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February 10, 2011

BC Sustainable Energy Association
5-4217 Glanford Avenue
Victoria, BC
V8Z 4B9

Attention: Thomas Hackney, Director

Dear Mr. Hackney:

Re: Terasen Gas Inc. ("Terasen Gas")
Application for Approval of a Service Agreement for Compressed Natural Gas ("CNG") Service and for Approval of General Terms and Conditions ("GT&Cs") for CNG and Liquified Natural Gas ("LNG") Service (the "Application")

Response to the BC Sustainable Energy Association ("BCSEA") Information Request ("IR") No. 2

On December 1, 2010, Terasen Gas filed the Application as referenced above. In accordance with Commission Order No. G-181-10 setting out the Regulatory Timetable for review of the Application, Terasen Gas respectfully submits the attached response to BCSEA IR No. 2.

If you have any questions or require further information related to this Application, please do not hesitate to contact Shawn Hill at (604) 592-7840.

Yours very truly,

TERASEN GAS INC.

Original signed:

Diane Roy

Attachment

cc (e-mail only): Erica Hamilton, Commission Secretary
Registered Parties

12. Current status on the ground.

Reference: Application under s.59-61 for Approval of CNG Fueling Station Installation and Operation Agreement (Waste Management Agreement); Application under s.44.2 for Acceptance of CNG Fueling Station Expenditures

12.1 Please provide the current status of the CNG fueling station. Is it commissioned for service? Has Waste Management acquired the anticipated 20 natural gas vehicles (NGVs)? Is the fueling station in operation, i.e., is compression being provided and CNG being delivered to vehicles? Are the NGVs in commercial use? What steps, if any, remain to be completed?

Response:

Construction on the fueling station is 90% complete and on schedule as of the week of January 31, 2011.

During the week of January 24, 2011, WM began fast-fill testing on its 20 new NGVs, which arrived in mid January 2011. The final commissioning phase will occur over the next few weeks until February 25, 2011, at which point WM anticipates all 20 trucks will commence commercial use in regular fleet operations.

Within the scope of the WM Agreement, only final commissioning and employee safety training remain to be completed.

TGI also recognizes CNG Service may only commence upon the filing of the amended WM Agreement, conforming to the requirements set in Commission Decision G-6-11. The amended Agreement is currently being reviewed by WM, and we anticipate that it will be filed in advance of February 25, 2011.

13. Current status of interim approval of WM Agreement.

Reference: BCUC Order G-6-11, sections 1, 2 and 3

13.1 Please describe the steps TGI has taken pursuant to the Commission's Order G-6-11, sections 1, 2 and 3.

Response:

Pursuant to Commission Order No. G-6-11, TGI has restructured the WM agreement to remove all reference to EEC Funding and Vehicle Reimbursement from the fueling service agreement. The fueling service agreement must now be re-executed. The restated agreement was presented to WM for their review on January 19th, 2011. TGI is still awaiting a final decision regarding whether the restructured agreement will be executed.

The customer has verbally expressed strong concerns regarding disclosure of the agreements on a non-confidential basis as being harmful to its commercial and competitive interests. Despite this, given that the customer has invested heavily in NG vehicles and maintenance facilities, TGI expects that WM will reluctantly execute the restated agreements to avoid losses relating to these investments. This course of action has strained the business relationship between WM and TGI. In addition it makes it less likely that WM will act as a positive reference customer for TGI in the further development of NGV markets in BC.

Upon receipt of the executed agreement TGI will follow through on the other elements of the Order.

13.2 If TGI has non-confidentially filed a revised version of the WM Agreement, i.e., excluding the Vehicle Reimbursement section, please provide a copy in this proceeding along with whatever explanatory information or cover letter TGI provided to the Commission with the filing.

Response:

Please see TGI's response to BCSEA IR 2.13.1.

14. Confidentiality of TGI responses to BCSEA IR1.

Reference: Exhibit C4-2, BCSEA IR1.1; Exhibit B-2, Confidential TGI Response to BCSEA IR1.1; Exhibit B-4, TGI Non-confidential Response to BCSEA IR1.1

BCSEA IR 1.1.1, 1.1.2, 1.1.3, 1.1.4 and 1.1.6 state:

1.1.1 When did Waste Management acquire these 20 CNG vehicles?

1.1.2 Please describe the 20 CNG vehicles, in terms of year, make and model, engine type, and fuel type (dual-fuel or sole CNG). Do they meet the 2010 US EPA emission standards for NOx? Where were they made?

1.1.3 Does WM have these vehicles now? Are they in service? If so, where are they being fueled?

1.1.4 If the Commission approves the WM Agreement, will the 20 CNG vehicles be used in place of regular diesel-fueled trucks; or is there a special purpose for which these vehicles will be used?

…

1.1.6 Are the 20 CNG vehicles replacing diesel vehicles? Have the replaced diesel vehicles already been decommissioned?

TGI provides a confidential response to these IRs in Exhibit B-2 but not a non-confidential response in Exhibit B-4. (TGI provided a non-confidential response to BCSEA IR 1.1.5.)

14.1 Please provide a non-confidential response to BCSEA IR1.1.1, 1.1.2, 1.1.3, 1.1.4 and 1.1.6. Alternatively, please provide the rationale for confidentiality.

Response:

In this response, TGI provides the responses to BCSEA IRs 2.14, 2.15, and 2.18.

To comply with Commission Order No. G-6-11, TGI will be required to file an amended agreement and the financial schedules that support the rates in the agreement on a non-confidential basis. To date, the TGI has not yet received the executed amended agreement from WM, however, does expect it to be received shortly. Once the executed amended agreement is received, TGI will file the agreement, the financial schedules and the responses to information requests which relate to the financial schedules for the public record. Additionally, TGI provided non-confidential responses for five of the eight BCUC Information Requests related to the request for confidentiality (Exhibit B-4, responses to BCUC IR 1.3.4, 1.3.5, 1.3.6, and 1.3.7). However, the responses to BCSEA IR 2.14, 2.15 and 2.18 should remain confidential. These latter IRs all share the feature that they are directed at obtaining information about WM's business. More specifically, the round one IRs referenced in BCSEA IR 2.14 contains commercially sensitive information with respect to WM's intended use of its vehicles, its fleet management strategy, and its vehicle components, specifications and performance. BCSEA IR 2.15 and IR 2.18 both reference first round IRs that contain commercially sensitive information about WM's future fleet expansion plans. This information could be used by WM's competitors to glean information regarding WM's operational activities, strategic plans, and its overall level of business activity. Keeping these responses confidential protects the interests of Waste Management.

15. Confidentiality of TGI responses to BCSEA IR1

Reference: Exhibit C4-2, BCSEA IR1.2; Exhibit B-2, Confidential TGI Response to BCSEA IR1.2; Exhibit B-4, TGI Non-confidential Response to BCSEA IR1.2

BCSEA IR 1.2.1, 1.2.2, 1.2.3 and 1.2.4 state:

1.2.1 Does TGI expect that Waste Management will convert its entire Coquitlam fleet to CNG vehicles?

1.2.2 How many vocational trucks does Waste Management operate within the Terasen Utilities' service area? How many works yards does WM have within the Terasen Utilities' service area?

1.2.3 Does Terasen expect to pursue additional CNG or LNG refueling stations at other WM sites?

1.2.4 Is Terasen aware of whether Waste Management Inc. has studied the fuel efficiency and GHG emissions characteristics of its in-service fleet of LGVs? Please provide references if available.

TGI provides a confidential response in Exhibit B-2 but not a non-confidential response in Exhibit B-4.

15.1 Please provide a non-confidential response to BCSEA IR 1.2.1, 1.2.2, 1.2.3 and 1.2.4. Alternatively, please provide the rationale for confidentiality.

Response:

Please see TGI's response to BCSEA IR 2.14.1.

