Capacity Dehydrator.	Unit	1	
07-03-14107	-10% Spares.	Lot	1	
07-03-14108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(3+1)configuration, 48V, 200Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-14109	-Spare Parts & Spare Units.	Lot	1	
07-03-14110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-14111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-14112	-Spare parts & PCB's.	Lot	1	
07-03-14113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	0	

07-03-14114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	0	
07-03-14115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-14116	-Spare parts & spare units.			
	-Installation materials & tools.			
07-03-14117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-14118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	0	
07-03-14119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-14120	-Factory Training Abroad.	Trainee	1	
07-03-14121	-Training In Iraq.	Trainee	0	
07-03-14122	-Supervision Services (Supplier Expert).	Expert	0	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# ANNEX SEVEN / Telecommunications

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With Extension To Port UM QASR**

**Site - Name : BASRAH T.**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-15100	SDH Microwave Radio Equipment, STM-1, 6,11GHZ (3+1) Frequency & SpaceDiversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	3	
07-03-15101	-Installation materials.	Lot	3	
07-03-15102	-Spare parts & spare units.	Lot	3	
07-03-15103	-Documentation.	Set	1	
07-03-15104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	3	
07-03-15105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	3	
07-03-15106	-Medium Capacity Dehydrator.	Unit	1	
07-03-15107	-10% Spares.	Lot	1	
07-03-15108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(4+1)configuration, 48V, 300Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-15109	-Spare Parts & Spare Units.	Lot	1	
07-03-15110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-15111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-15112	-Spare parts & PCB's.	Lot	1	
07-03-15113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) V-S Encoder-Decoder with 34Mb/s ip/op Access &Connection Modules, Full Matrix (duplicated), Auxiliary /Engineering order wire,Installation	Lot	1	

07-03-15114	Materials & Tools, Racks with power supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each . -Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.	Lot	1	
07-03-15115	-Spare parts & spare units.			
07-03-15116	-Installation materials & tools.			
07-03-15117	-Network Management Equipment consisting of Local Network Management System platform , (Hard ware), System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-15118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-15119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-15120	-Factory Training Abroad.	Trainee	1	
07-03-15121	-Training In Iraq.	Trainee	2	
07-03-15122	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# ANNEX SEVEN / Telecommunications

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With Extension To Port UM QASR**

**Site - Name : BASRAH EXGH.**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-16100	SDH Microwave Radio Equipment, STM-1, 11,6GHZ (1+1), (3+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	2	
07-03-16101	-Installation materials.	Lot	2	
07-03-16102	-Spare parts & spare units.	Lot	2	
07-03-16103	-Documentation.	Set	1	
07-03-16104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	2	
07-03-16105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	2	
07-03-16106	-Medium Capacity Dehydrator.	Unit	1	
07-03-16107	-10% Spares.	Lot	1	
07-03-16108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(3+1)configuration, 48V, 200Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-16109	-Spare Parts & Spare Units.	Lot	1	
07-03-16110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-16111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-16112	-Spare parts & PCB's.	Lot	1	
07-03-16113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) V-S Encoder-Decoder 34Mb/s ip/op. Access & Connection Modules, Full Matrix (duplicated), Auxiliary /Engineering order wire, Installation	Lot	1	



07-03-16114 07-03-16115 07-03-16116	Materials & Tools, Racks with power supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each . -Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames. -Spare parts & spare units. -Installation materials & tools.	Lot	1	
07-03-16117	-Network Management Equipment consisting of Local Network Management System platform (Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-16118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-16119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-16120	Self Support Steel 80M. Tower For 4 Antennas , Complete With Grounding, Lightening Rod, Obstruction In Lighting, Painting & Installation Materials.	Lot	1	
07-03-16121 07-03-16122 07-03-16123	-Factory Training Abroad. -Training In Iraq. -Supervision Services (Supplier Expert).	Trainee Trainee Expert	2 4 1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# ANNEX SEVEN / Telecommunications

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With Extension To Port UM QASR**

