NATIONAL ENERGY BOARD

IN THE MATTER OF the *National Energy Board Act, R.S.C. 1985, c. N-7,* as amended;

AND IN THE MATTER OF an application by Kitsault Energy Ltd, for a licence pursuant to section 117 of the *National Energy Board Act* authorizing the export of natural gas.

To: The Secretary
National Energy Board
444 7th Avenue S.W.
Calgary, Alberta
T2P 0X8

Application

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18 DECEMBER, 2013

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I. APPLICATION

1. **Kitsault Energy Ltd.,** (the "**Applicant**"), hereby applies to the National Energy Board (the "**NEB**" or "**Board**") pursuant to section 117 of the *National Energy Board Act (*the "***NEB Act***") for a licence authorizing the export of up to 20 million tons of liquefied natural gas ("**LNG**") per year (20MMTPA) which corresponds approximately to 960 billion cubic feet per year (Bcf/y), for a term of 25 years ("**Licence**").

2. The terms and conditions requested by the Applicant for the Licence are as follows:

   TERM: Proposed term of the Licence is a period of 25 years commencing on the date of the first export of gas under the Licence;

   EXPIRATION: If exportation of gas has not occurred within 10 years from the date of issuance of the Licence, the Licence shall expire at that time, unless otherwise authorized by the Board. This expiration period relates to obtaining remaining regulatory approvals, completing detailed engineering, financing arrangements, a four-year construction period as well as a grace period for any unforeseen delays;

   MAXIMUM ANNUAL QUANTITY: The quantity of gas that may be exported in any 12 month period shall not exceed 20 million tons LNG subject to the daily tolerance;

   ANNUAL TOLERANCE: In any 12-month period, the quantity of gas exported may exceed the annual quantity by 15 percent in order to accommodate operating variables;

   MAXIMUM TERM QUANTITY: The quantity of gas that may be exported over the term of the Licence shall not exceed 24 Trillion cubic feet;

   EXPORT POINT: Gas will be exported from Canada at the outlet of the loading arm of the natural gas liquefaction terminal ("**Export Point**") to be located near Kitsault, British Columbia.

II. KITSAULT ENERGY PROJECT DESCRIPTION

i. Overview

3. The Kitsault Energy project ("**KE Project**" or "**Project**") is proposed to be constructed and operated near Kitsault, British Columbia. The proposd LNG terminal will be comprised of a floating, and/or land-based natural gas liquefaction plant, LNG storage and marine loading facilities ("**LNG Terminal**"). The liquefaction component will initially include floating LNG ("**FLNG**") liquefaction facilities constructed in modules of 4 – 5 MMTPA capacity each. At full build out, the total capacity of the LNG Terminal would be 20 MMTPA. FLNG Unit #1 is anticipated to commence operations in 2018, with FLNG Unit #2 following 12 months later. Follow-on units or liquefaction trains will be in service at a later date.

4. A 15% annual tolerance has been identified to allow Kitsault Energy to manage variability in the quantity of LNG that could be produced at the LNG Terminal. While the anticipated nameplate capacity of each FLNG unit will be approximately 4 MMTPA, the Project is in the design phase, and the total variability including accuracy, and consideration for maintenance and other operations, adds to the +/- 15% tolerance.

5. Gas supply will be transported to the LNG Terminal by an approximately 600 kilometer long pipeline that will be permitted, built, and operated by a third party pipeline company.

6. Each FLNG unit, and subsequent liquefaction trains, will require approximately 200 megawatts of power. Kitsault Energy is considering various power supply alternatives including electric drives (taking advantage of BC Hydro dedicated transmission line to Kitsault), gas turbine power generation, or a combination thereof.

ii. Project Ownership

7. Kitsault Energy is a Canadian corporation, registered in Ontario, and wholly owned by Krishnan Suthanthiran. The project may be further developed with other partners taking minority positions related to pipeline, FLNG units, gas supply and off-take agreements.

8. Kitsault Energy, unless otherwise established, will obtain the necessary approvals for the construction and operation of the LNG Terminal.

iii. Export Model

9. Kitsault Energy will employ several models for export including a tolling model and one where project partners may own their own gas supply or contracts and be responsible for sales and delivery. Accordingly, Kitsault Energy may or may not be involved directly in the purchase and sale of natural gas with respect to export of gas from Canada.

III. EXPORT LICENCE APPLICATION OVERVIEW

10. LNG exported from the LNG Terminal will connect the abundant natural gas resources in the Western Canadian Sedimentary Basin ("**WCSB**") and the growing worldwide demand for LNG, particularly in the Asia-Pacific region. The North American gas market has recently experienced a shift where North American gas supply now exceeds forecasted demand, both short- and long-term. Increased gas production from existing and new fields in the United States has significantly reduced the share of the continental gas market served by the WCSB. Adding to supplies in Canada, unconventional gas plays in Western Canada have significantly enhanced the resource potential of the WCSB.

11. Concurrent with the dramatic increase in gas supply in North America and production potential in the WCSB, demand for natural gas is expected to continue to increase around the world. Canada can provide a politically stable, export-supportive, major new supply source of LNG with ready access to investors and partners throughout the value chain. The LNG Terminal will allow access to global markets for LNG, particularly the Asia-Pacific region for which the WCSB represents one of the closest and most attractive long-term supply sources.

