

22 MAY 2018

**EDF International Networks**

Postal Address Head Office:  
Tour Blanche  
21<sup>e</sup> Etage  
34, Place des Corolles  
92079 Paris la Défense Cedex  
France

Postal Address Site Office:  
EDF International Networks SAS  
PROJECT OFFICE - GEMMAYZEH  
22, Rue du Fleuve  
PO Box 175 742 - BEYROUTH - LEBANON

MATELEC S.A.L.  
P.O.Box 12 Jbeil  
Amchit- Ghorfine  
Lebanon

Attn : Mr. Cesar Lutfallah  
Director, Engineering and Contracting Division

**Your references**

**Our references** GIS/EDF/MAT/0010/0142

**Contact** Loic Popiel ☎ +961 3 286 872

**Subject** **Gas Insulated Switchgears 220 kV Substations for Achrafieh, Dahieh and Bahsas - GIS Completion Certificate**

Beirut, March 21, 2018

Dear Sir,

Following your request, here attached the Completion Certificate relative to GIS contract.

Best regards,

  
Loic Popiel  
Project Director

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Enclosed: GIS Completion Certificate (2 pages)

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## TO WHOM IT MAY CONCERN

Beirut, May 21, 2018

We, the undersigned, EDF the engineer (consultant) representing the client **Ministry of Electricity and Water (MOEW) - Lebanon** for the project **"Gas Insulated Switchgears 220kV GIS Substations"** (contract price: **US\$ 37,201,466 & EURO 45,086,283 EXCLUDING VAT**), hereby confirm and certify that the following below sections under the said project has been completed by Matelec SAL and partially reception by the Client and are currently in service operated by the End-User **EDL**:

- **Lot C: Dahieh 220 kV Substation (Taking Over Certificate issued) on 27/05/2017 amounting to 13,438,837\$ and 20,434,355 Euro (without VAT).**

The Substation has been connected to the 220 kV border substations of PINS and Aramoun via a new 220kV UGC. The construction of the specified substation has been completed by MATELEC s.a.l. and handed over to EDL for operation.

The 220-20-11 kV substation in Dahieh includes the following components:

- A 220 kV GIS Hall consisting of 7 Gas Insulated Switchgear Bays.
- Three 220/20-11kV Power Transformers 70MVA, manufactured by MATELEC s.a.l – Lebanon.
- 4 Auto-Transformers 30 MVA (20/11 kV) manufactured by MATELEC s.a.l – Lebanon.
- 6 MV rooms consisting of 80 Medium Voltage Switchgears
- 18 Capacitor Banks.
- Control, protection, telecom, relay and auxiliary panels (manufactured by MATELEC s.a.l – Lebanon)
- Battery, Charger, Diesel generator and CO2 rooms.
- Advance firefighting system from AI Group.

### Lot C Extension Substations PINS and ARAMOUN

Matelec also supplied and installed the following 3-phase SF6 gas insulated switchgear (GIS) extension bays for the existing Pins Substation:

- 1 off - line bay consisting of bus bar Disconnecter, circuit-breaker, maintenance earth switches...
- 1 off - transformer feeding bay consisting of bus bar Disconnecter, circuit-breaker, maintenance earth switches...

Matelec also supplied and installed the following 3-phase SF6 gas insulated switchgear (GIS) extension bays for the existing Aramoun Substation:

- 1 off - line bay consisting of bus bar Disconnecter, circuit-breaker, maintenance earth switches...

- **Lot A: Achrafieh 220 kV Substation (Taking Over Certificate issued) on 13/07/2017 amounting to 12,393,102 \$ and 13,236,277 Euro (without VAT).**

The substation has been connected to the 220 kV border substations of MKALLES and COMMERCIAL via a new 220 kV UGC. The construction of the specified substation has been completed by MATELEC s.a.l. and handed over to EDL for operation.

The 220-20-11 kV substation at Achrafieh includes the following components:

- A 220 kV GIS Hall consisting of 6 Gas Insulated Switchgear Bays.
- Two 220/20-11kV Power Transformers 70MVA, manufactured by MATELEC s.a.l – Lebanon.
- 4 Auto-Transformers 30 MVA (20/11 kV) manufactured by MATELEC s.a.l – Lebanon.
- 4 MV rooms consisting of 54 Medium Voltage Switchgears.
- 12 Capacitor Banks.
- Control, protection, telecom, relay and auxiliary panels (manufactured by MATELEC s.a.l – Lebanon).
- Battery, Charger, Diesel generator and CO2 rooms.
- Advance firefighting system from AI Group.

#### **Lot A Extension Substations MKALLES**

Matelec also supplied and installed the following 3-phase SF6 gas insulated switchgear (GIS) extension bays for the existing Mkalles Substation:

- 1 off - line bay consisting of bus bar Disconnecter, circuit-breaker, maintenance earth switches...

- **Lot B: Bahsas 220 kV Substation (Taking Over Certificate issued) on 15/07/2017 amounting to 11,369,527 \$ and 11,415,651 Euro (without VAT).**

The Substation is located next to the existing OHL to UGC gantry of Bahsas, and is connected to the 220 kV grids via the border substations of Deir Amar, Halate and Bsalim.

The 220-20-15 kV substation at Bahsas includes the following components:

- A 220 kV GIS Hall consisting of 8 Gas Insulated Switchgear Bays.
- Two 220/20-15kV Power Transformers 70MVA, manufactured by MATELEC s.a.l – Lebanon
- 2 MV rooms consisting of 36 Medium Voltage Switchgears
- 9 Capacitor Banks.
- Control, protection, telecom, relay and auxiliary panels (manufactured by MATELEC s.a.l – Lebanon)
- Battery, Charger, Diesel generator and CO2 rooms.
- Advance firefighting system from AI Group.

Loic Popiel  
Project Director

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