**Site - Name : KERBALAH**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-17100	SDH Microwave Radio Equipment, STM-1, 6 GHZ (1+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-17101	-Installation materials.	Lot	1	
07-03-17102	-Spare parts & spare units.	Lot	1	
07-03-17103	-Documentation.	Set	1	
07-03-17104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	2	
07-03-17105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	2	
07-03-17106	-Medium Capacity Dehydrator.	Unit	1	
07-03-17107	-10% Spares.	Lot	1	
07-03-17108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 100Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-17109	-Spare Parts & Spare Units.	Lot	1	
07-03-17110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-17111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-17112	-Spare parts & PCB's.	Lot	1	
07-03-17113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-17114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	1	
07-03-17115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-17116	-Spare parts & spare units. -Installation materials & tools.			
07-03-17117	-Network Management Equipment consisting of Local Network Management System platform (Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-17118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-17119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-17120	-Factory Training Abroad.	Trainee	1	
07-03-17121	-Training In Iraq.	Trainee	2	
07-03-17122	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : NADJAF**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-18100	SDH Microwave Radio Equipment, STM-1, 11GHZ (1+1) Frequency Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-18101	-Installation materials.	Lot	1	
07-03-18102	-Spare parts & spare units.	Lot	1	
07-03-18103	-Documentation.	Set	1	
07-03-18104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	1	
07-03-18105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-18106	-Medium Capacity Dehydrator.	Unit	1	
07-03-18107	-10% Spares.	Lot	1	
07-03-18108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 100Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-18109	-Spare Parts & Spare Units.	Lot	1	
07-03-18110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-18111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-18112	-Spare parts & PCB's.	Lot	1	
07-03-18113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-18114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	1	
07-03-18115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-18116	-Spare parts & spare units. -Installation materials & tools.			
07-03-18117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-18118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-18119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-18120	-Factory Training Abroad.	Trainee	1	
07-03-18121	-Training In Iraq.	Trainee	2	
07-03-18122	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : SAMAWA EXGH.**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-19100	SDH Microwave Radio Equipment, STM-1, 11GHZ (1+1) Frequency Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-19101	-Installation materials.	Lot	1	
07-03-19102	-Spare parts & spare units.	Lot	1	
07-03-19103	-Documentation.	Set	1	
07-03-19104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	1	
07-03-19105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-19106	-Medium Capacity Dehydrator.	Unit	1	
07-03-19107	-10% Spares.	Lot	1	
07-03-19108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 100Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-19109	-Spare Parts & Spare Units.	Lot	1	
07-03-19110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-19111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-19112	-Spare parts & PCB's.	Lot	1	
07-03-19113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-19114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	1	
07-03-19115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-19116	-Spare parts & spare units. -Installation materials & tools.			
07-03-19117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-19118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-19119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-19120	-Factory Training Abroad.	Trainee	1	
07-03-19121	-Training In Iraq.	Trainee	2	
07-03-19122	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : NASSYRIAH EXGH.**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-20100	SDH Microwave Radio Equipment, STM-1, 11GHZ (1+1) Frequency Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-20101	-Installation materials.	Lot	1	
07-03-20102	-Spare parts & spare units.	Lot	1	
07-03-20103	-Documentation.	Set	1	
07-03-20104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	1	
07-03-20105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-20106	-Medium Capacity Dehydrator.	Unit	1	
07-03-20107	-10% Spares.	Lot	1	
07-03-20108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 100Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-20109	-Spare Parts & Spare Units.	Lot	1	
07-03-20110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-20111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms,	Lot	1	
07-03-20112	Installation Materials, Documentation & Tools -Spare parts & PCB's.	Lot	1	
07-03-20113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated),Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	



07-03-20114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	1	
07-03-20115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-20116	-Spare parts & spare units. -Installation materials & tools.			
07-03-20117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-20118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-20119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-20120	-Factory Training Abroad.	Trainee	1	
07-03-20121	-Training In Iraq.	Trainee	2	
07-03-20122	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

**ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : SALHIYA T.**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-21100	SDH Microwave Radio Equipment, STM-1, 11GHZ (3+1) Frequency Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-21101	-Installation materials.	Lot	1	
07-03-21102	-Spare parts & spare units.	Lot	1	
07-03-21103	-Documentation.	Set	1	
07-03-21104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	1	
07-03-21105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-21106	-Medium Capacity Dehydrator.	Unit	1	
07-03-21107	-10% Spares.	Lot	1	
07-03-21108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(3+1)configuration, 48V, 200Ah Lead- Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-21109	-Spare Parts & Spare Units.	Lot	1	
07-03-21110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-21111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-21112	-Spare parts & PCB's.	Lot	1	
07-03-21113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) V-S Encoder-Decoder 34Mb/s ip/op Access & Connection Modules, Full Matrix(duplicated), Auxiliary /Engineering order wire, Installation	Lot	1	