16. Confidentiality of TGI responses to BCSEA IR1

Reference: Exhibit C4-2, BCSEA IR1.3; Exhibit B-2, Confidential TGI Response to BCSEA IR1.3; Exhibit B-4, TGI Non-confidential Response to BCSEA IR1.3

BCSEA IR 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.5, 1.3.6, 1.3.7 state:

1.3.1 Please provide full documentation of the derivation of the estimate of GHG emissions reduction of approximately 214 tonnes annually.

1.3.2 Please provide a reference for GHGenius version 3.18, and specify the assumptions used to calculate the BC regional factors of "diesel 1477 g/km, and CNG 1135 g/km".

1.3.3 Is the above-quoted statement by Werpy, et al accurate? If not, please explain.

1.3.4 What is the drop in fuel economy, on an mpgde-basis, of the proposed use of CNGVs under the WM Agreement?

1.3.5 Footnote 57 on page 48 refers to "Efficiency loss of 17%". Is this figure in the same terms as the 10-20% drop in fuel economy on an mpgde basis referred to by the authors of the ANL report?

1.3.6 Have the CNG vehicles WM proposes to use under the WM Agreement been analyzed using a variation of the GREET model (the original GREET model being designed for LDVs)? If so, please provide the references.

1.3.7 Please contrast and compare the analysis used in the ANL report with the analysis used in the GHGenius v.3.18 model. How do the analytical differences affect the estimated GHG emissions reductions under the WM Agreement?

TGI provides a confidential response in Exhibit B-2 but not a non-confidential response in Exhibit B-4.

16.1 Please provide a non-confidential response to BCSEA IR 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.5, 1.3.6, 1.3.7. Alternatively, please provide the rationale for confidentiality.

Response:

TGI has provided a non-confidential response to BCSEA IR 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.5, 1.3.6, and 1.3.7 below. The response below is identical to the Confidential BCSEA IRs submitted as Exhibit B-2 to the Commission on December 20, 2010.

3.0 Reference: Exhibit B-1, Chapter 4 The Waste Management Agreement

"As set out in Section 2, TGI believes that the WM Agreement will provide economic and environmental benefits to WM as well as present and future TGI system customers." [p.46, footnote omitted]

"The fueling station will consume approximately 21,000 GJ of natural gas annually, displacing 468,000 litres of diesel fuel and reducing GHGs by approximately 214 tonnes annually." [p.47]

"GHG calculation based on data from Natural Resource Canada, GHGenius version 3.18. BC regional factors for heavy duty vehicle are as follows: diesel 1477 g/km, and CNG 1135 g/km." [FN 62, p.51]

In "Natural Gas Vehicles: Status, Barriers, and Opportunities," by M. Rood Werpy, D. Santini, A. Burnham, and M. Mintz, Center for Transportation Research Energy Systems Division, Argonne National Laboratory, ANL/ESD/10-4, August 2010, at http://www.transportation.anl.gov/pdfs/AF/645.PDF, the authors state:

"The reduction in GHG emissions associated with natural gas HDVs can be minimal if there is a 10–20% drop in fuel economy (mpgde-basis) or moderate if the fuel economy can approach that of their diesel counterparts." [p.18]

"Calculation: Diesel at 38.653 MJ/litre – yields conversion factor of 25.87. Therefore, 468,000 litres / 25.87 MJ= 18,090 GJ * (<u>Efficiency loss of 17%</u>) = 21,165 GJ." [FN 57, p.48, underline added]

3.1 Please provide full documentation of the derivation of the estimate of GHG emissions reduction of approximately 214 tonnes annually.

Response:

TGI has organized its response to BCSEA IR 1.3.1 through 1.3.7 in one complete section, as stated below.

GHGenius version 3.18 is available for download at the following link:
http://www.ghgenius.ca/downloads.php

The GHGenius model

Developed for Natural Resources Canada, the GHGenius model has been used by the BC Government to develop a carbon intensity baseline for its Low Carbon Fuel Requirements Regulation.[1] Terasen Gas believes GHGenius to be the most appropriate tool for determining lifecycle emission impacts in B.C., rather than GREET (as cited in the ANL Report in the question) or other models developed for use in other jurisdictions.

GHGenius also complies with ISO standards for determining lifecycle emissions. Additional information on the model history of GHGenius can be accessed at the following link:
http://www.ghgenius.ca/about.php.

The CNG vehicles under the WM Agreement have only been analyzed using the GHGenius version 3.18. GHGenius is a similar lifecycle assessment tool to the GREET model, but contains more fuel pathways specific to Canada.

TGI has used the default GHGenius 3.18 model, with the exception of the following assumption:

- Regional Default set to "BC".

The lifecycle emissions results stated in the question (1477 gCO2e/km for diesel and 1135 gCO2e/km for CNG) were referenced from "Table 75d. Heavy Duty ICE Vehicles" on the Lifecycle Emissions tab.

The GHGenius model can be refined and manipulated in a number of different ways depending upon the availability of input data. Terasen Gas has elected to use a simplified methodology in order to maintain equivalent comparisons amongst its NGV initiatives and its NGV GHG emissions forecast stated in Application.[2] As NGV initiatives develop, Terasen Gas may refine its input assumptions to this model in the future.

WM Fleet Emissions

To calculate the total fleet emissions of WM, the results of 1477 gCO2e/km for diesel and 1135 gCO2e/km for CNG were each divided by 1,000,000 to convert into tonnes of CO2e per km.

The following table provides a detailed calculation of WM's total fleet emissions:

[1] Low Carbon Fuel Requirements Regulation Intentions Paper for Consultation. http://www.empr.gov.bc.ca/EEC/Strategy/BCECE/Documents/LCFRR%20Intentions%20Paper%20Final.pdf

[2] Please refer to Appendix A-1, Section 1.

	GHGenius v3.18 Emissions (tCO2e/km)	X	Average Annual Kms Traveled	=	Emissions Per Vehicle (tCO2e)	X	Number of Vehicles	=	Emissions Per Fleet (tCO2e)
Diesel	0.00147701		31,200		46.1		20		921.6
CNG	0.00113471		31,200		35.4		20		708.2
Emissions Reduction (tCO2e):					**10.7**				**213.4**

Please note that the difference between 213.4 tCO2e calculated in the above table and the 214 tCO2e expressed in the Application is due to the rounding on the 921.6 tCO2e.

WM Fuel Economy (or Efficiency Loss)

In the following sections, the terms "fuel economy" and "efficiency loss" may be used interchangeably.[3] These values are both measured on a percentage basis, removing the need to convert from diesel litre equivalent ("DLE") to miles per gallon diesel litres ("mpgde").

Terasen Gas has used an efficiency loss of 17% in its economic analysis[4] of the WM vehicles based on a previous study of Cummins-Westport L10 CNG engines.[5] However, the WM vehicles use a newer engine technology called the ISL-G.

Based on information supplied by its CNG engine manufacturer, Cummins-Westport, the actual value for its ISL-G engines is in the range of 10 – 12%.[6] This is due to technological improvements in the new generation of CNG engines. Terasen Gas has selected the value of 17% as its efficiency factor since as it was derived from a documented, 6 year study of CNG vehicles operating on a similar, yet older, engine technology to that of the WM CNG vehicles. The WM project will provide more definitive information regarding fuel efficiency in the current generation of engines.

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[3] Therefore, TGI agrees that the "10 – 20% drop in fuel economy" cited in the ANL report is in the same terms as the "Efficiency loss of 17%"

[4] The efficiency loss of 17% was used in the calculations for WM's cost of service and Total Resource Cost tests.

[5] BC Transit Fuel Choice Study, April 1997. Sypher: Mueller International Inc. page 43.

[6] Cummins-Westport presentation March 16, 2010. The presentation states fuel economy has improved by 5% over previous generations of CNG engines, which translates to a range of approximately 10 – 12%.

References to the ANL Report (Werpy et al.)

