LETTER DECISION

File OF-EI-Gas-GL-L384-2015-01 01
7 January 2016

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Dear Ms. Jamieson and Mr. Olthafer:

LNG Canada Development Inc. (LNG Canada or Applicant)
Application for a 40-Year Licence to Export Natural Gas
as Liquefied Natural Gas (LNG)
National Energy Board Reasons for Decision

On 2 July 2015, LNG Canada applied to the National Energy Board (NEB or Board) pursuant to section 117 of the *National Energy Board Act* (NEB Act) for a licence (Licence) to export natural gas (Application), in the form of liquefied natural gas.

LNG Canada seeks:

- a 40-year Licence, starting on the date of first export;
- including a 6.1% annual tolerance, a maximum annual export quantity of 38.056 billion cubic metres (10^9m^3) or 1,344 billion cubic feet (Bcf)[1], of natural gas;
- a maximum term quantity of 1 494 10^9m^3 or (52,729 Bcf) of natural gas over the term of the licence[2];
- the point of export of LNG from Canada shall be at the outlet of the loading arm of the proposed natural gas liquefaction terminal to be located near Kitimat, British Columbia, Canada;
- an early expiration clause where, unless otherwise authorized by the Board, the Licence will expire on 31 December 2022, unless exports have commenced on or before that date.

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[1] Applied for annual quantity of 36 10^9m^3 (1 266 Bcf) plus the 6.1 per cent annual tolerance as provided in the Applicant's ramp-up schedule.
[2] Applied for term quantity is adjusted for ramp-up schedule and includes 6.1 per cent annual tolerance.

Background

LNG Canada first applied to the Board for a Licence authorizing the export of LNG on 27 July 2012. LNG Canada sought a licence term of 25 years. The Board approved this application on 4 February 2013, issuing Licence GL-300; LNG Canada received Governor in Council (GIC) approval on 22 February 2013.

Since the Board issued Licence GL-300, the legislative regime has changed. The *Economic Action Plan 2015 Act*, which received Royal Assent on 23 June 2015, amended, in part, subsection 119.01(1.1) of the NEB Act. This amendment provides for the issuance of natural gas export licences for a term not exceeding 40 years up from the original 25 years, if the gas to be exported meets the definition of natural gas. On 31 July 2015, the *National Energy Board Act Part VI (Oil and Gas) Regulations* (the Regulations) were amended by adding the following definition of natural gas:

> **10.1** For the purposes of subsection 119.01(1.1) of the Act, "natural gas" means a mixture of gas that is composed of at least 85% methane and that may also contain other hydrocarbons that, at a temperature of 15°C and an absolute pressure of 101.325 kPa, are in a gaseous state, as well as minor amounts of non-hydrocarbon gas and impurities

On 2 July 2015, LNG Canada applied to the Board pursuant to section 117 of the NEB Act for a Licence for a term not exceeding 40 years to export natural gas, in the form of liquefied natural gas. The Regulations had not been amended at this time. On 10 August 2015, LNG Canada filed a letter with the Board requesting that the Board consider its 2 July 2015 Application. The Applicant, in its evidence, confirmed that its LNG exports will meet the definition of natural gas as defined in the Regulations.

Summary of Public Notice, Comment Period, and Information Requests

On 5 November 2015, LNG Canada published a Notice of Application and Comment Period (Notice) for impacted persons in the *Globe and Mail* and *La Presse*. The Notices requested that any impacted person who wished to file submissions relevant to the Surplus Criterion[3] could do so by 4 December 2015, providing LNG Canada the opportunity to respond by 15 December 2015.

The Board received a submission from Atlantic Pacific Spaceline Enterprise Incorporated (APSE) on 3 December 2015. LNG Canada filed its response to APSE's submission on 15 December 2015.

The Board issued informal Information Request (IR) No. 1 to LNG Canada on 1 October 2015 and LNG Canada filed its response on 7 October 2015. A revision to its response was filed on 19 October 2015. The Board issued IR No. 2 on 22 October 2015 and received LNG Canada's response on 12 November 2015.

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[3] The Surplus Criterion, set out in Section 118 of the NEB Act, states: "On an application for a licence to export oil or gas, the Board shall satisfy itself that the quantity of oil or gas to be exported does not exceed the surplus remaining after due allowance has been made for the reasonably foreseeable requirements for use in Canada, having regard to the trends in the discovery of oil or gas in Canada."

