

From: <contact information removed>

Sent: July 25, 2020 5:19:52 AM

To: The Honourable John Wilkinson - Minister of Environment and Climate Change; The Honourable Carla Qualtrough - Minister of Employment, Workforce Development and Disability Inclusion; BC Environmental Assessment Office (BCEAO); Tilbury LNG / GNL Tilbury (IAAC/AEIC); The Honourable John Horgan - Premier of BC; The Honourable George Heyman, Minister of Environment and Climate Change Strategy; Honourable Justin Trudeau

Cc: Delta Optimist; Richmond News; Surrey mayor and Council; Mayor and Councillors of Delta; Richmond - Mayor and Councillors; Surrey mayor and Council; Ian Paton; West Coast Environmental Law; editor@theyee.ca; Andrew Nikiforuk; Honourable Marc Garneau - Minister of Transport; Honourable Todd Stone Minister of Transportation; Honourable Marc Garneau - Minister of Transport; Carrie Brown - Manager – Environmental Programs - Port Metro Vancouver; Mayor and Council Vancouver; Mayor and Council of Burnaby

Subject: Remembering Hiroshima + Tilbury Phase 2 LNG Expansion Project (#80496) and related LNG terminal and carrier traffic

Response requested: Yes

Sensitivity: Normal

To: The Honourable John Wilkinson, Minister of Environment and Climate Change, Jonathan.Wilkinson@parl.gc.ca,

The Honourable Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion Carla.Qualtrough@parl.gc.ca,

BC Environmental Assessment Office (BCEAO) eaoinfo@gov.bc.ca,

Impact Assessment Act Canada (IAAC) IAAC.TilburyLNG-GNLTilbury.AEIC@canada.ca,

Honourable Justin Trudeau Trudeau.J@parl.gc.ca

The Honourable John Horgan, Premier of B.C. premier@gov.bc.ca,

The Honourable George Heyman, Minister of Environment and Climate Change Strategy ENV.Minister@gov.bc.ca,

Re: Tilbury Phase 2 LNG Expansion Project (#80496) and related LNG terminal and tanker traffic + **Hiroshima**

Dear Federal and BC Ministers etc.,

This hazardous Tilbury LNG expansion project must NOT be located along the Fraser River. As a retired System Safety Engineer I must object most strongly to this dangerous unforgivable folly of ignoring peoples lives by exposing the public and the environment to a horrific explosion, blast wave and fire hazard. This is more dangerous than living next to any of Canada's nuclear power stations.

The location of this proposed expanded liquefaction and storage facility and related terminal and LNG tanker traffic has rare but very high consequence hazards that violate the guidelines of the International Maritime Organization. Both industry groups - SIGTTO (Society of International Gas Tanker and Terminal Operators) and U.S. DHS (Department of Homeland Security) Regulations, strongly argue against locating LNG plants near human populations and/or in narrow inland waterways with significant aircraft, ferry, freighter and recreational traffic.

The expanded Tilbury LNG tank and the LNG tankers and terminal are vulnerable to earthquakes and high impact security/ arsonist/ terrorist threats which are not predictable. The LNG storage and processing facilities and natural gas pipelines on shore and LNG tankers along the river and the jet fuel tank farm across the Fraser River are exposed to a huge catastrophic blast wave and fires from horrific fuel air explosions destroying residential and industrial buildings along the Fraser River. The human death toll and environmental damage cannot be mitigated.

Delivery of LNG in Boston at night requires an armed Coast Guard escort and tugs assisted by Massachusetts State Police; Massachusetts Environmental Police; and Boston police and fire departments and the Tobin Bridge is closed when the ship passes under.

If the Q-MAX LNG carrier docked at the proposed terminal and the LNG Storage tank was breached by a collision or terrorist attack and released natural gas vapor and ignited, a devastating fuel air explosion could occur.

The Little Boy atomic bomb (= 15 kilotons TNT = 63 terajoules (TJ)) dropped on Hiroshima killed 70,000 people.

One Q-Max LNG carrier carries stored energy of 630 TJ equivalent of ten (10) Little Boy atomic bombs.

Expanded Tilbury LNG storage tank has 5.23 petajoules (PJ) of stored energy = eighty (83) Little Boy atomic bombs.

A fuel air explosion's searing heat and blast wave would wipe out Tilbury Island, the VAFFC jet fuel tank farm and terminal across the Fraser River, nearby industries, residential areas and traffic in the river!!!