Terasen Gas does not wholly agree with the accuracy of the statement on page 18 of the ANL report.

Terasen Gas acknowledges that a 10 – 12% drop in fuel economy exists in the current Cummins-Westport CNG trucks. However, the ANL report references a wider range of 10 – 20% which Terasen Gas does not believe exists in the ISL-G engine.

GHGenius version 3.18 assumes a default fuel economy loss for heavy duty CNG vehicles of 14%, which still produces a 23.2% GHG lifecycle emissions reduction. Terasen Gas does not consider 23.2% to be a negligible GHG emissions reduction.

If Terasen Gas recalculated the WM vehicles in the GHGenius model using a 10% loss in fuel economy, the impact on GHG emissions reductions would improve from 23.2% to 24.7%. For WM's CNG fleet of 20 trucks, this equates to 242 tonnes of CO2e. Conversely, if the WM vehicles were recalculated at a 20% fuel economy loss, GHG emissions reductions would decrease to 17.7%, or 163 tonnes of CO2e, which remains a significant reduction.

To reiterate, Terasen Gas does not anticipate a fuel economy loss as high as 20% and believes that 17% is a reasonable assumption considering Cummins-Westport's suggested value of 10 – 12%.

3.2 Please provide a reference for GHGenius version 3.18, and specify the assumptions used to calculate the BC regional factors of "diesel 1477 g/km, and CNG 1135 g/km".

Response:

Please refer to the response to BCSEA IR 1.3.1.

3.3 Is the above-quoted statement by Werpy, *et al* accurate? If not, please explain.

Response:

Please refer to the response to BCSEA IR 1.3.1.

3.4 What is the drop in fuel economy, on an mpgde-basis, of the proposed use of CNGVs under the WM Agreement?

Response:

Please refer to the response to BCSEA IR 1.3.1.

3.5 Footnote 57 on page 48 refers to "Efficiency loss of 17%". Is this figure in the same terms as the 10-20% drop in fuel economy on an mpgde basis referred to by the authors of the ANL report?

Response:

Please refer to the response to BCSEA IR 1.3.1.

3.6 Have the CNG vehicles WM proposes to use under the WM Agreement been analyzed using a variation of the GREET model (the original GREET model being designed for LDVs)? If so, please provide the references.

Response:

Please refer to the response to BCSEA IR 1.3.1.

3.7 Please contrast and compare the analysis used in the ANL report with the analysis used in the GHGenius v.3.18 model. How do the analytical differences affect the estimated GHG emissions reductions under the WM Agreement?

Response:

Please refer to the response to BCSEA IR 1.3.1.

17. Confidentiality of TGI responses to BCSEA IR1

Reference: Exhibit C4-2, BCSEA IR1.5; Exhibit B-2, Confidential TGI Response to BCSEA IR1.5; Exhibit B-4, TGI Non-confidential Response to BCSEA IR1.5

BCSEA IR 1.5.1, 1.5.2, 1.5.3, 1.5.4 state:

1.5.1 Please confirm that TGI provided incentive funding to Waste Management for WM to purchase the 20 CNG vehicles.

1.5.2 Please reconcile the statement that "Innovative Technologies Energy Efficiency and Conservation ("EEC") incentive funding for low-carbon fuel switching [] were approved on April 16th, 2009 in Commission Order G-36-09" with item 2 of Order G-36-09.

1.5.3 Please confirm that item 1(b) of Order G-36-09 relates to residential fuel switching, not to NGVs.

1.5.4 Please itemize the terms and conditions for Innovative Technologies EEC incentive funding that Terasen says were met by the WM proposal and approved in Order G-36-09.

TGI provides a confidential response in Exhibit B-2 but not a non-confidential response in Exhibit B-4. TGI's confidential responses in Exhibit B-2 make reference to a TGI response to a BCUC Confidential IR that TGI filed non-confidentially in Exhibit B-4.

17.1 Please provide a non-confidential response to BCSEA IR 1.5.1, 1.5.2, 1.5.3, 1.5.4. Alternatively, please provide the rationale for confidentiality.

Response:

TGI has provided a non-confidential response to BCSEA IR 1.5.1, 1.5.2, 1.5.3, and 1.5.4 below.

Please note that BCUC Confidential IR 1.4.1, which is cross-referenced in those responses, was released on a non-confidential basis on January 5, 2011 as Exhibit B-4.

5.0 Reference: Exhibit B-1, Chapter 4 The Waste Management Agreement

"WM's proposal to obtain funding for its purchase of NGVs met the terms and conditions required for Innovative Technologies Energy Efficiency and Conservation ("EEC") incentive funding for low-carbon fuel switching, which were approved on April 16th, 2009 in *Commission Order G-36-09*. The WM Agreement defines the terms and conditions under which TGI will provide EEC funding to WM for the incremental cost of purchasing natural gas vehicles over equivalent diesel vehicles. EEC funding for WM is based on the purchase of WM's initial 20 vehicles." [p.47]

The Commission's reasons for decision regarding Order G-36-09 state:

> "The Commission Panel considers that Innovative Technologies, NGV and Measurement programs can be appropriate vehicles for encouraging commercial development of technologies to reduce or replace natural gas consumption and related GHG emissions.
>
> However, as noted above, Terasen acknowledges that further refinement of this program is required and indicates uncertainty as to whether an effective program can be developed over the funding timeframe. The Commission Panel finds that there is insufficient evidence with respect to the nature and scope of the proposed program, and accordingly rejects the Innovative Technologies, NGV and Measurement program expenditures at this time. Terasen may wish to bring forward projects in this program area for consideration as they become more fully developed." [underline added]

Order G-36-09 states:

> "2. Expenditures in the sum of $3 million for Innovative Technologies, Natural Gas Vehicles and Measurement and $1.5 million for Trade Relations are rejected." [underline added]

Under the heading "2.2 Residential Fuel Switching," the Commission's reasons for decision state:

> **"2.2 Residential Fuel Switching**
>
> ... The Commission Panel accepts EEC expenditures directed at fuel switching from fossil fuels with a higher carbon content than that of natural gas. Expenditure programs specifically directed at encouraging fuel switching away from electricity are rejected, as are Incentive payments for appliances for which an Energy Star rating is not available. However, expenditures are accepted for incentives to install Energy Star and EnerChoice equipment and appliances for customers who, at their own initiative, wish to switch to natural gas as the fuel of choice." [p.18, underline added]

Order G-36-09 states:

> "1. The following proposed expenditures are accepted:
>
> (a) $31.077 million for the combined Residential Energy Efficiency and Commercial Energy Efficiency programs;

(b) Expenditures for programs or initiatives directed at fuel switching away from fossil fuels with a higher carbon content than that of natural gas to natural gas; ..."

5.1 Please confirm that TGI provided incentive funding to Waste Management for WM to purchase the 20 CNG vehicles.

Response:

Terasen Gas confirms it has provided incentive funding to Waste Management, which covers the incremental cost of a CNG fuelled vehicle over a diesel equivalent vehicle.

Please refer to the response to BCUC Confidential IR 1.4.1 for additional information.

5.2 Please reconcile the statement that "Innovative Technologies Energy Efficiency and Conservation ("EEC") incentive funding for low-carbon fuel switching [] were approved on April 16th, 2009 in *Commission Order G-36-09*" with item 2 of Order G-36-09.

Response:

Please refer to the response to BCUC Confidential IR 1.4.1.

5.3 Please confirm that item 1(b) of Order G-36-09 relates to residential fuel switching, not to NGVs.

Response:

Terasen Gas agrees that the referenced portion of Commission Order No. G-36-09 relates to residential fuel switching. Please see the response to BCUC Confidential IR 1.4.1 for further discussion on the EEC Decision and the subsequent approval in the 2010-2011 RRA.

5.4 Please itemize the terms and conditions for Innovative Technologies EEC incentive funding that Terasen says were met by the WM proposal and approved in Order G-36-09.