07-03-21114 07-03-21115 07-03-21116	Materials & Tools, Racks with power supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each . -Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames. -Spare parts & spare units. -Installation materials & tools.	Lot	1	
07-03-21117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-21118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-21119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-21120 07-03-21121 07-03-21122	-Factory Training Abroad. -Training In Iraq. -Supervision Services (Supplier Expert).	Trainee Trainee Expert	1 2 1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : SOUK AL CHIOUH T.**

Code	Item Description	Unit	Qty.	Complement ary Items
07-03-22100	SDH Microwave Radio Equipment, STM-1, 11GHZ (1+1) Frequency Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-22101	-Installation materials.	Lot	1	
07-03-22102	-Spare parts & spare units.	Lot	1	
07-03-22103	-Documentation.	Set	1	
07-03-22104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	1	
07-03-22105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-22106	-Medium Capacity Dehydrator.	Unit	1	
07-03-22107	-10% Spares.	Lot	1	
07-03-22108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 75Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-22109	-Spare Parts & Spare Units.	Lot	1	
07-03-22110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-22111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-22112	-Spare parts & PCB's.	Lot	1	
07-03-22113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) V-S Encoder-Decoder 34Mb/s ip/op Access & Connection Modules, Full Matrix(duplicated), Auxiliary /Engineering order wire, Installation	Lot	1	

07-03-22114	Materials & Tools, Racks with power supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each . -Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.	Lot	1	
07-03-22115	-Spare parts & spare units.			
07-03-22116	-Installation materials & tools.			
07-03-22117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-22118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-22119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-22120	-Factory Training Abroad.	Trainee	1	
07-03-22121	-Training In Iraq.	Trainee	2	
07-03-22122	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

**ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : BABYLON T.**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-23100	SDH Microwave Radio Equipment, STM-1, 11GHZ (1+1) Frequency Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-23101	-Installation materials.	Lot	1	
07-03-23102	-Spare parts & spare units.	Lot	1	
07-03-23103	-Documentation.	Set	1	
07-03-23104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	1	
07-03-23105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-23106	-Medium Capacity Dehydrator.	Unit	1	
07-03-23107	-10% Spares.	Lot	1	
07-03-23108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 200 Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-23109	-Spare Parts & Spare Units.	Lot	1	
07-03-23110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-23111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-23112	-Spare parts & PCB's.	Lot	1	
07-03-23113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) V-S Encoder-Decoder Equipment 34Mb/s ip/op Access & Connection Modules, Full Matrix (duplicated), Auxiliary /Engineering order wire, Installation	Lot	1	

07-03-23114 07-03-23115 07-03-23116	Materials & Tools, Racks with power supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each . -Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames. -Spare parts & spare units. -Installation materials & tools.	Lot	0	
07-03-23117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-23118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	0	
07-03-23119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-23120 07-03-23121 07-03-23122	-Factory Training Abroad. -Training In Iraq. -Supervision Services (Supplier Expert).	Trainee Trainee Expert	1 2 1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

**ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : ZUBAIR**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-24100	SDH Microwave Radio Equipment, STM-1, 6 GHZ (1+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	2	
07-03-24101	-Installation materials.	Lot	2	
07-03-24102	-Spare parts & spare units.	Lot	2	
07-03-24103	-Documentation.	Set	1	
07-03-24104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	2	
07-03-24105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	2	
07-03-24106	-Medium Capacity Dehydrator.	Unit	1	
07-03-24107	-10% Spares.	Lot	1	
07-03-24108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 165Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-24109	-Spare Parts & Spare Units.	Lot	1	
07-03-24110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-24111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-24112	-Spare parts & PCB's.	Lot	1	
07-03-24113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated), Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	



07-03-24114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	1	
07-03-24115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-24116	-Spare parts & spare units. -Installation materials & tools.			
07-03-24117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-24118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-24119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-24120	Self Support Steel 80M. Tower For 4 Antennas ( 3M. Dia.) Complete With Grounding, Lightening Rod, Obstruction Lighting , Painting & Installation Materials.	Lot	1	
07-03-24121	-Factory Training Abroad.	Trainee	1	
07-03-24122	-Training In Iraq.	Trainee	2	
07-03-24123	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

**ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : KHOUR AL ZUBAIR**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-25100	SDH Microwave Radio Equipment, STM-1, 6 GHZ (1+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	2	
07-03-25101	-Installation materials.	Lot	2	
07-03-25102	-Spare parts & spare units.	Lot	2	
07-03-25103	-Documentation.	Set	1	
07-03-25104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	2	
07-03-25105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	2	
07-03-25106	-Medium Capacity Dehydrator.	Unit	1	
07-03-25107	-10% Spares.	Lot	1	
07-03-25108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 130Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-25109	-Spare Parts & Spare Units.	Lot	1	
07-03-25110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-25111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-25112	-Spare parts & PCB's.	Lot	1	
07-03-25113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated), Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-25114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	1	
07-03-25115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-25116	-Spare parts & spare units. -Installation materials & tools.			
07-03-25117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-25118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-25119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-25120	-Factory Training Abroad.	Trainee	1	
07-03-25121	-Training In Iraq.	Trainee	1	
07-03-25122	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

**ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : UM QASR**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-26100	SDH Microwave Radio Equipment, STM-1, 6 GHZ (1+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	1	
07-03-26101	-Installation materials.	Lot	1	
07-03-26102	-Spare parts & spare units.	Lot	1	
07-03-26103	-Documentation.	Set	1	
07-03-26104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	1	
07-03-26105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-26106	-Medium Capacity Dehydrator.	Unit	1	
07-03-26107	-10% Spares.	Lot	1	
07-03-26108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 100Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-26109	-Spare Parts & Spare Units.	Lot	1	
07-03-26110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-26111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	1	
07-03-26112	-Spare parts & PCB's.	Lot	1	
07-03-26113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated), Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	1	

07-03-26114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	1	
07-03-26115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-26116	-Spare parts & spare units. -Installation materials & tools.			
07-03-26117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-26118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-26119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-26120	Self Support Steel 80M. Tower For 4 Antennas ( 3M. Dia.) Complete With Grounding, Lightening Rod, Obstruction Lighting , Painting & Installation Materials.	Lot	1	
07-03-26121	-Factory Training Abroad.	Trainee	1	
07-03-26122	-Training In Iraq.	Trainee	2	
07-03-26123	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With Extension To Port UM QASR**

**Site - Name : BAGHDAD TRAINING CENTER**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-27100	SDH Microwave Radio Equipment, STM-1, 6 GHZ (2+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	2	
07-03-27101	-Installation materials.	Lot	2	
07-03-27102	-Spare parts & spare units.	Lot	2	
07-03-27103	-Documentation.	Set	1	
07-03-27104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	0	
07-03-27105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-27106	-Medium Capacity Dehydrator.	Unit	1	
07-03-27107	-10% Spares.	Lot	1	
07-03-27108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 200Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-27109	-Spare Parts & Spare Units.	Lot	1	
07-03-27110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-27111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	0	
07-03-27112	-Spare parts & PCB's.	Lot	1	
07-03-27113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated), Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	0	

07-03-27114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	0	
07-03-27115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-27116	-Spare parts & spare units.			
	-Installation materials & tools.			
07-03-27117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-27118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-27119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-27120	-Factory Training Abroad.	Trainee	2	
07-03-27121	-Training In Iraq.	Trainee	4	
07-03-27122	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With Extension To Port UM QASR**

**Site - Name : BAGHDAD MAINTENANCE CENTER**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-28100	SDH Microwave Radio Equipment, STM-1, 6 GHZ (2+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	2	
07-03-28101	-Installation materials.	Lot	2	
07-03-28102	-Spare parts & spare units.	Lot	2	
07-03-28103	-Documentation.	Set	1	
07-03-28104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	0	
07-03-28105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-28106	-Medium Capacity Dehydrator.	Unit	1	
07-03-28107	-10% Spares.	Lot	1	
07-03-28108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 200Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-28109	-Spare Parts & Spare Units.	Lot	1	
07-03-28110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-28111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	0	
07-03-28112	-Spare parts & PCB's.	Lot	1	
07-03-28113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated), Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	0	



07-03-28114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	0	
07-03-28115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-28116	-Spare parts & spare units. -Installation materials & tools.			
07-03-28117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-28118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-28119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-28120	-Factory Training Abroad.	Trainee	8	
07-03-28121	-Training In Iraq.	Trainee	8	
07-03-28122	-Supervision Services (Supplier Expert).	Expert	2	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

