

MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

BRIEFING NOTE FOR INFORMATION

I PREPARED FOR: Dave Nikolejsin, Deputy Minister of Energy, Mines and Petroleum Resources

II ISSUE: Enabling a Liquefied Natural Gas (LNG) marine bunkering industry in Vancouver with government and private sector financial support.

III BACKGROUND:

Most of the world's marine-based shipping currently uses heavy fuel oil for propulsion, and marine traffic is a significant source of both greenhouse gases (GHGs) and harmful local air contaminants such as sulphur and nitrogen oxides. On January 1, 2020, the International Maritime Organization is implementing a cap on sulphur emissions from ships. Ships operating in designated Sulphur Emission Control Areas (ports and along coast lines), will be banned from using marine fuels that have a sulphur content higher than 0.5 percent (%). To comply with the new rules, ships can either install expensive exhaust-scrubbing equipment or buy low-sulphur marine diesel, which is significantly more expensive than the current fuel. LNG sourced from British Columbia (BC) could result in up to a 22% reduction in GHG emissions, and significantly lower particulate matter, in comparison with bunker fuel use.

Ship owners are already making the choice to use LNG. Ocean carrier CMA CGM announced in late 2017 that it had ordered nine ultra-large container ships that will run on LNG and could refuel in Vancouver. These ships will be among the first to run trans-pacific routes on LNG. In addition, 13 of the 73 cruise ships on order to be delivered between 2017 and 2026 will be powered by LNG. Carnival Corporation will be the first to run a 5,200-passenger LNG-powered ship in 2019.

LNG bunkering infrastructure is currently concentrated in northern Europe and the United States Gulf and East coasts. LNG bunkering infrastructure is being developed by the world's busiest bunker port, Singapore, and in ports in eastern China, such as Ningbo-Zhoushan, the world's biggest cargo port. Key Asian ports serving deep-sea shipping routes are in the process of establishing LNG bunkering facilities and looking to coordinate activities with their European and North American counterparts.

Government support and financial assistance were important factors enabling bunkering services to emerge at the ports of Singapore and Rotterdam. The Port of Rotterdam established an LNG bunkering service in 2018 with government support, and Singapore Marine Port Authority established a \$26 million fund to catalyze investment in two LNG bunkering vessels which are under construction. Yokohama-Kawasaki International Port contributed roughly \$10 million to the LNG bunker barge that is being constructed. The European Union is spending up to \$30 million in developing infrastructure for LNG bunkering.

LNG vessels are likely to begin calling at ports along the west coast of North America within the next year. At present, most of the trans-pacific vessels that currently call into the Vancouver Fraser Port Authority (VFPA) fuel in Asia. The VFPA is working with FortisBC Energy Inc (Fortis) to promote LNG as bunkering fuel at the Port of Vancouver (Port). BC has some of the lowest cost LNG of any location in the world and has access to significant domestic LNG supply.

Seaspan has indicated that it could deliver LNG from Fortis' Tilbury facility to marine vessels through an LNG bunkering vessel. A typical LNG fueled container ship would receive between 4,000 to 5,000 cubic metres (m3) of LNG in one fueling stop. The addition of bunkering 5,000 m3 of LNG would result in approximately 750,000 tonnes of annual GHG reductions from just one ship. Seaspan, through its established marine bunker fuel company Marine Petrobulk, is interested in providing LNG for delivery to vessels along the Pacific coast including remote communities and all international vessels calling at ports in Seattle, Tacoma, and Los Angeles.

The Ministry of Energy, Mines and Petroleum Resources has already enabled Fortis to spend up to \$120 million to promote LNG for the marine sector under the Greenhouse Gas Reduction (Clean Energy) Regulation and, under Direction 5 to the British Columbia Utilities Commission, to spend up to \$425 million to support LNG sales and distribution at its Tilbury LNG facility. Fortis is currently supplying BC Ferries and Seaspan with LNG provided by truck connected to the receiving ship on the quayside.

IV DISCUSSION:

The Port is well positioned to be a key LNG marine bunkering hub for the West coast of North America. Projects that have the potential to bring broad economic benefits, such as increasing Port competitiveness and improving the economic strength of the broader marine and natural gas/LNG sectors, are two key criteria that can attract funding from the federal government.

s.13; s.17

If a pool of money was available to support the deployment and/or development of an LNG bunkering service within the Port, the VFPA could manage the distribution of those funds in a competitive Request for Proposal process. Other ports have used a "license" system to access

funds and limited the number of licenses to ensure continued viability of the early adopters who take on the most risk.

IV CONCLUSION:

Supporting the Port's request for initial funding would show Government's commitment to GHG reduction and economic development for a key industry in BC. It would also promote both clean BC LNG to the world and the Port of Vancouver as the port of choice for LNG marine bunkering on the west coast of North America. s.13; s.17

s.13; s.17

Attachment: IHS Markit - Marine Bunkering Briefing (May 2019)

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MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

BRIEFING NOTE FOR INFORMATION

I PREPARED FOR: Dave Nikolejsin, Deputy Minister of Energy Mines and Petroleum Resources

II ISSUE: Minimum royalty regulation fix

III BACKGROUND:

The royalty or tax payable per month for a well event is calculated in section 7 (5) of the Petroleum and Natural Gas Royalty and Freehold Production Tax Regulation (the regulation). The formula calculates the net royalty payable as the total gross royalty minus the producer cost of service allowance (PCOS) and the deep well royalty credits (deep credits) applied.

