LAWSON LUNDELL LLP

Suite 1600 Cathedral Place
925 West Georgia Street
Vancouver, BC
Canada V6C 3L2
T: 604.685.3456

August 16, 2018

Keith Bergner
D: 604.631.9119 | 403.218.7538
F: 604.694.2910
kbergner@lawsonlundell.com

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British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver BC V6Z 2N3

Attention: Mr. Patrick Wruck,
Commission Secretary

Dear Mr. Wruck:

Pacific Northern Gas Ltd (PNG) and Triton LNG Limited Partnership (Triton) Letter Agreement (the Letter Agreement) Application - Project No.1598957

Further to the BCUC Order G-116-18, please find enclosed for filing:

1. Western LNG's Responses to Information Requests of BCUC (Exhibit A-10); and
2. Western LNG's Responses to Information Requests of PNG (Exhibit B-10).

Yours very truly,

LAWSON LUNDELL LLP

Keith Bergner*

KBB/pkb

*Law Corporation

Pacific Northern Gas Ltd.
Pacific Northern Gas Ltd. and Triton LNG Limited Partnership
Letter Agreement Application

PNG INFORMATION REQUEST NO. 1 TO
WESTERN LNG ON EVIDENCE SUBMISSION

A. DIRECT EVIDENCE OF DAVIS THAMES ON BEHALF OF WESTERN LNG LLC

1.0 Reference: PROJECT DESCRIPTION
Exhibit C1-5, Page 7
Proposed project

In the evidence of Davis Thames, Western stated that:

> Western is prepared to share a full status report on those issues with the Commission on a confidential basis. Western would only be prepared to share full information relating to these issues with PNG if more robust and specific arrangements were established to ensure commercially sensitive information could not be shared with PNG's affiliate AltaGas and/or with Triton.

1.1 Please confirm that the Mutual Non-Disclosure Agreement (NDA) dated November 9, 2017 remains in place between PNG and Western.

Response:

Confirmed, as amended June 8, 2018.

1.2 Please provide the date at which each of the following project elements were completed in relation to the Western project, if at all.

(i) Pre-FEED Design
(ii) Risk Analysis
(iii) Cost Estimate
(iv) Environmental Plan
(v) Stakeholder & First Nations Plan
(vi) Project Schedule
(vii) Design Basis Memorandum
(viii) Project Economic Analysis

Response:

Western respectfully notes that this question and many others in this information request are not relevant to determining whether the Triton LNG Letter Agreement is in the public interest or not, since Western is not a party to that agreement. However Western will answer this and other similar questions about its own project, to the extent that it is not constrained from doing so, in the interest of being constructive so that the Commission can consider the issue at hand.

A number of the items listed above (risk analysis, cost estimate, stakeholder & First Nations Plan, etc.) are not one-time items that can be marked as "completed". Instead, these are ongoing considerations that are developed and continually refined over the course of project development.

Western has been working on refining mid-scale LNG solutions and identifying sites for development of next-generation liquefaction plants since 2015. Western's current design work began at the end of the first quarter 2017 when we began to focus on the proposed liquefaction deployment method and the site on the Douglas Channel. By the time Western approached PNG at the beginning of the fourth quarter 2017, a significant amount of work on project design and economic feasibility had been completed. Western has recently announced a technical services agreement with Wison Offshore & Marine Ltd. ("Wison") to perform pre-FEED and FEED work on the proposed project. Pursuant to the agreement Wison was also nominated as the project's EPC related to the floating liquefaction vessel. In conjunction with Wison and prior to entering into the technical services agreement, Western completed a class 4 project cost study and risk study. These were included in the materials provided to our capital provider, a fund managed by an affiliate of Apollo Global Management LLC (such fund, "Apollo"), in anticipation of receiving their financial support for the development of the project. Western has also contracted with Stantec Consulting Ltd. to perform a study for planning required environmental permits and intends to continue to work with Stantec in developing and submitting the full environmental permitting package. We have formally initiated consultation with the primary First Nation community that will be impacted by the project, and would characterize our engagement to date as positive and constructive (Western is constrained from sharing details of its engagement with this primary First Nation). As a part of our initial cost estimation process, we have also developed a level 1 schedule that is influenced by information received from key contractors regarding total EPC duration and critical path regulatory permits. Western is currently conducting an RFP to select an owner's engineer for the project, and once that firm is selected the pre-FEED study will be initiated with Wison. At the conclusion of the pre-FEED stage Western will have a fully developed basis of design. However, based on the experience of Western's management and contractors, a substantial portion of the basis of design has already been specified. Finally, Western has been refining the economics for some time based on its prior development work, beginning initially during the second quarter 2017. The project economics are an important component in Apollo's decision to support development of the project.

