



7 June 2017

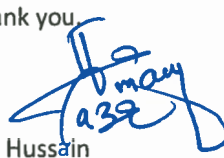
**Subject: RESPONSE TO REQUEST FOR CLARIFICATION Part 5 - IRQ ITB-154/17, Supply of Materials for 132kV Transmission Line Between Tal-Awailnat and Sinuni Sub-Districts (45 km length)**

All Bidders are advised of the following response to requests for clarifications:

| QUESTIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | RESPONSE                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is the existing 132kv line a TWIN TEAL ACSR or SINGLE TEAL ACSR?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The required accessories has been changed to SINGLE TEAL transmission line.                                                                                                                                                                                             |
| with reference to your attached clarification you are kindly requested to refer to the end user and clarify the following:<br><br>in the BOQ and compliance sheet annex (B) you have explicitly mentioned in section <u>1.5 shed profile FOG</u> . according to IEC standard this is a U160BSP<br><br>however, the compliance sheet states U160BS which is not a Fog type and is a standard type.<br><br>either delete fog type from section 1.5 (shed profile to read standard) or amend designation under section (1.7) to read <b>U160 BSP</b> instead of U160BS. | The 160KN tension insulator is fog type and insulator code is U160BSP as per the Iraqi standard specifications.<br><br>Attached please find revised compliance sheets Annex B to reflect the Changes.<br><br>Further, revise compliance sheet Annex D is also attached. |

Please be guided accordingly.

Thank you,

  
Ijaz Hussain  
Head of Procurement, Service Center

for.

## Annex B

### Tension Insulator

| Tension Insulator |                                               |      |                        |          |
|-------------------|-----------------------------------------------|------|------------------------|----------|
| No.               | Description                                   | Unit | Specification          |          |
|                   |                                               |      | Required               | Proposed |
| 1                 | GENERAL                                       |      |                        |          |
| 1.1               | Manufacturer Name                             |      | To be filled in        |          |
| 1.2               | Country of Manufacturing                      |      | To be filled in        |          |
| 1.3               | Manufacturer Model Number                     |      | To be filled in        |          |
| 1.4               | Type                                          |      | Cap & Pin              |          |
| 1.5               | Shed Profile                                  |      | Fog                    |          |
| 1.6               | Standards                                     |      | IEC 60383<br>IEC 60305 |          |
| 1.7               | Designation                                   |      | U160BSP                |          |
| 1.8               | Material of Insulator                         |      | Toughened<br>glass     |          |
| 1.9               | Minimum failing load                          | KN   | 160 kN                 |          |
| 1.10              | Outside Diameter, Nominal                     | mm   | 330                    |          |
| 1.11              | Creepage distance                             | mm   | 440                    |          |
| 1.12              | Distance between centers of<br>units, Nominal | mm   | 146                    |          |
| 1.13              | Insulator pin diameter                        | mm   | 20                     |          |
| 1.14              | Mass of Unit                                  | kg   | To be filled in        |          |
| 1.15              | Minimum 50 Hz puncture<br>voltage of Unit     | kV   | 130                    |          |
| 1.16              | Power frequency withstand<br>voltage, dry     | kV   | 75                     |          |
| 1.17              | Power frequency withstand<br>voltage, wet     | kV   | 45                     |          |
| 1.18              | Minimum puncture voltage in<br>oil            | kV   | 110                    |          |

## Annex D

### Tension sets with hardware

| Tension sets with hardware |                                                                                                                                      |      |               |          |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------|---------------|----------|
| No.                        | Description                                                                                                                          | Unit | Specification |          |
|                            |                                                                                                                                      |      | Required      | Proposed |
| 1                          | Number of insulator strings per phase                                                                                                |      | 2             |          |
| 2                          | Minimum failing load of set fittings                                                                                                 | KN   | 160           |          |
| 3                          | Number of insulator units in each string, Nominal                                                                                    |      | 12            |          |
| 4                          | Overall length of set including clamp and all fittings                                                                               | mm   | To Be Filled  |          |
| 5                          | Gap between arching horns fitted both live and earth ends                                                                            | mm   | To Be Filled  |          |
| 6                          | Mass of set, complete with all fittings (and arcing horns at both ends)                                                              | kg   | To Be Filled  |          |
| 7                          | Overall length of creepage path per string                                                                                           | mm   | To Be Filled  |          |
| 8                          | 50Hz voltage tests<br>a- Dry one minute withstand voltage of complete set<br><br>b- Wet one minute withstand voltage of complete set | kV   | To Be Filled  |          |
| 9                          | Dry impulse withstand voltage of complete set                                                                                        | kV   | To Be Filled  |          |
| 10                         | Corona test voltage                                                                                                                  | kV   | To Be Filled  |          |
| 11                         | Set RI voltage                                                                                                                       | kV   | To Be Filled  |          |
| 12                         | Set radio noise level                                                                                                                | dB   | To Be Filled  |          |