

MINISTRY OF NATURAL GAS DEVELOPMENT

BRIEFING NOTE FOR INFORMATION

I PREPARED FOR: Honourable Christy Clark, Premier

I ISSUE: Meeting with Peter Coleman, Chief Executive Officer and Managing Director of Woodside Energy.

II BACKGROUND:

- Woodside Energy is Australia's largest independent dedicated oil and gas company. In 2014, Woodside was the tenth largest producer of LNG in the world, controlling nearly three percent of the global market and earning over 70 percent of its revenues through its natural gas operations. As the number of players in the LNG market increases over the coming years ^{s.21}
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- Woodside is looking to maintain if not grow its market share through a number of proposed domestic and international LNG projects. During his recent speech at the World Gas Conference in Paris, France (June 3, 2015), Mr. Coleman provided strong views on the role that natural gas can play globally. He stated that suppliers should not be afraid as new supply (and potentially surplus) enters the global market place as this spurs innovation. This additional supply carries the potential for new applications for natural gas, and will in turn spur demand.

Woodside's Interests in British Columbia

- Woodside recently completed its acquisition of Apache's interest in the Kitimat LNG project. This transaction included approximately 320,000 net acres in the Horn River and Liard Basins, adding a growth option to Woodside's development portfolio.
- Woodside also has a proposed project on Grassy Point, north of Prince Rupert, called Grassy Point LNG. This project is in the early stages of its environmental assessment and recently (January 2015) was granted an export license from the National Energy Board for twenty million tons per annum.

Woodside's Participation in the 2015 LNG in BC Conference

- Peter Coleman will play a large role during the second day of the 2015 LNG in BC conference when he joins Minister Coleman for a discussion on what British Columbia can learn from Australia's experience in the LNG industry.
- Woodside, through Kitimat LNG, will be a Platinum sponsor for the 2015 conference and will be taking part on the exhibition floor. As well, Kitimat LNG is helping to support the 2015 GameChanger Youth Expo and hosting a reception at the Vancouver Convention Centre on October 15.

III DISCUSSION:

Kitimat LNG

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- Through the use of hydroelectricity (either for just ancillary or to power the entire facility), some proposed projects have been able to come in below the established threshold for GHG emissions. If Kitimat LNG were to consider the use of hydroelectricity, this could lower the environmental impact of the facility and would have the potential to be below the benchmark. s.21
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Grassy Point LNG

- The Grassy Point LNG project is in the early stages of its environmental assessment and its final Application Information Requirements are targeted for March 2016 to meet the amended terms of Woodside's sole proponent agreement with the Province.
- The Environmental Assessment Office is identifying ways to consider concerns raised by Lax Kw'alaams in the environmental assessments underway in the region. The Environmental Assessment Office continues to work closely with other ministries regarding this issue.

IV CONCLUSION:

- The Province appreciates the strong working relationship it has built with Woodside and continues to work with them on both of the projects they are involved with.
- Given its experience operating and managing multiple projects in Australia, Woodside has indicated that it intends to continue developing both Kitimat LNG and Grassy Point LNG in so far as market conditions would support both.
- Mr. Coleman believes the Grassy Point site is world class, and has spent time on the ground at Grassy Point and personally confirmed this as a very favorable site for LNG development.
- The Province is grateful for Mr. Coleman's participation in the 2015 LNG in BC conference, and for the Platinum level sponsorship provided by Kitimat LNG.

Attachments: 1. Biography for Peter Coleman
2. Kitimat LNG profile
3. Grassy Point LNG profile

REVIEWED BY:

Brian Hansen, ADM/

APPROVED BY:

Dave Nikolejsin, DM ✓

Attachment 1: Biography



Peter Coleman – Managing Director and Chief Executive Officer for Woodside Energy

Peter Coleman has 31 years' experience in the global oil and gas industry, covering Asia, the Americas, Africa and Australasia. Peter has been Managing Director and Chief Executive Officer of Woodside since joining the company in May 2011.

Born in Sale, Victoria, Peter graduated with a Bachelor of Engineering from Monash University in 1983 and has a Master of Business Administration from Deakin University. He has completed Advanced Management Training from the University of Virginia, Thunderbird Management School, and Columbia University.

Peter began his career with Exxon Mobil following graduation from Monash University and stayed with the company until joining Woodside.

Peter is the Chairman of Australia Korea Foundation and advisor to the Asia Society. He is also a member of the University of Western Australia Business School Board, the Executive Committee of the Australia Japan Business Co-operation Council, Australian Institute of Company Directors, Australia-India Chief Executive Officers' CEO Forum, Advisory Group Australia-Africa Relations and Monash Engineering Foundation.

Peter has been awarded the honorary title of Adjunct Professor in Corporate Strategy from the University of Western Australia, an Alumni Lifetime Achievement Award from Monash University and a Fellowship from the Australian Academy of Technological Sciences and Engineering.

Attachment 2: Kitimat LNG Project Overview

- Kitimat LNG is proposing to build an LNG facility and marine terminal at Bish Cove near Kitimat. At full build-out this facility would export upwards of 10 million tonnes per annum (MTA) of LNG.
- On April 10, 2015, Woodside successfully completed the acquisition of Apache's portion of the Kitimat LNG project for a purchase price of US\$854 million.
- Kitimat LNG received a National Energy Board export license in 2011 for 10 million tonnes per annum over 20 years. It received major environmental approvals in 2006.
- 16 First Nations affected by the Pacific Trail Pipeline (Kitimat LNG's proposed pipeline) have joined together through the First Nations Limited Partnership (FNLP) to support the development of that natural gas pipeline project. Moricetown was the final First Nation or Band to join the FNLP in January 2015.

