

**Design, Supply, Installation, Testing & Commissioning of 400/230/132 kV AIS Substation at Pekua and associated single /double circuit 400kV/230kV/132kV LILO Lines on turnkey basis (Package-1)**  
[Contract No.: PGCB/ADB/400kV/PEKUA/PTSIREP/PACKAGE-1]

Schedule 4D: Installation and Other Services

| Item                                   | Description                                                                          | Unit  | Quantity | Unit Price <sup>1</sup> |                             | Total Price <sup>1</sup> |                             |
|----------------------------------------|--------------------------------------------------------------------------------------|-------|----------|-------------------------|-----------------------------|--------------------------|-----------------------------|
|                                        |                                                                                      |       |          | Local Currency [in BDT] | Foreign Currency [in .....] | Local Currency [in BDT]  | Foreign Currency [in .....] |
| 1                                      | 2                                                                                    | 3     | 4        | 5                       | 6                           | 7 = 4x5                  | 8 = 4x6                     |
| <b>Sub-Total brought forward</b>       |                                                                                      |       |          |                         |                             |                          |                             |
| 1H                                     | <b>Earthing and Lightning Protection</b>                                             |       |          |                         |                             |                          |                             |
| 1H.1                                   | Earthing system for complete substation                                              | lot   | 1        |                         |                             |                          |                             |
| 1H.2                                   | Lighting Protection System for complete substation                                   | lot   | 1        |                         |                             |                          |                             |
| 1I                                     | <b>Batteries, chargers &amp; DC distribution</b>                                     |       |          |                         |                             |                          |                             |
| 1I.1                                   | <b>110V Ni-cad Batteries with chargers &amp; distribution board &amp; others</b>     |       |          |                         |                             |                          |                             |
| a)                                     | for 400kV System                                                                     |       |          |                         |                             |                          |                             |
| i)                                     | 110V Battery Banks, Ah                                                               | set   | 2        |                         |                             |                          |                             |
| ii)                                    | Charger, A                                                                           | set   | 2        |                         |                             |                          |                             |
| iii)                                   | 110V DC Distribution panel, MCC type                                                 | lot   | 1        |                         |                             |                          |                             |
| a)                                     | for 230kV System                                                                     |       |          |                         |                             |                          |                             |
| i)                                     | 110V Battery Banks, Ah                                                               | set   | 2        |                         |                             |                          |                             |
| ii)                                    | Charger, A                                                                           | set   | 2        |                         |                             |                          |                             |
| iii)                                   | 110V DC Distribution panel, MCC type                                                 | lot   | 1        |                         |                             |                          |                             |
| iv)                                    | Inverter for SAS                                                                     | set   | 2        |                         |                             |                          |                             |
| b)                                     | for 132kV System                                                                     |       |          |                         |                             |                          |                             |
| i)                                     | 110V Battery Banks, Ah                                                               | set   | 2        |                         |                             |                          |                             |
| ii)                                    | Charger, A                                                                           | set   | 2        |                         |                             |                          |                             |
| iii)                                   | 110V DC Distribution panel, MCC type                                                 | lot   | 1        |                         |                             |                          |                             |
| 1I.2                                   | <b>48V Ni-cad Batteries with chargers &amp; distribution board</b>                   |       |          |                         |                             |                          |                             |
| i)                                     | 48V battery Banks, Ah                                                                | set   | 2        |                         |                             |                          |                             |
| ii)                                    | Charger, A                                                                           | set   | 2        |                         |                             |                          |                             |
| iii)                                   | 48V DC Distribution Panel                                                            | lot   | 1        |                         |                             |                          |                             |
| 1J                                     | <b>LVAC Distribution</b>                                                             |       |          |                         |                             |                          |                             |
| 1J.1                                   | AC 415V or 240V distribution panels (MCC type)                                       | lot   | 1        |                         |                             |                          |                             |
| 1J.2                                   | Tariff metering at LV side(Main & Check)                                             | lot   | 1        |                         |                             |                          |                             |
| 1K                                     | <b>Civil Works, Building and Foundation</b>                                          |       |          |                         |                             |                          |                             |