Surplus Determination

LNG Canada submitted that, as required by the Surplus Criterion, the quantity of natural gas it seeks to export does not exceed the surplus remaining after due allowance has been made for the reasonably foreseeable requirements for use in Canada, having regards to the trends in the discovery of gas in Canada. In support of this submission, Canada LNG submitted the following studies: (1) *LNG Canada – Description of Expected Gas Supplies and Requirements over the Requested Licence Term* by Navigant Consulting Inc. (Navigant) and (2) *LNG Canada: A Report on the Implications of the proposed export volumes on the ability of Canadians to meet their gas Requirements by* Mr. Gordon Pickering (Mr. Pickering).

Navigant stated that both the Canadian and the North American natural gas markets are characterized by ample, stable supplies and competitive, stable prices. Navigant examined supply and demand conditions in Canada assuming 3.72 Bcf/d of gross LNG exports from Canada, reflecting the export quantities sought by LNG Canada for the project. Navigant stated that even under the most conservative (and virtually impossible) assumptions, where all approved and applied-for Canada LNG projects are assumed to be constructed and current net pipeline exports are also added to the total Canadian demand, the Canadian natural gas resource would still have a life of 60 years. Mr. Pickering concluded that LNG Canada’s proposed export volumes are not likely to cause Canadians difficulty in meeting their energy requirements. Navigant stated that the gas resource base in North America is large and is more than adequate to serve the composite total of all forecast domestic demand in Canada and the United States of America (U.S.) through the study period to 2062 as well as demand added by LNG Canada’s proposed exports.

Navigant stated that the key driver of this outlook is the abundance of the natural gas resource due to the shale revolution. For North America as a whole, Navigant noted, current estimated recoverable gas resources are sufficient to meet 148 years of annual North American natural gas demand at today’s consumption levels. The key drivers of this overall 148-year resource life are the large resource lives of over one hundred years in the U.S. and over 380 years in Canada.

Navigant noted that in 2013 the Board increased its estimate of Montney Formation resources by more than 300 percent, from 109 Tcf to 449 Tcf, this was a key component of Navigant's 380-year estimate of Canadian natural gas resource life. Navigant also submits that in the U.S., estimates have placed the Utica play resources at over 780 Tcf, more than a 600 per cent increase over the U.S. Energy Information Administration's earlier estimate of 111 Tcf.

Navigant stated that resource development will be driven by the economics of North American supply and demand factors. Navigant stated that additional base load natural gas demand represented by LNG exports would increase the size of the gas market, decrease market volatility, foster further development of shale gas resources, and support additional supply development.

Navigant also stated that Eastern Canadian imports from the U.S. will lessen competitive demand for Western Canadian natural gas supplies, thereby enhancing Western Canadian supply availability for LNG Canada’s exports. Navigant submitted that the pipeline flows between Canada and the U.S., and the ability of North American natural gas supply and demand to balance efficiently and effectively, indicate that there is an interconnected, competitive and functional nature to the North American natural gas market.

Navigant performed an additional modeling scenario to reflect a “plus 20 percent” demand sensitivity. According to Navigant, these results indicate the surplus nature of Canadian natural gas supply even in the scenario of “plus 20 percent” demand growth rates, and with the assumption of LNG exports in the quantity sought by the project.

Both Navigant and Mr. Pickering indicated that not all LNG liquefaction ventures that are currently proposed in North America will be built. Navigant stated that North American LNG exports will occur within a global marketplace, with a supply-demand balance that accounts for international competition. In that regard, Navigant stated it should be expected that only some portion of incremental international LNG liquefaction capacity will be built in North America. Navigant and Mr. Pickering estimate that export volumes in the 8 Bcf/d to 10 Bcf/d range from North America seem to be a reasonable estimate of eventual volume to 2062.

Navigant submitted that other factors exist which create obstacles to the construction of Canadian liquefaction facilities. For example, building pipelines through challenging terrain, costs for greenfield versus brownfield sites, completion risks, and regulatory and permitting risks all create challenges for project proponents in Canada. Other risks identified by Navigant include both regional and international market changes affecting natural gas prices, technical challenges, uncertainty of the actual costs of construction, changes in the price of oil and other market cycles that could occur over the long term life of these LNG projects.