In addition, in the Salish Sea and the Fraser River, single propeller tankers are only one failure away from a catastrophic hazard. Currently there are no requirements for LNG and Oil tankers to have independent twin screw propulsion mandated. "Yet twin screw net of private benefits, costs little more than single screw. So why aren't owners flocking to twin screw? The answer is simple. Twin screw costs the owner slightly more than single screw to build and operate. He bears all these costs. He bears almost none of the costs to the world, of single screw, for he can easily insure himself out of these costs."

"Twin screw offers a thousand fold increase in reliability and a dramatic increase in low speed maneuverability. Twin screw would have prevented many major casualties ... Twin screw would have avoided something like a million tons of oil in the water and well over 100 deaths. ..."

The danger zone around the LNG storage facility, related LNG loading terminal and LNG tanker traffic along the Fraser River to the Salish Sea encompasses many residential areas and sensitive environmental habitats. This is entirely unacceptable.

An environmental and safety assessment must be expanded to encompass the entire LNG value chain that consists of the following stages:

- Exploration and production of natural gas, where the natural gas is found, (e.g., fracking wells), produced and transported along pipelines.
- Liquefaction by refrigeration, where the natural gas is converted into liquid form using huge amounts of electrical energy so that it can be transported in ocean going carriers
- Loading/offloading of LNG while the carriers are at the terminals
- Shipping, where the LNG is shipped in LNG ocean carriers along the crowded shipping lanes of the Fraser River and the Salish Sea.

We are just few days till the 75th anniversary of the atomic bombing of Hiroshima, a major city demolished in August 6, 1945.

LNG terminals and shipping lanes MUST NOT be located where LNG vapors from a spill or release can afflict civilians and damage the environment irreparably.

Yours safely,

[Jim Ronback](#), System Safety Engineer (retired)

<personal information removed>

Addendum:

During liquefaction and refrigeration the resulting liquid natural gas (LNG) is reduced to 1/600th of its original volume. One cubic meter of LNG has about 22.19 gigajoules (GJ) of stored energy.

The Tilbury LNG STORAGE TANK originally had storage for 28,000 cubic meters of LNG.

The plan NOW is to store 236,000 cubic meters of LNG – 8.5 times the initial storage. or an increase of $236,000 - 28,000 = 208,000$ cubic meters

Thus the expanded storage tank of 236,000 cubic meters of LNG is equivalent to stored energy $(22.19 \text{ GJ/m}^3 \text{ LNG}) \times 236,000 \text{ m}^3 = 5,236,840 \text{ GJ} = 5.23 \text{ petajoules (PJ)}$.

The atomic bomb (Little Boy) dropped over Hiroshima yielded 63,000 GJ) = 63 (TJ)

= 0.063 petajoule (PJ) or about 15 Kilo tons (Kt) = 15,000 tons of TNT.

(5.23 PJ/ 0.063 PJ) = 83 atomic bombs

TNT equivalent

one US ton TNT = 4.184 gigajoules (GJ)

1 megaton (Mt) TNT = 4.184 PJ

5,236,840 GJ in the Tilbury LNG tank/ 4.184 per US ton = 1,251,635 ton TNT = 1.25 megaton TNT

1.25 Mt TNT x 4.184 PJ = 5.23 PJ.

1.25 megatons of TNT equivalent energy stored in the expanded Tilbury LNG Tank.

**The 2017 Halifax explosion had 200 tons of TNT + 2300 tons of Picric acid.
It killed 2000 people, injured 9000 and 25,000 were left without adequate shelter.**

LNG carrier

Q-MAX LNG carrier is loaded with 1,000,000 ft³ LNG = 28,316 m³ LNG.

This is derived from = $28316 \text{ m}^3 \times 615 = 17,414,340 \text{ m}^3$ natural gas delivered via pipeline to the terminal.

$1 \text{ m}^3 = 35.3146667 \text{ ft}^3$

The stored energy in a Q-MAX LNG carrier with 1 million cubic feet LNG = 28,318 m³ LNG has

$28318 \text{ m}^3 \text{ LNG} \times 22.19 \text{ GJ/m}^3 = 628376 \text{ GJ} = 628.376 \text{ TJ} = 0.628 \text{ PJ}$ of stored energy

$628376 \text{ GJ} / 3.794 \text{ GJ/ ton TNT} = 165,624 \text{ tons of TNT} = 165.6 \text{ kt TNT}$

1 kiloton of TNT has 4.184 terajoules (TJ) = 0.004184 petajoules (PJ) of stored energy.