# **ANNEX SEVEN / Telecommunications**

**Sub - sector : Digital Microwave Link Between BAGHDAD & BASRAH With  
Extension To Port UM QASR**

**Site - Name : BASRAH MAINTENANCE CENTER**

<b>Code</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Complement ary Items</b>
07-03-29100	SDH Microwave Radio Equipment, STM-1, 6 GHZ (2+1) Frequency & Space Diversity Radio Terminal All Complete with Transmitters, Receivers, 128 QAM Modems Modules ,Protection Switch, Engineering order wire channel, 2Mb/s auxiliary traffic, Interface to central Network management, Peripherals (Lap Top PC , ETC.....), Installed in Rack with 48V. d/c unit (duplicated).	Lot	2	
07-03-29101	-Installation materials.	Lot	2	
07-03-29102	-Spare parts & spare units.	Lot	2	
07-03-29103	-Documentation.	Set	1	
07-03-29104	Microwave Parabolic Dish (1.8m., 2.4m. )Antenna with (one/ two)Polarization's all complete with Connector Flanges, Tower Attachment, Installation materials & Documentation.	Lot	0	
07-03-29105	-Microwave Elliptical waveguide Feeder Run, 11/13 GHZ band all complete with Pressure Window, Fixture clamps, Earthing Kits, Installation materials & Documentation.	Lot	1	
07-03-29106	-Medium Capacity Dehydrator.	Unit	1	
07-03-29107	-10% Spares.	Lot	1	
07-03-29108	-DC Power Plant Including Modular Switched Rectifier system 48V/30A. module(2+1)configuration, 48V, 200Ah Lead-Acid Sealed- Batteries (2sets), Cabinets, Installation materials, cables, tools & Documentation.	Lot	1	
07-03-29109	-Spare Parts & Spare Units.	Lot	1	
07-03-29110	-Air Conditioners, Duplicated 18000 / 24000 BTU Unit All Complete With, Piping & installation materials & fixtures, Spare parts & Documentation.	Lot	2	
07-03-29111	AC Power Plant Including Diesel Engine Generator Capacity 50 KVA, Dual Set, all complete with, Daily Fuel Tank, Fan, Piping, Control cubicle & Alarms, Installation Materials, Documentation & Tools	Lot	0	
07-03-29112	-Spare parts & PCB's.	Lot	1	
07-03-29113	-SDH Multiplex Equipment Including STM-16 Mutliplexer , STM-4,STM-1Multiplexer Subrack with redundant common units ADM, Terminal configuration , Tributary & Elect. Aggregate Cards (3x34Mb/s, 21x2Mb/s,140/155Mb/s switch, 7x2Mb/s) Access &Connection Modules, Full Matrix (duplicated), Auxiliary /Engineering order wire, Installation Materials & Tools, Racks with power	Lot	0	

07-03-29114	supply unit (duplicated ) and cable head, Digital Distribution Frames & Documentation for each .	Lot	0	
07-03-29115	-Primary Multiplex ( PCM-30CH.) Subrack with common units & channel PCB's of different configs. Installed in Racks with power supply units, cable head & Digital Distribution Frames.			
07-03-29116	-Spare parts & spare units.			
	-Installation materials & tools.			
07-03-29117	-Network Management Equipment consisting of Local Network Management System platform ( Hard ware),System software packages all complete with craft terminals, Mediation , Interface, and connection cards & modules, Installation Materials & Tools, Documentation & Spare Parts for each item.	Lot	1	
07-03-29118	Test Instruments including : Digital Multimeter, Frequency Counter, Power Meter , PCM Multiplex Tester , RF Sweep Generator ,VSWR Test Set, Scalar Network Analyzer , RF Spectrum Analyzer, SDH Analyzer for STM-1,TX / RX MW Link Analyzer, PDH Analyzer (2Mb/s),Oscilloscope 500 MHZ Dual channel, Vedio Test Set, RF Attenuators Fixed & Variable ( 0 - 60 )DB, Cables & Adapters Waveguide / Coax. Adapters & relevant Documentation.	Lot	1	
07-03-29119	-Specific Tools including: Specific Maintenance Tools Station Tools, Special Tools for waveguide & General Installation Tools.	Lot	1	
07-03-29120	-Factory Training Abroad.	Trainee	2	
07-03-29121	-Training In Iraq.	Trainee	4	
07-03-29122	-Supervision Services (Supplier Expert).	Expert	1	