1.3 Please confirm that the Western management team's past experience does not include project development in the British Columbia environment. If its experience does include project development in the British Columbia environment, please provide detail of that experience.

Response:

Not confirmed. Different members of Western's management team have experience in different aspects of developing assets in British Columbia, including an LNG export facility and several greenfield gas processing sites along with related rail and waterfront terminalling facilities. In addition Western has engaged several professional and consulting firms to assist it in developing the project. These firms have played a key role in the development of virtually every LNG project that has been proposed to be located in British Columbia, and for numerous other projects across multiple industries located in the province as well.

Western notes that while British Columbia has an extraordinarily beautiful and relatively unspoiled physical environment and an important practice and protocol with respect to First Nations, the demands on project developers in British Columbia are not particularly unique. Every local community demands respect for their rights and for the environment of which they form a part. Of course, this is particularly true for Indigenous communities. Every project faces an array of issues that represent intersections between government oversight and regulation, economic development of the Indigenous and local communities and the region at large, the environmental impact of the project and its relative value to current and future generations, and the interests of the project developer and other aligned interests, such as upstream natural gas producers or local businesses that will be positively impacted by the project.

In that regard, Western's experienced development team has faced and successfully navigated many similar obstacles in a variety of different communities and markets. In the LNG industry, Western's team has extensive experience with the commercial, finance, and regulatory aspects of the Sabine Pass Liquefaction project, and in FEED and EPC project execution for numerous export and import projects including (on export): Cameron, Freeport, Mozambique, Kitimat, Elba Island, Golden Pass, Peru, Trunkline, Northwest Shelf, and MLNG Dua; and (on import) Singapore and Golden Pass. In addition, members of Western's team have experience in pre-project development and permitting in Qatar, Australia, Oman, Nigeria, Malaysia, Indonesia, Alaska, Chile and the United States. More broadly, Western's team members have worked to develop projects and businesses in the LNG, natural gas, regulated pipeline, merchant power, methanol, solar power, electric transmission and petrochemical industries.

1.4 Western describes its proposed project as an "initial development opportunity". Is Western considering potential alternatives to the project described in its evidence?

Response:

No, Western plans to develop additional project opportunities in addition to the initial project.

1.5 Please confirm the date when Mr. Thames made his first visit to British Columbia and the date when he made his first visit to the proposed project area.

Response:

Mr. Thames first visited the Kitimat area during January 2018.

1.6 Does Western agree that successful First Nations and other stakeholder engagement are critical factors in determining the success of a project?

Response:

Western would answer "yes", but would take issue with characterizing First Nations as mere "stakeholders".

1.7 Please outline the level of support that Western has secured for its project from interested stakeholders, including Indigenous groups that may be impacted by the project as well as provincial and federal authorities.

Response:

With regards to Indigenous groups (which Western would take issue with characterizing as mere "stakeholders"), Western declines to answer this question in a public forum but may respond to a direct request by the Commission in a confidential forum. Western is constrained from sharing details of its engagement with at least one First Nation. Western has held discussions with selected provincial officials and has received positive feedback. To date Western has not discussed the project with any federal authorities.

1.8 Please summarize the discussion that took place at Mr. Thames' first meeting with Haisla representatives which occurred in January 2018, and provide the requirements that were requested by the Haisla of Western to move its project forward.

Response:

Western declines to answer this question in a public forum but may respond to a direct request by the Commission in a confidential forum. Western is constrained from sharing details of its engagement with at least one First Nation.

1.9 Please provide an update on Western's subsequent and recent interactions with First Nations groups with whom Western would have to work to ensure a successful project.

Response:

Please see response to PNG IR 1.8.

1.10 Does Western agree that successful site/land acquisition is a critical factor in determining the success of a project?

Response:

Yes, it is a necessary but insufficient factor.

1.11 Please confirm whether all of the sites being considered by Western for its project are on Haisla First Nations' territory and, if so, to what extent have the Haisla been engaged in the development of the project and what commitments, if any, have been made by the Haisla to Western in respect to the project.