The gross royalty is calculated based on current resource prices to ensure that natural gas production remains competitive. The producer cost of service allowance is a fixed amount based on the costs of resource production.

A minimum royalty amount (minimum amount) was introduced in 2013 for well events eligible to receive deep credits to prevent the royalty or tax payable from dropping below 3% or 6% of the extracted product value depending on the depth of the well.

IV DISCUSSION:

Since the gross royalty is based on the price of natural gas, and PCOS is fixed on production costs, it is possible for PCOS to drive the net royalty payable below the minimum amount before deep credits are applied when the price of natural gas is low.

s.12; s.13; s.17

s.12; s.13; s.17

V NEXT STEPS:

s.12; s.13; s.14

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**MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES
BRIEFING NOTE FOR DECISION**

I PREPARED FOR: Dave Nikolejsin, Deputy Minister, Ministry of Energy, Mines and Petroleum Resources

II ISSUE: Introducing Statutory Discretion in the *Mineral Tenure Act*

III BACKGROUND:

The Ministry of Energy, Mines and Petroleum Resources (EMPR) is evaluating potential amendments to the *Mineral Tenure Act* (MTA) to meet objectives set out in Minister Mungall's mandate letter and EMPR's Service Plan – specifically, reviewing legislation to determine how to bring the principles of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) into action in BC. This has included participation in a collaborative mining dialogue with the First Nations Energy and Mining Council (FNEMC) since 2017, including co-development of several key concepts outlining potential concerns with BC's mineral tenure system.

The MTA aligns nationally with other free-entry mining tenure regimes which is reflective of the fact that the industry is premised on uncertainty and risk in not knowing where the resource may be located. For this reason, the MTA is unique within BC statutes with respect to other natural resource legislation in that proponents can obtain tenure (claims) without prior consultation with Indigenous Nations or private surface land owners.

s.13; s.14

In February 2019, the Province committed to legislatively uphold its endorsement of UNDRIP. Following this announcement, expectations from Indigenous Nations regarding EMPR's review of the MTA have substantially increased. s.13; s.16

s.13; s.16

s.12; s.13; s.14; s.16

s.12; s.13; s.14; s.16

Current Tenure System (see Appendix 1)

The MTA provides a graduated system towards the acquisition of rights for the exploration, development and production of a mineral resource. Key forms of tenure include:

- Mineral Claims can be registered using Mineral Titles Online. Claim registration occurs automatically once payment is received and does not require a decision from the statutory decision maker, meaning that no consultation with Indigenous Nations occurs at

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that time. Upon claim registration, mineral and production rights are issued to the claimholder. Claims allow the holder to use, enter and occupy the surface of the claim to explore, develop and produce minerals up to a certain threshold and conduct certain handheld tool activities on the land base. Over the last five years, an average of 5,300 claims have been registered annually.

- Leases require a statutory decision and prior to the decision, EMPR consults with, and where necessary, accommodates potentially impacted Indigenous Nations. s.13; s.14

s.13; s.14

When issues arise in consultation, the term of the lease is often shortened. A lease is an interest in land and grants the right to unlimited production and is a pre-requisite for major mines. Over the last three years there were, on average, four mineral leases and four placer leases issued annually.

Perspectives on the Current System

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IV DISCUSSION:

Based on concepts identified collaboratively with FNEMC, EMPR has been engaging with Indigenous Nations and industry representatives ahead of the release of a proposed Intentions Paper to understand perspectives and inform what the Province's proposed approach should be with respect to mineral tenure. s.13

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s.13 s.13

s.13 based on feedback received to date, including:

- Indigenous Nations remain adamant that the Province should not be issuing tenure in their territory without Indigenous Nations' free, prior and informed consent.

s.13; s.14

- Industry representatives have expressed concerns regarding potential impacts to certainty, competitiveness and the ability to raise financing if discretion is added to the tenure system.

On May 15, 2019, the University of Victoria Environmental Law Centre released an action plan for mining law reform in BC in partnership with various environmental and Indigenous organizations. Transitioning to a discretionary tenure system from the current 'free entry' system was one of the key topics specifically highlighted during the release of this report.

s.12; s.13; s.16

s.13; s.14

Industry concerns are largely focused on the potential for discretion to add further uncertainty to the project development process. s.13; s.14

s.13; s.14

Next Steps

An Intentions Paper discussing the proposed changes to the MTA and *Mines Act* is tentatively scheduled for release in Summer 2019 and will be the Province's first public-facing indication of intentions regarding the MTA. s.12; s.13; s.14

s.12; s.13; s.14

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Withheld pursuant to/removed as

s.12; s.13; s.14; s.16

Approved / Not Approved



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June 5, 2019

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