The new Haripur power project in Narayanganj, Bangladesh, is a 412MW combined cycle power plant and one of the biggest and most efficient power plants in the country. The power plant aims to increase power availability in the Region of Dhaka, Bangladesh’s capital city. There are three utilities involved in this complex project, namely, Electricity Generation Company of Bangladesh (EGCB), Power Grid Company of Bangladesh (PGCB) and Dhaka Electric Supply Authority (DESA). The project is part of the country’s efforts to accelerate the development of its power infrastructure to boost capacity and strengthen its transmission network, helping to meet the growing demand for electricity.

Project
EGCB operates the Haripur power plant and their own substation. Listed as an environmentally friendly project by World Bank, it uses natural gas as its primary fuel, this plant generate and supply low-cost electricity to Bangladesh’s national grid. PGCB evacuates the generated power and DESA distributes it to the customer.

ABB Solution
The solution supplied by ABB consists mainly in the delivery and installation of standardized and factory-tested modular components to optimize engineering and meet the delivery schedules. These include a 132 kV air-insulated substation retrofit with 28 bays, a new 33 kV gas insulated substation, auxiliary and distribution transformers, generator circuit breakers and medium voltage switchgear.

As part of the retrofit scope, ABB modified and updated the as-built drawings of the 30 year-old substation to maximize the reuse of existing materials and equipment. ABB upgraded the 28 bays from 40 kA to 63 kA in just 16 months, without impacting the generation and distribution of power and with zero incidents.
The combination of retrofit and new built a new substation was unique and challenging.

**Scope of delivery**
ABB was responsible for design, engineering, supply, installation and commissioning of the entire solution.

**EGCB 132 kV substation**
- 132 kV IEC 61850 substation automation system for 9 bays. Control and protection cubicles including REB500 busbar protection
- Engineering and integration of existing systems
- Monitoring and control system based on MicroSCADA Pro with station bus (LAN) and bay level communication system

**DESA 132/33/11 kV substation**
- 132/33/11 kV IEC 61850 substation automation system and integration of the 33 & 11 kV loose IED’s
- 132 kV Transformer protection cubicles

**Haripur 132 kV substation**
- 132 kV IEC 61850 Control, protection & revenue metering cubicles (one bay extension at PGCB substation)
- 132 kV Extension and modifications of the existing busbar protection at PCGB substation

**Customer Feedback**
“New Haripur power plant project is by far the most challenging job technically we have seen so far, due to the fact that the substation was constructed 30 years ago and was lacking proper documentation. ABB managed to execute it professionally and tactfully, overcoming all challenges. This is also the first project in Bangladesh which is executed on schedule, thanks to the dedicated and competent team” said Mostafa Kamal, Managing Director of EGCB.

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