



Harnessing the power of water to meet clean energy goals

WSP USA provides a full range of engineering, program management and construction engineering support services to meet the challenges of developing, operating and maintaining hydropower, dam and water resource projects. We offer particular expertise in Federal Regulatory Energy Commission dam safety, as well as civil, structural, geotechnical/geological and hydraulics/hydrology engineering; electrical and mechanical design; and quality services consulting. Our work on hydropower projects is part of our Future Ready® approach to advancing the energy transition and using clean energy to power our communities of the future.

On all projects we apply our technical expertise, ingenuity and ability to meet or exceed clients' requirements in critical areas such as safety, quality, budget, schedule, scope and responsiveness through careful attention to project management. We have served as owner's engineer and FERC dam safety consultant on major projects, and we have developed strong client relationships going back more than two decades.

DELIVERING INTEGRATED HYDROPOWER SERVICES

Feasibility assessments

- Preliminary design
- Project schedules and cost estimates
- Financial analysis
- Project risk assessments

Engineering and design

- Field investigations and evaluations
- Design criteria
- Civil, structural, geotechnical, mechanical, electrical and hydraulic design and evaluation
- Specification preparation
- New development
- Dam modification, repair and rehabilitation
- Construction cost estimating

Regulatory compliance

- FERC part 12 and state dam safety inspections
- Preparation and updates of STIDs
- PFMA facilitators and reports
- Emergency action plans and exercises
- Security evaluations and plans
- Penstock and pipeline inspection programs
- Instrumentation monitoring and evaluation programs
- Preparation and updates of DSSMRs/DSSMPs
- Gate inspection and evaluation, including Tainter Gates
- Dam safety remediation
- Project risk assessment
- FERC submittals
- FERC licensing



Construction services

- Bid document development and review
- Construction documents and drawings
- Construction monitoring
- Engineering design during construction
- Procurement support and quality services
- Construction management
- Engineering support during construction

Program management

- Planning, scheduling and budgeting for multi-contract efforts
- Project team configuration
- Subcontract management including administration, coordination and resource management

Licensing and relicensing

- Program management of the complete licensing Effort
- Permit and license applications
- Permit and regulatory compliance
- GIS support for licensing efforts
- Operations modeling

Project management

- Planning and scheduling
- Budget monitoring and forecasting
- Project control systems
- Subcontractor management
- Risk monitoring and management
- Scope monitoring and control

General dam safety

- Cofferdam/caisson design and evaluations
- Bulkhead design and evaluations
- Seismic evaluations
- Stability analyses
- Dam breach analyses
- Finite element modeling and analysis
- Settlement and seepage analyses
- Spillway capacity assessments
- Hydrologic analyses
- Geographic information systems property mapping and project development
- Management of diving and sonar inspections
- Management of ROV and drone visual inspections
- Alkali-aggregate reactivity evaluation and remediation
- High-capacity, post-tensioned anchor design and evaluations
- Due diligence evaluations
- Penstock assessment and NDT evaluations
- Trunion anchor evaluation

ABOUT WSP

WSP USA is the U.S. operating company of WSP, one of the world's leading engineering and professional services firms. Dedicated to serving local communities, we are engineers, planners, technical experts, strategic advisors and construction management professionals. WSP designs lasting solutions in the buildings, transportation, energy, water and environment markets. With more than 12,000 employees in over 200 offices across the U.S., we partner with our clients to help communities prosper.



CONTACT US

For more information about how we can help you deliver your next project, contact:

Matthew Chan, PhD
Hydropower Market Lead

matthew.chan@wsp.com
+1 971-346-5726



<https://www.wsp.com/en-US/hubs/energy>