Proponent	Chevron (50%), Woodside (50%)
Location	Bish Cove (Kitimat)
Proposed Size	10 MTA
Export License	Approved – 20 years, with annual volume of 10 million tonnes of LNG
Environmental Assessment	Federal and Provincial approvals completed
Pipeline	Pacific Trail Pipeline
Estimated Investment	\$5 billion (estimate for train 1)
Jobs	Construction: 3,000 at peak activity
Latest Development	On September 3, 2015, the BC EAO determined that the Kitimat LNG Terminal Project has been substantially started. With that, the EA Certificate remains in effect for the life of the Project.

Attachment 3: Grassy Point LNG Project Overview

- Woodside proposes to construct, commission and operate a liquefied natural gas export facility – referred to as Grassy Point LNG – on provincially administered Crown Land at Grassy Point, near Prince Rupert. At full build-out this facility would export upwards of 20 million tonnes of LNG per annum.
- On January 16, 2014, the Government of British Columbia announced a sole proponent agreement had been reached with Woodside for exclusive rights to pursue long-term Crown land tenure in the Grassy Point area.
- Grassy Point LNG entered into the Environmental Assessment process in August 2014 and is currently in the Pre-Application phase.
- The environmental assessment and engineering work is expected to be finished by 2017 followed by 4 years of construction activities. Operations are expected to commence in 2021.
- In January 2015, the project was issued an export license from the National Energy Board for 20 million tonnes per annum for 25 years.

Proponent	Woodside
Location	Grassy Point (near Prince Rupert)
Proposed Size	20 MTPA
Export License	Approved – 25 years, with annual volume of 20 million tonnes of LNG
Environmental Assessment	In Progress (Pre-Application)
Pipeline	TBD
Estimated Investment	\$10 - \$15 billion (Phase 1)
Jobs	Construction: 1,000 for near shore option, 6,000 for onshore option
Latest Development	An export license was issued by the National Energy Board to export 20 MTPA for a period of 25 years on January 29, 2015.



Meeting: FortisBC

Who: FortisBC, to discuss the status of their major projects in British Columbia.

Where: Room 101

When: 1:45pm -2:15pm Thursday October 15, 2015

PARTICIPANTS:

1. Michael Mulcahy, Chief Executive Officer, FortisBC

KEY MESSAGES:

- Thank Mr. Mulcahy and FortisBC for their platinum sponsorship, and for funding travel for students to attend the GameChanger Youth Expo at this year's LNG in BC Conference.
- Doug Stout, Vice President Market Development and External Relations, FortisBC, is participating on a panel discussion at the conference: LNG Facilities – Drivers for Change.
- The Province intends to continue to work closely with proponents such as FortisBC, residents, and municipalities as we work towards building the nascent LNG industry in British Columbia.

BACKGROUND: LNG interest in BC

Expansion of the Tilbury Facility

- The Tilbury LNG facility, located in Delta BC produces LNG for transport and industrial sectors in BC and a power utility in the Yukon.
- In 2014, FortisBC began an expansion of the Tilbury LNG facility; the company expects the expanded facility to be operational by late 2016.
- In August 2014, Hawaiian Electric signed a conditional deal with FortisBC to deliver by 2019 0.8 million tonnes per annum of LNG for up to 15 years. The deal with Hawaiian Electric could trigger a further \$400 million expansion at Fortis's plant.
- BC Ferries signed a 10-year contract with FortisBC in February 2015 to supply LNG for three ferries currently under construction. Fortis BC will supply up to 300,000 gigajoules of LNG per year.
- In May 2015, WesPac Marine received an export license from the National Energy Board to export up to 3 million tonnes per annum of LNG. WesPac's proposed jetty will be a berthing site for carriers to receive LNG from FortisBC's Tilbury Plant for transport.
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- FortisBC has stated it is committed to ensure expansion provides direct local benefits to Delta, other local communities and First Nations. They recently provided a \$75,000 grant to Aboriginal Skills 3G:BC for a new eight-week pre-apprenticeship training pilot program for First Nations, which includes training relevant to the LNG industry.



- The Tilbury expansion with WesPac LNG could lead to about 150 jobs during construction and 19 full-time employees during operation.
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Woodfibre LNG and Eagle Mountain – Woodfibre Gas Pipeline (FortisBC)

- Woodfibre LNG Ltd. is proposing to construct a small-scale LNG processing and export facility near Squamish. The Project will use existing natural gas pipeline capacity and a new looped gas pipeline: FortisBC's Eagle Mountain – Woodfibre Gas Pipeline Project.
- As of June 30, 2015, the EAO has suspended the application review period at day 169, for the proposed Eagle Mountain-Woodfibre Gas pipeline to Squamish. FortisBC had requested the suspension in order to allow additional time to complete a review of the Squamish Nation Council's conditions.
- On September 11, 2015, FortisBC submitted two Addenda to the EAO to supplement its application for an EAC. The Addendum 2 and Addendum 3 include alternatives for its proposed pipeline route and compressor station location in response to comments received from the public, Aboriginal Groups and the working group.
- A public comment period to provide comments on the two Addenda is open from September 24 to October 15, 2015. An Open House will be held on October 7, 2015 in Squamish.
- FortisBC has stated to the EAO that they would like a decision by the end of 2015. The EAO has developed a workplan with the Proponent to address the challenges of the timeline, since additional consultation and analysis will be required prior to the referral.

