Hydroelectric Design Center

"Leaders in Hydropower Engineering"

Presentation for

Southeastern Federal Power Alliance

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Director, HDC

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US Army Corps of Engineers
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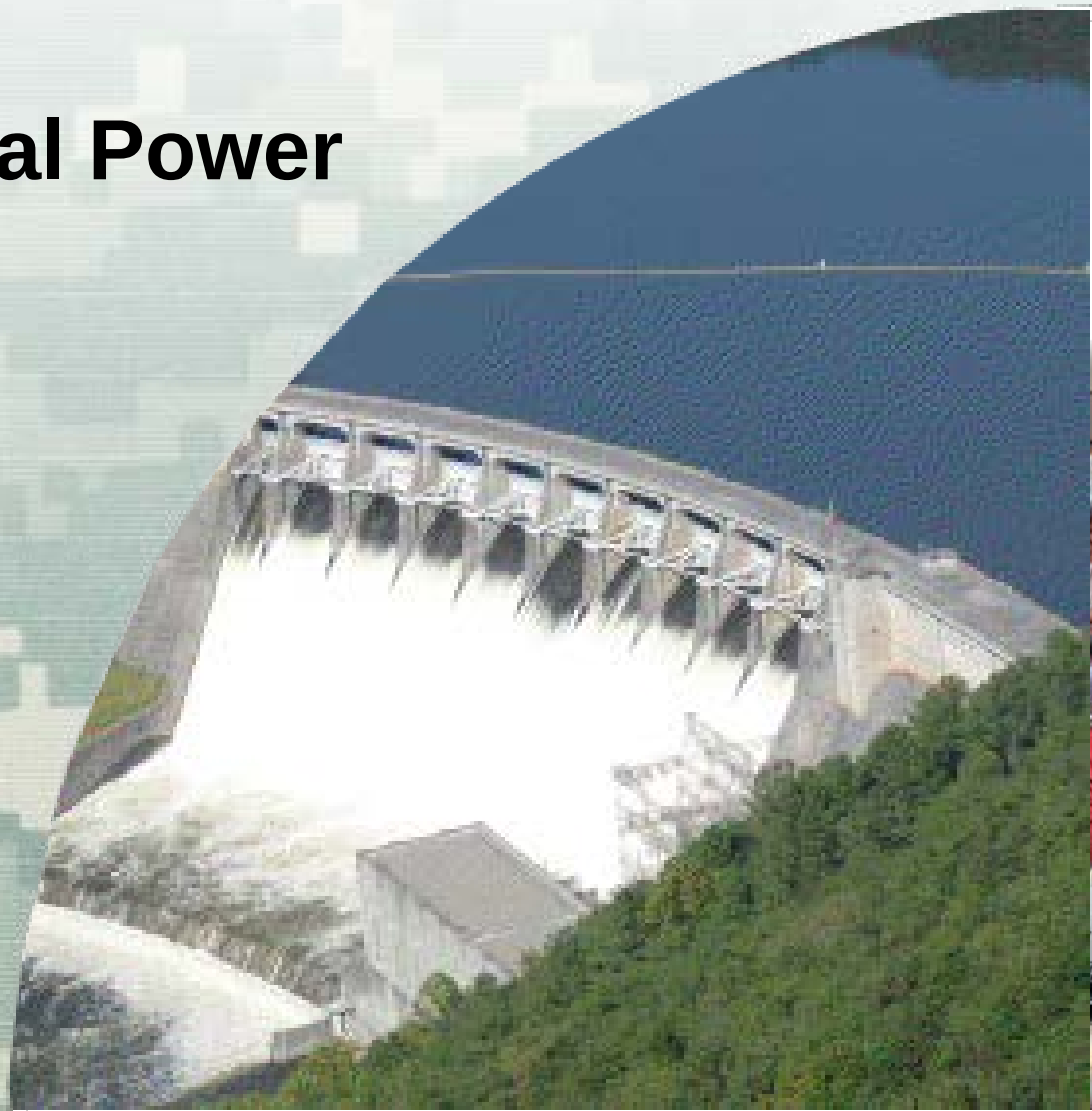


