



**PDC INC. ENGINEERS**

Transforming Challenges into Solutions



## Battery Energy Storage System (BESS)

- World's largest battery energy storage system (as listed in *Guinness Book of World Records*)
- Winner of the Platts 2003 Global Energy Award
- Design addresses special seismic, fire protection, and ventilation issues

The world's most powerful battery storage system, the BESS, is bigger than a soccer field. It weighs 1,500 tons and consists of 13,760 liquid electrolyte-filled nickel-cadmium battery cells. PDC's mechanical, electrical, and structural engineering designs addressed the special seismic, fire protection, and ventilation challenges involved in building the structure that house this gigantic battery system.

Golden Valley Electric Association (GVEA), the electric power utility that owns the BESS, serves a huge area that extends from Fairbanks more than a hundred miles south to Cantwell and southeast to Delta Junction. The BESS was designed to stabilize GVEA's local grid and reduce the number of outages for customers by 65%. In 2006 alone, BESS prevented 82 outages that would have left a total of 311,000 customers without power for an average of more than an hour per outage.

### Client:

ABB Engineering Consultants

### Owner:

Golden Valley Electric Association

### Location:

Fairbanks, Alaska

### Project Completion:

2003

### PDC Involvement:

- Structural Engineering
- Mechanical Engineering
- Electrical Engineering

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