Proposed Project: Mitsui and FortisBC (Confidential)

- FortisBC and Mitsui entered into an MOU in June 2014 for the joint feasibility study of a new (3-5 MTPA) LNG project in the Lower Mainland.
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- The mid-scale LNG project would be to utilize capacity within the existing gas pipeline. To provide the facility with the required feedstock would require approximately 10 km of new pipeline.
- The facility would be located on Tsawwassen First Nation land and would utilize the Delta Port owned by PMV.

Attachments:

Appendix I Transmission Upgrade Projects

Appendix II Biography Mr. Michael Mulcahy, Chief Executive Officer

Appendix I Transmission Upgrade Projects

Coastal Transmission System (CTS) Upgrades

- The CTS is the sole source of supply to the lower Mainland, serving Mission/Abbotsford and communities west, including the Metro the Vancouver distribution system as well as the Vancouver Island gas pipeline system.
- All of the upgrades will occur within utility corridors in Surrey and Coquitlam. These system improvements will increase reliability for customers during times of peak demand or when maintenance work is required.
- Throughout the remainder of 2015 and early 2016, FortisBC continues to plan and complete engineering studies, as well as consult with key stakeholders and First Nations on the required work.
- Construction is expected to start in the spring of 2017 and be completed by winter of 2017.
- Part of the CTS will be looped for the Woodfibre Gas Pipeline (FortisBC)

Lower Mainland Intermediate Pressure System Upgrades

- The Lower Mainland Intermediate Pressure System Upgrades (LMIPSU) project involves two components:
 - Replacing approximately 20 kilometres of intermediate pressure gas line between Coquitlam Station located near the corner of Como Lake Road and Mariner Way, and a station at East Second Avenue and Woodland Drive in Vancouver. The line must be replaced because it is nearing the end of its useful life.
 - Replacing approximately 300 metres of intermediate pressure gas line in south Vancouver along East Kent Avenue to increase seismic stability.
- The project is currently being reviewed by the BC Utilities Commission (BCUC). A decision is expected in early October. If the project is approved, construction would start in spring 2018.
- Currently, the project team is proceeding with engineering studies.

Appendix II Biography Mr. Michael Mulcahy, Chief Executive Officer

Mr. Michael A. Mulcahy has been Chief Executive Officer and President of FortisBC Energy Inc. and FortisBC Inc. since August 1, 2014. Mr. Mulcahy joined the Fortis group of companies in 1993. He began with Maritime Electric and has also held executive positions at Fortis Properties; Newfoundland Power and FortisBC. Most recently at FortisBC, he was Executive Vice President of Human Resources, Customer and Corporate Services. He is a former Chair of the Customer Council of the Canadian Electricity Association. Mr. Mulcahy has been an Executive Vice President of Human Resources at Terasen Inc., since November 2011. During his tenure at Fortis Properties, Mr. Mulcahy played a key role in the growth and expansion of the hospitality division in his role as Vice-President of Hospitality Services. Mr. Mulcahy holds a Bachelor of Commerce and is a Certified Human Resources Professional (CHRP).

MINISTRY OF NATURAL GAS DEVELOPMENT

BRIEFING NOTE FOR INFORMATION

I PREPARED FOR: Honourable Christy Clark, Premier

I ISSUE: Meeting with Mr. Barry V. Perry, President of Fortis Inc. and Mr. Mike Mulcahy, President and Chief Executive Officer of FortisBC Inc. and FortisBC Energy Inc.

II BACKGROUND

Expansion of the Tilbury Facility

- In 2014, FortisBC began an expansion of the Tilbury LNG facility; the company expects the expanded facility to be operational by late 2016.
- In August 2014, Hawaiian Electric signed a conditional deal with FortisBC to deliver 0.8 million tonnes per annum of LNG for up to 15 years by 2019. The deal with Hawaiian Electric could trigger a further \$400 million expansion at Fortis's plant.
- FortisBC is proposing the construction of a new 230 kV power line connecting Tilbury to BC Hydro's Arnott substation in Delta that would serve the possible expansion.
- BC Ferries signed a 10-year contract with FortisBC in February 2015 to supply up to 300,000 gigajoules of LNG per year for three ferries currently under construction.
- In May 2015, WesPac Marine received an export license from the National Energy Board to export up to 3 million tonnes per annum of LNG. WesPac's proposed jetty will be a berthing site for carriers to receive LNG from FortisBC's Tilbury Plant.

Woodfibre LNG and Eagle Mountain – Woodfibre Gas Pipeline (FortisBC)

- Woodfibre LNG Ltd. is proposing to construct a small-scale LNG processing and export facility near Squamish. The Project will use existing natural gas pipeline capacity and a new looped gas pipeline: FortisBC's Eagle Mountain – Woodfibre Gas Pipeline Project.
- On June 30, 2015, the Environmental Assessment Office suspended the application review period at day 169, for the proposed Pipeline Project. FortisBC requested the suspension in order to allow additional time to complete a review of Squamish Nation Council's conditions.
- On October 14, 2015, Squamish Nation Council voted to approve an Environmental Assessment Agreement for the proposed Woodfibre LNG Facility Project. The Agreement does not include the FortisBC's Eagle Mountain – Woodfibre Gas Pipeline Project.
- On October 26, 2015, the province issued Woodfibre LNG an environmental assessment certificate (EAC) with 25 conditions.

