Sustainable energy

Dam engineering and dam safety

By their very nature, dams pose serious risks and keeping them in excellent operating condition is paramount. This is why dam safety is critical for identifying and addressing potential issues in their early stages. High stakes mean that dam owners must rely on the most qualified professional engineering consultants who have the in-depth knowledge and experience that it takes. Whether a dam inspection to ensure its compliance, or for a complex dam rehabilitation project, WSP USA can help at any stage of the project.

OUR SERVICES

Operations and asset management

- Design studies
- Dam safety assessments/reviews
- Public safety around dams
- 1D, 2D and 3D modeling of discharge on dams and spillways
- Environmental assessment and permitting
- Specialized studies for ice dynamics, structural stability, etc.
- Detailed inspections and investigations of water retaining structures
- Detailed engineering for new structures or rehabilitations
- Dam decommissioning and land reclamation projects
- Dam rehabilitation and construction tenders
- Project management
- Services during construction
- Preparation of operations, maintenance and surveillance manuals
- Emergency action plans
- Design and assessment of tailing dams
Engineering
— Hydraulic/hydrological engineering
— Structural engineering
— Geotechnical engineering and geology
— Mechanical engineering
— Heavy mechanical engineering
— Electrical engineering

OUR PROJECTS

Saint-Alban Dam Rehabilitation
Quebec, Canada
WSP was mandated for the permitting, detailed engineering and construction supervision of the rehabilitation of the arch dam section of the Saint-Alban hydropower facility—using a 25-meter high, concrete gravity dam founded on bedrock with a total volume of 6,000 m³.

Ghost Lake Dam Safety Review
Alberta, Canada
To ensure that Ghost Lake dam was in compliance with the Alberta Government Regulations and with the Canadian Dam Association Guidelines, WSP performed a dam safety review including an inspection of the dam, a PFMA and a stability analysis of the concrete structures.

Scotts Mills Dam Design
Ontario, Canada
WSP performed a concept design for the replacement of this dam and created a two-dimensional hydrodynamic model to help in assessing the discharge capacity of the site, the environmental impact of the project on fish habitat and the construction staging.

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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