Expected Delivery Time: 9 Months

Expected Implementation Time: 9 Months

## ANNEX SEVEN/ Telecommunications

Sub-sector: REPLACEMENT OF OLD CROSSBAR EXCHANGES

Site Name: KERBALA EXCHANGE in KERBALA

Code	Item Description	Unit	Qty.	Complementary Items
07-03-40000	SWITCHING EQUIPMENT for 15000 subscriber lines and 200 E1 digital interface:	Lot	1	
07-03-40001	- Subscriber Connections	Lot	1	
07-03-40002	- Trunk equipment	Lot	1	
07-03-40003	- Tones and Signaling	Lot	1	
07-03-40004	- Control Processors	Lot	1	
07-03-40005	- Operation and Maintenance Processors	Lot	1	
07-03-40006	- Peripherals	Lot	1	
07-03-40007	- Racks and Ironworks	Lot	1	
07-03-40008	- Installation and Maintenance tools ,Materials and Facilities	Lot	1	
07-03-40009	- Documentation	Set	2	
07-03-40010	POWER PLANT	Lot	1	
07-03-40011	- Operation and Maintenance Processors	Lot	1	
07-03-40012	- Peripherals	Lot	1	
07-03-40013	- 48V power supplies	Lot	1	
07-03-40014	- DC\DC Converters	Lot	1	
07-03-40015	- Inverters 2KVA	Set	1	
07-03-40016	- 48V Batteries, 6400 AH	Set	2	
07-03-40017	- Cables	Set	1	
07-03-40018	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40019	- Documentation	Set	2	
07-03-40020	AIR CONDITIONERS	Lot	1	
07-03-40021	- 60 kW 50Hz, 220\380V	Set	3	
07-03-40022	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40023	- Documentation	Set	2	
07-03-40024	Main Distribution Frames	Lot	1	
07-03-40025	- Terminal Blocks	Lot	1	
07-03-40026	- Over voltage protection	Lot	1	
07-03-40027	- Over current protection	Lot	1	
07-03-40028	- Ironwork	Lot	1	
07-03-40029	- Installation tools	Lot	1	
07-03-40030	- Cables & Jumper wire	Lot	1	
07-03-40031	- Documentation	Set	2	
07-03-40032	FIRE PROTECTION EQUIPMENT	Lot	1	
07-03-40033	- Detection units	Lot	1	
07-03-40034	- Control &Alarm Unit	Lot	1	
07-03-40035	- Manual Distinguishers	Lot	1	
07-03-40036	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40037	- Documentation	Set	2	
07-03-40038	False Floor – False Ceiling for switching room	Lot	1	
07-03-40039	SPARE PARTS	Lot	1	
07-03-40040	DIESEL ENGINE GENERATOR	Lot	1	
07-03-40041	- Capacity 600 KVA	Set	2	
07-03-40042	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40043	- Spare Parts	Lot	1	
07-03-40044	- Documentation	Set	2	
07-03-40045	SERVICES	Lot	1	
07-03-40046	- Training abroad	Trainee	2	

07-03-40047	- Training in Iraq	Trainee	6	
07-03-40048	- Supplier Experts(Supervisors or Trainer)	Expert	2	

