

User name: Southwest Electric Power Design Institute Co., Ltd. Of China Power Engineering Consulting Group

Project name: Full lifecycle digital applications of Butuo ±800kV Converter Station

Location: Liangshan, Sichuan, China

Background:

- Butuo ±800-kilovolt Converter Station is set to transmit electric energy generated by the Baihetan Hydropower Station to the economically developed areas of eastern China.
- The clean energy delivered will meet annual electricity demands for 75 million people, reducing coal consumption by 27 million tons.

Challenges:

- Needed to streamline workflows, control project costs, and achieve digital deliverables.
- Struggled to find a full lifecycle digital workflow.

Solution:

- ProjectWise and Bentley Open applications established a connected digital environment for collaborative multidiscipline design and construction management.
- The interoperability of Bentley's applications helped save two days delivering the digital models for operations and maintenance.

Outcomes:

- Bentley technology helped the team collaborate and bring together data in a geospatial context and at scale, improving infrastructure delivery and performance.
- Reduced total land used for the station by about 10 hectares, saved CNY 45 million, and reduced the project's carbon footprint.
- Reduced design time by 30 days, shortened the construction period by 40 days, and saved approximately CNY 7 million in overall project costs.

Quote: "Bentley software provided multi-discipline and full-process digital design solutions for the Butuo ±800kV converter station. The software's unique and precise positioning helped achieve accurate positioning of complex 3D space. The data platform was highly compatible and fast on loading models, which enabled us to meet the design needs of this large-scale power transformation project, while enabling the application of digital technology across the entire lifecycle of the UHV converter station projects. Through the application of digital technology, the design quality and work efficiency were improved, project investment was greatly saved and the construction period was shortened, thus bringing significant social and economic benefits to the project." – *Mingyu Liao, Main Member of the BIM Team for the Project, Southwest Electric Power Design Institute Co., Ltd. Of China Power Engineering Consulting Group*

Image caption/courtesy 1: The clean energy delivered from the Butuo ±800-kilovolt Converter Station will meet annual electricity demands for 75 million people, reducing coal consumption by 27 million tons. *Image courtesy of Southwest Electric Power Design Institute Co., Ltd. Of China Power Engineering Consulting Group.*

Image caption/courtesy 2: Bentley technology established a connected digital environment for collaborative multidiscipline design and construction management. *Image courtesy of Southwest Electric Power Design Institute Co., Ltd. Of China Power Engineering Consulting Group.*

Image caption/courtesy 3: They reduced total land used for the station by about 10 hectares to save CNY 45 million. *Image courtesy of Southwest Electric Power Design Institute Co., Ltd. Of China Power Engineering Consulting Group.*

For more information, please contact Bentley PR at PR@news.bentley.com.

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