Response:

Please refer to the response to BCUC Confidential IR 1.4.1.

18. Confidentiality of TGI responses to BCSEA IR1

Reference: Exhibit C4-2, BCSEA IR1.8; Exhibit B-2, Confidential TGI Response to BCSEA IR1.8; Exhibit B-4, TGI Non-confidential Response to BCSEA IR1.8

BCSEA IR 1.8.1, 1.8.2, 1.8.3 state:

1.8.1 If WM adds additional CNG vehicles to its fleet served by the fueling station, is there a loss of equipment redundancy for reliability?

1.8.2 What is the maximum number of CNG vehicles that the fueling station as designed could support, assuming standard usage and standard redundancy for reliability?

1.8.3 Does TGI expect WM to add additional CNG vehicles to its fleet in Coquitlam? If so, please explain.

TGI provides a confidential response in Exhibit B-2 but not a non-confidential response in Exhibit B-4.

18.1 Please provide a non-confidential response to BCSEA IR 1.8.1, 1.8.2, 1.8.3. Alternatively, please provide the rationale for confidentiality.

Response:

Please see TGI's response to BCSEA IR 2.14.

19. Confidentiality of TGI responses to BCSEA IR1

Reference: Exhibit C4-2, BCSEA IR1.10; Exhibit B-2, Confidential TGI Response to BCSEA IR1.10; Exhibit B-4, TGI Non-confidential Response to BCSEA IR1.10

BCSEA IR 1.10.1 states:

> 1.10.1 Please confirm that the WM Agreement contains the same or equivalent general terms and conditions as are proposed in the GT&C application; otherwise, please explain.

TGI provides a confidential response in Exhibit B-2 but not a non-confidential response in Exhibit B-4.

19.1 Please provide a non-confidential response to BCSEA IR 1.10.1, redacting references to specific clauses of the Waste Management Agreement if necessary. Alternatively, please provide the rationale for confidentiality.

<u>Response:</u>

TGI has provided a non-confidential response to BCSEA IR 1.10.1 below. The response below differs from TGI's confidential response to BCSEA IR 1.10.1 submitted in Exhibit B-2 only by the addition of footnotes.

The WM Agreement is consistent with the GT&C's, but the terms of the WM Agreement are unique to WM and are the product of commercial negotiations.

TGI will first explain why at a high level, there is consistency between the WM Agreement and the GT&Cs. The proposed GT&Cs contain a general description of CNG and LNG Services, require customers to enter into "take-or-pay" (i.e. minimum contract demand) service agreements that are subject to Commission approval, provide for full cost recovery[7] from each NGV customer, and stipulate how the costs of service will be determined under each service agreement. The WM Agreement is a "take-or-pay" contract subject to Commission approval and the rate was calculated based on the cost of service model that is outlined in the GT&Cs as described in detail in Section 5 of this Application. At a high level, it captures all of the costs associated with providing fuelling service to an NGV customer, and uses those costs to generate a rate that recovers the cost of service from the NGV customer over the term of the service agreement.[8] The intent is to keep other natural gas customers whole. Existing and

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[7] Cost of service recovery is over the initial term of the agreement. Please refer to TGI's response to BCUC IR 2.5.1 for additional details on the cost of service contemplated in the GT&Cs.

[8] TGI has several measures to mitigate the risk of stranded assets should a customer not renew their agreement at the end of the initial term. These factors are discussed in TGI's response to CEC IR 2.6.1.

future customers benefit from the increased natural gas throughput, which produces lower delivery rates all else being equal (see Section 3.1).

The WM Agreement contains a variety of commercial terms in addition to the provisions that determine how the rate will be determined. These terms were the product of negotiation among the commercial parties. TGI sought to negotiate terms that provide greater protection for customers. TGI has secured, for instance, the agreement of WM (section 9(c)) that WM will pay an amount representing the undepreciated value of facilities if the agreement is not renewed by WM.[9] The WM Agreement is not being put forward as a pro-forma agreement, and it should be expected that there will be variations among future agreements within the overall framework provided by the GT&Cs depending on the commercial realities in each case.

[9] Please refer to TGIès response to BCUC IR 2.5.3 for additional details regarding the treatment of non-renewals.

20. Confidentiality of TGI responses to BCSEA IR1 and BCUC Confidential IR1

Reference: Exhibit C4-2, BCSEA IR1.10; Exhibit A-3; Exhibit B-2, Confidential TGI Response to BCSEA IR1.10; Exhibit B-3, Confidential TGI response to BCUC Confidential IR 1; Exhibit B-4, TGI Non-confidential Response to BCSEA IR1 and BCUC Confidential IR1.

20.1 Please confirm that TGI asserts confidentiality regarding the dollar value of the TGI reimbursement to WM for the NGVs under TGI's Energy Efficiency and Conservation (EEC) Program, either total or per vehicle. Please provide the rationale for this claim of confidentiality.

Response:

TGI confirms that it asserts confidentiality regarding the budget and actual total or per vehicle dollar value of the reimbursement to WM for NGV's under the TGI's EEC program. There are two main reasons for this.

First, historically, TGI has not released EEC incentive amounts on an individual customer basis in Terasen's annual reports and other regulatory review proceedings. TGI reports the total incentive amounts at the program level, at the program area level and at the portfolio level. The companies have not historically reported on incentive amounts given to individual customers. To be consistent with this practice, TGI asserts confidentiality regarding the dollar value of the incentive funding provided to WM.

Second, TGI also believes that it's not appropriate to reveal customer incentive amounts as it is harmful to the interests of all customers. For example, in the case of NGV incentives, truck dealers may be influenced to price their natural gas vehicle offerings at an undue level that assumes customers are receiving other incentives. This type of price inflation would negate benefits associated with incentive funding.

TGI believes that the amount of incentive necessary to change the behaviour of the customer to adopt Natural Gas Vehicles will decrease as Natural Gas trucks become more accepted, because customers will give more recognition in their business cases to fuel cost reductions and the associated environmental benefits.

20.2 Please confirm that TGI asserts confidentiality regarding the preliminary (budget) dollar value of the of the TGI reimbursement to WM for the NGVs under TGI's Energy Efficiency and Conservation (EEC) Program, either total or per vehicle. Please provide the rationale for this claim of confidentiality.

Response:

Please see response to BSCEA 1.20.1

20.3 Is it TGI's normal practice to keep confidential the dollar value of EEC funding to a specific customer? At what level of aggregation does TGI provide non-confidential EEC funding numbers to the Commission? At what level of aggregation does TGI intend to provide non-confidential NGV EEC funding numbers to the Commission?

Response:

Yes, it is TGI's normal practice to keep confidential the dollar value of incentive funding to a specific customer. TGI provides non-confidential incentive funding numbers at the portfolio or at the program level in the annual EEC report. For example, for a furnace upgrade program ,TGI will release the total incentive amount spent for the entire program but will not divulge details for all the individual participating customers in that program. TGI believes this is consistent with its normal practice to protect participating customers' privacy and/or commercially sensitive information.

Please see response to BCSEA IR 2.20.1 for additional details.

21. Impact of Order G-6-11

21.1 Please confirm that TGI's original concept and request was that the Commission would keep confidential both the WM Agreement and any future CNG/LNG agreements filed by TGI, as an exception to the general rule that rate schedules must be public. Alternatively, please explain. For clarity, please recap the rationale for this confidentiality request, or provide a reference on the record.

<u>Response:</u>

Confirmed. TGI's original concept and request was to keep confidential both the WM Agreement and any future CNG/LNG agreements filed by TGI on the basis that the details of each agreement are market sensitive and represent the result of commercial negotiations between the parties.

This request was first submitted as a letter accompanying Appendices D-1 and E on December 1, 2010 as Exhibit B-1-1. TGI has summarized this letter below:

Basis for Confidentiality

The details of these Appendices are market sensitive and represent the result of commercial negotiations between Terasen Gas and Waste Management. Waste Management had requested that the details of the Contract, including the purchase price, remain confidential.

