



Ref: AREVA/ PC/01

5th April, 2010

To whom it may concern

This is to certify that M/S SATCON was appointed to provide basic engineering, detail design drawings and calculations for the electrical portion of 33/0.433kV construction power substation, 132/33kV outdoor switchyard and 33/6.6kV indoor substation for Integrated Steel Plant of M/S Bengal Energy Ltd. at Kharagpur, West Bengal under Areva P.O.no. **7900002068 dt 10.3.2008**.

The job included the following work in brief:


1. Protection and metering single line diagrams for above mentioned substations.
2. SLD of ACDB, DCDB, MLDB, 132kV Bay marshalling kiosks, Terminal plan of 132kV CT/CVT/PT JB's.
3. Switchyard and Control building layout plan & elevation drawings.
4. Cable trench and tray layout drawings.
5. Erection key diagrams, bill of materials for clamps, connectors, insulators, ACSR conductors, Al. tube bus and hardwares.
6. Earthing layout drawings and BOM.
7. Lighting layout, SLD and BOM.
8. Lightning protection layout and BOM.
9. Control schematics and interlocking diagrams.
10. Earthing and DSLP calculations, Lighting calculations, battery sizing calculations.
11. Power and control cable schedules and interconnection diagrams, cable estimates.

AREVA T&D

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This is to certify that M/S SATCON has completed the work in stipulated time and to the satisfaction of all concerned.


(ALOK GUHA NIYOGI)

Sr. Manager (Projects)
Areva T&D India Ltd.

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