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BRITISH COLUMBIA UTILITIES COMMISSION

ORDER NUMBER G-128-11

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IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

An Application by FortisBC Energy Inc.
for Approval of a Service Agreement for Compressed Natural Gas Service
with Waste Management of Canada Corporation
and
General Terms and Conditions for
Compressed Natural Gas and Liquified Natural Gas Service

BEFORE: A. A. Rhodes, Panel Chair/Commissioner
D. A. Cote, Commissioner
D. Morton, Commissioner

July 19, 2011

O R D E R

WHEREAS:

A. On December 1, 2010, FortisBC Energy Inc., formerly Terasen Gas Inc. (FEI), applied to the British Columbia Utilities Commission (Commission) for approval of a Service Agreement with Waste Management of Canada Corporation for compression and dispensing service for Compressed Natural Gas (the Waste Management Agreement), pursuant to sections 59 to 61 of the *Utilities Commission Act* (the Act);

B. FEI also applied for acceptance of the expenditures required to provide compression and dispensing service for Compressed Natural Gas under the Waste Management Agreement pursuant to section 44.2 of the Act;

C. FEI also applied for approval of General Terms and Conditions for compression and dispensing service for Compressed Natural Gas (CNG) Service and transportation, delivery, fuel storage and dispensing service for Liquified Natural Gas (LNG) Service for inclusion in future service agreements with customers pursuant to sections 59 to 61 of the Act, (collectively, the Application);

D. FEI sought an expedited process for approval of the Waste Management Agreement, requesting a permanent rate on or before January 14, 2011, or, alternatively, approval of an interim rate pursuant to section 89 of the Act on or before that date;

E. By Order G-181-10 dated December 6, 2010, the Commission established an expedited written hearing process for its consideration of the Waste Management Agreement, and established a written hearing process for the remainder of the Application;

…/2

F. By Order G-6-11 dated January 14, 2011, the Commission approved the Waste Management Agreement on an interim basis, subject to certain changes; and subject to an amended version being refiled with the Commission in standard Tariff Supplement form on a non-confidential basis;

G. On March 25, 2011, FEI submitted the amended Waste Management Agreement as Tariff Supplement J-1;

H. The Commission has considered the evidence and submissions of the parties and approves the interim Waste Management Agreement in final form as a Tariff Supplement. The Commission also accepts the expenditures on the facilities required to provide service under the Waste Management Agreement pursuant to section 44.2 of the Act but rejects the proposed General Terms and Conditions. The Commission will approve revised General Terms and Conditions which better provide for full cost recovery from the potential CNG/LNG customer, as set out in the Reasons for Decision which follow.

NOW THEREFORE pursuant to sections 44.2, 59-61, and 90 of the Act, and for the Reasons contained in Appendix A hereto, the Commission orders as follows:

1. The Waste Management Agreement as amended and refiled on March 25, 2011 as Tariff Supplement J-1, is approved in final form.

2. The expenditures required for FEI to provide compression and dispensing service for natural gas under the Waste Management Agreement, in the amount of $775,031 are accepted.

3. Approval of the proposed General Terms and Conditions for CNG Service and LNG Service is denied.

4. The Commission will approve revised General Terms and Conditions which, in addition to the proposed "Take or Pay" commitment, better reflect full cost recovery from the potential CNG/LNG customer, as more fully set out and explained in the Reasons for Decision attached hereto as Appendix A.

5. FEI shall comply with all directions of the Commission Panel in the Reasons for Decision attached hereto as Appendix A.

6. Subject to FEI filing revised General Terms and Conditions acceptable to the Commission, depreciation rates are approved in accordance with the following table:

Asset	Estimated Useful Life (years)	Depreciation Rate (%)
CNG Dispensing Equipment	20	5%
LNG Dispensing Equipment	20	5%
Foundations	20	5%
Pumps	10	10%
Dehydrator	20	5%

7. No amounts will be approved for capitalized overhead.

8. The following deferral accounts are approved:

   a. A non-rate base deferral account attracting AFUDC to capture the cost of the current application, including the cost of the Waste Management Application and to recover these costs from all non-by-pass customers by amortizing them through delivery rates commencing January 1, 2012 over a three year period. [Future individual application costs must be recovered from those customers.]