Terasen Gas agreed because we believe this to be in the best interests of all of our customers, primarily because it will ensure that negotiated comprises we have made in this contract will not be public information for potential future customers to use as leverage in contract negotiations. For example, if there is an existing precedent that is public information future customers will have a negotiating advantage opposite TGI to the possible detriment of all customers. Furthermore, sensitive information such as future fleet expansion plans could be gleaned by competitors of WM in the waste disposal industry, damaging WM's competitive position.

Intervener Access to Confidential Appendices

Terasen Gas recognized that information in this document may be of interest to interveners.

Therefore, in accordance with the Commission's Practice Directive, Terasen Gas requested that interveners with a legitimate interest in accessing the information only be able to obtain copies of the Confidential Appendices upon executing an appropriate undertaking to keep the information confidential. A form of undertaking of confidentiality for this purpose was provided in Appendix G of the non-confidential Application. This process ensured that no party was disadvantaged by the need to maintain confidentiality over the documents. Terasen Gas proposed that information requests relating to the Confidential Appendices be filed separately from other information requests, with a copy circulated only to Terasen Gas and other parties that have signed the undertaking of confidentiality. This process was to ensure that confidential information was not inadvertently disclosed in the answers to questions posed.

21.2 Is it correct that there were three categories of information in the WM Agreement and any future CNG/LNG agreements that TGI considered commercially sensitive: (a) the customer-specific 'per GJ' rate for the provision of fueling service, being based on the forecast cost of the customer-specific fueling station, (b) the wording of clauses of the agreement, and (c) the amount of any TGI reimbursement of incremental NGV costs under the EEC program? If not, please explain.

Response:

Yes, the three categories of information stated in the question are considered commercially sensitive with respect to the WM Agreement and future CNG/LNG agreements.

In addition to these categories, TGI believes that any other customer information presented in the responses to Confidential Information Requests should remain confidential. This includes a customer's:

- Fleet management strategy;
- Future fleet expansion plans;
- Vehicle components, specifications, and performance; and
- Information which reveals the sensitive data used to calculate the 'per GJ' rate, such as fuel consumption.

TGI believes that is in the best interests of all of our customers, and the parties with whom agreements are negotiated to keep commercially sensitive information confidential. Please refer to TGI's response to BCSEA IR 2.14.1 for additional information.

21.3 In Order G-6-11, the Commission required TGI to remove references to the EEC funding from the WM Agreement in the context of TGI filing the revised (in that respect) WM Agreement non-confidentially. Does separating the EEC funding elements from the rest of the WM Agreement cause any problems? If so, please explain. Regarding any future CNG/LNG agreements, would separating the EEC funding elements from the rest of the agreement cause any problems? If so, please explain.

Response:

No. Apart from the fact that the parties must re-execute the WM Agreement. TGI has provided the agreement to WM, but it has not yet been executed.

For future contracts, TGI will separate the incentive funding agreement from the refuelling service agreement.   As TGI has not executed re-structured agreements with a customer, TGI cannot say precisely whether the separation will cause any problems. But as explained in response to BCSEA IR 2.21.2, in this instance, Waste Management has expressed its concern.

21.4 In light of the Commission's requirement that the WM Agreement, excluding EEC information, be filed non-confidentially, what is Terasen's position regarding whether any future CNG/LNG agreements should be filed confidentially or non-confidentially? Why?

Response:

The BCUC has made a decision with respect to the WM agreement in Order No. G-6-11. TGI has made efforts to comply with this Order and is attempting to get WM to execute the restated agreement for non-confidential filing. TGI continues to believe, however, that agreements of this nature should be filed on a confidential basis as expressed in the responses to BCUC IRs 1.3.1 through 1.3.3, and has sought to provide additional explanation in response to IRs to articulate why it is in the public interest – customers and potential NGV customers – to maintain confidentiality. There are several reasons why TGI continues to believe that confidentiality is important.

First, TGI believes the requirement to file non-confidentially will be a barrier that will cause some customers to elect not to proceed with NGV fueling service. Feedback received from WM regarding the Commission requirement for non-confidential filing has been negative and TGI is still awaiting execution of the restated non-confidential agreement. While TGI is optimistic that WM will sign the non-confidential agreement, our experience with WM illustrates the importance of confidentiality to NGV customers that operate in a competitive environment. Additional barriers to development of NGV markets will slow down the rate of market transformation to the detriment of all customers.

Second, under TGI's proposed approach, each contract will be the product of commercial negotiations between TGI and the potential customer. TGI is concerned that disclosure of all customer terms will allow new NGV customers to select the most preferential terms and conditions in the set of approved agreements and to use such precedents to negotiate more preferable terms in their agreements. For example, TGI may elect to execute an agreement with customer A that has a 7 year term with a take or pay commitment of 100,000 GJ/year. Customer B may be purchasing vehicles that will last 10 years and will deliver load of only 15,000 GJ/yr, but will want to limit the take or pay term to the 7 years that was established for Customer A. TGI believes that the rates should be established on the merits of each customer's specific situation and this is best served through confidential agreements. Even though TGI would endeavour to explain the differences between the customers in this example, the expectation created on the part of the potential new customer reading the prior agreements might represent an obstacle to reaching common ground.

Third, the objective is really to protect the information from parties that would be able to benefit from seeing it to the detriment of TGI and its customers. Customer groups such as BCOAPO, BCSEA and CEC are able to review any agreement upon executing a confidentiality undertaking.

For these reasons, TGI believes that maintaining confidentiality is in the best interest of existing customers and potential NGV customers, and that disclosure is detrimental to those parties. TGI hopes that the Commission will, with the benefit of further information, see the merit in maintaining confidentiality vis a vis parties that would be able to benefit from seeing them to the detriment of TGI and its customers.

21.5 To confirm, is it TGI's view that the WM Agreement, excluding the EEC funding elements, is a rate schedule as described in s.62 of the Act?

Response:

Confirmed. Please see the response to BCSEA IR 2.21.11 for a discussion of Section 62.

21.6 Regarding any future CNG/LNG agreements, would public knowledge of the customer-specific rate for fueling service allow competitors to ascertain (a) a portion of the customer's variable operating costs, and (b) TGI's forecast of the cost of the customer-specific fueling station? Could such information could be used to the detriment of the customer? TGI? How?

Response:

Disclosure of information contained in the rate agreements could convey commercially sensitive information about customer operations to competitors. Examples include:

- Fuel consumption – Fuel consumption is a strong indicator of the utilization of the vehicle. This can convey information regarding the used and unused capacity of a customer's operations and the customer's cost of providing service. This information might influence how aggressively a customer and his competitor might bid on contracts.
- Rate – The rate for the use of the fueling station is one element of the customer's total fuel cost. Fuel cost is a significant component of the total cost bar for a transportation company. It is also an element that is generally contracted for under confidential terms. This situation is in direct contrast with other customer classes where natural gas costs represent a smaller fraction of the customers total cost bar. (e.g. space heating applications).
- Vehicle life – The length of time the vehicle is expected to be operated is a direct input into depreciation charges that affect the cost of providing service to the customer's markets.
- Expansion plans – Information regarding new vehicle additions signals the market that a customer may be planning to expand its service offering or service territory. The timing of WM additions of further vehicles to its fleet should not be publicly available to WM customers.

Please also see the response to BCSEA IR 2.21.4 for the rationale for how non-confidential filing of agreements affects TGI's ability to negotiate appropriate terms to protect all customers' interests.

21.7 Please comment on whether public knowledge of the wording of any future filed CNG/LNG agreements negotiated between TGI and specific customers could be used by a potential counterparty in negotiations with TGI regarding the terms and conditions of a CNG/LNG agreement to the unfair disadvantage of TGI.

Response:

Please see the response to BCSEA IR 2.21.4.