Expected Delivery Time: 5 Months

Expected Implementation Time: 6 Months

ANNEX SEVEN/ Telecommunications

Sub-sector: REPLACEMENT OF OLD CROSSBAR EXCHANGES

Site Name: DIWANIYA EXCHANGE in DIWANIYA

Code	Item Description	Unit	Qty.	Complementary Items
07-03-40049	SWITCHING EQUIPMENT for 15000 subscriber lines and 200 E1 digital interface:	Lot	1	
07-03-40050	- Subscriber Connections	Lot	1	
07-03-40051	- Trunk equipment	Lot	1	
07-03-40052	- Tones and Signaling	Lot	1	
07-03-40053	- Control Processors	Lot	1	
07-03-40054	- Operation and Maintenance Processors	Lot	1	
07-03-40055	- Peripherals	Lot	1	
07-03-40056	- Racks and Ironworks	Lot	1	
07-03-40057	- Installation and Maintenance tools ,Materials and Facilities	Lot	1	
07-03-40058	- Documentation	Set	2	
07-03-40059	POWER PLANT	Lot	1	
07-03-40060	- Operation and Maintenance Processors	Lot	1	
07-03-40061	- Peripherals	Lot	1	
07-03-40062	- 48V power supplies	Lot	1	
07-03-40063	- DC\DC Converters	Lot	1	
07-03-40064	- Inverters 2KVA	Set	1	
07-03-40065	- 48V Batteries, 6400 AH	Set	2	
07-03-40066	- Cables	Set	1	
07-03-40067	- Installation and Maintenance tools ,Materials and Facilities	Lot	1	
07-03-40068	- Documentation	Set	2	
07-03-40069	AIR CONDITIONERS	Lot	1	
07-03-40070	- 60 kW 50Hz, 220\380V	Set	3	
07-03-40071	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40072	- Documentation	Set	2	
07-03-40073	Main Distribution Frames	Lot	1	
07-03-40074	- Terminal Blocks	Lot	1	
07-03-40075	- Over voltage protection	Lot	1	
07-03-40076	- Over current protection	Lot	1	
07-03-40077	- Ironwork	Lot	1	
07-03-40078	- Installation tools	Lot	1	
07-03-40079	- Cables & Jumper wire	Lot	1	
07-03-40080	- Documentation	Set	2	
07-03-40081	FIRE PROTECTION EQUIPMENT	Lot	1	
07-03-40082	- Detection units	Lot	1	
07-03-40083	- Control &Alarm Unit	Lot	1	
07-03-40084	- Manual Distinguishers	Lot	1	
07-03-40085	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40086	- Documentation	Set	2	
07-03-40087	False Floor – False Ceiling for switching room	Lot	1	
07-03-40088	SPARE PARTS	Lot	1	
07-03-40089	DIESEL ENGINE GENERATOR	Lot	1	
07-03-40090	- Capacity 600 KVA	Set	2	
07-03-40091	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40092	- Spare Parts	Lot	1	
07-03-40093	- Documentation	Set	2	
07-03-40094	SERVICES	Lot	1	
07-03-40095	- Training abroad	Trainee	2	

07-03-40096	- Training in Iraq	Trainee	6	
07-03-40097	- Supplier Experts(Supervisors or Trainer)	Expert	2	

Expected Delivery Time: 5 Months

Expected Implementation Time: 6 Months

ANNEX SEVEN/ Telecommunications

Sub-sector: REPLACEMENT OF OLD CROSSBAR EXCHANGES

Site Name: NASIRIYA EXCHANGE in NASIRIYA

Code	Item Description	Unit	Qty.	Comp. Items
07-03-40098	SWITCHING EQUIPMENT for 15000 subscriber lines and 200 E1 digital interface:	Lot	1	
07-03-40099	- Subscriber Connections	Lot	1	
07-03-40100	- Trunk equipment	Lot	1	
07-03-40101	- Tones and Signaling	Lot	1	
07-03-40102	- Control Processors	Lot	1	
07-03-40103	- Operation and Maintenance Processors	Lot	1	
07-03-40104	- Peripherals	Lot	1	
07-03-40105	- Racks and Ironworks	Lot	1	
07-03-40106	- Installation and Maintenance tools ,Materials and Facilities	Lot	1	
07-03-40107	- Documentation	Set	2	
07-03-40108	POWER PLANT	Lot	1	
07-03-40109	- Operation and Maintenance Processors	Lot	1	
07-03-40110	- Peripherals	Lot	1	
07-03-40111	- 48V power supplies	Lot	1	
07-03-40112	- DC\DC Converters	Lot	1	
07-03-40113	- Inverters 2KVA	Set	1	
07-03-40114	- 48V Batteries, 6400 AH	Set	2	
07-03-40115	- Cables	Set	1	
07-03-40116	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40117	- Documentation	Set	2	
07-03-40118	AIR CONDITIONERS	Lot	1	
07-03-40119	- 60 kW 50Hz, 220\380V	Set	3	
07-03-40120	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40121	- Documentation	Set	2	
07-03-40122	Main Distribution Frames	Lot	1	
07-03-40123	- Terminal Blocks	Lot	1	
07-03-40124	- Over voltage protection	Lot	1	
07-03-40125	- Over current protection	Lot	1	
07-03-40126	- Ironwork	Lot	1	
07-03-40127	- Installation tools	Lot	1	
07-03-40128	- Cables & Jumper wire	Lot	1	
07-03-40129	- Documentation	Set	2	
07-03-40130	FIRE PROTECTION EQUIPMENT	Lot	1	
07-03-40131	- Detection units	Lot	1	
07-03-40132	- Control &Alarm Unit	Lot	1	
07-03-40133	- Manual Distinguishers	Lot	1	
07-03-40134	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40135	- Documentation	Set	2	
07-03-40136	False Floor – False Ceiling for switching room	Lot	1	
07-03-40137	SPARE PARTS	Lot	1	
07-03-40138	DIESEL ENGINE GENERATOR	Lot	1	
07-03-40139	- Capacity 600 KVA	Set	2	
07-03-40140	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40141	- Spare Parts	Lot	1	
07-03-40142	- Documentation	Set	2	
07-03-40143	SERVICES	Lot	1	
07-03-40144	- Training abroad	Trainee	2	
07-03-40145	- Training in Iraq	Trainee	6	



