

Mackenzie Gas Project



Camps

More than 40 temporary camps will be needed to house the thousands of workers required to drill wells, build facilities and lay pipelines for the proposed Mackenzie Gas Project. Two general types of camps will be needed, stationary and mobile.

Construction of the Mackenzie Gas Project will include building infrastructure such as temporary camps, access roads, barge landing sites, air strips and storage yards. These construction activities will generally take place before the pipeline and pipeline facility construction work begins.

The majority of construction workers will be housed in camps near work sites during the construction activities for Mackenzie Gas Project. Key material storage areas will be located at or near most major stationary camp facilities. Mobile camps are small camps that are used for early construction work over a long distance or for a short period of time.

People living in the camps will include:

- construction workforce
- management and supervisory staff
- technical and administrative support staff
- camp catering and maintenance staff
- safety and medical staff
- logistics services staff
- inspection and environmental staff
- visitors and guests

Camps will be modular (trailer) units arranged into conventional construction/field camp configurations.

The camps will reflect current construction workforce standards. These standards include separate quarters for men and women, and recreation/ lifestyle services such as game and movie rooms. Camp catering and housekeeping will be in accordance with industry standards, including daily facility and room cleaning, and access to washers and dryers for personal laundry.

Camp sites will be developed and camps moved and installed before the start of the pipeline and facilities construction. Camp sites will be combined with material and fuel storage yards to reduce the amount of land required. The camps and storage pads will be designed to be self-sufficient. They will have their own power sources, water treatment systems and waste management systems. Next to some of these camps, airstrips will be developed, or existing strips will be upgraded, as needed. People, equipment and supplies will be brought into the camps using various methods of transportation, depending on the season.

The Project owners will establish clear rules to ensure safe and harassment-free camp and work environments. These rules will prohibit the use or possession of alcohol and illegal drugs and will have no tolerance for harassment. Access into nearby communities will be restricted. Firearms will be prohibited.

When the camps are no longer required, they will be decommissioned. The camp sites will be reclaimed on a site-by-site basis agreed to by the landowners and regulators.

STATIONARY CAMPS

Pipeline and facility construction will require about 20 stationary camps, including a camp near Hay River for pre-assembly of the facility modules. Camp pads and smaller camps will begin to be constructed in the summer of 2006. The main construction camps will be installed in the summers of 2007 and 2008. Camp sizes will depend on the construction activity they are supporting. Preliminary estimates of sizes include:

- Pipeline – 10 camps, ranging from 90 to 1,350 beds per camp
- Facilities – six camps, ranging from 60 to 250 beds per camp
- Hay River Camp – 300 beds

There will also be camps near each of the three natural gas fields for drilling crews and facility construction workers.

Camp site size and configuration (one level or stacked) will be determined based on the number of modules required (see the following table) as well as consideration of environmental conditions and local community requirements.

PRELIMINARY STATIONARY CAMPSITE SPECIFICATIONS

| CAMP SIZE (beds) | MODULES REQUIRED | CAMP FOOTPRINT (metres) |
|------------------|------------------|-------------------------|
| 150 | 29 | 65 x 100 |
| 250 | 58 | 80 x 200 |
| 950 | 220 | 160 x 300 |
| 1,350 | 304 | 190 x 380 |

MOBILE CAMPS

Mobile camps (sometimes called "pioneer" camps) are smaller than stationary camps and are sleigh or barge mounted for ease of movement. Some mobile camps will be used year-round. They will be moved to different sites during early preparation and construction work. Each mobile camp houses up to 70 people. As many as 20 mobile camps will be needed. People living in these camps will be involved in early construction work including:

- constructing camps, storage, staging and barge landing sites
- developing borrow source material sites
- clearing and grading pipeline right-of-ways
- building winter and all weather access roads and airstrips
- mobilizing and assembling stationary camps
- preparing sites for horizontal drilling of some river crossings

They may also be used by logistics personnel at storage locations where no camp is available. In addition, they will be used in places where travel to and from a stationary camp will take a long time because of distance and/or difficult terrain.

PRELIMINARY MOBILE CAMP SPECIFICATIONS

| CAMP SIZE (beds) | MODULES REQUIRED | CAMP FOOTPRINT (metres) |
|------------------|------------------|-------------------------|
| 30 | 14 | 40 x 65 |
| 70 | 22 | 60 x 65 |

PRELIMINARY ESTIMATE OF STATIONARY CAMPSITE REQUIREMENTS

| SITE | CAMP SIZE (beds) | TIMING |
|--------------------------------|------------------|---|
| Inuvialuit Region | | |
| Niglintgak Farewell Base Camp | 35 | year round |
| Niglintgak Rig Camp | 70 | while drilling, January - April, 2007 |
| Niglintgak Rig Camp | 100 | while drilling, January - April, 2008, 2009 |
| Taglu Production Pad | 150 | year round use |
| Taglu Rig Camp | 150 | year round while drilling |
| Tununuk Point (Bar-C) | 15 | year round while drilling |
| Swimming Point | 950 | winter use for construction |
| Parsons Lake Production Pad | 150 | during module installation |
| Parsons Lake Rig Camp #1 | 65 | while rig is active |
| Parsons Lake Rig Camp #2 | 65 | while rig is active |
| Gwich'in Region | | |
| Inuvik Area Facility | 250 | year round use for construction |
| Campbell Lake | 1,350 | winter use for construction |
| Sahtu Region | | |
| Little Chicago | 1,350 | winter use for construction |
| Little Chicago Facility Site | 120 | year round use for construction |
| Fort Good Hope | 1,350 | winter use for construction |
| Norman Wells Facility Site | 120 | year round use for construction |
| Norman Wells | 1,350 | winter use for construction |
| Little Smith Creek | 950 | winter use for construction |
| Deh Cho Region | | |
| Blackwater River Facility Site | 120 | year round use for construction |
| Ochre River | 950 | winter use for construction |
| Camsell Bend Ferry Crossing | 950 | winter use for construction |
| Trail River Facility | 120 | year round use for construction |
| McGill Station | 950 | winter use for construction |
| Trout Lake | 900 | winter use for construction |
| Hay River | 300 | year round use for construction |
| Alberta | | |
| Interconnect Facility | 60 | year round use for construction |

CAMP MANAGEMENT

Camp management includes providing all staff and support services needed for:

- camp administration and camp supplies management
- catering and housekeeping
- camp infrastructure operation and maintenance
- managing camp fuel and fuel storage
- managing potable and waste water
- managing waste removal
- emergency response, including fire fighting
- health and emergency medical services
- security and camp access control
- site maintenance and snow removal

PRELIMINARY ESTIMATES OF CAMP SUPPORT STAFF DEPEND ON CAMP SIZE:

| <u>CAMP SIZE (beds)</u> | <u>SUPPORT STAFF</u> |
|-------------------------|----------------------|
| 35 - 150 | 5-10 |
| 250 | 20-25 |
| 950 | 80-90 |
| 1,350 | 110-130 |

OPERATIONS CAMPS

It is expected that long-term operations bases will be leased in Inuvik, Norman Wells and possibly Fort Simpson.

Facility locations will also include temporary accommodation for workers while they are onsite.

The Mackenzie Gas Project team seeks to improve the design, construction and operation of the Project through public consultation as well as information gained from environmental and Traditional Knowledge studies.



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