   b. A non-rate base deferral account attracting AFUDC to capture the O&M costs and the cost of service associated with the capital additions to the delivery system incurred and the CNG and LNG Service recoveries received prior to January 1, 2012 for contracts approved by the Commission, and to recover or refund the balance to all non-bypass customers by amortizing the balance through delivery rates commencing January 1, 2012 over a three year period.

   c. An ongoing rate base deferral account to capture incremental CNG and LNG recoveries received from actual volumes purchased in excess of minimum contract take or pay commitments to be refunded to all non-bypass customers by amortizing the balance through delivery rates over a one year period, commencing the following year, to be effective as of January 1, 2012 pursuant to sections 59 to 61 of the Act.

DATED at the City of Vancouver, in the Province of British Columbia, this 19th day of July, 2011.

BY ORDER

Original signed by:

A.A. Rhodes
Panel Chair/Commissioner

Attachments

IN THE MATTER OF

FORTISBC ENERGY INC.
AN APPLICATION FOR APPROVAL OF A SERVICE AGREEMENT
FOR COMPRESSED NATURAL GAS SERVICE
WITH WASTE MANAGEMENT OF CANADA CORPORATION
AND GENERAL TERMS AND CONDITIONS FOR COMPRESSED NATURAL GAS
AND LIQUEFIED NATURAL GAS SERVICE

REASONS FOR DECISION

JULY 19, 2011

BEFORE:

A.A. Rhodes, Panel Chair / Commissioner
D.A. Cote, Commissioner
D. Morton, Commissioner

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EXECUTIVE SUMMARY

In December, 2010, FortisBC Energy Inc. (FEI) applied to the British Columbia Utilities Commission (Commission) for approval of "General Terms and Conditions" to allow it to offer Compressed Natural Gas (CNG) and Liquified Natural Gas (LNG) fuelling service to various potential customers with return to base fleets of buses, heavy duty and vocational trucks. Vehicles in these fleets are currently fuelled, for the most part, by diesel and would be converted, or replacement trucks purchased, to run on CNG or LNG. FEI proposes to negotiate individual agreements with customers to construct and operate a fuelling facility on their premises. Each agreement will reflect the proposed General Terms and Conditions, but may include additional provisions that reflect the specific terms that have been negotiated. While FEI proposes to recover most costs of the natural gas vehicle (NGV) fuelling infrastructure from new CNG/LNG customers, the Panel finds that there are still what could amount to substantial potential costs that are proposed to be recovered from existing ratepayers.

FEI also sought acceptance of the forecast expenditures it incurred to provide a fuelling station to Waste Management of Canada Corporation (Waste Management) and approval of the draft contract between those two parties. This contract (the Waste Management Agreement) is the first specific instance of a contract based on the proposed General Terms and Conditions. On January 14, 2011 the Commission agreed to approve the Waste Management Agreement on an interim basis provided certain changes were made and the amended agreement was filed on a non-confidential basis. The revised Waste Management Agreement was filed in final form as Tariff Supplement J-1 on March 25, 2011. The Commission Panel now approves the Waste Management Agreement as a Tariff Supplement. It also accepts the expenditures for FortisBC Energy Inc. to construct the fuelling facilities at Waste Management's premises.

The Panel finds that if the NGV market can be developed as described in FEI's application, benefits would accrue to FEI's new NGV customers, its existing ratepayers and the residents of British Columbia, not to mention FEI itself. These benefits arise from the lower cost of natural gas as a fuel when compared to diesel or gasoline; the increased throughput of natural gas on the FEI system due to the additional consumption of the truck fleet, other things equal, and the reduction in Green House Gas (GHG) emissions from the use of natural gas as compared to diesel or gasoline. However, the Panel finds that there are significant risks associated with this venture, including, but not limited to, the uncertainty surrounding the future price spread between natural gas and oil, and the apparent need for ongoing incentive funding to subsidize the higher cost of natural gas engines. These two factors, among others, had both contributed to the collapse of a previous NGV market in BC in which the Applicant had been involved.

Further, the Panel finds that a CNG/LNG fuelling infrastructure has no natural monopoly characteristics and the service offerings applied for would not be subject to regulation, unless the services were being provided by an organization that is already a regulated public utility.