Response:

The Haisla First Nations' traditional territory encompasses all sites in and around Kitimat and the upper Douglas Channel. As such, all of the sites being considered by Western for its project are in Haisla First Nations' traditional territory. Within its traditional territory, the Haisla First Nation holds both Reserve land, leased land and other lands that it owns fee simple. To the extent that PNG is asking about whether Western is considering these lands, Western declines to answer this question in a public forum but may respond to a direct request by the Commission in a confidential forum. Western is constrained from sharing details of its engagement with at least one First Nation.

1.12 Western has indicated that it has identified sites on the Douglas Channel for its proposed project and that all sites could be served by a "modest" extension of PNG's system from its terminus in Kitimat. Please provide the following details for each site under consideration:

(i) The distance from the terminus of PNG's service line in Kitimat to the site.

(ii) Western's estimate of the cost to construct an interconnecting pipeline from the terminus of PNG's service line in Kitimat to the site.

Response:

Please see response to PNG IR 1.11. Western notes that in PNG's "Application for a Certificate of Public Convenience and Necessity to Construct and Operate an Interconnecting Pipeline between Kitimat and Douglas Channel", PNG's forecast project development costs were $2.5 million and included costs associated with engineering, design and bid packages, environmental studies and Stantec FEED studies up to Class 3, amongst other things. Western anticipates that any interconnecting pipeline from the terminus of PNG's existing pipeline near Kitimat to a site along the western shore of the Douglas Channel would traverse similar terrain.

1.13 What other factors are critical in determining the success of the Western project?

Response:

Western's approach to developing this project is intended to tier risk in order to clear project hurdles first that represent the most important gateways to successfully executing the project. Western's first key hurdle was to secure funding for project execution, which was accomplished late in 2017. Secondly, Western views securing rights to sufficient pipeline capacity and obtaining the right to lease a project site to be the next two important success factors. From there Western would advance a multi-pronged process to complete a number of requirements prior to reaching a final investment decision (FID) on the project. These include but are not limited to: conduct of pre-FEED and FEED studies to support negotiation of related EPC contracts; negotiation of pipeline transportation agreements and related lateral build; initial gas and power purchase agreements; negotiation of impact benefit agreements; site lease agreements; negotiation of various support agreements including tug services, construction sub vendor agreements, and potentially other shared services such as nitrogen generation and refrigerant procurement and storage. In addition all of the various required regulatory permits to proceed with the project are required prior to construction, such as the federal/NEB export license, approval of the transportation contract and the lateral build, and all federal, provincial, and local permits required under applicable law such as the *Fisheries Act* and the *Navigation Protection Act*, the *Oil and Gas Activities Act*, the *Environmental Management Act*, and local development ordinances. In addition Western anticipates completing a TERMPOL review with Transport Canada. In conjunction with these development activities Western will be working with buyers in the market to determine an optimal sales structure. Once all of the required contractual elements and approvals are complete, and Western has obtained requisite project financing commitments, if any, Western will make a final investment decision. While reaching FID is an important milestone, successful project execution will continue to require a tremendous amount of work and engagement with Western's EPC contractors, regulators, and the local communities during the construction phase. The conclusion is that in order for a project to come together successfully, all requirements are critical, and without even one of them a project will not proceed. It is the evolution of processes over time and the risk of ultimately not completing one of them that creates priority in time for early execution of one or several steps.

1.14 Please outline the capital commitments Western has made to its project to date.

Response:

Western is not yet capitalizing costs for the project pursuant to applicable accounting standards, and therefore aside from relatively minor capitalized FF&E purchases that are not direct project investments, all development efforts are currently being expensed. The major categories of development expense to date are legal fees, consulting fees, and salaries and burden. During the remainder of 2018 Western anticipates making significant expenditures in completing the pre-FEED studies, conducting initial environmental permit studies and completing applications for other regulatory permits, and performing studies and work in support of the impact benefits agreements.

2.0 Reference: PROJECT DESCRIPTION
Exhibit C1-5, Page 9
Project financing

Mr. Thames provides the following information in his testimony:

> The timeline and discussion above makes it clear that from late 2017 or, at the latest, January 8, 2018, PNG had "two birds in the bush." Both Triton and Western were seeking an option on capacity (and Western was seeking substantially more capacity than Triton). With respect, Triton only became a "bird in the hand" after PNG chose to pursue and conclude an agreement with it first. PNG cannot unilaterally make this choice, and then invoke it as the reason the Commission should approve their option with Triton. PNG did not try to find out more about Western, the background of Western's management, or the financial capacity of Western's sponsor, prior to deciding to move forward with Triton. Western respects the impressive histories of Triton's owners and notes the substantial asset bases of both companies involved. But neither apparently controls Triton, and neither has apparently made a capital commitment to the project. With a little more due diligence, PNG would have discovered that Western's financial sponsor (Apollo) is a substantially larger company than both of Triton's sponsors combined and has access to much greater financial liquidity than either of them. In addition, Apollo is a long time investor in operating companies in Canada in various industries including the upstream sector. Western's President & CEO is well known in the LNG industry and has extensive experience in bringing an innovative LNG project to market successfully, considering the unusual aspect of integrating it into the liberalized North American gas market as opposed to the conventional "upstream monetization play". Western also could have introduced PNG to our relationship with Wison Offshore & Marine, the company that will build the liquefaction equipment for the project, and its business plan, which we think will allow Western to successfully address the unique needs of buyers in today's LNG market.

2.1 Please describe the relationship between Western and Apollo Global Capital Management (Apollo).

Response:

Apollo and Western have entered into a development funding agreement under which Apollo pays a monthly fee and reimburses third party expenses incurred in the development of the project. The agreement sets forth the framework for converting it into a direct investment by one or more affiliated funds and the terms and conditions of that investment.

2.2 On what date did Western close its arrangements for financial sponsorship from Apollo?

Response:

Western agreed to terms with Apollo in late 2017 and completed documentation of the development funding agreement described above during the second quarter 2018.

2.3 What assurances has Western provided to Apollo regarding the viability of Western's proposed project?

Response:

Apollo is an experienced investor in infrastructure projects around the world, and in particular has evaluated numerous LNG project investment opportunities. Apollo is more than capable of evaluating the viability of a project on its own. Western prepared customary materials typically presented to a potential investor, and Apollo has evaluated them independently.

2.4 What degree of confidence does Western have that Apollo is prepared to make to capital commitment necessary to fund construction of the project?

Response:

Western's degree of confidence regarding Apollo's preparedness to fund the construction of the project is very high, subject to Western completing all of the work necessary for the project to reach FID.

2.5 Please provide the terms under which Western would receive a capital commitment to fully fund construction of the project and what milestones must be met by Western to obtain funding for the project?

Response:

Please see response to PNG IR 1.13.

2.6 Would the capital commitment be binding such that Apollo cannot decide prior to the completion of the project to eliminate funding if the LNG market changes and the project is no longer determined to be viable?

Response:

Western anticipates that the commitment would be binding upon Apollo upon reaching FID.

2.7 With Apollo's sponsorship, is Western able to meet the credit requirements reproduced below, as stipulated per Exhibit A to the PNG-Triton Letter Agreement filed as Appendix A to Exhibit B-1 of this proceeding?

> "Credit Requirements: [•] (or affiliate or third party guarantor(s) which guarantee [•]'s obligations under the Transportation Agreement) has an investment grade rating for its unenhanced long term senior unsecured debt from any two recognized rating agencies. The minimum acceptable rating from each of the identified rating agencies is:
>
> | | |
> |---|---|
> | Moody's | Baa3 or better |
> | S&P | BBB- or better |
> | DBRS | BBB (low) or better |
>
> or other equivalent rating from recognized rating agencies as reasonably determined by PNG, provided that, if [•]'s long term senior unsecured debt is not rated, [•] can be accepted as creditworthy if PNG determines in its reasonable judgment that, notwithstanding the absence of a rating, the financial position of [•] (or an affiliate or third party guarantor which guarantees [•]'s obligations under the Transportation Agreement) is equivalent to investment grade."

Response:

Western anticipates that it would be able to meet the creditworthiness requirements imposed on it pursuant to an agreement that is similar in nature to the Triton LNG Letter Agreement.

3.0 Reference: OPTION PAYMENTS
Exhibit C1-5
Option fees / option payments

Western states its understanding that PNG would both evaluate a proposed project to assess its feasibility and use the willingness of a project to pay option fees as criteria to identify the most likely potential customers for the capacity.

3.1 On December 15, 2017, Western advised that it was willing to negotiate an option agreement in connection with 70MMcf/d of capacity. Does Western consider being "willing to negotiate" the same as committing to enter into an agreement with an option payment to be made in advance of the final agreement?

Response:

Yes, except in the specific case cited PNG would not actively engage with or negotiate terms with Western that would permit it to commit to enter into an agreement.

3.2 Why was Western willing to bilaterally negotiate an option agreement with PNG if it is now of the view that such a process for negotiating an option agreement was not appropriate?