12. This Application highlights and expands upon the following key elements:

    a. Kitsault Energy is forming partnerships and commercial arrangements for access to LNG markets which makes it ideally suited to deliver gas sourced from the WCSB;

    b. Kitsault Energy can fulfill its gas supply requirements to the LNG Terminal through a range of options including gas owned by project partners (from existing reserves, contingent resources, prospective resources and future acquisitions) and gas owned by customers accessing the LNG Terminal on a tolling model;

    c. There is a large and growing demand for LNG in global markets, particularly the Asia-Pacific region, which will continue into the future;

d. North American natural gas markets will continue to function efficiently over the proposed Licence term and natural gas buyers and sellers will continue to establish fair market prices based upon supply and demand fundamentals; and

e. The proposed export of LNG in this Application is unlikely to cause Canadians difficulty in meeting their energy requirements at fair market prices.

IV. GAS SUPPLY

13. At full build-out, the Project will be capable of producing 20 MMTPA of LNG for export. Therefore, the Project will need access to, through its partners or own resources, up to 2.6 Bcf/day, for export thorough the Export Point.

14. The Applicant will be exporting gas that is produced in the WCSB. As previously mentioned, this gas will be owned by the project, project partners, or others accessing the LNG Terminal on a tolling basis. The sources of gas supply for the LNG Terminal will be connected by pipeline systems to the principal Western Canadian market hubs. The Project owner anticipates that it will be able to either negotiate and secure pipeline access on other planned lines or on a dedicated owned-line.

i. Adequacy of Gas Supply

15. For the purpose of this Application, the Board's role is to evaluate whether the natural gas proposed to be exported is surplus to reasonably foreseeable Canadian requirements. While numerous private sector studies have all concluded that the various proposed LNG export projects are unlikely to cause any difficulty in meeting Canadian requirements, at fair market prices, a more in-depth study was recently completed by the Board itself.

16. In the November 2013 Report, titled *Canada's Energy Future 2013 – Energy Supply and Demand projections to 2035 – An Energy Market Assessment*, the Board reported that "...enough energy supplies will be available to meet Canada's growing energy needs for the foreseeable future..." and "Over the next 20 years, the NEB projects energy production levels increasingly greater than domestic needs, resulting in growing amounts of energy available for export."

17. With specific reference to natural gas, the report noted the following:

(a) there were 1, 093 Trillion cubic feet of remaining marketable Canadian resources of natural gas at the end of 2012;

(b) Canadian marketable natural gas production will range between 23.0 Bcf/d and 11.2 Bcf/d, depending on the price case and market accessibility;

(c) The North American natural gas market is highly integrated and market forces will ensure sufficient supplies will exist to meet Canadian gas demand at a market-driven natural gas price;

(d) Technological advances have vastly increased Canada's resource base;

(e) Canada will have increasing amounts of energy available for export over the projection period (to 2035); and

(f) EF 2013 suggests that sufficient energy supplies will be available for Canadians for the foreseeable future.

V. EXPORT ARRANGEMENTS

18. The Project intends to sell the LNG delivered to the Export Point under pre-arranged off-take agreements. Additionally, some capacity may be reserved for tolling arrangements where customers sell their proportionate share of LNG at the Export Point.

19. Export arrangements that provide secure long-term supplies of LNG are attractive to prospective LNG buyers as they provide increased certainty. The 25 year licence applied for is important in order to achieve the certainty necessary to complete all aspects of the project.

VI. TRANSPORTATION ARRANGEMENTS

20. Gas supply from sources throughout the WCSB will be transported to the Project along various pipeline routes. While initial discussions have been held with the major pipeline companies operating through the principal market hubs, and with others anticipating doing so, arrangements for supply to the Project have not yet been finalized.

21. The Project will enter into a commercial arrangement for joint use of existing or planned pipelines, or for creation of a wholly owned pipeline transportation system. The Project will be obligated to contract for the

service or pipeline capability to transport the required gas to the LNG Terminal.

VII. MARKET-BASED PROCEDURE

22. Canadian gas users will become aware of the proposed export by the filing of this Application, by further information that may be filed by the Applicant, and by any other means as directed by the NEB.

23. Gas obtained by the Applicant's customers for export will be acquired in the open and competitive marketplace on terms and conditions that will be similarly available to other customers. The North American gas market has demonstrated its efficiency and, the Applicant submits, will ensure the non-discriminatory treatment of gas-market participants.

24. As reported by private sector studies, and the Board's own *Energy Future 2103* report cited earlier, the North American gas market is large, integrated, transparent, liquid, flexible and responsive such that market participants have a multitude of options for securing gas supplies.

IX. RELIEF SOUGHT

25. The Applicant respectfully requests:

(a) pursuant to section 117 of the NEB Act, a Licence subject to the following terms:

(i) **TERM:** The proposed term of the Licence is a period of 25 years commencing on the date of first export of LNG under the Licence;

(ii) **EXPORT START DATE:** Unless otherwise authorized by the Board, the term of the this Licence shall end on December 31, 2023 if exports of LNG have not commenced on or before that date;

(iii) **TERM QUANTITY:** The quantity of gas that may be exported in any 12 month period shall not exceed 20 million tons LNG subject to the daily tolerance;

(iv) **ANNUAL TOLERANCE:** In any 12-month period, the quantity of gas exported may exceed the annual quantity by 15 percent in order to accommodate operating variables;

(v) **MAXIMUM TERM QUANTITY:** The quantity of gas that may be exported over the term of the Licence shall not exceed 24 Trillion cubic feet;

(vi) **EXPORT POINT:** Gas will be exported from Canada at the outlet of the loading arm of the natural gas liquefaction terminal ("**Export Point**") to be located near Kitsault, British Columbia.

All of which is respectfully submitted this 18 day of December 2013.

Krishnan Suthanthiran
President
Kitsault Energy

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