Thus, the Panel finds that, given the risks involved and the potential presence of unregulated competition in the NGV market, it is neither in the public interest nor fair and just that FEI's existing ratepayers subsidize the NGV fuelling facilities. The Panel is of the view that the major beneficiaries of this proposed project are the potential new customers in the transportation sector, who are GHG emitters, FEI itself, which will make a return on the fuelling station infrastructure, and the residents of the province as a whole, who will enjoy reduced GHG emissions. FEI's existing ratepayers, on the other hand, may enjoy some reduction to the delivery charge they are required to pay due to increased throughput on the system, other things equal, but are not otherwise beneficiaries to the same extent, although they are being asked to shoulder the risks, should the project be unsuccessful. Accordingly, the Panel rejects the proposed General Terms and

Conditions as too general and failing to ensure that the actual cost of service is collected from the customer, as fully as possible. The Panel will approve revised General Terms and Conditions which reflect a greater recovery of the total actual cost of service as outlined in these Reasons for Decision.

1.0 INTRODUCTION

On December 1, 2010 FortisBC Energy Inc., formerly Terasen Gas Inc., applied to the Commission for, among other things, expedited approval of an executory contract to provide natural gas compression and dispensing services to Waste Management of Canada Corporation (the Waste Management Agreement). This was approved for as a Tariff Supplement pursuant to sections 59-61 of the *Utilities Commission Act*, R.S.B.C. 1996, c.473, as amended, for its fleet of return-to-base natural gas vehicles (NGVs).

The Waste Management Agreement was approved on an interim basis on January 14, 2011 (subject to certain amendments and the requirement it be filed on a non-confidential basis), to allow for a closer examination of the business model and any implications which could arise as a result of its approval.

In this Application, FEI also seeks the following:

- permanent approval of the now final Waste Management Agreement as a Tariff Supplement pursuant to sections 59 to 61 of the *Utilities Commission Act (*alternatively, *UCA* or the *Act*).
- acceptance of the expenditures it made on the facilities required to provide the natural gas compression and dispensing services to Waste Management under s. 44.2 of the *Act*.
- approval of standard form "General Terms and Conditions" pursuant to sections 59-61 of the *Act* to allow FEI to offer natural gas vehicle services to other potential customers for:
    - compression and dispensing services for Compressed Natural Gas (CNG); and
    - transportation, delivery, fuel storage, and dispensing for Liquified Natural Gas (LNG).

FEI takes the position that the approvals sought in the Application will benefit existing customers by enabling the addition of cost-effective load to the natural gas distribution system. However, it acknowledges that ratepayers should bear little or no risk and be "kept whole". It submits that the "take or pay" provision, which is a cornerstone of the business model, "ensures that the customer carries the bulk of the cost and risk associated with the investment." (Exhibit B-1, pp. 11, 13)

2.0 SPECIFIC ORDERS SOUGHT

FEI seeks the following specific approvals:

1. An Order approving the Waste Management Agreement pursuant to sections 59-61 of the *Act*.
2. An Order accepting the estimated expenditures (in the amount of $737,944) for the Waste Management project pursuant to s. 44.2 of the *Act*.

3. An Order approving an amendment to FortisBC Energy's "General Terms and Conditions," specifically, the addition of a new section 12B relating to CNG and LNG Service.

4. An Order approving:

   a. Depreciation rates applicable to NGV refuelling assets as per the following table:

Asset	Estimated Useful Life (years)	Depreciation Rate (%)
CNG Dispensing Equipment	20	5%
LNG Dispensing Equipment	20	5%
Foundations	20	5%
Pumps	10	10%
Dehydrator	20	5%
Capitalized Overhead	Average	2.7%

   b. A non-rate base deferral account attracting an Allowance for Funds Used During Construction (AFUDC) to capture the NGV Fuelling Service Application costs incurred in 2010 and 2011 and to recover these costs from all non-by-pass customers by amortizing them through delivery rates commencing January 1, 2012 over a three year period.

   c. A non-rate base deferral account attracting AFUDC to capture the operating and maintenance costs and the cost of service associated with the capital additions to the delivery system incurred and the CNG and LNG Service recoveries received prior to January 1, 2012, and to recover or refund the balance to all non-bypass customers by amortizing the balance through delivery rates commencing January 1, 2012 over a three year period.

   d. An ongoing rate base deferral account to capture incremental CNG and LNG recoveries received from actual volumes purchased in excess of minimum contract take or pay commitments to be refunded to all non-bypass customers by amortizing the balance through delivery rates over a one year period, commencing the following year, to be effective as of January 1, 2012 pursuant to sections 59 to 61 of the *Act*.

