



BOLD[®] **CERTIFIED CONSULTANT**

Provider for Breakthrough
Overhead Line Design.

If we could start from a blank page, what would transmission look like?

AEP's patented BOLD overhead line design delivers new ways to solve existing challenges.

Its streamlined approach allows increased utilization of existing and future right-of-ways and reduces environmental and visual impacts.

It can also achieve greater transfer capacity and reduce line losses at native voltages and void series compensation and specialized equipment, delivering technology that consumers and regulators desire.

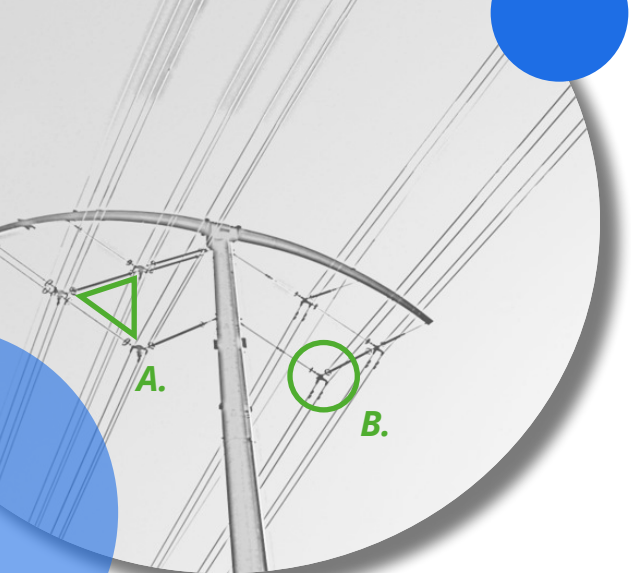
That wish can be quantified. A survey of 1,000 U.S. and 500 European customers revealed that public concerns regarding transmission include property value, health impacts and visual impacts. That same survey also showed that:

- 79% value advanced technology
- 75% would pay more for advanced technology
- 70% preferred BOLD structures versus traditional double-circuit design

bv.com/power



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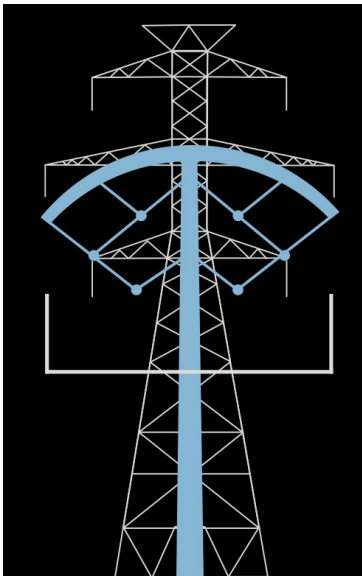


How it Works

BOLD line design leverages physics to maximize electrical performance:

- A.** It reduces phase separation into a compact “delta” configuration.
- B.** It optimizes conductor size and bundle.

It also reduces inductance (L) and impedance (Z) and increases capacitance (C), and utilizes arched crossarm and inter-phase insulators.



BOLD Benefits

AEP's BOLD overhead line design provides:



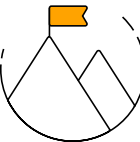
Higher Capacity & Efficiency

- Significantly increases capacity (up to 60%)
- Avoids complexity and cost of compensation
- Reduces Line Losses (up to 33%)



Positive Regulatory Impacts

- High right-of way utilization
- Addresses need for advanced transmission technology
- More rapidly brings new and replacement circuits into service



Reduced Visual Impacts

- Reduces structure heights by nearly 30%
- Aesthetically pleasing for customers – 70% preferred



Reduced Public Impacts

- Reduces avian interaction (nesting, collision, contamination)

Did You Know?

- Black & Veatch's consultancy services for BOLD®'s innovative transmission line design extends past the United States into India, Indonesia, Philippines, Thailand, and Vietnam.
- Black & Veatch is the exclusive design consultant of this technology in Asia.