Response:

At the time that Western approached PNG it was not apparent to Western that another party desired to contract for the capacity. In fact, PNG's marketing representative told Western that it had up to 70 MMcf/d of capacity that it could sell. To the extent that vague references to other parties were later alluded to, these were discounted by Western as statements that a marketing representative would make in connection with selling capacity. As recited in the testimony and Western's comments, between the date that Western submitted a proposal for transportation capacity to PNG (January 8, 2018) until more than a month following the date on which PNG entered into the Triton Letter Agreement (April 27, 2018), PNG did not respond to Western's proposal.

In the experience of Western's management, a party that held multiple valid expressions of interest for a finite asset will attempt to maximize the value of that asset by simultaneously negotiating with the different parties in order to conclude the best transaction, based on the objective that it is attempting to maximize. In the case of PNG that should have been new revenue to reduce the cost of service that is allocated to PNG's utility customers. However, instead of engaging with Western in response to its term sheet, as Western expected, PNG chose to put Western on hold and negotiate and conclude the Triton Letter Agreement with its affiliate instead. So instead of conducting negotiations with multiple parties simultaneously, which is analogous to conducting an auction or open season, PNG determined that it would negotiate with only one party, even when the objective outcome of such an agreement produced a lesser benefit to PNG's utility customers, in the form of less capacity contracted.

In doing so, PNG secured certain advantages for its affiliate Triton to the disadvantage of a similarly situated third party alternative and consequently to PNG's utility customers. The agreement with Triton could have been structured in such a way to admit additional shippers, who together with

Triton shared risks and costs on all common transportation paths, i.e. the mainline between Summit Lake and Terrace. This approach to negotiations could have addressed a number of Western's concerns.

4.0 Reference: TRANSPORTATION CONTRACT TERMS
Exhibit C1-5, Page 6
Contract terms

In the evidence of Davis Thames, Western stated that:

> To confirm, Western would still be willing to enter into an agreement that is substantially similar to the agreement that this Commission approved between PNG and EDFT.

In response to BCUC IR 1.6, PNG states that "should a new customer require more capacity than is available on PNG's system at that time, PNG would review alternatives and prepare a proposal to provide service which may or may not require a contribution from the new customer. In this scenario, PNG expects that there would be no impact on Triton as their toll would be contractually fixed. For the potential new customer, either an existing rate or a new rate would be proposed, depending on the results of PNG's analysis."

In response to Western LNG IR 8.2, PNG states that "Given the increased interest in the expansion capacity on the mainline and PNG's current view of the complexity of the mainline expansion, PNG may need to consider other customer requests for future project expansion, not just the request of Western alone."

4.1 Does Western consider the toll approved for PNG and EDFT to be reasonable even though it was not developed via an open season process?

Response:

The process that led up to the consummation of the EDFT TSA and the subsequent submission to the Commission for approval was drawn out over a period of at least seven years, with several notable events along the way that were newsworthy and produced broad coverage. In addition several transportation agreements predating the EDFT TSA, all at the same rate, were submitted to the Commission for approval in a public forum. Not once during that process did another party step forward to enter into a transportation agreement at a different price, even though ample public forum was provided to argue that the price was not sufficient, just, or reasonable. Not once during that process did either PNG or its parent Altagas demand an increase in the toll in order to support another assignment to another party. In fact the Commission's multiple opinions on the several transportation agreement approval applications found that the rate was in fact just and reasonable.

5.0 Reference: OPEN SEASON
Exhibit C1-5, Page 12
Open season process

The evidence of Mr. Thames included the following:

> "Q. Would Western be willing to participate in an open season for an option to determine the extent of interest in both the existing capacity on the PNG system and the potential demand for expanded capacity?
>
> A. Yes. Western believes that an open season process should be held that (i) enables PNG to gather greater market information and (ii) provides all market participants with an equal opportunity to vie for an option on PNG existing and/or expansion capacity."

5.1 Based on the referenced evidence provided by Western, can it please confirm whether it is in a position to participate in a binding open season for existing transportation capacity at a Commission approved rate (in the same manner that, for example, TransCanada has open seasons for existing capacity at NEB approved transportation rates), or if it is only prepared to participate in an open season for an option on PNG's capacity?

