

## Shell's Niglintgak Gas Field Conditioning Facility

Shell's Niglintgak gas field development will be designed and constructed to minimize environmental impacts and to ensure safety. In addition to the wells that are needed to produce the gas, a natural gas conditioning facility is required to condition the gas before it is delivered into the gathering system pipeline. The conditioning facility will be pre-built before arriving at Niglintgak. There are two options for transporting the modules to the site. The first option is transport via rail or truck and barge to the site where the modules would then be set on gravel and piled foundations on land. The second option, which is now Shell's preference, is to move the modules to Niglintgak on a barge through the Beaufort Sea and into the Kumak Channel. The marine barge would then be used as the foundation for the modules. We need to do further consultation

with the communities and gather additional information before we confirm the barge's viability and finalize our Niglintgak Development Plan. As part of our consultation, this fact sheet is intended to provide more information about our proposed barge option.

### WHY DOES SHELL NOW PREFER TO LOCATE ITS NIGLINTGAK GAS CONDITIONING FACILITY ON A BARGE INSTEAD OF LAND?

As part of its development work, Shell has evaluated a number of options of how to locate its gas conditioning facility for the Niglintgak field. We now believe that locating it on a barge situated in a naturally sheltered part of the Kumak Channel will allow us to develop the Niglintgak field in the most economic manner, and achieve an environmental-ly and socially acceptable development. From Shell's perspective, two of the key

advantages of the barge-based option are related to cost certainty and a reduction in land disturbance.

Since the gas-conditioning barge at Niglintgak will be grounded in the sheltered part of the Kumak Channel, we do not need to prepare a slip for the barge. As a result, no permanent land footprint for the gas conditioning facility will be created in the Kendall Island Bird Sanctuary, making eventual reclamation easier. At the end of the field's life, the barge can be removed and re-used or salvaged.

Cost certainty is an important factor in any large-scale development. Shell believes that by fabricating the central gas conditioning facility on a barge in a controlled environment, away from the remote Niglintgak area, we will have more ability to control and contain costs.

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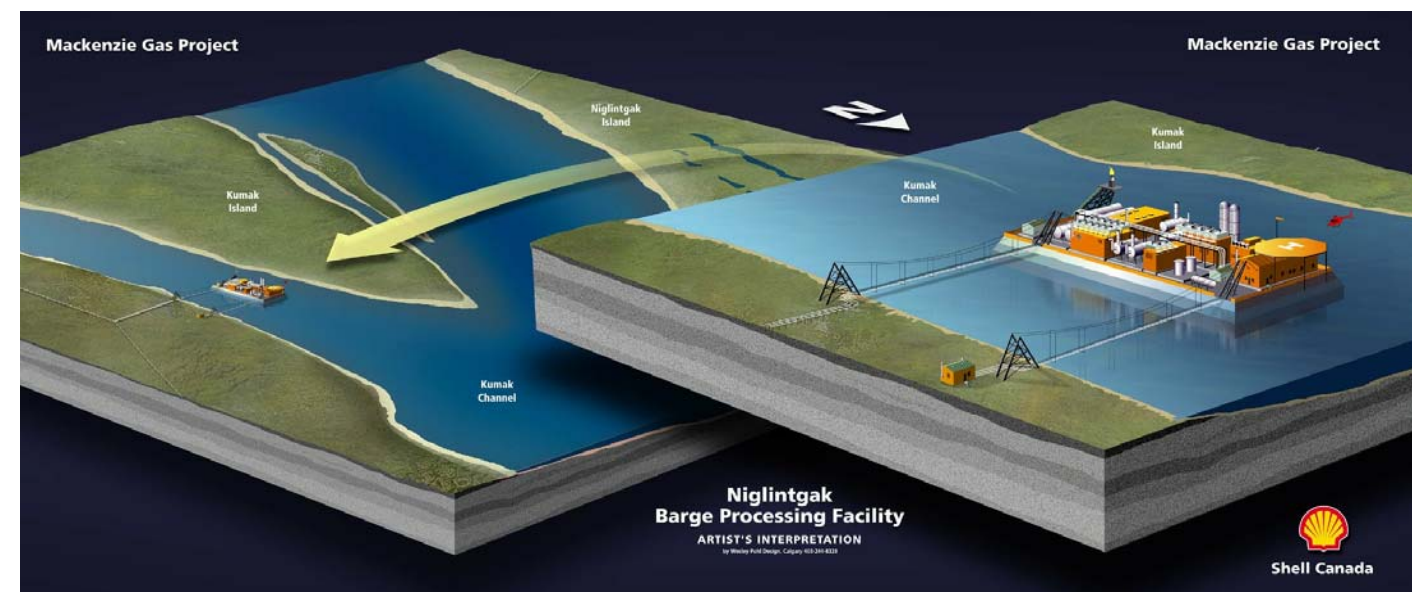
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**HOW LARGE IS THE BARGE?  
HOW WILL YOU GET THE BARGE TO  
ITS PERMANENT LOCATION IN THE  
KUMAK CHANNEL?**

The barge will be designed and built to be as small and lightweight as possible. The current barge design would be approximately 55 x 110 metres in size. The barge would most likely be constructed overseas and towed to its permanent location in the Kumak Channel.