Navigant submitted that its conclusion that the immense Canadian natural gas resource will be sufficient to meet any reasonable demand growth is bolstered by the results of the increased plus 20 per cent demand growth sensitivity analysis. This demonstrates that the additional demand in that scenario was effectively met with Canadian supplies.

Views of the Board

The Board has decided to issue a 40 year Licence to LNG Canada, subject to the approval of the GIC, to export natural gas, as defined in the Regulations, subject to the terms and conditions described in Appendix I to this letter.

Our role, under section 118 of the NEB Act, is to assess whether the natural gas proposed to be exported does not exceed the surplus remaining after due allowance has been made for the reasonably foreseeable requirements for use in Canada, having regard to trends in the discovery of natural gas in Canada (Surplus Criterion). In fulfilling this mandate, we recognize that Canadian natural gas requirements are met in the context of free trade within a North American energy market. Depending on regional characteristics, exports and imports contribute to either natural gas supply or natural gas demand. It is in this context that we consider whether the Surplus Criterion in the NEB Act is satisfied.

We have determined that the quantity of natural gas proposed to be exported by LNG Canada, for a term of 40 years, is surplus to Canadian needs. The Board is satisfied that the natural gas resource base in Canada, as well as North America overall, is large and can accommodate reasonably foreseeable Canadian demand, including the natural gas exports proposed in this Application, and a plausible potential increase in demand.

In aggregate, the LNG export licence applications submitted to the Board to date represent a significant volume of LNG exports from Canada. However, all of these LNG ventures are competing for a limited global market and face numerous development and construction challenges. Consistent with the evidence submitted in LNG Canada's Application, the Board believes that not all LNG export licences issued by the Board will be used or used to the full allowance. The Board also evaluates each application based on the merit of its own evidence.

The Board acknowledges that LNG Canada is the first applicant for a 40 year LNG export licence following the legislative changes discussed in the Background section. To ensure that LNG Canada exports natural gas as defined in the Regulations throughout the term of its Licence, the Board has included a condition that the gas to be exported must meet the definition of natural gas as set out in the Regulations.

The Board monitors Canada's natural gas supply and demand, including LNG developments. Monitoring assists the Board in identifying where markets may not be functioning properly or where the evolution of supply and demand casts doubt on the ability of Canadians to meet future energy requirements. The North American natural gas market is characterized by a large number of buyers and sellers, an extensive and growing pipeline and storage network, and a sophisticated commercial structure. Since deregulation of Canadian natural gas markets in 1985, natural gas markets in North America have functioned efficiently and there is no evidence to suggest that they will not continue to do so into the long-term future, up to the applied for 40 year term.

Issues Raised During the Comment Period

On 3 December 2015, APSE stated that after reviewing Navigant and Mr. Pickering's evidence it had four main comments. First, APSE does not doubt the existence of large quantities of natural gas in Western Canada, what it does call into question, is the amount of gas that is actually recoverable and over what period of time.

Second, APSE stated that the total aggregate amount must be taken into consideration, and not solely on the merits of the individual case before the NEB. Granting further licences, APSE argues, would only increase the quantity demand and hence, further reduce the supply remaining available to the Canadian market.

Third, APSE stated that Navigant is attempting to show that the integrated North American market is well supplied with a 'supply surplus situation' for natural gas due to a lack of infrastructure or to various market conditions. APSE stated that once the global LNG markets are tapped with LNG export terminals, the analysis changes and the answer to whether enough gas exists for Canadians is 'no'. The consequence of this scenario will be higher gas prices to the Canadian public.

APSE's recognized that its fourth comment is outside the scope of the Board's mandate.

In a response submitted on 15 December 2015, LNG Canada submitted that the approach taken by the Board with respect to applications for the export of LNG is valid and continues to be appropriate.

With respect to the estimates of recoverable natural gas resources, LNG Canada notes that the assessment of Navigant constitutes a comprehensive and conservative analysis of the extent of natural gas resources in Canada. LNG Canada further notes that at current demand levels, Canada has a natural gas resource endowment life of over 380 years.