   (Application, pp. 57, 70-71)

3.0 PROCEDURAL BACKGROUND

The Application was heard by way of a two stage written hearing process, to allow the application for approval of the Waste Management Agreement to proceed on an expedited basis. Three rounds of Information Requests in total were conducted. A number of the Information Requests were also sought to be held confidential. Some responses were refiled on a non-confidential basis. Where possible, the Commission Panel makes reference only to non-confidential information. However, in some instances, reference to confidential information cannot be avoided. The Commission Panel has attempted to ensure that reference has not been made to information which might be considered "commercially sensitive."

The following parties intervened: B.C. Sustainable Energy Association (BCSEA), B.C. Old Age Pensioners' Organization (BCOAPO) and the Commercial Energy Consumers (CEC). The hearing concluded with the filing of FEI's Reply Submissions on April 12, 2011.

4.0 HISTORICAL BACKGROUND

FEI, through one or more predecessor companies, has previously been involved in the NGV market. It was initially successful in penetrating the light duty vehicle market some decades ago when it established a public CNG fuelling network as a regulated offering. However, this network proved to be unsustainable when market conditions changed. (Exhibit B-1, p. 8)

More specifically, during the mid 1980s to 1990s FEI installed, owned and maintained CNG compression facilities at numerous sites as a regulated offering. At that time, FEI's focus was on public fuelling stations where the retail companies which hosted the CNG fuelling stations were charged a postage stamp rate. Vehicles utilizing the service were primarily high-mileage light duty converted vehicles.

In 1991, in BC, there were over 30 NGV fuelling stations to serve over 7,000 NGVs. Consumption of natural gas by the transportation sector peaked in 1992. At that time there was a wide price differential between natural gas and gasoline, supporting the market. FEI reports that by 1997 there were 52 fuelling stations (owned and operated either by its predecessor company or a third party provider) within its service territory, with an annual load of 627,000 GJ. By the late 1990s car manufacturers had started manufacturing NGVs and these vehicles became more prevalent than converted vehicles. (Exhibit B-1, p. 9)

On December 15, 1999, FEI, then Terasen, applied to the Commission for permission to sell its NGV utility assets to a wholly-owned non-regulated subsidiary, now known as Clean Energy. At that time, Terasen had compression and dispensing equipment located at 19 sites with a net book value of $4.1 million. The compression and dispensing service had been losing money and was being supported by other customer classes. The sale of the equipment, effective January 1, 2000, resulted in a loss of $2.13 million which was to be amortized over ten years and borne by ratepayers. The $2.13 million charge represented just over 50% of the net book value of the assets. (Exhibit B-6, BCUC IR 2.6.1) FEI takes the position that it formed the "separate, non-regulated company in order to have greater flexibility to grow the NGV market and own and operate natural gas fuelling stations across North America." (BCUC Order G-143-99; Exhibit A-2-4; Exhibit B-1, p. 9)

FEI sold what remained of its interest in Clean Energy in 2005. (Exhibit B-6, BCUC IR 2.29.2) At this point in time, "...the light-duty NGV market has almost completely eroded in B.C." Service has historically been provided by FEI to the transportation sector primarily under Rate Schedule 6. Rate Schedule 6 also offers up to $10,000 in incentive funding for the purchase of a factory-built NGV or the conversion of a conventionally-fuelled vehicle to natural gas. Rate Schedule 25 is also available for the provision of natural gas to large general accounts. This rate schedule had one customer, being Coast Mountain Bus Company, at the time the Application was prepared. (Exhibit B-1, Appendix A-2, pp. 8, 11-12; Appendix C, Rate Schedule 6)

FEI attributes the decline in consumption of natural gas by light duty vehicles over the last decade to a number of factors including:

- The price spread between natural gas and conventional fuels narrowed in the period between 2001-2003 to the point where there was no longer a sufficient economic incentive to switch to natural gas, given the difference in capital costs for the two options;
- Circa 2004 car manufacturers withdrew NGV offerings of pickup trucks and vans from the market;

- The cost of engine conversions increased from $3,000 (early 1990s) to $7,000 to $10,000 (now);
- A Natural Resource Canada matching grant program incentive for vehicle conversions was discontinued in 2006;
- Hybrid vehicles were introduced and competed with passenger and light duty vehicle market segments; and
- With load loss, stations closed and fuelling became less convenient.

