US Army Corps of Engineers ®

HYDROPOWER PLANNING AND ENGINEERING SUPPORT CENTERS

HYDROELECTRIC DESIGN CENTER (HDC)

HYDROPOWER ANALYSIS CENTER (HAC)

Presented
by
BRENT L. MAHAN
Director, HDC

01 May 2008

US Army Corps of Engineers ®

Organization

Brent L. Mahan, Director
(503) 808-4200

Michael P. Roll, Deputy Director
(503) 808-4210

Front Office Support Staff
Engineers-in-Training

Hydropower Analysis Center

Brian R. Shenk
(503) 808-4221

Electrical Branch

Richard E. Nelson, Chief
(503) 808-4275

Product Coordination Branch

F. John Etzel, Chief
(503) 808-4225

Regional PCs
Product Support

Mechanical/Structural Branch

James D. Kerr, Chief
(503) 808-4250

GDACS Maintenance Team

Bart Rylander
(503) 808-4209

Power Control & Protection
David Shank
(503) 808-4273

Mechanical Systems

Rich Vaughn
(503) 808-4253

Structural

Sharon Demeaux
(503) 808-4282

Generation Equipment

Ray Schmitz
(503) 808-4233

Turbomachinery

Charlie Allen
(503) 808-4296

Engineering Support

Rob Kain
(503) 808-4270

30 Mechanical Engineers + 30 Electrical Engineers + 3 Computer Engineers + 4 Civil/Structural Engineers + 10 Technicians + 1 Chemist + 15 Others = 93
Includes 2 in Mobile, Alabama

HYDROELECTRIC DESIGN CENTER (HDC) CAPABILITIES

- Mandatory Center of Expertise (MCX) for hydroelectric power engineering and design
- Directory of Expertise (DX) Organization for flood control pumping plant engineering and design
- Develops standards for the US Army Corps of Engineers hydroelectric power facilities and large pumping plants.

HDC Expertise

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HDC INTERNATIONAL WORK

HYDROELECTRIC DESIGN CENTER

- Afghanistan
- Iraq
- Nigeria
- Canada
- New Zealand

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HYDROPOWER ANALYSIS CENTER (HAC) CAPABILITIES

- Mandatory Center of Expertise (MCX) for performing power system analysis on hydropower project outputs and economic benefit evaluations.
  - Plant sizing, upgrades, and rehabilitation
  - River system analyses
  - Cost allocation and storage reallocation
  - Value and benefit computations
  - Environmental and other studies

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HAC INTERNATIONAL WORK

- China
- South Korea
- Philippines
- El Salvador
- Mozambique
- Nigeria
- Afghanistan