Hydroelectric Design Center

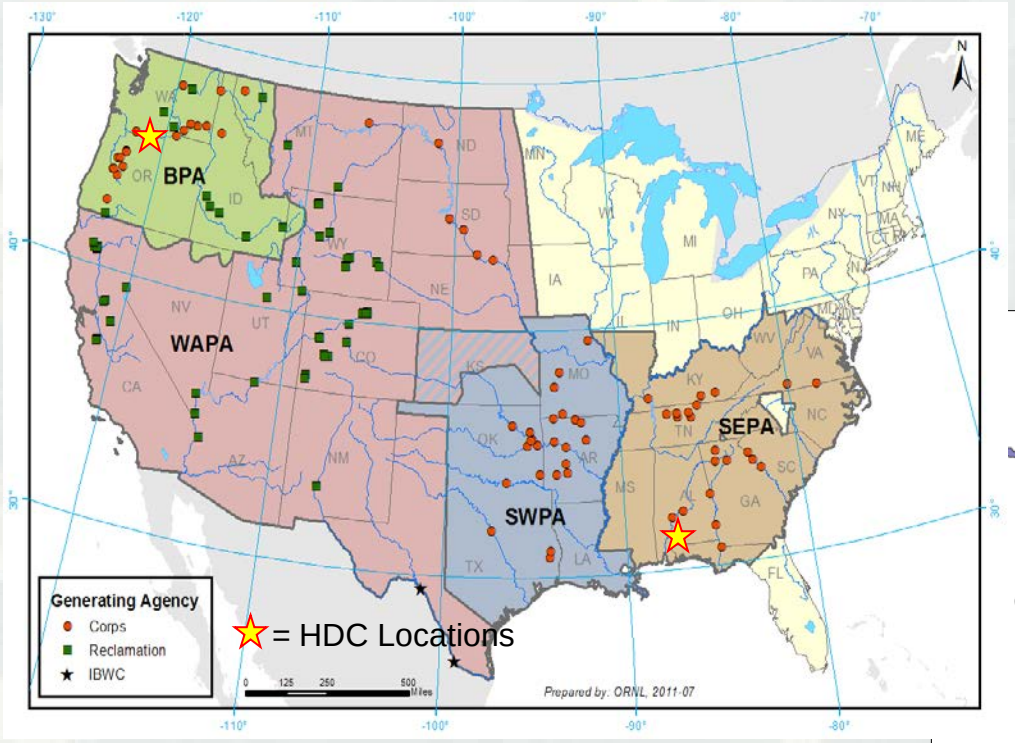


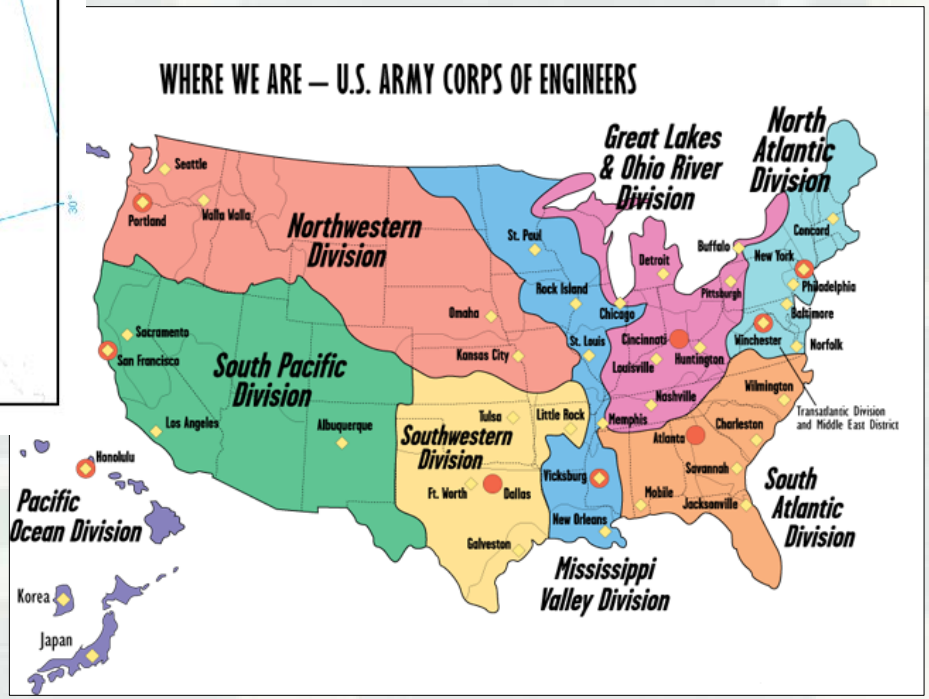

HDC performs planning, engineering and design, maintains expertise, and develops standards for the US Army Corps of Engineers hydroelectric power facilities and large pumping plants.



