CH2MHILL

Sasquatch CO_2 Pipeline Transmission System

Client

Kinder Morgan CO_2 Company, L.P.

Location

Alberta, Canada

Budget

Undisclosed

The Need

Kinder Morgan CO_2 Company, L.P., needed a CO_2 pipeline transmission system within the province of Alberta to capture carbon and use it for enhanced oil recovery. The CO_2 was to be captured from plants in the Fort McMurray and Fort Saskatchewan regions and aggregated at a terminal near Fort Saskatchewan. From that terminal they would be distributed to potential oilfields in the Swan Hills, Red Deer and Taber regions.

CH2M HILL Solutions

CH2M HILL provided design and cost estimates which included schedules for optimum design of each of the phases of development. The study followed a process of regulatory evaluation, pipeline routing and design, hydraulic simulation, economic optimization, and cost estimating.

The Result

Kinder Morgan was provided a detailed report to help guide them through the development and project execution of nearly 2,000 km of CO_2 pipelines. The report included:

- Pipeline routes based on topographical, public and environmental perspectives
- Cost estimates based on detailed crew makeup and vendor pricing on materials
- Steady state hydraulic simulation and pipeline design using common pipe sizes, accounting for the physical behavior of CO_2 as a super-critical fluid
- Recommendations for economically optimum pipe sizes using capital and operating cost factors to determine the lowest life cycle cost