Proposed Project: Mitsui and FortisBC (Confidential)

- FortisBC and Mitsui entered in a Memorandum of Understanding in June 2014 for a joint feasibility study of a new LNG project in the Lower Mainland for 3-5 million tonnes per annum of LNG.

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- The Ministry of Natural Gas Development has been informed that NextEra Energy, who owns Florida Power and Light and is in the process of acquiring Hawaii Electric, has expressed interest in partnering on the project.

- The mid-scale LNG project would utilize capacity within the existing gas pipeline and an additional 10 km of new pipeline to fulfill the required amount of feedstock.
- The facility would be located on Tsawwassen First Nation land and would utilize the Delta Port owned by Port Metro Vancouver.

III DISCUSSION:

Woodfibre Gas Pipeline (FortisBC) Addenda

- On September 11, 2015, FortisBC submitted two Addenda to the Environmental Assessment Office to supplement its application for an EAC. The Addendum 2 and Addendum 3 include alternatives for its proposed pipeline route and compressor station location in response to comments received from the public, Aboriginal Groups and the working group.
- A public comment period on the two Addenda was open from September 24 to October 15, 2015 and an Open House was held on October 7, 2015 in Squamish. The public has requested an extension to the public comment period on the Addenda. The Environmental Assessment Office is not considering an extension.
- FortisBC has stated that they would like a decision by the end of 2015. The Environmental Assessment Office anticipates a referral in mid-November 2015.

Expansion of the Tilbury Facility

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- FortisBC has stated it is committed to ensure expansion provides direct local benefits to Delta, other local communities and First Nations. They recently provided a \$75,000 grant to Aboriginal Skills 3G:BC for a new eight-week pre-apprenticeship training pilot program for First Nations, which includes training relevant to the LNG industry.
- The essential civil construction site services are being provided by the Tsawwassen First Nation Construction / Matcon Civil Joint Venture (TMJV) which have approximately 95 full-time staff on the project. As well five engineering firms from different parts of British Columbia have over 40 professionals currently providing engineering-related services.

IV CONCLUSION:

- Community views on the Woodfibre LNG project remain very mixed which is also reflected by the fact that the Council is split between pro-development and anti-development factions.
- The Province intends to continue to work closely with residents, municipalities and proponents as we work towards building the nascent LNG industry in British Columbia.
- FortisBC had a large presence at this year's LNG in BC Conference. They were platinum sponsors, and provided funding travel for students to attend the GameChanger Youth Expo.
- Doug Stout, Vice President Market Development and External Relations, FortisBC, participated on a panel discussion: LNG Facilities – Drivers for Change.

Attachments: 1. Biographies for Barry V. Perry and Mike Mulcahy

2. Overview Eagle Mountain–Woodfibre Gas Pipeline Project and Tilbury Project

REVIEWED BY:

Brian Hansen, ADM/

APPROVED BY:

Ines Piccinino, A/DM ✓

Attachment 1: Biographies for Barry Perry and Mike Mulcahy



Barry V. Perry

Mr. Perry is the President of Fortis Inc. Prior to this; he held the position of Vice President, Finance and Chief Financial Officer of Fortis Inc. since 2004 and preceding that, of Newfoundland Power Inc. He serves on the boards of several Fortis companies.



Michael Mulcahy

Mr. Mulcahy is the President and CEO of FortisBC Inc. and FortisBC Energy Inc. He began his career with the Fortis group of companies with Maritime Electric in 1993. Mr. Mulcahy sits on the board of the Canadian Electricity Association, the Executive Council of the Western Energy Institute and is Vice Chair of the Canadian Gas Association. He also sits on the Board of Directors for Fortis Alberta.

Attachment 2: Eagle Mountain – Woodfibre Gas Pipeline Project

Natural gas will be distributed to the facility from Western Canadian market hubs through an expansion of the existing gas transmission system being completed by Fortis BC. Fortis BC's expansion project (called Eagle Mountain – Woodfibre Pipeline Expansion Project) includes the construction of a 52 km long natural gas pipeline loop of its existing facilities from the area north of the Coquitlam watershed in Metro Vancouver to the facility.

Pipeline Summary Table

Project Name:	Eagle Mountain – Woodfibre Gas Pipeline Project
Location:	Coquitlam to Woodfibre facility
Partners:	FortisBC Energy (Vancouver Island (FEVI))
Project Status:	
Plant Type / Operation:	Looping project of current FEVI pipe
Distance:	Approximately 47 km
Diameter:	609.6 mm (24 inch)
Connections:	Connection to Spectra Energy's existing transmission pipeline
Related LNG Facility:	Woodfibre LNG
Capacity:	228 million standard cubic feet per day (MMscfd)
Compressors:	Installation of one new compressor station (Squamish) and additions to two existing compressor stations (Eagle Mountain and Port Mellon).
CAPEX Estimate:	\$520 million (of which 81% will be spent in Canada) over 3 year (2014-2017) period
OPEX Estimate:	\$154 million (2014 dollars) over 50 year period
Jobs Estimate:	During construction it is estimated that the project will generate 3,843 person years of full-time employment with 1,997 FTE in BC. This translates into roughly 600 jobs. During operations approximately 1,232 person years of FTE of which 1,001 will be generated in BC. This translates into roughly 20 positions.
Environmental Assessment:	January 2015 submitted application for an Environmental Assessment certificate with BC EAO.

