

TARHE JAMEH COMMUNICATION SYSTEMS

Application note

I.C.O.C Iranian Central Oil Company produces and operates oil and Gas fields and facilities and is the major producer of Gas for domestic application. The Company corporate office is in Tehran and the three subsidiary Companies are as following.

I.C.O.C WEST HQ office at KERMANSHAH WEST of IRAN
I.C.O.C SOUTHERN ZAGROS. HQ office at SHIRAZ central south of Iran.
I.C.O.C NORTH EAST HQ office at MASHAD north east of Iran

The communication systems are provided for the project mainly consists of:

- 1- DIGITAL MICROWAVE SYSTEM
- 2- DIGITAL MULTIPLEX SYSTEM
- 3- P-MP DIGITAL RADIO SYSTEM
- 4- DIGITAL PABX
- 5- DIGITAL UHF TRUNK SYSTEM
- 6- SATELLITE NETWORK

1-DIGITAL MICROWAVE SYSTEM

The system is 4x2Mbit – 2x2Mbit PCM channel capacity 1+1 hot stand-by configuration of SME company (Italy) for the following I.C.O.C subsidiary companies:

1.1-I.C.O.C WEST-RADIO LINK

- a) DEHLORAN Production unit Radio site to BAYAT 2x2Mbit Link design
- b) BAYAT to CHESHMEH KHOSH 2x2Mbit Link design.
- c) CHESHMEH KHOSH to GEREHZAD 4x2Mbit Link design.
- d) GEREHZAD to SABZAB N.I.O.C pipelines Radio station 4x2Mbit Link design.
- e) SARKAN VIA reflector ANTENA to. GARDANEH CHUL N.I.O.C pipelines Radio Station 2x2Mbit Link design.

1.2-I.C.O.C SOUTH ZAGROS

- a) GENO to BANDAR ABBAS(BA) HQ 2x2Mbit Link design.
- b) GENO to GAVARZIN 2x2Mbit Link design.
- c) BA. HQ to SARKHOON 2x2Mbit Link design.

A supervisory and control system is provided to monitor the operational status of the M/W network of ICOC subsidiary companies as follows:

The supervisory control center for ICOC WEST Company is installed at CHESHMEH KHOSH TELECOM and supervises and control the radio site DEHLORAN, BAYAT, CHESHMEH KHOSH, SABZAB, GARDANEH CHUL and SARKAN, The supervisory control center for ICOC SOUTH ZAGROS is installed at BA-HQ Telecom Bldg. and shall supervise GENO, GAVARZIN and SARKHON Radio sites

2-DIGITAL MULTIPLEX SYSTEM

The MULTIPLEX system of SELTA company(Italy) Provides cross connect as well as primary MUX Terminal at the ICOC Telecom Sites

3- P-MP DIGITAL RADIO SYSTEM

The P-MP Radio Network of SME company provides voice and data access to the subscriber for ICOC SOUTH ZAGROS NAR/KANGAN Area.

The system composed of Master station ,Base station, Repeater station and Out station .The system architecture is based on the following elements.

- a) Network management system (NMS) located at NAR Telecom BLD.
- b) Two Base stations located at BIKHO & KUCHEHR Radio Stations.

- c) Repeater stations at BIKHO & KUCHEHR Radio Stations.
- d) Nine Out stations.

The whole system is connected to the system through V5 interfaces and V35, V11, 2 M bit, G703/G704 for data services. The base station at BIKHO covers the out stations designated as SHAHRAK TOHID, Site 2, Site 3 and NAR Radio Station.

The base station at KUCHEHR covers the out stations designated as KA, KB, KC, KD and SITE 1

At the base stations and NAR Radio Station, 1x E1 or 2x E1 interfaces is provided to be connected to the existing MW system.

4- DIGITAL PABX

Seven sets of Digital PABX, s operating on PCM/TDM basis are provided for ICOC West & ICOC SOUTH ZAGROS Companies replacing the existing PABX at the following sites.

CHESHMEH KHOSH, DEHLORAN, SARKAN, NAFT SHAHR, SARAJEH QOM, GAVARZIN and SARKHON

5-DIGITAL UHF TRUNK SYSTEM

The DIGITAL UHF TRUNK SYSTEM of OTE company (Italy) provides communication for the user operating with Production Facilities as well as PipeLine, Oil & Gas Wells maintenance crew. The system comprises of Management Infrastructure as well as Base Station, Dispatching Terminal, several Vehicle Mobile units with Repeater Function in addition to Normal vehicle mobile & hand held unit The Network Management System is Located at CHESHMEH KHOSH Telecom Building.

The location of the Radio Base Station for ICOC WEST Oil & Gas Company are DEHLORAN, BAYAT. CHESHMEH KHOSH, GEREHZAD, SARKAN, NAFT SHAHR, KERMANSHAH, SARAJEH QOM NIGC and NIOC Radio Sites SABZAB, GARDANEH CHUL, BIDRUYEH, ABLDOLKHAN.

The base station for ICOC SOUTH ZAGROS is located at GENO & GAVARZIN Radio Site. The Dispatcher is located at GAVARZIN and SARKHON Radio Station.

6- SATELLITE NETWORK

DAMA satellite transmission network of BCS company (China) is provided for ICOC corporate office located in Tehran to establish direct voice and data service with the subsidiary companies as well as OIL & GAS production facilities. The area HQ offices are as follow:

ICOC WEST KERMANSHAH
ICOC SOUTH ZAGROS SHIRAZ
ICOC NORTH EAST MASHAD.

The relevant satellite network supports a wide range of services for voice, video, fax and data communications. On real time Demand Assigned Multiple Access (DAMA) communications.

The system includes 12 Subscriber Earth Stations (SES) and is expandable to support additional subscribers in the future by adding further equipment if necessary.