Response:

Western understands the distinction that PNG is trying to draw but fails to understand the difference. Unless PNG has found a customer at the terminus of its existing pipeline in Kitimat that is prepared to take 70 MMcf/d, the only feasible structure that can be undertaken by a potential customer is one that is contingent upon them taking FID on their project – i.e. providing such a customer an option on the capacity. In its prior experience, the management at Western has seen multiple examples of such a structure executed in a variety of ways. One structure is that a transportation contract is bilaterally negotiated between the transporter and a shipper, who becomes the anchor shipper, and then offered secondarily to the market in an open season. In general those transactions involved capital additions to create new capacity, and contained conditions precedent for the shipper to reach FID on a project. They almost never involve an "option premium" per se. The other structure that is prevalent in the industry is for a transporter to conceive of a project and then take it to market in a general open season to solicit interest. To the extent that the potential shipper does not yet have facilities constructed (for example, the shipper might be an LNG project developer, a petrochemical project sponsor, a power plant, a producer, or some other large demander) it would not be unconventional for the shipper to have a condition precedent related to reaching FID on their project. Again, it is relatively unusual in such a circumstance to see an "option premium" exchange hands. However it is not unusual to see payments related to reimbursement of design development and other early engineering costs prior to the shipper's transportation contract becoming binding.

The facts and circumstances surrounding PNG's present situation, in which it has uncontracted existing capacity and a potential group of shippers that desires more capacity than can be provided on the existing system, is not without precedent in the industry. The typical solution is for the pipeline to negotiate precedent agreements with all the demanders and allocate them both a portion of the existing capacity and new expansion capacity. The precedent agreements would contain a condition precedent regarding a final FID on each proponent's project. While this arrangement would appear to leave the pipeline at risk of not being able to build its expansion, it provides greater assurance that the existing capacity will be contracted to somebody, since there are two parties that would have to fail to reach FID on their project instead of only one, diversifying the commercial risk that the pipeline is exposed to. [1] The only sticking point is how to deal with a customer that is not able to reach FID as quickly as the other customer. But if the amount of existing capacity is greater than the amount of demand from each customer, the solution is simple – allow the party that reaches FID first to transport in the existing capacity, and when the second customer reaches FID construct the expansion. This also provides an incentive to the customers that is in the interest of the pipeline, in which there is a reason for the customers to hurry to market.

5.2 If the situation had been reversed, and PNG had been working with Western on contractual arrangements for a period of months and a third party like Triton came to PNG with an expression of interest in service, would Western have expected PNG to go to an open season for the available and expansion capacity?

Response:

The question would have been moot if PNG had attempted to maximize the value of its unutilized capacity by negotiating agreements with both Triton and Western simultaneously instead of attempting to sequentially execute agreements that provide an advantage to one shipper over another, and produce less value to the existing ratepayers, notwithstanding the real and perceived issues that arise with prioritizing an affiliated shipper over a third party. Further, and as discussed above, the words "open season" should not be tied to a particular form or method employed to solicit customers in the market, but should be understood in terms of producing the desired effect of an auction process to determine optimal marginal pricing for an asset. Several multiple bilateral negotiations being conducted simultaneously could achieve the desired effect of eliciting best price from counterparties, while feeding information back to the selling party and other buying parties about where one of the parties would be willing to go on a variety of terms. There are no shortage of examples of multi-party and tri-party "auctions" carried out in this manner. While it is easy to envisage and conduct an open season/auction that concentrates only on one thing, e.g. price, it is equally possible and frequently done to hold multi-party negotiations that flesh out entire contracts, optimizing terms for the benefit of all the parties at the table, while not breaching confidentiality or revealing bid strategy of one party to another.

[1] Since PNG receives its cost of service regardless of how much of the existing unutilized capacity is contracted, it is actually PNG's utility customers that bear this risk, not PNG.

B. DIRECT EVIDENCE OF DR. JEFFREY CHURCH

6.0 Reference: OPTION VALUE
Exhibit C1-5, Page 18
Determination of option value

In his evidence, Dr. Church provides the following example:

> PNG could be encouraged to explore flexible iterative processes that reveal the value of the option. For instance, a market indication of the value and risk of accessing the existing capacity could be created by having an auction for the option. If it is the case that project development is too costly and risky without access to transportation, as PNG claims, then allocation of the rights to "reserve uncontracted capacity" through an auction process would contribute to ensuring that the shippers with the highest value are identified and the value of both the option rights and some of the value of the capacity captured for existing shippers. It does not seem inconceivable or unworkable that PNG have an auction for the option of entering into a firm service transportation agreement where the auction involves establishing the price for an option on, for instance, 10 MMcf/day tranches of capacity, with 10 such tranches available. The length of the options and other conditions for each of the tranches would be standardized. This would allow for the existing 100 MMcf/day or so of capacity to be allocated efficiently across shippers: PNG would choose the allocation of the 100 MMcf/day that maximized its option revenues.