| 1K.1                                   | <b>Complete land development and slope protection</b>                                |       |          |                         |                             |                          |                             |
| i)                                     | Complete land development with carried/dredged earth filling including approach road | cum   | 904473   |                         |                             |                          |                             |
| ii)                                    | Slope protection                                                                     |       |          |                         |                             |                          |                             |
| a.                                     | Slope (1V:2H) protection with CC block with gravity retaining wall                   | lot   | 1        |                         |                             |                          |                             |
| 1K.2                                   | <b>Complete civil items required for outdoor works</b>                               |       |          |                         |                             |                          |                             |
| i)                                     | Outdoor gantry foundation in 400kV switchyard                                        | lot   | 1        |                         |                             |                          |                             |
| a.                                     | Gantry column                                                                        |       |          |                         |                             |                          |                             |
| ii)                                    | Outdoor equipment foundation in 400kV switchyard                                     |       |          |                         |                             |                          |                             |
| a.*                                    | CB                                                                                   | set** | 13       |                         |                             |                          |                             |
| b.*                                    | DS without ES                                                                        | set** | 27       |                         |                             |                          |                             |
| c.*                                    | DS with ES                                                                           | set** | 4        |                         |                             |                          |                             |
| d.*                                    | Bus ES                                                                               | set** | 2        |                         |                             |                          |                             |
| e.*                                    | CT                                                                                   | nos   | 57       |                         |                             |                          |                             |
| f.*                                    | CVT                                                                                  | nos   | 27       |                         |                             |                          |                             |
| g.*                                    | LA                                                                                   | nos   | 27       |                         |                             |                          |                             |
| h.*                                    | Wave Trap                                                                            | set** | 4        |                         |                             |                          |                             |
| i.                                     | PI                                                                                   | lot   | 1        |                         |                             |                          |                             |
| iii)                                   | Outdoor gantry foundation including tower foundation in 230kV switchyard             |       |          |                         |                             |                          |                             |
| a.                                     | Gantry column                                                                        | lot   | 1        |                         |                             |                          |                             |
| b.                                     | Tower                                                                                | lot   | 1        |                         |                             |                          |                             |
| iv)                                    | Outdoor equipment foundation in 230kV switchyard                                     |       |          |                         |                             |                          |                             |
| a.*                                    | CB                                                                                   | set** | 10       |                         |                             |                          |                             |
| b.*                                    | DS without ES                                                                        | set** | 25       |                         |                             |                          |                             |
| c.*                                    | DS with ES                                                                           | set** | 4        |                         |                             |                          |                             |
| d.*                                    | CT                                                                                   | nos   | 30       |                         |                             |                          |                             |
| e.*                                    | CVT                                                                                  | nos   | 33       |                         |                             |                          |                             |
| f.*                                    | LA                                                                                   | nos   | 27       |                         |                             |                          |                             |
| g.                                     | PI                                                                                   | lot   | 1        |                         |                             |                          |                             |
| v)                                     | Outdoor gantry foundation including tower foundation in 132kV switchyard             |       |          |                         |                             |                          |                             |
| a.                                     | Gantry column                                                                        | lot   | 1        |                         |                             |                          |                             |
| b.                                     | Tower                                                                                | lot   | 1        |                         |                             |                          |                             |