One billion ft³ natural gas x 0.02082 = one million tons (Mt) LNG

One million (M) ft³ natural gas x 0.02082 = one thousand tons (kt) LNG.

$17.414340 \text{ M m}^3 \text{ natural gas} \times 35.31 = 616.9 \text{ M ft}^3 \text{ natural gas} \times 0.02082$

= $12.8438 \text{ kilo tonnes TNT} \times 4.184 \text{ TJ/kt} = 53.73 \text{ TJ} = 0.053 \text{ PJ}$

References:

The papers (1, 2) below provide a strong argument for the use of redundancy to increase the dependability, safety and maneuverability of these tankers/ floating bombs.

1) The Argument for Twin Screw Tankers,

Jack Devanney, Center for Tankship Excellence, USA, djw1@c4tx.org

https://www.researchgate.net/profile/Jack_Devanney/publication/225834294_The_argument_for_twin_screw_tankers/links/5a9f299b0f7e9bad9e7f68/The-argument-for-twin-screw-tankers.pdf

2) Safety Shortcomings in Tankers, related Marine Terminals and Tank Farms

Submission to the Tanker Safety Expert Panel

James Ronback, P.Eng., System Safety Engineer (retired), Delta, B.C., June 18, 2013

https://www.tc.gc.ca/media/documents/mospr/Ronback_Jim.pdf

3) The Tanker Safety Expert Panel's Phase II report, "A Review of Canada's Ship-source Spill Preparedness and Response: Setting the Course for the Future, Phase II – Requirements for the Arctic and for Hazardous and Noxious Substances Nationally," is now available on this website.

The Tanker Safety Expert Panel's Phase I report, "A Review of Canada's Ship-source Oil Spill Preparedness and Response Regime—Setting the Course for the Future," can be found here. Information on the Government's response to the Phase I report and its recommendations are here.

<https://www.tc.gc.ca/eng/tankersafetyexpertpanel/menu.htm>

4) LNG Tankers – Different Types And Dangers Involved

By Bhuvan Jha | In: Types of Ships | Last Updated on October 20, 2019

<https://www.marineinsight.com/types-of-ships/lng-tankers-different-types-and-dangers-involved/>

5) "The Bit Viking has twin screw propulsion, with each screw ... running on heavy fuel oil (HFO).

The conversion involved changing these to 6-cylinder in-line Wärtsilä 50DF dual-fuel engines that operate on LNG."

Wärtsilä completes conversion of tanker Bit Viking from heavy fuel oil to LNG

<https://www.greenarccongress.com/2011/11/bitviking-20111127.html>

6) "On the latest generation of LNG tankers with two independent propulsion systems for much greater redundancy, RENK single marine gear units reliably transfer the power from the electric motors to the fixed-pitch-propellers."

Customized gear units for LNG carriers

https://www.renk-ag.com/fileadmin/Produkte_und_Service/Produkte/Dokumente/RENK_gear_units_for_LNG_carriers_en.pdf

7) Accidents on Vessels Transporting Liquid Gases and Responders,

Fanch Cabioch et al.

Proceedings of the Thirty-second AMOP Technical Seminar on Environmental Contamination and Response: June 9-11, 2009, Vancouver, British Columbia, Canada, Environment Canada, Ottawa, ON, pp. 289-300.

<https://www.cedre.fr/content/download/8275/132182/file/Accidents%20on%20Vessels%20Transporting%20Liquid%20Gases%20and%20Responders>

8) LNG: A Level-Headed Look at the Liquefied Natural Gas Controversy

By Virginia L. Thomdike , 2007

https://books.google.ca/books?id=VvFXBAAQBAJ&pg=PA105&lpg=PA105&dq=%22twin+screw%22+%22lng+tanker%22&source=bl&ots=liXjXHwd_&sig=ACfU3U2qtrg9T-vyH-typMnbBXQ8Tdg&hl=en&sa=X&ved=2ahUKUkwj94uPsrzqAbXCCTQIHedhBa0Q6AEwBXoECAoQAO#v=onepage&q=%22twin%20screw%22%20%22lng%20tanker%22&f=false

9) LNG Safety and Security Aspects,

J.L. Woodward, December 2012,

DOI: 10.1016/B978-0-12-404585-9.00009-X,

https://www.researchgate.net/publication/289567619_LNG_Safety_and_Security_Aspects