Attachment 2: Tilbury LNG Project Overview

Project Name:	Tilbury LNG
Location:	Delta
Project Co-ordinates:	49°8'30"N, 123°02'14"W
Partners:	FortisBC (Domestic) / WesPac Midstream LLC (Export)
Project Status:	Operational / Expansion
Plant Type / Operation:	Expansion
Development Concept:	
Output Capacity:	0.4 MTPA (Domestic) / 3 MTPA (Export)
Feedstock Gas:	WCSB
Related Pipeline:	Spectra Pipeline
Storage:	28,000 m ³
CAPEX Estimate:	\$400 million
Jobs Estimate:	150 (construction) Wespac LNG: Approximately 131.5 person-years employment and estimated 19 FTE's during operations
FID Date:	n/a
Announced Start Date:	Currently Operating / Exports could commence as early as 2016
LNG Output Sales:	
Export Licence:	25 years license issued for 3 MTPA
Environmental Assessment:	The volume for this project falls below the threshold required for an environmental assessment.

MINISTRY OF NATURAL GAS DEVELOPMENT

BRIEFING NOTE FOR INFORMATION

I PREPARED FOR: Honourable Christy Clark, Premier

I ISSUE: Announcement of the one-year anniversary of the FortisBC's starting the expansion of its Tilbury facility, at 9:30 am on November 16, 2015, at Tilbury in Delta (6939 Tilbury Road)

II BACKGROUND

- In 2014, FortisBC began a \$400 million expansion of the existing Tilbury LNG facility that has been in operation since 1971; the company expects the expanded facility to be operational by late 2016.
- FortisBC has committed more than \$50 million in local contracts in 2015 sourced from more than 100 companies and 10 communities.
- The expansion has generated more than 65,000 hours of employment and provided apprenticeships and First Nations training.
- The expanded facility will allow FortisBC to meet a growing demand within B.C. for LNG in the transportation sector and for power generation in remote communities (including those in the Yukon and Northwest Territories).
- BC Ferries signed a 10-year contract with FortisBC in February 2015 to supply LNG for three ferries currently under construction.
- This expansion will also support the export of LNG to offshore markets such as Hawaii - WesPac Marine has received an export license from the National Energy Board to export via a jetty it would construct at the site.
- This expansion project falls below the threshold of a provincial Environmental Assessment.

III DISCUSSION:

- s.21
- FortisBC has stated it is committed to ensure expansion provides direct local benefits to Delta, other local communities and First Nations. They recently provided a \$75,000 grant to Aboriginal Skills 3G:BC for a new eight-week pre-apprenticeship training pilot program for First Nations, which includes training relevant to the LNG industry.
- Essential civil construction site services are being provided by the Tsawwassen First Nation Construction / Matcon Civil Joint Venture (TMJV) which have approximately 95 full-time staff on the project. As well five engineering firms from different parts of British Columbia have over 40 professionals currently providing engineering-related services.

IV CONCLUSION:

- Expansion of FortisBC's Tilbury facility will allow the growing demand for LNG in B.C.'s transportation sector and in remote communities to be met. Clean-burning natural gas will replace less environmentally friendly fuels.
- The facility expansion will increase the market for natural gas produced in B.C., and will create employment and other economic spin-off benefits for Delta and other communities in the Lower Mainland.

REVIEWED BY:

Brian Hansen, ADM

APPROVED BY:

Dave Nikolejsin, DM ✓

MINISTRY OF NATURAL GAS DEVELOPMENT

BRIEFING NOTE FOR INFORMATION

I PREPARED FOR: Honourable Christy Clark, Premier

I ISSUE: Announcement of a new LNG export facility proposed for Tsawwassen, at 9:30 am on November 16, 2015, at Tilbury in Delta (6939 Tilbury Road)

II BACKGROUND

- FortisBC, along with Mitsui & Co (a major Japanese trading company) and the Tsawwassen First Nation (TFN) will be announcing a new LNG proposal – Tsawwassen LNG, which would be located on TFN land and would utilize Port Metro Vancouver's existing Delta Port at Roberts Bank.
- Tsawwassen LNG is distinct from FortisBC's Tilbury facility where a \$400 million expansion currently underway will allow the company to better meet BC's domestic market for LNG (transportation sector, power generation in remote communities) as well as allow limited export to offshore markets such as Hawaii.
- Tsawwassen First Nations members will be voting on December 16, 2015 on whether to proceed with a concept to develop LNG on Tsawwassen lands.