| vi)                                    | Outdoor equipment foundation in 132kV switchyard                                     |       |          |                         |                             |                          |                             |
| a.*                                    | CB                                                                                   | set** | 7        |                         |                             |                          |                             |
| b.*                                    | DS without ES                                                                        | set** | 16       |                         |                             |                          |                             |
| c.*                                    | DS with ES                                                                           | set** | 4        |                         |                             |                          |                             |
| d.*                                    | CT                                                                                   | nos   | 21       |                         |                             |                          |                             |
| e.*                                    | IVT                                                                                  | nos   | 24       |                         |                             |                          |                             |
| f.*                                    | LA                                                                                   | nos   | 18       |                         |                             |                          |                             |
| g.                                     | PI                                                                                   | lot   | 1        |                         |                             |                          |                             |
| vii)                                   | Outdoor equipment foundation in 33kV switchyard                                      |       |          |                         |                             |                          |                             |
| a.                                     | CB                                                                                   | set** | 2        |                         |                             |                          |                             |
| b.                                     | DS                                                                                   | set** | 4        |                         |                             |                          |                             |
| c.                                     | IVT                                                                                  | nos   | 15       |                         |                             |                          |                             |
| d.                                     | LA/SA                                                                                | nos   | 15       |                         |                             |                          |                             |
| e.                                     | CT                                                                                   | nos   | 6        |                         |                             |                          |                             |
| viii)                                  | Outdoor gantry/tubular bus bar foundation in 33kV switchyard                         | lot   | 1        |                         |                             |                          |                             |
| ix)                                    | Transformer pad with foundation including oil pit                                    |       |          |                         |                             |                          |                             |
| a.                                     | 520MVA transformer                                                                   | nos   | 3        |                         |                             |                          |                             |
| b.                                     | 300MVA transformer                                                                   | nos   | 2        |                         |                             |                          |                             |
| x)                                     | Blast wall with foundation                                                           | nos   | 5        |                         |                             |                          |                             |
| xi)                                    | Boundary wall for overall plan                                                       | m     | 900      |                         |                             |                          |                             |
| a.                                     | Boundary wall with RCC retaining wall                                                | m     | 550      |                         |                             |                          |                             |
| b.                                     | Boundary wall without retaining wall                                                 | m     | 1        |                         |                             |                          |                             |
| xii)                                   | Substation main gate                                                                 | nos   | 1        |                         |                             |                          |                             |
| xiii)                                  | Chain link fencing                                                                   | m     | 500      |                         |                             |                          |                             |
| xiii)                                  | Approach road (pavement width 8m)                                                    | m     | 20       |                         |                             |                          |                             |
| xiv)                                   | Internal road                                                                        |       |          |                         |                             |                          |                             |
| a.                                     | 8m wide road                                                                         | m     | 800      |                         |                             |                          |                             |
| b.                                     | 4.5m wide road                                                                       | m     | 500      |                         |                             |                          |                             |
| c.                                     | 3m wide road                                                                         | m     | 300      |                         |                             |                          |                             |
| d.                                     | 1.5 walk way                                                                         | m     | 10       |                         |                             |                          |                             |
| <b>Sub-Total Price carried forward</b> |                                                                                      |       |          |                         |                             |                          |                             |
| <b>Sub Total Price in words.....</b>   |                                                                                      |       |          |                         |                             |                          |                             |

