

CUSTOMER CASE STUDY

AVEVA Bocad allowed Adani Transmission Limited to create better designs for the hundreds of difficult-to-construct towers they needed.

Adani Transmission Limited - www.adanitransmission.com
Industry - Electrical Transmission

Goals

- To minimise structural stress on the towers during construction.
- To develop a design using eccentric connectors to reduce the need for patches and braces.
- To reduce waste and re-fabrication.

Challenges

- Adani Transmission had to build hundreds of towers, of four different types.
- Towers had to be built with no margin for error.

AVEVA Solution

- AVEVA Bocad

Results

- Better design detailing has been achieved, allowing for an easier construction stage.
- 3D modelling and rotation has made it possible to create smarter solutions.
- Quick processing speeds produce drawings up to 40% faster.
- Production with a precision of 0.5mm.

Adani Transmission Streamlines Processes with AVEVA Bocad

Gujarat, India – Part of the Adani Group power and utilities conglomerate, Adani Transmission Limited, is headquartered at Ahmedabad in the Indian state of Gujarat. In response to India's growing appetite for electricity it designs, engineers, constructs, operates and maintains electricity transmission networks across the country. Well respected for its fast project execution and high customer satisfaction, Adani Transmission Limited has established around 5,000 km of transmission network in under four years, to ensure that power is provided seamlessly to drive India's growing economy.

Challenges: A Demanding Project

Power transmission is the next key area for private investment in India's utilities industry. This development includes an inter-state high voltage transmission line project from the new NTPC power plant in North Karanpura. Adani Transmission Ltd secured the contract to transmit 400KV DC, along 40km of transmission lines to the Chandwa region, and along another 90km of transmission lines to Gaya in Jharkhand.

To carry the transmission lines, they needed hundreds of towers; in this particular project there were four different types of tower, with unique detailing on each. To succeed, Adani needed to work effectively across the whole design, manufacture and construction process.

Solutions: Rising to the Challenge

First Adani developed the designs using a PLS = Tower package. Then they refined them using AVEVA Bocad™ software, which has a special module for transmission tower detailing. This module's built in features make it

easy to develop an accurate 3D model, rotate all parts of it, and visualise the connection details from any angle. It can also reduce the time required to generate new drawings by 40%.

Using AVEVA Bocad, Adani developed an ingenious design using eccentric connectors to reduce the need for patches and braces, so that structural stress is minimised during construction. They also devised a cost-effective arrangement of secondary members to increase the strength of the tower, and developed a smart design of flange connections and notching.

The quality of the design had a positive impact on the whole operation, as the advantages of getting the detail exactly right were multiplied over the production run of hundreds of towers.