6.1 In the scenario provided, where an open season process is held for options on existing capacity, does Dr. Church agree that the transportation toll for the capacity that is being reserved should be known by the bidders?

Response:

Dr. Church agrees that the more certainty that can be provided regarding the level of tolls, the better. There are several things worth noting, however:

i) For the 80-100 MMcf/day of capacity possible with reactivation and recommission, PNG should be able to provide a reasonable degree of certainty.[2]
ii) To reduce the risk to shippers and incorporate toll and cost uncertainty, the option can have a termination clause for the shipper if the toll estimate exceeds some level.
   (1) A variant of this is found in the Letter Agreement with Triton with regard to the 30 MMcf/day of expanded capacity. The Letter Agreement provides that after the Expanded Capacity Notice—which will provide notice to Triton of the capital

[2] The 100 MMcf/day of available capacity is based on average daily flows. See Church Evidence Response to Question 9. The lower estimate of available capacity is based on having sufficient capacity to meet peak winter daily demand of 35 MMcf/day. See Response to BCUC Western 1.7.

expenditures and hence presumably the toll implications—Triton has five days after paying its initial option fee to determine its acceptance or rejection of the Expanded Capacity Notice.[3]

(2) Similarly the Trans Mountain Facilities Support Agreement contains provisions to address the risk of toll uncertainty. After receiving its Certificate of Public Convenience and Necessity (CPCN), Trans Mountain is required to deliver to shippers a revised cost estimate and revised demand charge. If the revised toll exceeds the open season limit, shippers have the right to terminate, but it may have to pay its share of development costs.[4]

iii) The Interconnecting Transportation Reservation Agreement between PNG and EDF Trading provided that EDFT could terminate upon receipt of estimated tolls.[5] The estimate of the tolls was to be provided approximately 5 months after the date of the agreement and EDFT had 30 days thereafter to terminate.

6.1.1 If not, how does Dr. Church envision that the process would result in the greatest value being received for the existing capacity and how can the Commission be comfortable that the resulting transportation contracts, if any, would be in the public interest?

6.2 In Dr. Church's scenario where project developers bid for options on the transportation service, how would you ensure that the process would not be subject to a bait and switch tactic? That is, could a developer reserve capacity under an option for a period of time and then, after unsuccessful bidders have halted their development efforts, the successful bidder attempts to renegotiate the toll it has reserved?

Response:

This possibility would not appear to be unique to bidding for options. The fact that every contract is incomplete means that all contracts are subject to the risk of renegotiation, including Letters of Agreement reached under the existing system.[6] The bid for options alternative seems no worse in this regard than PNG's existing practice. The Letter of Agreement with Triton allows for it to walk away at a cost of only $100,000 of the $500,000 initial option fee, as well as any Expanded Capacity Option Fees or Option Extension Fees.[7]

It is important not to forget that the present case may involve only the allocation of the existing 80-100 MMcf/day of capacity that is relatively easily provided and designing a process for expansion capacity beyond the 80-100 MMcf/day may be efficiently postponed. For the 80-100 MMcf/day

[3] Letter Agreement between PNG and Triton at 5(e)

[4] See Trans Mountain Pipeline Expansion Project Facility Support Agreement (March 27, 2012) Articles 3.2 and 5.4(d).

[5] Article 6.5.

[6] J. Church and R. Ware, 2000, Industrial Organization: A Strategic Approach, McGraw-Hill: New York, Chapter 3 for discussion of transactions costs, contract incompleteness, and its ramifications.

[7] Letter Agreement between PNG and Triton at 5(j) and 6.

there appears to be at least two legitimate parties of interest, with conditions in the LNG market suggesting the potential for more. The better conditions in the LNG market, the better the outside options for PNG and the less leverage a shipper will have if it engages in bait and switch.

6.2.1 Could this tactic result in discounts to the toll or significant delays in commencement of transportation service if the option process was reinitiated; either way resulting in a reduction of the value of the transportation capacity?

Response:

Yes. But the tactic can be used, at least as effectively and perhaps even more effectively under the PNG approach. The tactic might be more effective under PNG's current approach since PNG would have less information regarding alternatives than it would following a more open competition.