10) FORMAL SAFETY ASSESSMENT – FSA: Liquefied Natural Gas (LNG) Carriers Details of the Formal Safety Assessment

http://www.safedor.org/resources/MSC_83-INF-3.pdf

11) Arctic and Marine Oilspill Program (AMOP) Bibliography

Part 1 AMOP 1978-2007 and Part 2 TSOCS 1983-2007 and Part 3 AMOP Technical Seminar on Environmental Contamination and Response 2008-2016/No de cat. : En84-133/2016-PDF, SBN : 978-0-660-04851-2

<https://www.canada.ca/content/dam/eccc/migration/main/amop/f3b23c26-2172-4dd7-bab8-a113030dec63/amop-tsoocs-phyto-bioss-biosofr3-20bibliography-201978-20-202016.pdf>

12) The Terrorist Threat to Liquefied Natural Gas: Fact or Fiction?

by LCDR Cindy Hurst, February, 2008

Institute for the Analysis of Global Security (IAGS)

<http://www.iags.org/hurstlng0208.pdf>

13) Site Selection and Design for LNG Ports and Jetties (IP no. 14)

<https://www.witherbyseamanship.com/site-selection-design-ip-no-14-for-lng-ports-jetties.html>

14) LNG Terminal Siting Standards Organization, SIGTTO

<http://quoddyloop.com/lngtss/standards.html>

15) **Sailing Into Unknown Waters** Canada lacks the regulatory framework needed to protect the public from the security and safety risks of LNG development on the BC coast, April 2017 <https://www.lngtankersafety.org/wp-content/uploads/2017/04/Review-of-LNG-Regulation-April-2017-.pdf>

16) SANDIA REPORT - SAND2005-7339

Review of the Independent Risk Assessment of the Proposed Cabrillo Liquefied Natural Gas Deepwater Port Project, January 2006

M. Michael Hightower, Anay Luketa-Hanlin, Louis A. Gritzko, John M. Covan

<https://prod-ng.sandia.gov/techlib-noauth/access-control/cgi/2005/057339.pdf>

17) The Risks and Danger of LNG

https://www.imdb.com/video/vi692913433?ref=tt_pv_vi_aiv_1

https://timrileylaw.com/LNG_film.htm

18) Liquefied natural gas

https://en.wikipedia.org/wiki/Liquefied_natural_gas

19) "Q-max can carry almost one million cubic feet of LNG" =

Q-Max Ships: The Largest LNG Ships in the World

<https://www.marineinsight.com/types-of-ships/q-max-ships-the-largest-lng-ships-in-the-world/#:~:text=The%20largest%20LNG%20carriers%20of%20the%20world%20%E2%80%93,accommodated%20into%20the%20Qatar%20harbour%20and%20port%20facilities>

1 cubic foot = 0.0283168 cubic meter,

1 m³ LNG has 94.5 Mega Joules (MJ)

1 ft³ LNG has 94.5 MJ x 0.0283168 = 2.676 MJ

1,000,000 ft³ has 2,676,000 MJ = 2676 GJ;

one ton TNT = 4.184 gigajoules (GJ)

Thus the stored energy in a Q-MAX carrier = 2676 GJ / 4.184 GJ = 640 tons of TNT

Halifax explosion was 3 x 10⁻³ Mt = 300 kt = 200 tons of TNT + 2,300 tons of Picric acid

20) TNT equivalent

https://en.wikipedia.org/wiki/TNT_equivalent

21) "Eight States (Canada, Denmark, France, Germany, Greece, the Netherlands, Norway and Turkey) signed the 2010 HNS Protocol, subject to ratification. **Canada, Denmark, Norway, South Africa and Turkey are the first States to have consented to be bound by the Convention.**

<https://www.hnsconvention.org/status/>

22) Mechanisms and occurrence of detonations in vapor cloud explosions

Elaine S. Oran a,¹ Geoffrey Chamberlain b, Andrzej Pekalski c, 8 November 2019

a Texas A&M University, USA

b Waverton Consultancy, Ltd., Ukc Shell Research Ltd., Shell Centre London, London SE17NA, UK

<https://reader.elsevier.com/reader/sd/pii/S0360128519300243>

23) A review of very large vapour cloud explosions: Cloud formation and explosion severity

