

# Case Study: Pipeline Pump Station Modifications

*Expert analysis and opinions related  
to project development processes and  
project management prudence*



# Dispute

Joint venture carriers, through their designated operating company, issued a \$250 MM authorization for expenditure (AFE) that sanctioned modifications to their existing crude oil pipeline in a remote area of the United States. The modifications included, but were not limited to, rebuilding certain pump stations to replace gas turbine-driven pumps with electric-driven pumps while updating control, communication, and fire systems (the Project). The Project's construction schedule extended from a planned duration of 21 months to an actual duration of more than 6 years, and the Project's costs escalated to more than \$750 MM at completion.

The carriers intended to recover the Project's costs from ratepayers by including such costs in the fees for the ensuing years of operation. As a pipeline in the business of transporting oil in interstate commerce, the carriers' pipeline was subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC) as well as the state regulatory authority. Certain ratepayers raised serious concerns about the carriers' prudence in approving and managing the Project. Meanwhile, the carriers maintained their costs were reasonably and prudently incurred. This prompted the regulatory authorities to conduct a prudence hearing, which exist to protect ratepayers from being required to pay unnecessary costs in the event it is found that their carriers' capital project costs were not incurred prudently.

## **CONTRACT**

\$250 MM authorization for expenditure (AFE)

\$750 MM+ actual cost at completion

## **PROJECT**

Engineering, procurement, and construction modifications to existing pipeline pumping stations

## **PRIMARY ISSUES**

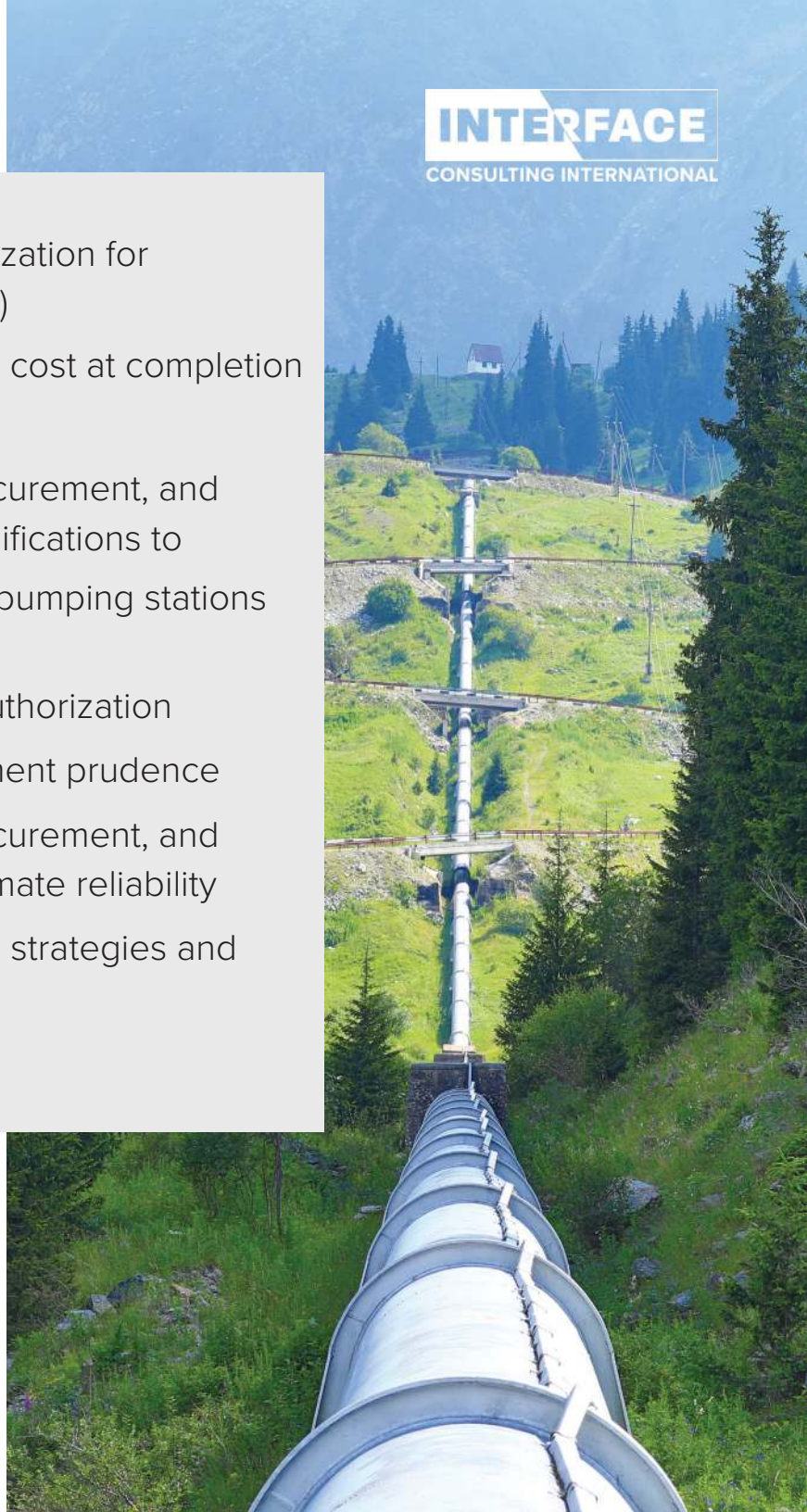
Capital project authorization

Project management prudence

Engineering, procurement, and construction estimate reliability

Project execution strategies and feasibility

Cost overruns



# Approach

The state engaged Interface to assess whether the Project costs were prudently incurred. To perform this assessment, Interface analyzed the carriers' project development decisions and construction management practices relative to industry standards, the carriers' procedures, and information that should have been reasonably known at the time. This involved reviewing the engineering and construction documents to evaluate issues such as the following:

- Standards for sanctioning projects relative to the completeness of engineering design and their impact on estimate reliability
- Project communications and concerns noted in the stage gate process
- Alternative engineering solutions that did not require replacing the pumps, and alternative power generation configuration in the event of using new pumps
- Implications of the selected design basis compared to alternatives
- Processes for contractor selection
- Contracting strategies
- Construction execution means and methods
- Planned schedule completeness and feasibility
- Cost tracking, reporting, and project controls

As a result of this analysis, Interface concluded that the carriers prematurely sanctioned the AFE and otherwise mismanaged the Project. This mismanagement led to excessive scope and design changes during construction, rework, delay, disruption, and increased project cost. Interface quantified nearly \$400 MM of unnecessary project costs that the ratepayers should not be required to reimburse to the carriers.



# Outcome

Two Interface experts provided written and in-person expert witness testimony for the initial regulatory hearing. Following this initial hearing, regulatory authorities issued an initial decision that found, among other things, the carriers imprudently sanctioned the Project for construction. As a remedy, the regulatory authorities limited the costs that the carriers could recover from this project to \$230 million amortized over 30 years, which saved the ratepayers from paying hundreds of millions of costs over the coming years.

Following the initial decision, the ratepayers and the carriers issued replies. In the final order, the regulatory authorities affirmed their initial decision that the Project was imprudently managed, and the regulatory authorities further limited the costs that the Carriers could recover, resulting in additional fee savings for the ratepayers.