*(Signature)*

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**[Contract No.: PGCB/ADB/400kV/PEKUA/PTSIREP/PACKAGE-1]**

**Schedule 4D: Installation and Other Services**

| Item                                                                                                            | Description                                                                                                                     | Unit | Quantity | Unit Price <sup>1</sup> |                             | Total Price <sup>1</sup> |                             |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------|----------|-------------------------|-----------------------------|--------------------------|-----------------------------|
|                                                                                                                 |                                                                                                                                 |      |          | Local Currency [In BDT] | Foreign Currency [In .....] | Local Currency [In BDT]  | Foreign Currency [In .....] |
| 1                                                                                                               | 2                                                                                                                               | 3    | 4        | 5                       | 6                           | 7 = 4x5                  | 8 = 4x6                     |
| <b>Sub-Total brought forward</b>                                                                                |                                                                                                                                 |      |          |                         |                             |                          |                             |
| xvi)                                                                                                            | Surface drain                                                                                                                   | m    | 1350     |                         |                             |                          |                             |
| xvii)                                                                                                           | Cable trench/tunnel with soak pit                                                                                               | lot  | 1        |                         |                             |                          |                             |
| xviii)                                                                                                          | Whole substation surface finishing with drainage system including outlet (excluding surface drain)                              | lot  | 1        |                         |                             |                          |                             |
| xix)                                                                                                            | Gravel laying in switchyard area                                                                                                | lot  | 1        |                         |                             |                          |                             |
| xx)                                                                                                             | Septic tank cum soak well                                                                                                       | nos. | 3        |                         |                             |                          |                             |
| xxi)                                                                                                            | Pump shed including deep tube well, motor, pump, water reservoir, water pipe line, electrical connection etc.                   | lot  | 1        |                         |                             |                          |                             |
| xxii)                                                                                                           | Guard house                                                                                                                     | nos. | 1        |                         |                             |                          |                             |
| xxiii)                                                                                                          | Sentry post                                                                                                                     | nos. | 3        |                         |                             |                          |                             |
| xxiv)                                                                                                           | Car port                                                                                                                        | nos. | 1        |                         |                             |                          |                             |
| xxv)                                                                                                            | Ansar barrack                                                                                                                   | nos. | 1        |                         |                             |                          |                             |
| xxvi)                                                                                                           | Water Treatment Plant                                                                                                           | lot  | 1        |                         |                             |                          |                             |
| xxvii)                                                                                                          | Guide Wall                                                                                                                      | m    | 190      |                         |                             |                          |                             |
| <b>1K.3 Complete civil works for Control Room &amp; Switchyard Panel Room building</b>                          |                                                                                                                                 |      |          |                         |                             |                          |                             |
| i)                                                                                                              | Complete civil works for one control room building                                                                              |      |          |                         |                             |                          |                             |
| a)                                                                                                              | Foundation works                                                                                                                | lot  | 1        |                         |                             |                          |                             |
| b)                                                                                                              | Super structures                                                                                                                | lot  | 1        |                         |                             |                          |                             |
| c)                                                                                                              | All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.                                | lot  | 1        |                         |                             |                          |                             |
| ii)                                                                                                             | Complete civil works for two 400kV switchyard panel room building                                                               |      |          |                         |                             |                          |                             |
| a)                                                                                                              | Foundation works                                                                                                                | lot  | 1        |                         |                             |                          |                             |
| b)                                                                                                              | Super structures                                                                                                                | lot  | 1        |                         |                             |                          |                             |
| c)                                                                                                              | All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.                                | lot  | 1        |                         |                             |                          |                             |
| iii)                                                                                                            | Complete civil works for one 132kV switchyard panel room building                                                               |      |          |                         |                             |                          |                             |
| a)                                                                                                              | Foundation works                                                                                                                | lot  | 1        |                         |                             |                          |                             |
| b)                                                                                                              | Super structures                                                                                                                | lot  | 1        |                         |                             |                          |                             |
| c)                                                                                                              | All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.                                | lot  | 1        |                         |                             |                          |                             |
| <b>1K.4 Testing of Foundation</b>                                                                               |                                                                                                                                 |      |          |                         |                             |                          |                             |
| i)                                                                                                              | Compression test of pile                                                                                                        | nos. | 5        |                         |                             |                          |                             |
| ii)                                                                                                             | Uplift test of pile                                                                                                             | nos. | 3        |                         |                             |                          |                             |
| <b>1K.5 Complete firelighting system for transformers including water pond/reservoir, pipe network and pump</b> |                                                                                                                                 |      |          |                         |                             |                          |                             |
| <b>1L Lighting, small power, air conditioning and Ventilation</b>                                               |                                                                                                                                 |      |          |                         |                             |                          |                             |
| 1L.1                                                                                                            | Lighting, small power, air conditioning and Ventilation and emergency DC lighting for control building and local control houses | lot  | 1        |                         |                             |                          |                             |
| 1L.2                                                                                                            | Lighting for outside building for security, roadway, switchyard and emergency DC lighting                                       | lot  | 1        |                         |                             |                          |                             |
| <b>1M Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection</b>                  |                                                                                                                                 |      |          |                         |                             |                          |                             |
| 1M.1                                                                                                            | Indoor Fibre Optic Multiplexer Equipment                                                                                        | lot  | 1        |                         |                             |                          |                             |
| 1M.2                                                                                                            | under ground optical fiber cable, armoured, 48/24 core including Outdoor termination box, indoor MDF & pigtail cables           | lot  | 1        |                         |                             |                          |                             |
| 1M.3                                                                                                            | PLC Equipment                                                                                                                   | lot  | 1        |                         |                             |                          |                             |
| <b>1N SCADA system for Telecontrol and Telemetering</b>                                                         |                                                                                                                                 |      |          |                         |                             |                          |                             |
| 1N.1                                                                                                            | Complete SCADA hardware & software                                                                                              | lot  | 1        |                         |                             |                          |                             |
| <b>Sub-Total Price carried forward</b>                                                                          |                                                                                                                                 |      |          |                         |                             |                          |                             |
| <b>Sub Total Price in words.....</b>                                                                            |                                                                                                                                 |      |          |                         |                             |                          |                             |

10/10/2023  
[Signature]