6.3 Does Dr. Church agree that one aspect of his proposed iterative process for allocating capacity should be to offer options on the existing capacity where:

(i) The first round of bids on options for transportation service has the transportation toll set at a non-discounted level (i.e. set using the Commission's normal rate making principles on a rolled-in basis); and

(ii) Only following the failure to receive binding bids on options for transportation service at the non-discounted toll should bids be sought for options on transportation service at discounted tolls?

Response:

As is clear from the Church Evidence response to question 18, Dr. Church is not proposing any specific process for allocating capacity or the option. Western is not the applicant in this proceeding and does not bear the burden of designing all the details of an open competitive process for PNG. Instead the Church Evidence is intended only to suggest that the existing process used by PNG is likely to misallocate capacity or the option rights and as a result reduce the economic value of the PNG pipeline and keep tolls for existing utility consumers higher than they might otherwise be. The Thames Evidence suggests that this is not just a theoretical problem with PNG's practices.[8]

The details of an open competition for the option or the capacity are outside the scope of the Church Evidence. Dr. Church believes that the public interest would be best served by (i) setting aside the Triton agreement reached under PNG's current process, and (ii) requiring PNG to consider, design and implement an alternative open, transparent, and competitive process that achieves the objectives outlined in the Church Evidence. The suggestion in the question points to the issues that will have to be addressed in designing an alternative that allocates PNG's capacity to its most valuable use.

[8] Thames Direct Evidence at pp. 11-12.

6.4 As part of Dr. Church's iterative process, should the options be issued for relatively short periods of time (e.g. 6 months), with a new open season if the option is not exercised? Would this allow the capture of the greatest economic value?

Response:

See response to PNG Western IR 6.3.

6.5 Does Dr. Church agree that when evaluating long-term transportation contracts PNG and the Commission must take into account, as best possible, the ability of the shipper to pay its transportation tolls over the full term of the contract?

Response:

The Commission and PNG should be concerned about stranded costs. The Commission will have to assess the costs and benefits associated with increasing the possibility and extent of non-recovery of costs associated with a shipper. With respect to the 80-100 MMcf/day, the risk and extent of stranded costs may not be that extensive. Its costs may be low relative to the market value of LNG and the value of the transportation rights may be substantial if the LNG market is robust. Hence it is at least as important to evaluate whether the market for PNG capacity will be sufficiently robust that PNG's capacity will be easily remarketed than if a particular shipper can live up to its obligations to pay the demand charges over the term of its contract. The concern should also be over the avoided costs associated with providing service to a new shipper and not whether a new shipper has the ability to pay for sunk costs.

6.5.1 If yes, should unconditional guarantees be sought for both the option fee obligations and for the transportation service arrangements from creditworthy parties as part of the open season process?

Response:

See response to PNG Western IR 6.3.

As explained in response to BCUC Western IR 2.4 as part of negotiations between shippers and pipelines in an open season process, the issues of risk allocation and creditworthiness are addressed. The allocation of risk determines the opportunities for termination and the costs of termination, typically prior to the signing of a firm transportation agreement, and may result in option fees being adjusted. The provisions regarding whether option fees are "guaranteed" is also typically negotiated. But since contracts are incomplete, so too are guarantees. As a result there are a number of alternatives that can be implemented to ensure payment of option fees, including deposit in escrow upon signing of a Letter Agreement and having fees paid or deposited as milestones are achieved.

With respect to demand charges, prior to the signing of a firm transportation agreement, creditworthiness is established and there are provisions typically in transportation agreements that deal with ongoing creditworthiness.

Of course because contracts are incomplete, no guarantee is actually 100 percent. PNG earns a risk premium on its equity because some risks cannot be diversified. One of those is likely the credit risk of its shippers.

Finally, the marginal costs of increasing the probability of payment should be balanced against its marginal benefit. The marginal benefit of increasing the probability of payment may be much less than its marginal cost. In particular the marginal benefit of measures to increase the probability of payment for *existing capacity* may well be much less than for *new capacity.*[9] And as explained in the response to PNG Western IR 6.5, the possibility of remarketing capacity means that the markets ability to pay the demand charges should be an important consideration in assessing the marginal benefit of measures that increase the probability that a given shipper can pay its demand charges over the life of its firm transportation contract.

6.5.2 If not, why not?

[9] This is reflected in the Transportation Tariff for TransCanada Pipelines Limited. Compare articles 3(a) and 3(b) of TransCanada's General Terms and Conditions. The amount of financial assurance required by TransCanada is larger for service that requires new facilities and the shipper must enter into a financial assurances agreement.