We plan to do more work this summer to determine the optimal route for the barge and get a better understanding of any potential transportation challenges involved in moving the barge from the Beaufort Sea, through the Mackenzie Delta and into the Kumak Channel. Once the barge has reached its final location in the Kumak Channel, it would be grounded with minimal excavation

required to get the barge to sit flat. Another alternative we are considering is placing the barge on piles in the sheltered channel. Geotechnical work carried out in the next year, along with community consultation, will help us determine the best option.

**IS SHELL THE ONLY COMPANY  
CONSIDERING LOCATING ITS  
FIELD GAS CONDITIONING FACILITY  
ON A BARGE?**

Imperial also considered constructing the gas conditioning facility for its Taglu development on a barge and locating it in the Kuluarpak Channel. There are several key differences between the Taglu and Niglintgak sites that ultimately influenced Imperial to select a land-based option as its preferred development option.

1. The Niglintgak barge can be located behind an island to prevent blocking the channel and to shield it from faster moving water and ice; no island exists at the Taglu location so a slip would have to be excavated to get it out of the main channel (see diagram).
2. Soils at Taglu upon which the barge would rest, contain permafrost. Shell's proposed barge, built of ice-strengthened steel, would be grounded on several layers of insulating soils separating the barge from any potential permafrost. Therefore, Shell's foundation considerations are much simpler.
3. About three times more gas will be processed at Taglu than Niglintgak. As a result, the proposed Taglu barge would be about 30 percent larger than the Niglintgak barge. The barge size,

combined with the narrower Kuluarpak Channel would have made transporting the barge to the Taglu site more difficult than Shell's Niglintgak barge and transport mode.

In summary, the combination of the smaller barge size and unique conditions at Shell's Niglintgak site, make the barge a better option for Shell's Niglintgak field than for Imperial's Taglu field.

**WHAT EMPLOYMENT AND BUSINESS  
OPPORTUNITIES FOR INUVIALUIT AND  
OTHER NORTHERNERS WILL BE  
GENERATED BY SHELL'S BARGE  
DEVELOPMENT?**

While there will be less onsite construction associated with the barge option, there will still be opportunities for business and employment associated with: constructing pads, wellsite facilities and flowlines, barge installation and marine-related services, drilling and well servicing, and operating the facility. The barge option should not impact long-term business and employment opportunities during the approximately 25 years of operations.

The barge option will result in some loss of jobs to Canada if the barge is fabricated outside of Canada rather than modules fabricated in southern Canada. In terms of site construction jobs in the Inuvialuit Settlement Region, we are anticipating that there will be some reduction in the total number of jobs during the construction phase with the barge option over the land-based option; however, we expect that any reduction

would be more than offset by the large number of construction employment opportunities associated with the remaining Mackenzie Gas Project activities in the Inuvialuit Settlement Region. Based on information gathered as part of the Socio-Economic Impact Assessment (SEIA), it is anticipated that the business and employment demands of the construction phase of the Mackenzie Gas Project will exceed the current capacity of the Inuvialuit Settlement Region and probably the NWT.

Shell is working collaboratively with the Inuvialuit Regional Corporation to develop and implement a benefits agreement for the project. A benefits agreement for Niglintgak will establish Shell's obligations for the Inuvialuit in the areas of education, employment, training and business opportunities. In addition to this benefits agreement, Shell is developing a Canada-Northern Benefits Plan that addresses benefits requirements on a broader scale for Inuvialuit, other northerners and other Canadians.

**WHAT ENVIRONMENTAL IMPACTS ARE  
ASSOCIATED WITH A BARGE OPTION?**

Shell will be conducting an Environmental Impact Assessment to determine the potential impacts and mitigation measures for any proposed development option.

Although we will be in a better position to discuss potential impacts once this has been completed, one of the main issues raised by communities in our

initial consultation is whether it will be necessary to dredge in parts of the Beaufort Sea to move the barge to its final location in the Kumak Channel and what, if any, impact would this have on the Beluga whales. Shell recognizes this is an important issue to the community. It is our intention to try and avoid dredging by designing and building the barge to be as small, and lightweight as possible and by selecting the optimal route for the barge. We would also plan to minimize the time it takes to transport the barge and transport it during a time of year that would minimize any potential impacts on Beluga whales and other marine life.

We propose to do water depth and bottom sampling field work this summer, to help us determine the optimal barge route and potential impacts of transporting the barge, including whether any dredging will be required. If any dredging were required, we would minimize it as much as possible and measures would be taken to mitigate impacts. The ability to minimize and mitigate environmental impacts will be a key consideration in selecting our final development proposal.