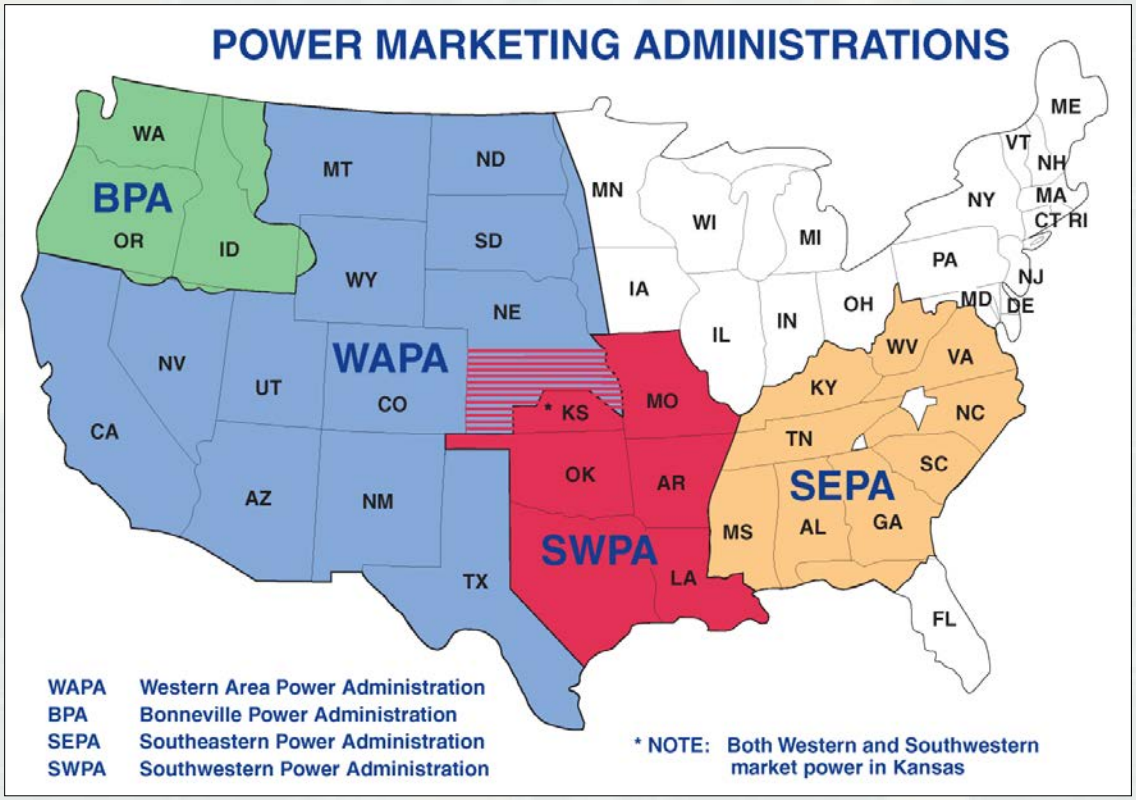



USACE Hydropower Locations



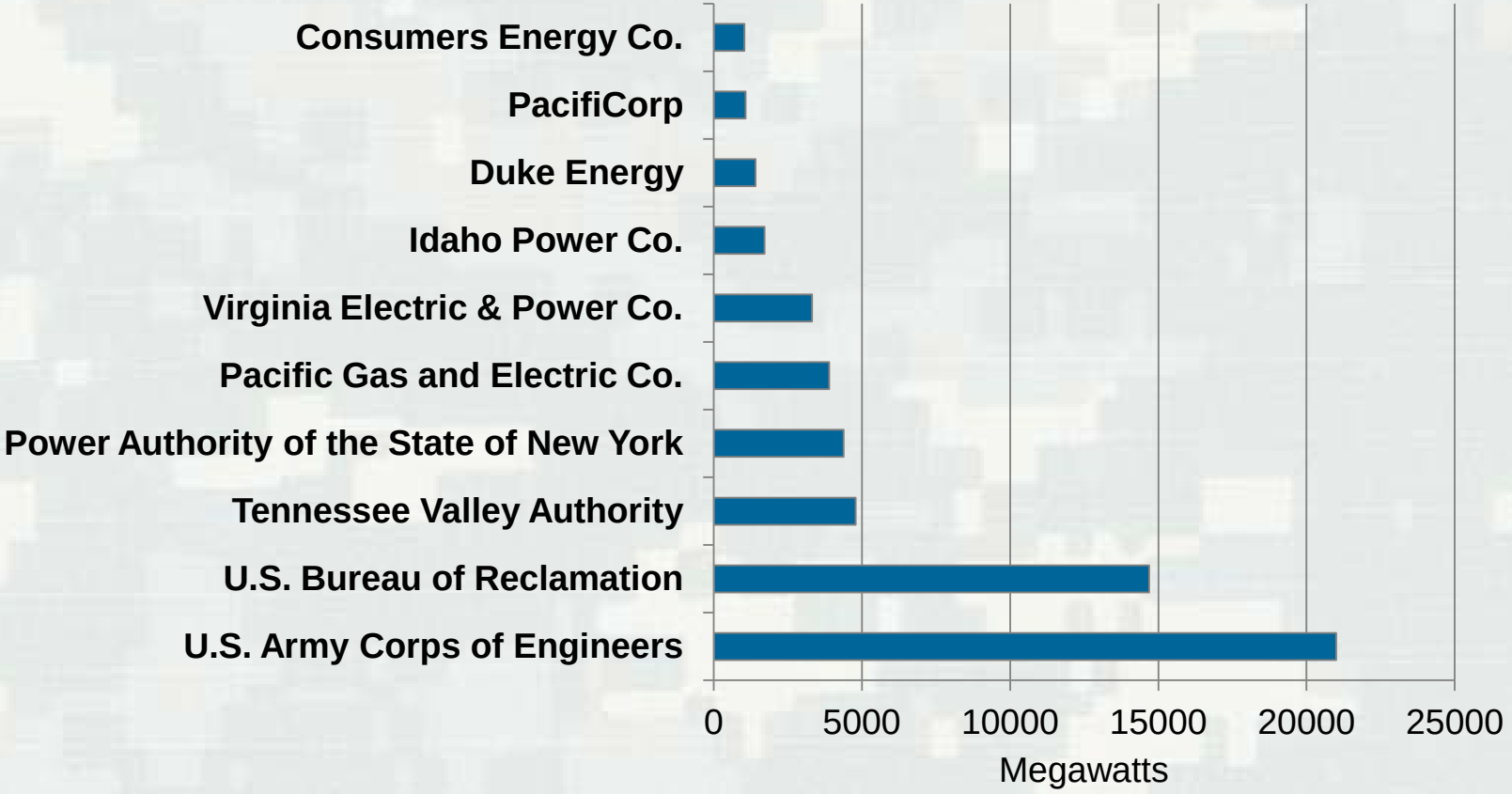


Power Marketing Administrations



Major Producers of Hydropower in the U.S.

Hydroelectric Generation Capacity in Megawatts (includes Pumped Storage)



HDC Organizational Structure

Steven Miles, Director

Richard Nelson, Acting Deputy Director

Hydropower Analysis Center

Brian R. Shenk

Electrical Branch

Shawn Worthington, Acting Chief

Product Coordination Branch

Mona Thomason, Chief

Mechanical/Structural Branch

James D. Kerr, Chief

GDACS Section

Power Systems

Generation Equip.

Protection Systems

Controls Systems

Senior Electrical Technical Experts

Structural

Turbomachinery

Mechanical Systems

Engineering Support

Senior Mechanical Technical Experts

Resources

Headquarters: Portland, OR

Forward Office: Mobile, AL

HDC Staff: (130)

- Electrical Engineers
- Mechanical Engineers
- General Engineers
- Computer Engineers
- Civil/Structural Engineers
- Architect
- Economists
- Mathematicians
- Technicians
- Support Staff
- Students

Additionally, we team with:

- HQUSACE and Other Districts
- Other Agencies
- Private Architect/ Engineering Firms
- Universities

HDC Products and Services

Engineering Studies
- Testing
- Forensics
- Arc flash studies
- Research and development
- Uprate studies

Plans and Specifications
- Hydropower equipment
- Large pump plants

Engineering During Construction
- Support during manufacture, installation, and commissioning

