| ***#*** | ***Clarification Title*** | ***Clarification Description******(Rev.00)*** | ***Conclusion*** ***(Rev.00)******(VENDOR to Confirm & Consider in the Final Offers)*** | ***Clarification Description******(Rev.01)*** | ***Conclusion*** ***(Rev.01)******(VENDOR to Confirm & Consider in the Final Offers)*** | ***Clarification Description******(Rev.02)*** | ***Conclusion*** ***(Rev.02)******(VENDOR to Confirm & Consider in the Final Offers)*** |
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| ***ELECTRICAL***  |
|  | **Design Criteria** | Vendor To confirm That All supplied material all in full compliance with Project site condition : - Min/Max air temperature = -5°C / 52°C- Relative humidity = 100% max at 52°C- Altitude = 12 m a.s.l.- Climate = Class 4 (Very High)Vendor shall submitted temperature de‐rating factors of equipment such as CB, etc. It means Vendor shall de-rate the rated current of equipment on the site condition such way that de-rated rated current be equal or higher than rate current. De-rating curves/Tables (altitude & Ambient Temperature) shall be submitted at this stage. | **Confirmed** |  |  |  |  |
|  | **Documents Priority** | All The equipment’s shall be engineered, designed, manufactured, tested and installed in accordance with the following standards:* Local Codes & Standards
* Iranian Petroleum Standard (IPS)
* International Codes & Standards
* IEC (International Electro technical Commission)
* BS (British Standard)
* IEEE (Institute of Electrical and Electronics Engineers)
* API (American Petroleum Institute)

Any conflict between Project Documents, contract documents, standards and codes of practice shall be referred to the Customer for clarification. Where conflict occur, the order of precedence shall be as follows1-Contract Scope of Work including this TCL.2-Project Reference Documents.3-Applicable International Codes and Standards. | **Confirmed** |  |  |  |  |
|  | **Scope of Supply** | Minimum Scope of work and supply are in full compliance with Project MR (BK-GCS-PEDCO-120-EL-MR-0003). It has been Listed but not Limited to the following Items:1. Full Engineering Services.
2. MV Switchgear 11
3. MV Switchgear 3.3
4. MV Capacitor Bank
5. Remote Control Panel
6. Inspection & Test ACC to ITP/QCP
7. Site Supervisory Servicers (Optional)
 | **Confirmed** |  |  |  |  |
|  | **Deviation List** | Technical requirements shall be according to project specification in as minimum except those clearly specified in **“deviation form”.**BK-GNRAL-PEDCO-000-EL-DC-0001 (Electrical System Design Criteria)BK-GNRAL-PEDCO-000-EL-SP-0002 (Specification for MV Switchgear)BK-GNRAL-PEDCO-000-EL-SP-0012 (Specification for Capacitor Bank) | **Confirmed** |  |  |  |  |
|  | **General** | Vendor shall inform the purchaser of any deviations/Exceptions from all Technical Documents attached to the MR, TCL and codes & standards referred in the documents by issuing a New **Deviation/Exception List** With the respect to latest Modification and revised technical offer for purchaser's review and approval. Otherwise, the vendor must declare full compliance between all documents attached to the Inquiry package.(Native completed deviation form shall be filled by vendor) | **Confirmed** |  |  |  |  |
|  | **General** | Project Datasheet & TBE Table Shall be fill Out and return to purchaser. | **Confirmed** |  |  |  |  |
|  | **Vendor List** | Vendor list & sub vendor list of manufacture shall be according to project AVL. Sub-vendor List for Electrical Equipment shall be submitted for review and approval in bid stage. These below items shall be specified:-Manufacture-Country of origin-Model | **Confirmed** |  |  |  |  |
|  | **Spare Part** | Spare Part for Commissioning and 2 Years Operation shall be Covered all requirement in Project Specification.Based on the 22-E&C-QC-SP-1,Spare parts for pre-commissioning, commissioning/start up and spare parts for two years shall be submitted separately based on Spare Parts Specification. The supplied spare parts shall comply with the same specifications as the original parts and shall be interchangeable with the original parts without any modification. | **Confirmed** |  |  |  |  |
|  | **Special Tools** | Any Special Tools for Life time Operation shall be included in technical offer. | **Confirmed** |  |  |  |  |
|  | **Specification** | Vendor shall submit the reference and experience list (as a separate file) for design & manufacturing of power transformer. | **Confirmed** |  |  |  |  |
|  | **Shipment** | Vendor shall confirm that Packing, Marking, Preservation and Preparation for Shipment will be done in accordance to project specification. | **Confirmed** |  |  |  |  |