21.8 Please explain how the concept of Commission-approved general terms and conditions for CNG/LNG agreements jibes with the concept of keeping specific CNG/LNG agreements confidential? Is the notion that a specific CNG/LNG agreement would include negotiated conditions only in addition to the general terms and conditions?

Response:

The proposed General Terms and Conditions ("GT&Cs") lay out the requirements that each customer rate agreement must conform to. For example, the GT&Cs indicate that the customer agreement must provide for a take or pay minimum contract demand that in conjunction with the rate must recover the forecast Cost of Service occurring during the contract term. The actual rate and the associated minimum take or pay amount is not specified in the GT&Cs (because it will vary from customer to customer depending on the cost of service) but is contained in the rate agreement which could remain confidential between the parties. TGI would still need to submit the agreement along with financial exhibits to the BCUC for approval to show that the agreement meets this test. Hence the combination of a public GT&C and a confidential rate agreement is consistent.

21.9 If the potential harm from publication of aspects of specific CNG/LNG agreements stems from a potential counterparty's ability to 'cherry pick' the clauses most favourable to it in negotiations with TGI, would the potential harm be mitigated if CNG/LNG agreements were largely pro forma so that the wording of clauses was not open to negotiation?

Response:

It would preclude "cherry picking", but TGI believes that having a largely pro forma agreement creates obstacles to the take up of service, which is detrimental to customers. Please see the response to BCUC IR 2.2.2.

21.10 If TGI has filed non-confidentially a revised WM Agreement excluding the EEC information, please identify, confidentially if necessary, any elements of the revised WM Agreement that TGI believes could be used to the unfair or improper disadvantage of TGI or WM (or some other party). The intention is to help the parties and the Commission understand the practical pros and cons of the future CNG/LNG agreements being filed non-confidentially (acknowledging that the Commission has already made a ruling regarding non-confidentiality of the WM Agreement) with a view toward devising solutions.

Response:

TGI has not yet filed a restated fueling service agreement as the customer (WM) has not executed the restated agreement. Please see further discussion under BCSEA IR 2.21.4.

For a discussion regarding the sensitivity of such information please see response to BCSEA IR 2.21.6.

21.11 In TGI's view, is there a way to achieve the purpose of s.62 of the Act while redacting some portion(s) of non-confidentially-filed future CNG/LNG agreements? Or are the practical advantages of keeping some aspects of future CNG/LNG agreements confidential fundamental irreconcilable with the principle of rates being public?

Response:

Yes, TGI believes that redaction of future agreements would be a good option, and one that would be permitted provided that the Commission's "rules" (referenced in section 62) permitted it. TGI believes that such "rules" could be established by a Commission order in this proceeding.

TGI understands that there is a public interest in maintaining access to rate schedules. The purpose of section 62 is to permit the public to have access to information about how much they should be paying for service. It should be recognized, however, that access is most important in circumstances where individual customers do not negotiate their own rates with the utility. For similar reasons, TGI is proposing that Section 12B of the GT&C's remain public; they are not open to negotiation and all potential NGV customers will be subject to those terms. However, the same rationale does not apply in the case of individual contracts negotiated with an NGV customer because the customer is fully aware of what they are paying and can assess that it is consistent with the public GT&C's.

There is also a public interest in preserving confidentiality where disclosure may be harmful to some person or party. This is reflected in the following provisions of the *Administrative Tribunals Act*, which apply to the Commission by virtue of section 2 of the UCA:

> (2) Despite subsection (1), the tribunal may direct that all or part of the information be received to the exclusion of the public if the tribunal is of the opinion that
>
> > (a) the desirability of avoiding disclosure in the interests of any person or party affected or in the public interest outweighs the desirability of adhering to the principle that hearings be open to the public, or
> >
> > (b) it is not practicable to hold the hearing in a manner that is open to the public.
>
> (3) The tribunal must make a document submitted in a hearing accessible to the public unless the tribunal is of the opinion that subsection (2) (a) or section 42 applies to that document.

TGI agrees that there will be a number of discrete provisions in the tariff supplements that are not commercially sensitive to TGI or the NGV customer. However, there are terms dealing with, for instance, allocation of cost risk, the price, and term, that are commercially sensitive and should remain confidential in the interests of customers. Redaction is likely to be a good practical solution that TGI would support, and unredacted versions are always available to customers with a legitimate interest in seeing the information upon execution of an appropriate confidentiality undertaking.

22. Regulatory review of NGV EEC funding

Order G-6-11, Appendix A, states:

"Terasen submitted that whether some of the approved funding should be extended to Waste Management is beyond the scope of this proceeding. Terasen argues that the terms and conditions of service set out in the WM Agreement, including the rate, should be considered independently from incentives provided from EEC funding, which Terasen considers to be previously approved. <u>Terasen submits that any matters relating to its use of EEC funding, including the calculation of Total Resource Cost, should be addressed through the established regulatory review process for EEC funding decisions, which includes Terasen's annual EEC reports.</u> Terasen maintains that approval of the WM Agreement is separate from the EEC review process. (Terasen Reply Submission, pp. 7, 8)" [p.5 of 8, underline added]

22.1 Please describe what TGI considers to be "the established regulatory review process for EEC funding decisions." When and how will TGI's NGV EEC payment to Waste Management come under regulatory review?

<u>Response:</u>

The regulatory review process for EEC funding decisions was established in the Commission decision on TGI's EEC application (Commission Order G-36-09). The decision provided for accountability mechanisms for the funds approved for EEC programs. In accordance with the decision, Terasen Gas has filed and will continue to file annual reports by the end of 1st quarter every year, and has held three workshops, one in 2009, and two in 2010 (March, 2010 and November, 2010) with participation of Commission staff and stakeholders. NGVs and NGV Incentive Program were part of the discussion. No objections to the inclusion of NGV grants as part of the Innovative Technologies program were raised.

In the 2009 EEC report, TGI reported its EEC activities in 2009 and its plan for the upcoming year. In particular, TGI reported its intent to further expand, among other things, its Innovative Technologies programming, which includes NGV for Commercial Vehicles. TGI's NGV related activities and funding will be reviewed in the forthcoming EEC annual report for 2010 due by March 31st, 2011. However, TGI will report incentive funding at the portfolio or at the program level, not at the individual participant level.

TGI believes that the incentive funding made available to WM is not inconsistent with the Commission's decisions. NGV initiatives are appropriate vehicles to enable the development of technologies and application of such technologies that achieve GHG emissions reduction, and align with the British Columbia's energy objectives set forth in the *Clean Energy Act* as they "encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia." Furthermore, TGI's "Innovative Technologies"

EEC program as a whole exceeds the cost-effectiveness guidelines as set out in previous Commission decisions. Additionally TGI has the ability to move funds to any intra and inter program areas with supporting rationale so that the overall portfolio of programs can be designed and implemented efficiently with the approved funding envelope.

22.2 In Order G-6-11, the Commission "accepts Terasen's position that the incentive payments are outside the scope of the review of the WM Agreement." [p.5 of 8] What is Terasen's position regarding whether the NGV EEC incentive payments to WM are outside of the scope of the review of (a) the proposed general terms and conditions, and (b) the expenditure of funds for the WM CNG fueling station?

Response:

Terasen Gas maintains that the incentive funding towards NGV initiatives is outside the scope of this Application generally. The incentives made to WM are tied to assets (20 trucks) that are not determining factors in establishing the fuelling rate that TGI is seeking approval for within this Application. Thus, TGI believes that the incentive funding for NGV initiatives should be reviewed independently from the proposed general terms and conditions and the expenditure requirements for the refueling station.

In addition, the Commission has set up a process for TGI to report its EEC programming and funding. As in its 2009 report where TGI set out its EEC program details and forecasts including the use of EEC funding for commercial NGV related activities, TGI, in the upcoming EEC report, will detail program activities for the previous year and provide forecasts for the upcoming year.