III DISCUSSION:

- Tsawwassen LNG would be a mid-scale LNG project designed to use existing capacity within the existing gas - less than 10 km of new pipeline would be required to connect the facility.
- Partners include Mitsui - responsible for selling facility's output, most likely into growing Asian markets and NextEra Energy, who owns Florida Power and Light and is in the process of acquiring Hawaii Electric.
- The facility would be powered using clean energy from the BC Hydro grid.
- Project timelines, at this time, proposes construction beginning in 2019 and operations in 2022.
- This announcement follows from a Memorandum of Understanding that FortisBC and Mitsui entered into in June 2014 for a joint feasibility study of a new LNG project in the Lower Mainland for 3-5 million tonnes per annum of LNG.
- TFN Members are being asked to provide their approval on December 16 to develop a LNG production facility and storage tanks in return for a variety of benefits, including:
 - Approximately \$190 million in revenue to TFN over 40 years
 - Annual property tax revenue to TFN between \$2 to \$4 million
 - Approximately \$10.5 million in off-site levies paid to TFN
 - Up to 1,000 jobs during construction
 - 50 to 100 permanent, well-paying jobs during operations
 - Education and training programs to ensure Members are given first opportunity to fill positions at the proposed facility
 - Preferential position for qualified Member businesses to deliver services to the proposed facility
 - Development of approximately 25% of the site for community recreation activities

CONCLUSION:

- Tsawwassen LNG is a promising project spearheaded by a group with experience in LNG production in BC (FortisBC) and marketing LNG in Asia (Mitsui). Location of the facility on TFN land signals an important role for the TFN in this project.
- Utilizing B.C.'s existing natural gas pipeline system will assist the proponents in a very competitive international market for LNG.
- This project has the potential to increase the market for natural gas produced in BC while creating a large number of jobs and other economic benefits for communities and First Nations, particularly in the Lower Mainland.

REVIEWED BY:

Brian Hansen, ADM

APPROVED BY:

Dave Nikolejsin, DM ✓

OFFICE OF HOUSING AND CONSTRUCTION STANDARDS

MEETING INFORMATION NOTE

DATE: November 27, 2015

PREPARED FOR: Honourable Rich Coleman, Minister

MEETING DETAILS: Meeting with Catherine Roome, CEO and Richard Ballantyne, Board Chair of the BC Safety Authority
December 3, 2015 at 2:00 pm

BACKGROUND:

A meeting with Catherine Roome, CEO and Richard Ballantyne, Board Chair of the BC Safety Authority (BCSA) is scheduled for December 3, 2015.

The last meeting with the BCSA was held on March 23, 2015.

Items discussed at that meeting included:

- BCSA looking at ways to improve issues management;
- LNG Readiness and provincial federal jurisdiction considerations (e.g., ports)
- Oversight of BC Hydro; and
- Challenges with the Ministry of Transportation Railway Administrative Agreement.

ISSUES:

The following issues may be raised at the December 3, 2015 meeting:

1) BCSA Update on Their 2016 Business Planning Process

Two projects that will involve the Province are emerging in the planning process.

They are:

a) Certification Renewal Project (see separate information briefing note 19876)

Recommended Response:

- The Province supports the project.
 - It will ensure government and business/industry have an accurate list of qualified workers.
 - The addition of continuing professional development will raise the professionalism of safety system participants and help them keep pace with rapid changes in technology.
- Fees for certificate renewal should be kept within the Canadian average.
- s.13

OFFICE OF HOUSING AND CONSTRUCTION STANDARDS MEETING INFORMATION NOTE

b) Compliance and Enforcement

The BCSA is looking at internal practices related to compliance and enforcement that may require legislative or regulatory changes. This includes adding a provision for the public naming of individuals. At present BCSA names businesses but not individuals.

Recommended Response:

- We will look at the public naming of individuals as part of the *Safety Standards Act* refresh work underway.
- The Province supports a strong compliance and enforcement regime.
- The legislation and regulations should reflect current best practices in this area.

2) Single Bottom Elevators

- The BCSA has identified approximately 100 elevators that are still not compliant. Final enforcement action to shut down these elevators will be taken in the new year.
- The BCSA and the Office of Housing and Construction Standards are discussing impacts to tenants in buildings with these elevators.

Recommended Response:

- We understand that elevator owners have been given substantial notice and final enforcement action is needed.
- We encourage efforts to minimize impact on individuals as best you can.

3) LNG Readiness

- The BCSA has worked closely with the Ministry and the Oil and Gas Commission (OGC) on the proposed *Safety Standards Act* amendments to eliminate gaps and overlaps in regulatory oversight between the two organizations.
- The BCSA is currently talking to three LNG proponents about the development of safety management plans under the Alternative Safety Approaches Regulation.

Recommended Response:

- I understand that a strong working relationship between the OGC and the BCSA is emerging and would like to commend you for your efforts in this area.
- As work progresses please ensure you keep the Ministry aware of developments, particularly if further legislative or regulatory developments are required.

4) Adoption of the 2015 Canadian Electrical Code

- The Ministerial Order is ready for signature with an effective date of February 29, 2016.
- This date will allow the BCSA to provide training to electrical workers and their staff before formal implementation of the code.

Recommended Response:

- I am pleased to see that we were able to address the Coroner's recommendations on wood dust in the regulation.

OFFICE OF HOUSING AND CONSTRUCTION STANDARDS MEETING INFORMATION NOTE

5) Ministerial Appointments to the Board

- On March 31, 2016, two vacancies to the BCSA Board will require filling. These are two of the three positions open for ministerial appointment.
- The BCSA wishes to discuss the needs of the board and how the process for filling these vacancies will be completed.

