



PROJECT PROFILE

Owner: Regional Power
Contractor: TRP Contractors
Concrete Supplier: West Fraser Concrete
Distributor: Brock White Canada Company
Engineer: MWH Engineering

Bear Creek Hydro Project

Sechelt, BC

Bear Creek Hydro Project

The Upper and Lower Bear Creek Hydro Project is a barge access only generation station located near the town of Sechelt, BC. This run-of-river hydro project has two power stations, Upper Bear and Lower Bear, which have a total capacity of 20 MW and 500m and 125m, respectively, of hydraulic head. The project utilized a substantial amount of cast-in-place concrete in the water diversion structures, which are subject to significant erosion and abrasion from high velocity flows carrying suspended solids and debris.

Why HARD-CEM™

Engineered hydraulic structures are high reliability and long service life structures with significant up-front construction costs. During service, these structures are subject to substantial amounts of abrasion and erosion leading to concrete wear, thus reducing structural safety, hydraulic capacity, functionality and service life.

HARD-CEM Integral Concrete Hardener substantially increases the resistance of concrete to abrasion and can help extend the concrete life, improving structural safety, maintaining hydraulic capacity-functionality and extending concrete service life or delaying costly concrete surface repair works that would take the structure out of service for prolonged periods.

HARD-CEM was specified by MWH Engineering, a global leader in hydraulic infrastructure, for incorporation in the concrete water diversion structures such as sluiceways, canals and spillways for both Upper and Lower Bear Creek power generating stations. Approximately 4,500 m³ of HARD-CEM concrete were placed on the Bear Creek project's water diversion structures.

MWH Canada noted; "the concrete for Bear Creek was specified for high velocity water flow and erosion. HARD-CEM was researched and evaluated and chosen for the increased erosion resistance it offered."

The Bear Creek Hydro concrete specification called for Exposure Class F1, Air Content @ 5% (+/- 1%). HARD-CEM was specified for all concrete exposed to running water for both vertical and horizontal applications. HARD-CEM was the only concrete hardener on the market with the performance and versatility to meet the project requirement to harden air entrained concrete in both vertical and horizontal concrete structures.

HARD-CEM™: Best Technology Available

HARD-CEM Integral Concrete Hardener is a proven technology that will increase the abrasive and erosive wear life of concrete. Used in over 60,000m³ of concrete across North America since 2003, HARD-CEM is fully compatible with all conventional admixtures and air-entrained concrete. HARD-CEM is added integrally to the concrete during batching and does not require any field application. HARD-CEM delivers value and quality assurance on construction project's requiring increased abrasion or erosion resistance. HARD-CEM can also help qualify project concrete for LEED credits.

Cementec Industries

HARD-CEM was developed by Cementec to harden concrete subject to mechanical abrasion or fluid borne erosion. Cementec is an award winning engineering, production and distribution company with special expertise in the research and development of proprietary products for the concrete construction company. Cementec is a member of ACI and APEGA.

Contact Us

Toll-free 24 hour order desk: 1.866.212.5042
or 1.866.256.1367 www.hardcem.com

For more information contact Cementec
1.403.720.6699 or info@cementec.ca

See related documents on HARD-CEM product usage,
performance testing, and project summaries.

HARD-CEM is a registered trademark of Cementec Industries Inc.

Diversion System Hydraulic Structures Pictured Below