23. Reference: Exhibit B-1, 3.3 Proposed NGV Services Support BC's Energy Objectives

23.1 Given the asserted fuel cost advantages of natural gas over diesel for the vehicle sector targeted by TGI, what is TGI's view as to why return-to-base heavy duty vehicle fleets in B.C. have not already been converted to NGVs? Why is it necessary for TGI to incent this shift through its EEC program? Please explain or provide a reference in the non-confidential record.

Response:

TGI believes NGV adoption in the heavy duty vehicle fleets in BC has not already occurred for three main reasons, which are summarized in detail below.

1) No fueling infrastructure for return-to-base fleets

Without adequate fueling service options, heavy duty fleet operators will not convert their fleets to natural gas. TGI's proposed business model in Section 2 of the Application describes the fueling infrastructure service needed for return-to-base fleet operators to adopt NGVs in BC.

2) Awareness of technological improvements in NGVs

CNG and LNG engine technology has improved dramatically over the past few years. Natural gas engine manufacturer Westport Innovations, and its joint venture Cummins-Westport, have proven the technology worldwide, with over 25,000 engines in-service globally.[10] Engine performance has not yet been demonstrated on a commercial scale in BC, suggesting customers lack awareness of its improvements and greater efficiencies. Furthermore, the accepted practise in the heavy duty trucking industry is to purchase diesel vehicles, making the selection of NGVs a non-conventional decision.

3) High Upfront Capital Costs

Through extensive discussions with stakeholders, TGI has learned that the higher upfront capital cost of NGVs was a major barrier preventing development of NGV markets in the service territory. In general, NGVs being offered for TGI's target markets cost 15 - 50% more than vehicles equipped with diesel or gasoline engines.[11] The operator must recoup this investment in the form of fuel cost savings over the life of the vehicle. Therefore, a decision to proceed with an NGV purchase involves risk that the fuel savings from switching to natural gas will continue to be realized. Additionally, the operator must also be able to finance the incremental cost which is a challenge for many transportation operations where access to capital is constrained.

[10] http://www.westport.com/corporate/history
[11] Please refer to Table 3-4 on page 28 of the Application

TGI believes that by offering NGV refueling service, together with the associated incentive funding, customers will be more likely to embrace NGV as part of their fleet operations.

24. Natural gas fuel price compared to diesel

Reference: Exhibit B-1, Figure 3-1: Proposed Offering Would Have Historically Beaten Diesel on Price; Figure 3-3: Historic and Settled Future Commodity Prices – Oil and Natural Gas

24.1 Why does the 'diesel litre equivalent' (DLE) price of CNG, shown with the blue line in Figure 3-1, apparently not indicate any spike corresponding to the spike in the price of natural gas in 2005-2006 as shown, for example, in Figure 3-3? Is the smoothing effect of TGI's regulated gas commodity prices [Exhibit B-1, s.3.2.2] the only reason?

Response:

The DLE price of CNG is based on historic Rate Schedule 6 pricing, which includes a delivery charge as well as commodity and midstream cost recovery charges.[12] Rate Schedule 6 is set on a quarterly and annual basis, which contributes to the smooth shape of the line. These adjustments are made to compensate for fluctuations in TGI's regulated commodity price and any changes in TGI's delivery rate. The smoothing effect of the commodity prices and the delivery rate are the only reasons for the variance of "spikes" in the graph.

24.2 Please confirm that the DLE price of CNG, shown in Figure 3-1, is comprised of NG delivery charge, NG commodity charge, and fuel station charge.

Response:

The DLE price of CNG is based on historic Rate Schedule 6 (which includes a delivery charge, commodity charge, midstream charge and applicable rate riders) and a fueling station charge assumption of $5 per GJ.

Please refer to TGI's response to BCSEA IR 2.24.3 for more details.

[12] Rate Schedule 6 also includes applicable Rate Riders.

24.3 Please revise Figure 3-1 by adding a bar graph showing the three components of the DLE price of CNG.

Response:

TGI has revised Figure 3-1, shown below. The components of the DLE price of CNG have been separated into four components:

1) Fueling charge assumption. TGI has assumed a $5 / GJ fueling charge (approximately $0.19 DLE) based on a high-level analysis of the cost of service of many large NGV projects.

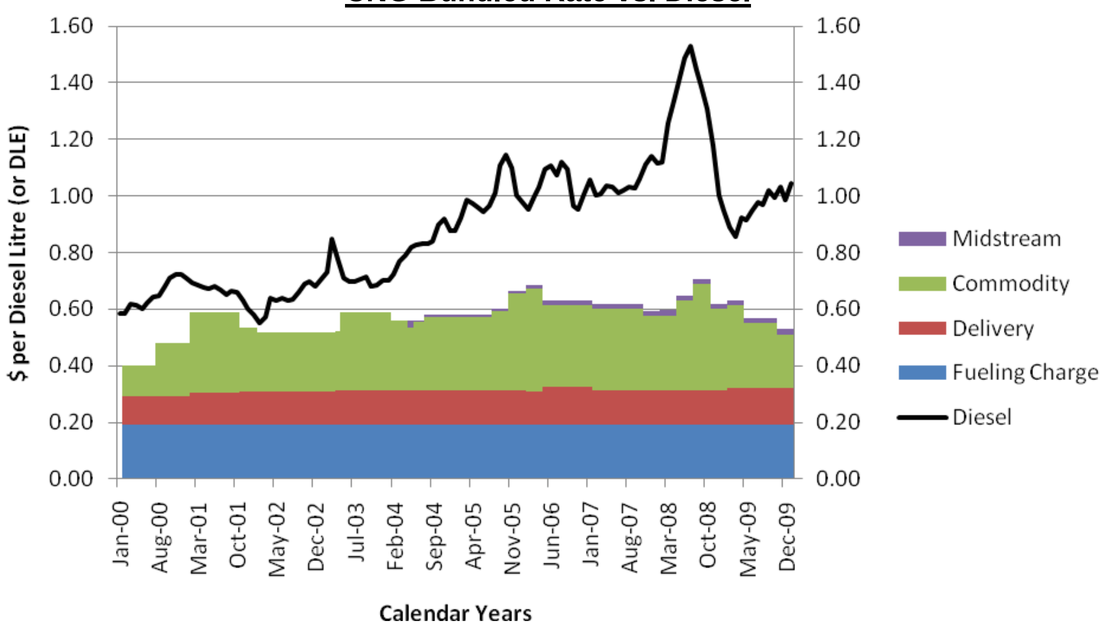
Three historic Rate Schedule 6 components, which include a:

1) Midstream Charge,
2) Commodity Charge, and
3) Delivery Charge.

Rider Rates, where applicable, have been summed into the Delivery Charge.

Rate Schedule 6 is recalculated on a periodic basis to reflect changes in the commodity and midstream cost recovery charges, as well as any changes to the delivery (and rider) rates.

CNG Bundled Rate vs. Diesel



The figure above demonstrates that a CNG offering, as proposed in the Application, if priced at approximately $5/GJ, would have consistently been less expensive than diesel for the entire preceding decade. NGV fleet operators benefit from a more predictable net fuel price per DLE, as the regulated commodity and delivery rates under Rate Schedule 6 are set on a quarterly and annual basis, creating a smoothing effect. Diesel prices are more akin to a spot market and subject to constant fluctuation.

25. Reference: Exhibit B-1, 3.2.3.1 Ownership and Value of Carbon Credits

TGI states:

"There may be additional value in monetizing GHG emission reductions as offsets should there be a suitable protocol for fuel switching from a higher carbon fuel such as diesel to natural gas. Current industry practice would see the benefit of the GHG emission reductions be attributed to the customer whose carbon footprint is being reduced, which, in this case, would be the end user. It is unlikely that validating and verifying emission reductions on an individual project basis would be cost effective for participating customers. Therefore, TGI may consider negotiating in future NGV agreements that Terasen Gas is entitled to any GHG emission reductions as a result of the provision of the proposed NGV service offerings or EEC incentives for NGVs. Therefore, if multiple projects qualify, TGI could undertake, on an aggregate basis, third party validation and verification and the establishment of accepted protocols for these projects. Treatment of any carbon credits resulting from TGI's proposed NGV service offering or EEC NGV initiatives has not been resolved at this time."

