

WHAT IS A PUMP STATION?

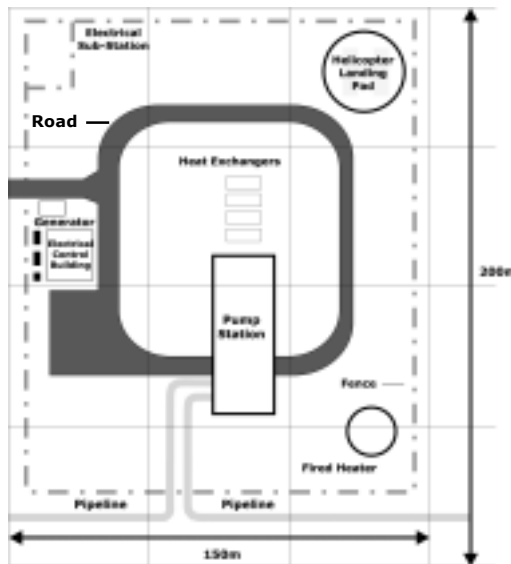
Pump stations are an important part of any pipeline system. These stations include pumps that create pressure to push the bitumen through the pipeline. Initially, the Bison Pipeline project will require 12 pumps, with a total maximum of 20,000 horsepower. In the first phase of the project there will be three pump stations along the route - near Fort Hills, in the Meadow Creek area and about 35 km south of Wandering River.

A typical pump station along the Bison route will include:

- a fenced land area of about 150 by 200 metres
- two small buildings – to house the electrical controls and the pumps
- a generator
- an electrical sub-station
- pipes, valves, meters other associated facilities
- tanks (at Fort Hills)
- pipeline heaters (at Meadow Creek and Wandering River)

WHAT HAPPENS AT A PUMP STATION?

Energy in the form of pressure is required to force fluid through a pipeline. As the fluid flows down the pipeline it loses pressure because of resistance to the flow of the fluid in the pipe. This resistance, or rate of pressure loss, varies with the size of the pipe and the stickiness or viscosity of the fluid. Pumps add energy to the fluid by increasing the pressure.



Some of the pump stations will have heaters to reduce the stickiness of the bitumen. These heaters are only required for the initial stages of operation. When the pipeline reaches about half of its capacity, these supplemental heaters will not be required.

Some pump stations will also have connections to allow equipment to be inserted into and withdrawn from the pipeline. These tools, commonly referred to as "pigs", are used for pipeline maintenance and inspection.

The pump stations will be designed to ensure that noise and emissions are in strict compliance with provincial government regulations.

FOR FURTHER INFORMATION:

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