Graham Atkinson a, Edmund Cowpe a, Julie Halliday b, David Painter a

a UK Health and Safety Executive, UK

b Pipeline and Hazardous Materials Safety Administration (US Department of Transport), United States of America, Available online 29 March 2017

<https://www.sciencedirect.com/science/article/pii/S0950423017301353>

24) Influences of the Cloud Shape of Fuel-Air Mixtures on the Overpressure Field, Chunhua Bai, Ye Wang, Jianping Li, and Mingsheng Chen,

State Key Laboratory of Explosion Science and Technology, Beijing Institute of Technology, Beijing 100081, China,

Correspondence should be addressed to Ye Wang; wangye 0422@126.com, 11 April 2016

<http://downloads.hindawi.com/journals/sv/2016/9748536.pdf>

25) Abstract "For mixtures of air with highly inflammable vapor, the maximum explosive pressure corresponds to superstoichiometric fuel concentrations. The maximum explosive pressure is similar for different classes of compounds and considerably exceeds the handbook values. This must be taken into account in predicting the consequences of explosions."

Akinin, N.I., Babaitsev, I.V., Kriventsova, V.K., et al.

Maximum explosive pressure and temperature of vapor-air mixtures.

Coke Chem. 54, 302–304 (2011).

<https://doi.org/10.3103/S1068364X11080023>

Safety Engineering, 26 November 2011

<https://link.springer.com/article/10.3103/S1068364X11080023>

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26) ACCIDENTAL VAPOR PHASE EXPLOSIONS ON TRANSPORTATION ROUTES NEAR NUCLEAR POWER PLANTS

NUREG/CR-0075 R5, Final Report January - April 1977,

T. V. Eichler, H. S. Napadensky, Date Published: May 1978

IT Research Institute 10 West 35th Street Chicago, IL 60616

Prepared for Division of Engineering Standards Office of Standards Development,

U. S. Nuclear Regulatory Commission, Under FIN No. A 20057

<https://www.nrc.gov/docs/ML0716/ML071650338.pdf>

27) Vapor Explosion

- sometimes called an energetic fuel-coolant interaction, as vapor film separates the two liquids

<http://www.thermopedia.com/content/1234/#:~:text=A%20vapor%20explosion> —

28) Thermobaric weapon

https://en.wikipedia.org/wiki/Thermobaric_weapon

29) Fuel/Air Explosive (FAE)

<https://www.globalsecurity.org/military/systems/munitions/fae.htm>

30) Slow motion of a fuel-air explosion - video

<https://www.bing.com/videos/search?view=detail&mid=DDF7339FD04B28E7F9ABDDDF7339FD04B28E7F9AB&shtp=Emai&shid=516a2bf0-5bb5-4eed-b951-0cf7efad8aa&shk=RnVlbC1BaXlqR3hwbG9zaXZl&shdk=U2xvdyBtb3Rpb24gb2YyYgYSBmdWVvLWFpeiBleHBsbnNpb24gHR0cDovL2d1bi1kZWZsejYjb20%3D&shlk=f83Y7ZiyMKIbIqKoS1gyBfbombxHHHMDRTE1g8JUsA%3D&form=VDSHOT&shth=OSH.mggDh2rpJ7dOt461jrfHJQ>

31) WORLDS LARGEST Non Nuclear Bomb GBU-43 B Massive Ordnance Air Blast

<https://youtu.be/RaiKodpkw00>

32) Jet A Explosions and TWA Flight 800 Investigation

<https://shepherd.caltech.edu/EDL/projects/JetA/facts.html>

33) Why the atomic bombing of Hiroshima would be illegal today,

Katherine E. McKinney, Scott D. Sagan & Allen S. Weiner (2020),

Bulletin of the Atomic Scientists, 76:4, 157-165,

DOI: 10.1080/00963402.2020.1778344

34) “The Effects of the Atomic Bombs on Hiroshima and Nagasaki.”