25.1 Why would TGI wait until future NGV agreements before specifying that TGI owns the environmental attributes (EAs) associated with the resulting conversion from diesel to natural gas fuel?

Response:

TGI intends to negotiate for carbon credit ownership where possible given the circumstances of the deal.

When negotiating the WM Agreement, It was determined that the monetization of the environmental attributes generated by the WM agreement by itself would not cover the costs associated with development of an accepted carbon credit protocol and the costs of validating and verifying the environmental attributes. See also response to BCUC Confidential IR 2.7.2.

In addition TGI is in the process of developing its strategy with respect to aggregating such benefits. At the time of the negotiation of the WM agreement TGI was not prepared to make any commitments or representations with respect to this issue so the issue was left silent in the WM agreement.

Please refer to the responses to BCUC IRs 2.38.1 to 2.38.3 and 2.40.1 for more detail.

25.2 Please state non-confidentially whether the WM Agreement, as currently worded, specifies that TGI owns any environmental attributes created by the Agreement. Alternatively, please provide the rationale for confidentiality.

Response:

The WM Agreement does not specify that TGI owns any environmental attributes from the Agreement. (Also discussed in BCUC IR 2.38.1.)

25.3 Would TGI agree that with the EEC NGV funding coming from TGI ratepayers it would be appropriate for the associated environmental attributes to be owned by TGI for the benefit of ratepayers as a whole? Please discuss.

Response:

TGI believes if the Company is able to claim ownership over the environmental attributes from NGV projects there are several ways that this could benefit ratepayers as a whole as discussed in BCUC IRs 2.38.2 and 2.40.1. These issues need to be considered and negotiated in the overall context of the agreement being established with the customer. TGI believes that EEC funding creates the incentive for customers to purchase NGV vehicles and there may be environmental attributes that can be monetized as offsets as a result of this. However, there are not clear protocols or policies yet in place to identify if this is the correct approach. NGV customers may counter that the bulk of the NG vehicle cost is being paid for by the customer; hence the benefit should accrue to them. How each party pursues its position will be influenced by the ability of that party to monetize the benefit. As discussed in BCUC IR 2.38.2, municipal agencies may be able to simply deduct the credits from their obligations to pay carbon offsets under Provincial government policies without being burdened with formal validation and verification protocols. Hence they will be strongly motivated to capture the environmental attributes from a project. Overall the ownership position is not clear and will need to be negotiated with the customer.

This is another area where confidential customer agreements would assist TGI in maximizing benefits for all customers.

This response also addresses BCSEA IR 2.25.4.

25.4 If the environmental attributes of the EEC NGV funding were to reside with TGI, in TGI’s view, would the ownership of the environmental attributes be best addressed in the general terms and conditions, in the customer-specific rate schedule or in the EEC agreement between TGI and the customer?

Response:

Please refer to BCSEA IR 2.25.3.

26. Capacity in Terasen's system

26.1 Please discuss whether there is sufficient surplus capacity in the Terasen natural gas system to handle the hoped-for increase in NG deliveries due to the proposed CNG/LNG agreements.

Response:

The agreement proposed in this Application is the Waste Management Agreement, for which Terasen Gas has sufficient surplus capacity to serve. Whether or not TGI's system can handle the increased throughput associated with other new facilities will be determined in large part by where on the system such stations are added and how large these stations are intended to be. Our System Capacity Planning group is responsible for these determinations.

System Capacity Planning is an activity which Terasen Gas takes very seriously and Terasen Gas consistently evaluates its system to ensure that there is adequate capacity to serve both its existing and its anticipated customer load. While the Company believes that there is adequate capacity to serve many incremental CNG and/or LNG customers, each incremental account will continue to be subject to Terasen Gas' existing MX Test, which ensures that any system upgrades required in order to serve an incremental customer are either economic for the system or are recovered from said incremental customer in the form of a Contribution in Aid of Construction. Terasen Gas has structured the proposed program to be consistent with the way in which we run our existing regulated business, and this aspect is no exception.

26.2 Please discuss in what circumstances, and how, TGI's main extensions test would apply to a specific proposed CNG/LNG agreement.

Response:

The MX test will apply in any instance where distribution system extensions are required to bring natural gas to a proposed fueling station, which is consistent with TGI's current practice. The cost of service analysis contemplated in the proposed GT&C Section 12B relates only to the costs associated with the CNG or LNG fueling facility and is distinct from distribution system extensions governed by the MX test.

Please see our response to BCSEA IR 2.26.1.

27. Reference: Exhibit B-1, p.25

TGI states:

"The assumptions underlying this scenario are:

1. Adoption of NGV solutions over the long-term across all the identified target market segments except passenger cars;18

2. Incentive funding19 will continue to be a driver to reduce the initial incremental capital cost across the entire target market segments excluding passenger cars;…

[18] Passenger vehicles are not pursued as a near-term target by Terasen Gas due to their low fuel consumption and limited fueling infrastructure, and thus a limited economic incentive to switch from gasoline to natural gas."

27.1 Please confirm that TGI is not targeting the passenger vehicle market segment.

Response:

Confirmed. Terasen Gas is currently targeting the heavy duty return-to-base fleet vehicle market segment. The Company may in the future, as a secondary market, seek to develop an offering for the passenger vehicle market segment through, for instance, assets used to serve the target market. In other words, the passenger vehicles could take service from a facility that was already anchored and paid for by a return to base fleet customer with a "take or pay" contract. These assets will be situated on existing customer's property and will be governed by contractual relationships between TGI and the existing customer, so any changes to facilitate fuelling passenger vehicles would require renegotiation with the existing customers. Consideration of any effort to serve the passenger vehicle market segment would be the subject of another application to the Commission.

27.2 Has the percentage of the incremental cost of a NGV over a diesel vehicle reimbursed by TGI to WM under the NGV EEC been filed non-confidentially? If so, please confirm the percentage. Does TGI intend to offer the same percentage of the incremental cost of NGVs within the target market to other potential CNG/LNG customers into the indefinite future? Or does TGI contemplate scaling back the percentage of the incremental NGV cost offered under the EEC program at some point in time? Please discuss TGI's plans in this regard.

Response:

In the Application (at page 47), TGI states that TGI will provide EEC funding to WM for the incremental cost of purchasing natural gas vehicles over equivalent diesel vehicles and that the incentive funding is based on the purchase of WM's initial 20 vehicles. TGI can confirm that WM can receive an award covering 100% of the incremental cost of their NGV's as compared to a diesel vehicle, but the reward is subject to a maximum amount.

TGI believes the specific amount awarded to future customers under the program should remain confidential for the following reasons:

1. It is not TGI's practice under other incentive programs to release the specific amounts paid to individual customers. For example, we do not divulge the names of individuals who have received incentives to purchase high efficiency furnaces.
2. TGI has established program processes and reporting practices that are designed to ensure that expenditures are prudently made for such incentive programs.
3. TGI is concerned that consistent availability of incentives may be factored into vehicle pricing programs. This may lead to artificially inflated costs for NGVs over time.

The actual percentage of funding to be provided in subsequent rounds of incentive awards has not been finalized at this point in time and will be determined in consideration of how effective the program has been in initiating market transformation. However, TGI expects to ramp down the level of the incentive over time as more NGVs are introduced to the market and the cost premium for NGVs is declining and the risk perception associated with NGVs will fall. Additionally, an incentive program with declining funding (for instance annually) may also encourage project proponents to move more quickly with adoption of NGV technologies to take advantage of a higher incentive funding.