On the question of how the Board should consider aggregate volume of proposed LNG exports, LNG Canada notes that in the assessment set out by Navigant, not all of the currently proposed Canadian LNG projects will be built. This is a result of various factors including market changes, technical challenges and construction costs. LNG Canada submitted that global LNG demand in 2035 is approximately 30 Bcf/d, and the proposed Canadian liquefaction projects alone constitute between 80 and 160 percent of that incremental global demand.

Having regard to the conclusions reached by the Board in the Woodside Decision and the evidence set out by Navigant, LNG Canada respectfully submits that the concerns raised by APSE have already been addressed by the Board and are insufficient to support its recommendation that the Application be denied.

> ***Views of the Board***
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> The Board acknowledges that resource estimates are typically based on assumptions which carry some uncertainties. However, the Board is satisfied that the gas resource base in Canada, as well as North America, is large and can easily accommodate reasonably foreseeable Canadian demand as well as the Applicant's proposed LNG exports.
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> As discussed, the Board considers that the applications approved by the Board to date represent a significant volume of LNG exports from Canada. However, all of these LNG ventures are competing for a limited global market and face numerous development and construction challenges. Not all LNG export licences issued by the Board will be used or used to the full allowance. The Board evaluates each application on its own merit.

Relief and Additional Terms and Conditions

Relief from Filing Requirements

LNG Canada requests relief from the information requirements for gas export licence applications set out in section 12 of the Regulations, except where those requirements are addressed within its Application. LNG Canada also requests any further terms or relief the Board may consider appropriate in the circumstances.

Views of the Board

The Board notes that it may exempt applicants for gas export licences from filing requirements contained in section 12 of the Regulations. In its *Interim Memorandum of Guidance Concerning Oil and Gas Export Applications and Gas Import Applications under Part VI of the National Energy Board Act*, dated 11 July 2012, the Board indicated that it no longer requires applicants for gas export licences to file the information contained in section 12(f) of the Regulations. The Board is in the process of updating the Regulations to align with changes to the NEB Act. The Board further recognizes that not all of the filing requirements contained in section 12 of the Regulations are relevant to its assessment of this Application. Therefore, the Board exempts LNG Canada from the filing requirements contained in section 12 of the Regulations that were not included in the Application.

Revocation of Licence GL-300

In its Application, LNG Canada asks that, if the Board approves this Application and, upon GIC approval, issues the Licence subject to any terms and conditions, the Applicant would consent to the Board exercising its authority under subsection 119(3) of the NEB Act to revoke Licence GL-300 upon the expiry or exhaustion of any rights of appeal or judicial review related to the approvals granted by the Board and the GIC in connection with the Licence.

Views of the Board

The Board, upon GIC approval and Licence issuance, will require a letter from LNG Canada requesting that the Board exercise its authority under subsection 119(3) of the NEB Act to revoke Licence GL-300 upon the expiry or exhaustion of any rights of appeal or judicial review related to the approvals granted by the Board and the GIC in connection with the Licence.

In the Board's view, no further relief is required in the granting of this Application.

R.R. George
Presiding Member

P.H. Davies
Member

J. Gauthier
Member

January 2016
Calgary, Alberta

Appendix I

Terms and Conditions of the Licence to be Issued for the Export of Natural Gas

General

1. LNG Canada Development Inc. (LNG Canada) shall comply with all of the terms and conditions contained in this licence unless the National Energy Board (Board) otherwise directs.

Licence Term, Conditions and Point of Export

2. Subject to Condition 3, the term of this licence shall commence on the date of first export and shall continue for a period of 40 years thereafter.
3. This Licence shall expire on 31 December 2022, unless exports have commenced on or before that date, or the Board otherwise directs.
4. The maximum quantity of natural gas, inclusive of tolerance, that can be exported by LNG Canada under the authority of this licence is:
    a. 38.056 10^9m^3 annually, in any 12-month period; and
    b. 1,494 10^9m^3 for the term.
5. The point of export of natural gas from Canada shall be at the outlet of the loading arm of the natural gas liquefaction terminal to be located near Kitimat, British Columbia, Canada.
6. The natural gas to be exported by LNG Canada must meet the definition of natural gas set out in the *National Energy Board Act Part VI (Oil and Gas) Regulations.*