Recommended Response:

- None

Prepared by:

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Reviewed by:

Jarret Hutchinson
A/Executive Director
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Initial

SEH for JH

Date:

Nov 27, 2015

Jeff Vasey
Assistant Deputy Minister
Office of Housing and
Construction Standards

JV

2015/11/27

Dave Nikolejsin
Deputy Minister
Ministry of Natural Gas
Development and
Responsible for Housing

DN

Nov. 30, 2015

MINISTRY OF NATURAL GAS DEVELOPMENT

BRIEFING NOTE FOR INFORMATION

I PREPARED FOR: Honourable Rich Coleman, Minister of Natural Gas Development,
Minister Responsible for Housing and Deputy Premier

I ISSUE: Meeting on October 6, 2015 with Honourable Shirley Bond, Minister of Jobs, Tourism, and Skills Training, and MLA Greg Kylo, Parliamentary Secretary for the BC Jobs Plan, to discuss the BC Jobs Plan 4 year update.

II BACKGROUND:

The BC Jobs Plan (Jobs Plan) was made public in September 2011. The Jobs Plan calls for the development of an export market for LNG, meeting the power demands required by new LNG facilities using electricity, and for examining opportunities to grow the market for LNG as transportation fuel. The Jobs Plan has a number of targets, including working with LNG export proponents to bring one LNG pipeline and terminal online by 2015 and having three in operation by 2020, assuming all environmental and permitting applications are granted. The Jobs Plan also sets out strategies for developing the potential of Liquefied Natural Gas.

JTST has done a number of yearly updates on the Jobs Plan, and in July 2015, requested ministries to update their Jobs Plan sector profiles for a four year Jobs Plan update. The Natural Gas sector profile is one of eight sectors and four cross sectors that will be profiled.

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III DISCUSSION:

JTST advises that Parliamentary Secretary Kylo will be seeking Minister Coleman's input on content and messaging at the meeting. He will not be asked to approve the document as final. The layout of the current update (attached) is much the same as the 3-year Progress Update. LNG Initiatives staff have reviewed and updated the content, and Ines Piccinino, as Acting Deputy Minister, approved an earlier draft on August 26, 2015. MNGD GCPE has reviewed the content. The Profile remains a work in progress as GCPE is still finalizing. Attachment one outlines the current edits being made by GCPE following LNG Initiatives Division input. The Profile statement, "B.C. remains on track to achieving the BC Jobs Plan target of having three LNG facilities operating by 2020", is consistent with current messaging.

IV CONCLUSION:

There are no concerns with the LNG/Natural Gas sector profile as currently drafted.

ATTACHMENTS:

1. Current GCPE changes
2. LNG/Natural Gas sector profile

DRAFTED BY:

Daymon Trachsel

APPROVED BY:

Fraser Marshall, ED, CIB ✓
Ines Piccinino, ADM, UD ✓
Brian Hansen, ADM, LNGI ✓
Dave Nikolejsin, DM ✓

ATTACHMENT ONE: CURRENT GCPE CHANGES TO DRAFT OIL AND GAS/LNG SECTOR PROFILE.

B.C. JOBS PLAN – PROGRESS MADE:

(First two bullets will be edited as follows. Remaining bullets in this section will remain the same.)

- LNG Income Tax Act and Liquefied Natural Gas Agreements Act passed.
- Passed the Liquefied Natural Gas Projects Agreements Act, enabling Project Development Agreements (PDAs), and signed the first PDA between the Province and Pacific Northwest LNG.

WHY THIS MATTERS:

(First sentence in the second paragraph will be removed, and the order of sentences 2 and 3 will be switched. First and last paragraphs in this section will remain the same.)

B.C.'s emphasis on diversification of markets and products will increase the value of our natural gas. Development of LNG and petrochemical products, including methanol, fertilizers and gas to liquids, will open new international export markets, leading to further economic diversification, and growth and job creation. B.C. will also continue to increase domestic market opportunity by promoting the use of B.C.'s natural gas as a transportation fuel.

OFFICE OF HOUSING AND CONSTRUCTION STANDARDS

INFORMATION NOTE

DATE: November 18, 2015

PREPARED FOR: Honourable Rich Coleman, Minister

ISSUE: BCSA initiative – Certification Renewal Project

BACKGROUND:

- The BC Safety Authority (BCSA) is proposing a project to bring consistent education and certificate of qualification renewal provisions across the five technologies regulated under the *Safety Standards Act*.
- Of the different certifications across five technologies in the regulations, only elevator mechanics and gas fitters have certificates of qualification that require regular renewal.
- All other certificates of qualification in the regulations are issued without expiry. This means a list of certificate holders may include individuals who no longer practice or have passed away.
- s.13
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- This initiative is consistent with provincial direction to address the qualifications or certification of those working in the built environment; namely building officials, home inspectors and home builders.

DISCUSSION:

- One of the most important ways to improve safety is to ensure that individuals working in the safety system are properly trained and qualified. The Certification Renewal Project will:
 - achieve consistency with other Canadian safety regulators that certify individuals¹;
 - enable employers, employees, and regulators to access information about the current status and supply of individuals in the workforce;
 - delineate between the right to an occupational title versus the right to work in a regulated safety system;
 - assure the right individuals are performing regulated work with the right knowledge and authority; and

¹ For example, Alberta and Ontario require renewal of certifications for electricians and power engineers.

