

Water Trunk Main Assessment and Rehabilitation

case study: Tibitoc – Casablanca Pipeline

Santa Fé de Bogotá, Colombia

The Tibitoc to Casablanca pipeline is a 2 metre diameter trunk water main that is a critical part of the water supply system to the 6 million inhabitants of Santa Fé de Bogotá, the capital city of Colombia. The line is 32km in length and is made of prestressed concrete cylinder pipe. It had suffered several catastrophic breaks resulting in fatalities.

Our team were commissioned by the World Bank to undertake a detailed condition assessment of the pipeline and make recommendations for rehabilitation works. At the time the current sophisticated electromagnetic inspection technologies were not available so the analysis was based on limited data to which complex statistical and risk analysis was applied.

Following this review and recommendations for rehabilitation, the client, EAAB, commissioned the team to prepare specifications and contract documents to meet World Bank requirements for the three alternative rehabilitation methods initially recommended. We managed the development and preparation of performance specifications and contract documents for the design and build contract for structural renovation of the pipeline and for associated new works. This method of procurement, unusual for the World Bank, was proposed by our Consultancy team to meet the particular needs of the client on this project. After contract award the client employed our team to provide QA advice and technical support through the early stages of construction works.

The detailed works included:

- Technical audit and desk study
- Site visits and investigation of collected information for detailed condition assessment
- Statistical and risk analysis of inspection data
- Development and preliminary design of rehabilitation options
- Specifications and contract documentation for design & build rehabilitation contract
- Bid evaluation and recommendations
- QA advice and technical support during rehabilitation works

client

Empresa de Acueducto y Alcantarillado de Bogotá (EAAB)
Jason Consultants Inc, USA

date

1996

value

\$210,000 (value of consultancy contract)
\$22,000,000 (value of rehabilitation contract)

services

Data analysis and condition assessment
Preliminary rehabilitation design
Specifications and contract documents
QA and technical support

