Engineering, Procurement, and Construction Challenges of the Mt. Hayes LNG Peakshaving Facility

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Mt Hayes LNG Peak Shaving Facility
OWNER AND LOCATION

• FortisBC Energy
• Vancouver Island, British Columbia, Canada
• Commissioned May 2011
• Roughly 9 miles (15 kilometers) South of City of Nanaimo
• Backside and near top of Mt Hayes at 920 foot elevation (280 meters)
MT HAYES LOCATION

VANCOUVER ISLAND, BRITISH COLUMBIA, CANADA
MT HAYES LOCATION

ROUGHLY 9 MILES SOUTH OF NANAIMO
FACILITY DESCRIPTION

• 1.5 bscf (70,500 cu meter) Single Containment Steel LNG Tank
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• Amine Pretreatment (CO2 Removal) System
CONSTRUCTION CHALLENGES

• Site Blasted out of Rock
SITE BLASTED OUT OF ROCK

LOTS OF ROCK BLASTING AND CRUSHING
SITE BLASTED OUT OF ROCK

TANK FOUNDATION EXCAVATION
SITE BLASTED OUT OF ROCK

SUMP EXCAVATION
CONSTRUCTION CHALLENGES

• Site Blasted out of Rock
• Steep Climb Up to the Facility
CONSTRUCTION CHALLENGES

• Site Blasted out of Rock
• Steep Climb Up to the Facility
• Site is Very Wet (High Precipitation – Lots of Snow)
SITE IS VERY WET - SNOW
LOTS AND LOTS OF SNOW
TONS OF SNOW !!!
ENGINEERING CHALLENGES

• High Pressure Pipeline Interface
ENGINEERING CHALLENGES

• High Pressure Pipeline Interface
• Low Pipeline Flow-by Rates
PROCESS GRAPHIC

- HEATER
- PRESSURE LETDOWN
- AMINE PRETREATMENT (CO2 Removal)
- 7.5 MMSCFD MRL LIQUEIFIER
- BOILOFF COMPRESSION
- TAILGAS LINE
- 1.5 BSCF LNG TANK
- 150 MMSCFD VAPORIZATION
- FORTIS PIPELINE (2160 MAOP)
ENGINEERING CHALLENGES

- High Pressure Pipeline Interface
- Low Pipeline Flow-by Rates
- High Seismic Zone