|  | **catalogue** | Catalogue for all proposed equipment shall be submitted. | **Confirmed** |  |  |  |  |
|  | **Specification** | All of documents such as MR, data sheets and technical specification that received from purchaser shall be stamped and returned for us | **Confirmed** |  |  |  |  |
|  | **Specification** | No more than two wires shall be connected to a terminal. please confirm. | **Confirmed** |  |  |  |  |
|  | **Specification** | Signaling lamp shall be LED type. Please confirm | **Confirmed** |  |  |  |  |
|  | **Specification** | Indoor lighting and also anti-condensation heater (with thermostat) shall be considered for all panels. Heater/s shall be protected by a miniature circuit breaker and an earth leakage protection device of 30mA sensitivity. | **Confirmed** |  |  |  |  |
|  | **Specification** | Please specify heat dissipation for all switchgears. | **Confirmed** |  |  |  |  |
|  | **Specification** | All the following items shall be considered in proposal for all Vacuum Circuit Breakers:Anti-pumping device, Mechanical operations counter, Manual mechanical trip facility Closed/open position indication, Start/Stop & Emergency Stop push button, Charged/discharged spring indication, Emergency shutdown interposing relay and Minimum 4 numbers make contacts. | **Confirmed** |  |  |  |  |
|  | **Specification** | Each cubicle shall have a tag numbers for front and rear sides. | **Confirmed** |  |  |  |  |
|  | **Specification** | Each circuit breaker shall be provided with a trip circuit supervision system complete with indicating lamp | **Confirmed** |  |  |  |  |
|  | **Specification** | All MV motor starter feeders shall be equipped with ammeter in front of switchgear | **Confirmed** |  |  |  |  |
|  | **Specification** | Test block shall be considered for metering and protection equipment | **Confirmed** |  |  |  |  |
|  | **Specification** | Shape of main bus bars shall be flat. | **Confirmed** |  |  |  |  |
|  | **Specification** | Epoxy cast resin shall be considered for voltage transformers | **Confirmed** |  |  |  |  |
|  | **Specification** | Power consumption of 110VDC shall be specified by vendor for all switchgear | **Confirmed** |  |  |  |  |
|  | **Tests** | Certificate or license, test reports and type test shall be submitted based on latest revision of related standard such as IP, short circuit level, temperature rise and etc by vendor after PO. | **Confirmed** |  |  |  |  |
|  | **Arrangement** | Vendor shall prepare preliminary substation arrangement drawing in this stage. | **Confirmed** |  |  |  |  |
|  | **Part List** | Exact part list of the Switchgear including equipment name, brand, model and origin shall be submitted by vendor. Vendor is responsible for exact part list of the SWG | **Confirmed** |  |  |  |  |
|  | **I/O List** | All required signals and mapping shall be submitted and considered From/To DCS base on "Electrical I/O Signal List BK-GCS-PEDCO-120-EL-LI-0005". Manufacture shall consider suitable relays / auxiliary contacts for this reason. Vendor shall confirm necessary facilities. Please follow Electrical I/O Signal List. | **Confirmed** |  |  |  |  |
|  | **Calculation** | Burden of CT’ & PT’s will be finalized after purchase order based on the related calculation that will be submitted by Vendor and shall be approved by Purchaser. | **Confirmed** |  |  |  |  |
|  | **Software** | The software of the protection relay shall be provided with original license. | **Confirmed** |  |  |  |  |
|  | **Protection Relay** | All protection relays are equipped with key pan and LCD display, and 7 Numbers Digital input /7 Numbers Dry Output Contacts as minimum which is should be re-checked with schematic diagram. | **Confirmed** |  |  |  |  |
|  | **Protection Relay** | All relays supplied with MV switchgear shall be microprocessor based, which will facilitate a connection to DCS. Please confirm. | **Confirmed** |  |  |  |  |
|  | **Protection Relay** | Vendor shall perform programming of the relays based on requirements of typical & logic diagram. Related documents shall be submitted. | **Confirmed** |  |  |  |  |
|  | **Protection Relay** | Vendor shall perform relay setting and relay coordination based on project relay coordination and setting study. | **Confirmed** |  |  |  |  |
|  | **Relay Connection** | All digital multi meters and protection relays shall have Mod Bus (RS 485) communication protocol. | **Confirmed** |  |  |  |  |
|  | **Test Block** | Test Block for current & voltage shall be considered on front of panel. | **Confirmed** |  |  |  |  |