



Sustainable energy

Hydropower

Hydropower, with a fuel source that is clean and renewable, is one of the most important energy sources and generates almost one-fifth of the world's total electricity. However, current and future trends are threatening the industry. Climate change and shifting rainfall patterns shrink river flows and drain lakes, leading to decreased power generation. Population growth puts strains on freshwater supplies. How will governments handle the division of water to satisfy both power generation and agriculture? How do operators successfully upgrade aging hydro infrastructure to be smarter and more efficient with less downtime? WSP USA can help you answer these questions.



OUR SERVICES

Project development

- Project planning, river surveys and feasibility studies
- Preliminary engineering and design
- Environmental assessment, surveys and permitting
- Resource assessment and energy forecasts

Engineering and construction

- Tender package and selection process
- Detailed engineering for construction
- Owner's engineer services
- Independent third party design review
- Construction management
- Commissioning, testing and start-up

Operations and asset management

- Performance assessment
- Dam safety reviews
- Dam safety inspections
- Development of Operational Guidance documents including (OMS, EPP, ERP)
- Public safety assessment
- Risk and safety analysis
- Engineering and design

Mergers, divestitures and acquisitions

- Advisory services and project risk review
- Independent engineer services
- Due diligence studies
- Inspections of hydropower plants

OUR PROJECTS

Yellow Falls Hydroelectric Plant (16mw)

Ontario, Canada

WSP provided a wide range of services for this greenfield project including a technical review (due diligence study), conceptual to detailed engineering design, advice on environmental aspects and permitting, specific environmental studies (mercury modeling, air and noise and geomorphology), services during construction and up to the final commissioning of the plant.

Stanley-Adamson Powerhouse Rehabilitation (4mw)

Ontario, Canada

WSP provided services to upgrade a historical site constructed in the 1920s with state-of-the-art hydropower technology. WSP's services covered the conceptual design, environmental assessment and permitting, water-to-wire tender and selection process, detailed engineering for civil, mechanical and electrical components of the powerhouse and finally engineering services during construction, including site monitoring.

East Toba/Montrose Creek Hydroelectric Projects (200mw)

British Columbia

WSP provided an experienced technical team to perform a Due Diligence Assessment on recently constructed hydroelectric projects. Technical services included inspection of the assets, review of the actual energy production and forecasts, hydrological assessment, review of operations and maintenance activities, CAPEX/OPEX review, construction issues analysis as well as a review of the electrical infrastructures of the projects.

Carillon Generating Station (753mw)

Quebec, Canada

Hydro-Quebec performed a major rehabilitation of the Carillon GS located on the Ottawa River. WSP provided engineering services for initial investigations of turbine-generator units along with other heavy mechanical components such as gantry crane and powerhouse bridge cranes. Furthermore, civil investigations and design works were also provided as part of this project.

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 USA 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

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