

CONSULTING
ENGINEERS
OF ALBERTA
LEADERS IN MOTION



SHOWCASE
2001
AN ENGINEERING
ODYSSEY

Award of Merit
Small Firm
Award of Merit
International

Argentina to Chile Gas Pipeline Argentina & Chile

Firm: Hydroconsult EN3 Services Ltd.

Client: GasAtacama

Other Key Players: Fluor Daniel Williams Brothers — Project Manager
 Vector Argentina — Environmental
 Contreras Ute — Contractor



How do you build and operate a 940 km long, 24 inch gas pipeline that reaches a world record elevation of 5032 m in its routing from Argentina to Chile? When the only feasible routing into the high Andes is via narrow river valleys, how do you minimize impacts on the native villages and farms that cling to the only available flat areas?

These were the challenges faced by GasAtacama (owner) and Fluor Daniel Williams Brothers (Project Manager), when they engaged Hydroconsult in late 1997. Hydroconsult developed economic, safe and practical instream designs, provided full-time construction inspection for specialized river training structures (23,000 m in total length), and is now assisting the owner in annual and post-flood operational monitoring.

The instream alignment, unconventional in many respects, provided significant benefits and reduced impacts on the residents and farms in the valley, enhanced safety by maximizing the setback of people to the gas line, and last but not least, maximized local labour content in a high unemployment region for the construction of specialized river training structures.

Judges' Comments:

"An outstanding example of innovation under difficult conditions."

"This project demonstrates a superb use of the art and technology of hydraulic engineering together with considerable innovation to design, construct, inspect and monitor a gas pipeline through difficult terrain and under unusual environmental conditions."

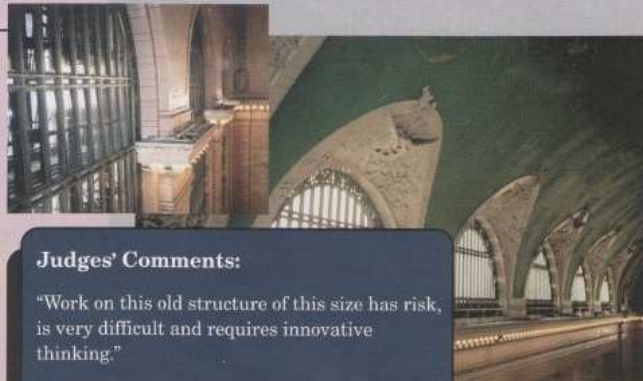
Award of Merit
Small Firm
Award of Merit
International

Grand Central Terminal — Fall Protection System New York, New York

Firm: Techna-West Engineering Ltd.

Clients: Surety Manufacturing & Testing Ltd.
 Metro-North Railroad

Contractor: Surety Manufacturing & Testing Ltd.



Judges' Comments:

"Work on this old structure of this size has risk, is very difficult and requires innovative thinking."

"The work on an old structure of this size is very difficult and a lot of time, innovation and new techniques are required."

Techna-West Engineering Ltd. and Surety Manufacturing & Testing Ltd. successfully adapted the new to the old in adding fall protection systems to New York's venerable Grand Central Terminal. Design, testing and installation of fall protection on parapets, walkways and ladders posed special challenges due to the age, shape and sandstone exterior of the Manhattan landmark. The effective application of technology previously used on steel and concrete structures opens the way for Alberta expertise to enhance worker safety on similar heritage buildings in Canada and abroad.