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- raise the knowledge and professionalism of individuals working in each of the regulated professions over time.
- The BCSA expects unions, education providers, professional associations, and local governments to support the certificate renewal process. They will see benefit in having access to a database of active certified tradespeople.
- Some opposition is expected from individual contractors, small business owners and current certificate holders, regarding renewal fees and new expectations with continuing professional development.
- Medium and large business owners and industry are expected to be neutral.
- Currently, fees associated with certificate renewal programs across Canada range from \$35 to \$120 per individual. The BCSA expects to be consistent within that range.
- Continuing professional development programs within each technology will require considerable consultation and planning.
- The BCSA would like to begin work to implement regular certificate renewals through regulatory change in 2016. They would also like to begin planning for consultation on developing continuing professional development programs in 2016.

CONCLUSION:

- Despite expectation of some opposition to the Certification Renewal Project, a system of consistent renewal and the addition of continuing professional development requirements across technologies will strengthen the overall safety system.

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		Dave Nikolejsin Deputy Minister Natural Gas Development	DN _____	Nov. 30, 2015 _____

OFFICE OF HOUSING AND CONSTRUCTION STANDARDS

INFORMATION NOTE

DATE: October 8, 2015

PREPARED FOR: Honourable Rich Coleman, Minister

ISSUE: Upcoming Consultations on Power Engineer Labour Shortages

BACKGROUND:

- Power engineers are a critically important profession that is essential for the safe operation of key technologies across Canada's industrial sector. Initial analysis suggests that the projected supply of power engineers is inadequate to meet the needs of BC's growing industry.
- Technological advancement, including the introduction of new types of equipment manufactured outside of Canada, together with the potential growth of the liquefied natural gas sector, has resulted in the need for a more complete review of the profession. This review will explore a range of options to bridge current and forecasted power engineer labour shortages, which may include the use of internationally-trained workers and potential regulatory changes in the future.
- The Office of Housing and Construction Standards is participating in a tripartite project with the Ministry of Jobs, Tourism, and Skills Training and the British Columbia Safety Authority to identify options for bridging current and forecast power engineer labour shortages in the province. Each of the three parties is responsible for ensuring components of a professional and certified work force in BC.
- The project includes a phased consultation process beginning with the formation of an expert advisory group and followed by broader consultations with industry representatives and other provincial jurisdictions.

DISCUSSION:

- Three members with extensive experience in the power engineer profession have been selected to form an expert advisory group for the duration of the project. A fourth member has yet to be named but will come from the International Union of Operating Engineers. The union has agreed to participate but have not named their representative yet. The names and biographies of the three members selected are presented in the Appendix. Individual in-person meetings with advisory group members took place in October 2015.

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- Engagement with other industry representatives is scheduled to take place from November 2015 to January 2016. The expected outcome of the consultation is a summary report outlining major themes and potential options to address power engineer labour shortages. At this stage, the need for broader consultation will be evaluated.
- The consultation process is not expected to be smooth. Fifth to third class power engineers in Canada are represented by an active union – the International Union of Operating Engineers. Historically, this union has been resistant to change and vocal in their opposition to the use of internationally-trained workers when qualified domestic residents are available.
- The project team is keenly aware of this factor but feels their participation from the project's inception will be essential to a successful outcome.
- First and second class power engineers, who are primarily management positions in industrial plants, also have an association – the Institute of Power Engineers. The National president of this group has agreed to participate on the expert advisory group.
- The Standardization of Power Engineer Examinations Committee maintains standardized national examination and certification for all classes of power engineers, which has contributed to establishing and maintaining a high standard of safety in the power engineering profession across Canada.
- The national standardized system also creates linkages between British Columbia and other Canadian jurisdictions so that changes to power engineering regulations would be felt nationally. Any changes potentially adopted by British Columbia for this profession must be acceptable to other Canadian jurisdictions due to labour mobility agreements.
- Other provinces are also looking at the issue of power engineer shortages and British Columbia expects to discuss these issues at the National Public Safety Advisory Committee meeting in New Brunswick in November. Consultation with other provincial jurisdictions will be completed before final options are presented for decision.

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CONCLUSION:

- Stakeholder engagement is necessary to better understand the current and forecast power engineer labour shortages and will help develop program and policy options.

Enclosures/Attachments

Appendix: Power Engineer Advisory Group Biographies

Prepared by:
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Oct. 29/15

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Appendix: Power Engineer Advisory Group Biographies

Eric Steinson - Institute of Power Engineers

- Forty years of experience as a power engineer
- Employed currently at BC Hydro - Burrard Generating Station
- National President, Institute of Power Engineers
- Previous employment includes: Skeena Pulp Operations, Prince Rupert, Schlage Lock, Akcan (Kemano Generating Plant)

Steve Lukawitski - Canfor Pulp and Paper

- Over twenty years of completing and supervising the design, fabrication, installation, inspection and repair of pressure equipment primarily in the pulp and paper sector
- Currently employed as a Quality Assurance and Quality Control Risk Based Inspection Engineer for Canfor Pulp
- Member of the Association of Professional Engineers and Geoscientists of British Columbia
- Certified as an In-service Pressure Equipment Inspector Alberta Boilers Safety Association certification and passed the National Board In-Service Inspector exam

Dave Nicolson - Fortis BC - Mount Hayes

- Operations Manager for the Fortis BC Energy Inc., Mount Hayes LNG Facility (three years)
- Has previously held positions with a number of companies in the Oil & Gas Industry in Alberta (fifteen years)
- Is a registered professional engineer in the Province of British Columbia

International Union of Operating Engineers

- Member to be determined.