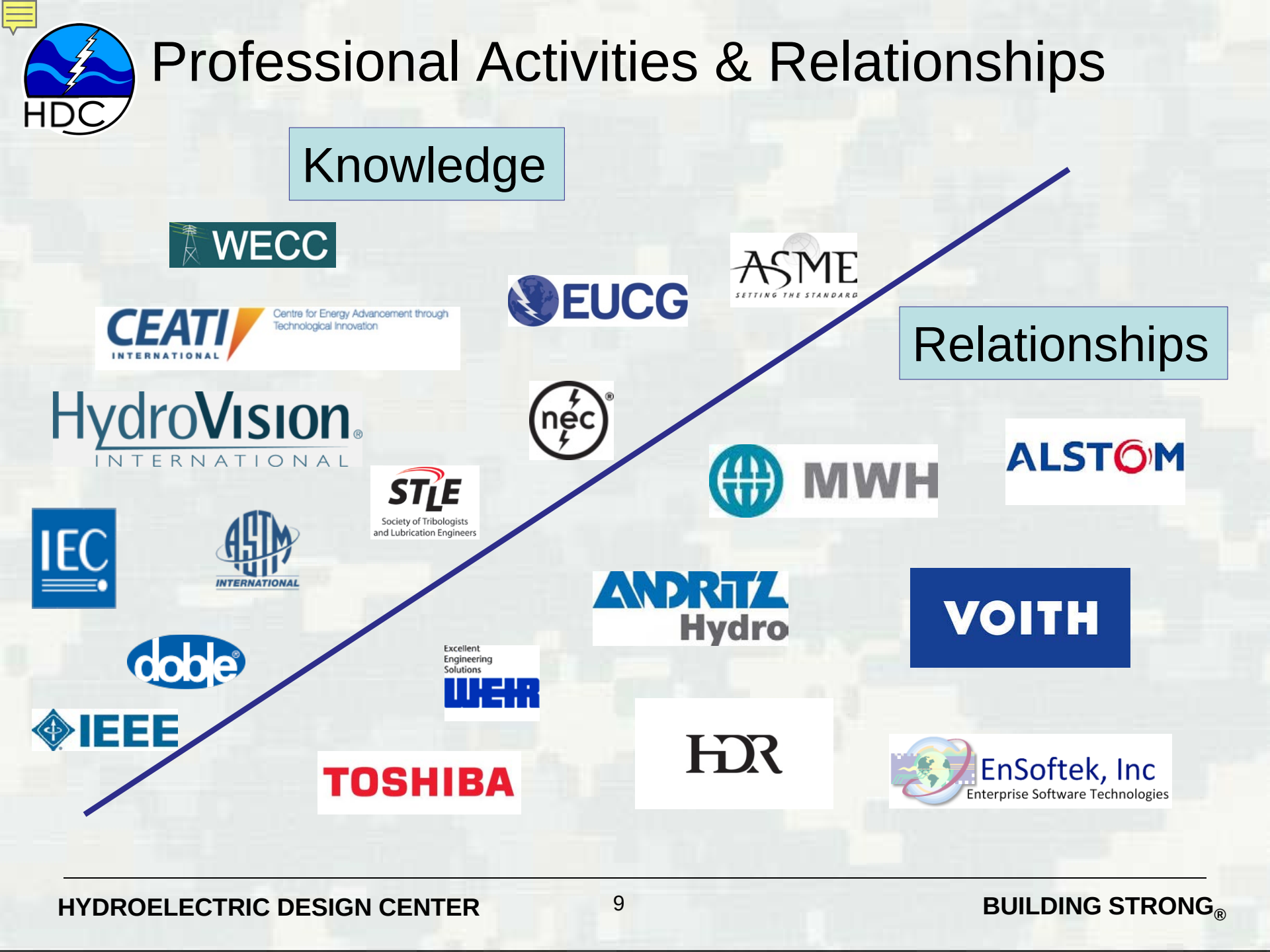
HAC Studies
- Recon and feasibility studies
- Rehab studies
- Re-allocations
- Hydropower Modernization Initiative
- FCRPS asset management
- Benchmarking

Other
- Scoping
- Contract award support
- Field engineering support
- Training
- GDACS maintenance
- Equipment purchases
- Software development
- HydroAMP support

Professional Activities & Relationships

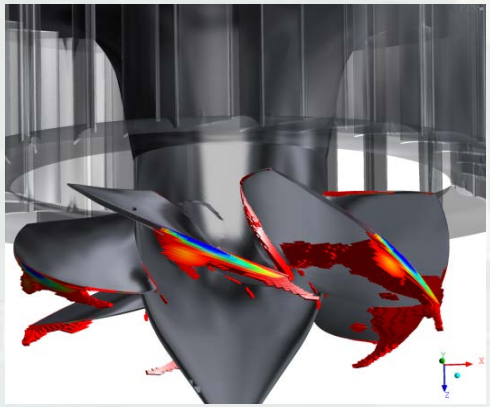
Knowledge

Relationships



Hydro Trends

- Investing in Modernization/Rehabilitation
- New Technologies
- Unit and Plant optimization
- GDACS for Corps and Others
- Renewable Energy Integration



Generic Data Acquisition and Control System (GDACS)

- Adaptable control solution used to securely automate operation of USACE hydropower plants
- Internal and external communication
- Facilitates efficient execution of power plant operations

GDACS Benefits

- Standardization
- Adaptability
- Type certification for DIACAP Authority To Operate
- Longer product life cycle
- Level maintenance costs
- Owned and maintained by USACE

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Questions & Comments?

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