

33/13.8 KV Substations in NEOM

Client

Sama Construction for Trading & Contracting Co.

Scope of Work

Detailed Design
Design Development
Shop Drawings
As-Built Drawings

Location

NEOM , Saudi Arabia

Type of Activities

Architectural
Communications and Security Systems
Electrical
HVAC
Infrastructural
Landscape
Mechanical
Roads
SCADA
Structural

The project entails the design and construction of 5 secondary substations (33kV/13.8), which are fed by the 132kV/33kV primary substations (PSSs). These substations distribute power from the 33kV power lines to the 13.8kV power lines, ensuring reliable and stable transfer of power to downstream loads, including commercial, residential, and industrial areas within Oxagon sitewide.

To ensure the reliability and stability of the power supply, redundancies are integrated into the design of the infrastructure, utility network, and assets. In addition, essential components of the distribution system, such

as MV/MV and MV/LV transformers, MV switchgears, and the MV cable network, are installed within the MV/MV secondary substations, providing power to assets and the field.

The substation building is a prototype spanning a 2,500 m² plot with a total built-up area of 727 m². The five substations are strategically positioned across five site layouts to enhance infrastructure redundancy and ensure network reliability.



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