



Oil & Gas Development Company Ltd
Petroleum Engineering & Facilities
Production Department
Islamabad

April 28, 2017

Subject:- Addendum against Tender # PROC-FC/CB/PROD/Nashpa-2034/2017

Addendum:-

Previous Addendum uploaded against clarification # 4 has been amended and is to be read as follows:-

Redundant communication can be of following options:-

S.No	Main Communication	Redundant Communication
1	Radio	Radio
2	Radio	Satellite
3	Satellite	Satellite

Details of main redundant communication system are already mentioned in the specifications clause # 4.3 of tender documents. Satellite communication shall provide complete functionality as mentioned in clause # 4.3 including redundant RTU (process and safety) data transfer, redundant VOIP functions, and redundant CCTV video transmission. Additionally, for Satellite communication, bidders must quote the following:-

- a. Minimum 10 Mbps bandwidth dedicated uplink from each well head to Nashpa Control Centre.
- b. Minimum 3 Mbps bandwidth dedicated downlink from Nashpa Control Centre to each well head.
- c. Minimum 80 Mbps bandwidth dedicated downlink for Nashpa Control Centre.

- d. Minimum 24 Mbps bandwidth dedicated uplink for Nashpa Control Centre.
- e. Communication shall have complete redundant topology. Failure of any single component shall not affect the established communication. In case any failure occurs, communication process shall shift to healthy redundant link, this shift to healthy redundant link shall be completely transparent to the system and shall not require any instruction or manual intervention.

In order to bring the Satellite communication at par with other license free bands and technologies, all costs and charges to be incurred for a period of 15 years (the design life of SCADA system is 15 years as per specification clause # 1.7 of tender documents) for the Satellite communication shall be borne by the vendor and shall be provided and included in the financial bid. This shall include (but not limited to) initial supply, engineering and installation, maintenance, monthly/yearly subscription fees and any other charges. This cost shall be quoted separately.