(Exhibit B-1, pp. 9-10)

5.0 MARKET CONDITIONS, GOVERNMENT POLICY AND THE NEED TO KICKSTART THE NGV MARKET

Vehicles fuelled by natural gas, either in CNG or LNG form, although less energy efficient than their diesel counterparts, produce less Green House Gas (GHG) emissions. (Exhibit B-8, BCSEA IR 2.3.1) FEI advises that studies have shown conventional CNG has a net carbon intensity which is lower than that of reformulated gasoline and 28% less than that of ultra-low sulphur diesel; and that LNG provides a comparable reduction. (Exhibit B-1, p. 37) Thus, FEI argues that the displacement of vehicles currently fuelled by gasoline or diesel with vehicles fuelled by natural gas would result in significant reductions in GHGs in British Columbia. However, natural gas is not without GHG emissions. [A Gigajoule (GJ) of natural gas produces in the range of .05069 tonnes of GHGs, as per Terasen Gas Inc. 2010-2011 Revenue Requirements Application, Response to BCUC IR 1.22.1] In the case of Waste Management, FEI estimates that its fleet of twenty heavy duty vehicles would create 921.6 tonnes of carbon per year when run on diesel as compared to 708.2 tonnes of carbon per year when run on CNG, a saving of 213.4 tonnes per year, based on an analysis using GHG emissions per kilometres travelled for the two fuels. (Exhibit B-8, BCSEA IR 2.3.1)

FEI maintains that this reduction in GHG emissions can assist the province in meeting some of the objectives of the 2007 Energy Plan and the *Clean Energy Act* and notes that the Energy Plan identified the transportation sector as "a major contributor to climate change and air quality problems." (Exhibit B-1, pp. 35-36) FEI also notes that the Low Carbon Fuel Requirements Regulation mandates a 10% reduction in carbon intensity of motor fuels in BC by 2020.

FEI submits that in spite of the recent near collapse of the market for NGVs, there is currently a significant upside potential to this same market. Specifically, it forecasts that by 2030, there is the potential for 30 Petajoules (PJs) of natural gas energy use for buses, medium and heavy duty trucks; and an additional 6 PJs of demand for passenger vehicles. (Exhibit B-1, p. 23) [This compares to the total amount of natural gas delivered in the FEI system in 2010 of approximately 200 PJs]. FEI cites a number of factors that may contribute to the growth in demand for NGV over the next 10 to 20 years, including:

- Natural Gas price advantage over diesel which translates to operating cost savings;
- Competitive advantage of natural gas over diesel due to environmental benefits, including ownership and value of carbon credits;
- Availability of fuelling infrastructure; and

- Incentive funding that will reduce the incremental cost of manufactured NGV vehicles over diesel/gasoline powered vehicles.

(Exhibit B-1, pp. 25-33)

FEI submits that market indications are that natural gas is likely to retain its price advantage over diesel for the foreseeable future. (FEI Final Submissions, para. 35) FEI recognizes, however, that "predicting market share for alternative energy technologies is extremely difficult and highly subjective. Historically, projections for rapid adoption rates have proved to be wildly optimistic." (FEI Response to BCUC IR 2.68.3 from 2010-2011 RRA Application filed as Exhibit A2-6)

FEI is hoping to "kickstart" the potential market for natural gas vehicles with a regulated CNG compression and dispensing service and a storage and dispensing service for LNG. It maintains that because it is in the business of delivering energy to customers in a useable form these services are natural extensions of its existing service to customers. It further states that extension tests and policies are used to ensure that new customers pay the cost of service. (Exhibit B-1, p. 19)

FEI argues that the NGV business model being proposed is different from its previous venture, in that it targets return-to-base fleets of buses, heavy duty and vocational trucks which can be manufactured to use natural gas (as opposed to requiring conversion) and are available in British Columbia. It further argues that although the target market is smaller, there is less risk of changing market conditions. (Exhibit B-1, p. 10) These fleets of vehicles will serve as "anchor tenants" for the customized fuelling stations which FEI will build and own on the customer's premises. The vehicles can be fuelled on their return to their base each evening, giving FEI what amounts to a committed "captive audience."