United States Strategic Bombing Survey, June 30, 1946,

Harry S. Truman Library & Museum,

<https://www.trumanlibrary.gov/library/research-files/united-states-strategic-bombing-survey-effects-atomic-bombs-hiroshima-and?documentid=NA&pagenumber:3,5,6,41>

35) TNT Equivalent

https://en.wikipedia.org/wiki/TNT_equivalent

36) AP: LNG Tanker Attack Would Be Devastating

By Associated Press, January 14, 2015

<https://www.foxnews.com/story/ap-lng-tanker-attack-would-be-devastating>

37) LNG Information Paper No. 3 - LNG Ships

International Group of Liquefied Natural Gas Importers

https://gigirl.org/sites/default/files/PUBLIC_AREA/About_LNG/4_LNG_Basics/090801publique_lngbasics_lng_3_-_lng_ships_7.3.09-aacomment.pdf

38) Conversion tables

<http://www.lngplants.com/conversiontables.html>

39) Q-Max Ships: The Largest LNG Ships in the World

By Mohit | In: Types of Ships | Last Updated on December 28, 2015

<https://www.marineinsight.com/types-of-ships/q-max-ships-the-largest-lng-ships-in-the-world/#:~:text=The%20largest%20LNG%20carriers%20of,Qatar%20harbour%20and%20port%20facilities>

40) Boston - Safe Harbor?

Ships bringing liquefied natural gas from the Middle East pass regularly through Boston Harbor. Experts say there’s little chance of an LNG tanker going up in a fireball. Then why are city officials so worried? Should you be?

by JASON SCHWARTZ · 6/28/2010

<https://www.bostonmagazine.com/2010/06/28/safe-harbor/>

41) U.S. Coast Guard: Countering Maritime Security Risk

LNG shipments: an example of the Coast Guard layered security approach

BY EDWARD H. LUNDQUIST - JANUARY 20, 2012

<https://www.defensemagedianetwork.com/stories/u-s-coast-guard-countering-maritime-security-risk/>

42) THE NEW BC EAA REGULATION is

Environmental Assessment Act

REVIEWABLE PROJECTS REGULATION

[Last amended March 26, 2020]

Reviewable projects prescribed

3

(1) A new project that is in a category described in Column 1 of the applicable table is prescribed as a reviewable project if it meets the criteria set out opposite in Column 2.

(2) A proposed modification of an existing project that is in a category described in Column 1 of the applicable table is prescribed as a reviewable project if it meets the criteria set out opposite in Column 3.

...

(4) For the purposes of subsections (1) and (2), if a new project or the modification of an existing project requires construction of a facility before regular operations can start, the new project or modification must meet the criteria by the time the construction is completed.

(5) A project with respect to which there is a holder of an environmental assessment certificate who may make an application under section 32 of the Act does not constitute a reviewable project for the purposes of this regulation.

Table 8 — Petroleum and Natural Gas Projects		
Column 1 Project Category	Column 2 New Project	Column 3 Modification of Existing Project
1 Energy Storage	Criteria:	Criteria:

Facilities.	<p>(1) Subject to subsection (2),</p> <p>(a) a new liquefied natural gas facility with the design capacity to store ?? 136 000 m³ of liquefied natural gas, or</p> <p>(b) any other energy storage facilities for a project with a total design capacity to store one or more energy resources in a quantity that can yield by combustion ?? 3 PJ of energy.</p> <p>(2) Development or use of naturally occurring underground reservoirs for the storage of petroleum or natural gas is not reviewable under subsection (1) if those reservoirs are located in the Western Canadian Sedimentary Basin of northeast British Columbia within the map groups and blocks set out in Appendix 2.</p>	<p>(1) Subject to subsections (2) and (3), modification of an existing project if</p> <p>(a) the existing project, or the project after modification, were it a new project, would meet the criteria set out opposite in Column 2, and</p> <p>(b) the modification results in an increase in the capability of the project to store one or more energy resources, other than electricity, by a quantity that can yield by combustion ?? 3 PJ of energy or, for liquefied natural gas, increase by ?? 136 000 m³.</p> <p>(2) Replacement of project components solely for maintenance purposes is not reviewable under subsection (1).</p> <p>(3) Development or use of naturally occurring underground reservoirs for the storage of petroleum or natural gas is not reviewable under subsection (1) if those reservoirs are located in the Western Canadian Sedimentary Basin of northeast British Columbia within the map groups and blocks set out in Appendix 2.</p>	

Comment: $136,000 \text{ m}^3 \text{ LNG} \times 94.5 \text{ MJ/m}^3 = 12,852,000 \text{ MJ} = 12,852 \text{ GJ} = 12.85 \text{ TJ} = 0.012 \text{ PJ}$ for LNG which is 250 times less than 3 PJ in the repealed regulation???

“energy storage facility” means a place where an energy resource is accumulated or stored in bulk as part of the process of being transported or distributed

https://www.bclaws.ca/civix/document/id/complete/statreg/243_2019