07-03-40146	- Supplier Experts(Supervisors or Trainer)	Expert	2	
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Expected Delivery Time: 5 Months

Expected Implementation Time: 6 Months

## ANNEX SEVEN/ Telecommunications

Sub-sector: REPLACEMENT OF OLD CROSSBAR EXCHANGES

Site Name: ANDALUS EXCHANGE in BASRAH

Code	Item Description	Unit	Qty.	Comp. Items
07-03-40147	SWITCHING EQUIPMENT for 15000 subscriber lines and 200 E1 digital interface:	Lot	1	
07-03-40148	- Subscriber Connections	Lot	1	
07-03-40149	- Trunk equipment	Lot	1	
07-03-40150	- Tones and Signaling	Lot	1	
07-03-40151	- Control Processors	Lot	1	
07-03-40152	- Operation and Maintenance Processors	Lot	1	
07-03-40153	- Peripherals	Lot	1	
07-03-40154	- Racks and Ironworks	Lot	1	
07-03-40155	- Installation and Maintenance tools ,Materials and Facilities	Lot	1	
07-03-40156	- Documentation	Set	2	
07-03-40157	POWER PLANT	Lot	1	
07-03-40158	- Operation and Maintenance Processors	Lot	1	
07-03-40159	- Peripherals	Lot	1	
07-03-40160	- 48V power supplies	Lot	1	
07-03-40161	- DC\DC Converters	Lot	1	
07-03-40162	- Inverters 2KVA	Set	1	
07-03-40163	- 48V Batteries, 6400 AH	Set	2	
07-03-40164	- Cables	Set	1	
07-03-40165	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40166	- Documentation	Set	2	
07-03-40167	AIR CONDITIONERS	Lot	1	
07-03-40168	- 60 kW 50Hz, 220\380V	Set	3	
07-03-40169	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40170	- Documentation	Set	2	
07-03-40171	Main Distribution Frames	Lot	1	
07-03-40172	- Terminal Blocks	Lot	1	
07-03-40173	- Over voltage protection	Lot	1	
07-03-40174	- Over current protection	Lot	1	
07-03-40175	- Ironwork	Lot	1	
07-03-40176	- Installation tools	Lot	1	
07-03-40177	- Cables & Jumper wire	Lot	1	
07-03-40178	- Documentation	Set	2	
07-03-40179	FIRE PROTECTION EQUIPMENT	Lot	1	
07-03-40180	- Detection units	Lot	1	
07-03-40181	- Control & Alarm Unit	Lot	1	
07-03-40182	- Manual Distinguishers	Lot	1	
07-03-40183	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40184	- Documentation	Set	2	
07-03-40085	False Floor – False Ceiling for switching room	Lot	1	
07-03-40186	SPARE PARTS	Lot	1	
07-03-40187	DIESEL ENGINE GENERATOR	Lot	1	
07-03-40188	- Capacity 600 KVA	Set	2	
07-03-40189	- Installation and Maintenance tools and Materials	Lot	1	
07-03-40190	- Spare Parts	Lot	1	
07-03-40191	- Documentation	Set	2	
07-03-40192	SERVICES	Lot	1	
07-03-40193	- Training abroad	Trainee	2	

07-03-40194	- Training in Iraq	Trainee	6	
07-03-40195	- Supplier Experts(Supervisors or Trainer)	Expert	2	

Expected Delivery Time: 5 Months

Expected Implementation Time: 6 Months