FEI is proposing a rate design that is based on the cost of service. Once the market is more mature, FEI states that it may consider other rate designs and business models. It submits that the approach being put forward in this Application "will allow for the safe, economic and timely development of additional NGV projects to ensure that demand for NGV and supply of NGV Services are re-introduced in a sustainable manner." (Exhibit B-1, p. 20)

6.0 PROPOSED BUSINESS MODEL

6.1. CNG Service Description

FEI's target market for the CNG service offering will be buses and heavy duty or vocational trucks that are return-to-base fleets which are of sufficient size to be readily served by original equipment manufacturers' (OEM) product. In providing its service offering, FEI has identified three required steps in what it describes as the CNG value chain or model. The first step is the physical delivery of the natural gas supply to the customer. Once delivered, the second step is the process of compressing and storing natural gas at high pressure to be ready for delivery to the vehicle's storage tank. Accordingly, FEI will build customized, private stations designed to support the particular customer's return-to-base fleet with the capability of pressurizing fuel at up to 3,600 pounds per square inch (psi). The third step in the chain involves the actual dispensing of the CNG to the vehicle. FEI states that the cost of owning and maintaining the station for compression and dispensing will be part of the cost of service (COS) and the customer will be responsible for paying a per GJ charge which includes these costs.

With this model FEI states it will be positioned to offer the complete CNG service offering to potential customers. This will involve the following:

- Execution of a service agreement with the customer for compression and fuelling services;
- Investment in any required meter and main extensions and provision of the gas supply; and
- Installation and maintenance of the compression, pressure storage and dispensing equipment.

It is FEI's plan to own and maintain the private station equipment which includes gas compressors, gas dehydrators, high pressure storage tanks and fuel dispensers. Fuel dispensers may be either of the "fast-fill" type [as used in the case of BC Transit] which can fuel a vehicle in 2-3 minutes, or a time-fill setup which can be used to refuel a vehicle overnight, or a combination of the two. (Exhibit B-1, pp. 14-16)

6.2 LNG Service Description

LNG is natural gas which has been cooled to -160 degrees Celsius and must be stored on vehicles and in stations at this low temperature if it is to remain in a liquid state. FEI states that this fuel, because of its density, is particularly well-suited for vehicles like highway tractors with high daily mileage requirements. Like CNG, the value chain for LNG involves a number of steps. The first of these is the production and initial storage of LNG which is currently done at FEI's Tilbury bulk LNG storage facility. The second step in the chain involves the delivery of LNG for use in a customer's fuelling station since there is no piped infrastructure for LNG. FEI states that its proposed LNG service offering contemplates FEI owning and operating the transport and delivery process although it will allow customer delivery of the LNG where appropriate. The third step in the value chain involves the fuel storage and dispensing at the customer fuelling station - services which again FEI will provide.

As with the CNG model, FEI anticipates that it will be positioned to provide a complete LNG service offering to the customer. This will involve the following:

- Provision of LNG supply at Tilbury (where it is offered for bulk sale under Rate Schedule 16 – which is an interruptible service currently offered pursuant to a 5 year pilot project);
- Securing a service agreement with the customer for the LNG fuelling station (including cryogenic storage and dispensing);
- LNG transport from Tilbury to the customers' facility by transport truck, if required; and
- Investment in and maintenance of the storage and dispensing equipment.

For the LNG Service offering, it is FEI's intention to own and maintain the LNG tankers, cryogenic storage tanks which include secondary containment, the LNG vaporizer and pump and the dispenser equipment. As with the CNG offering, the model calls for the cost of owning and maintaining the station to be built into the COS charge which will be recovered from the customer on a per GJ basis. Where required, a separate delivery charge to cover transport and delivery of the LNG will be created. (Exhibit B-1, pp. 16-18)

6.3 Rate Schedules

FEI's business model is reflected in the rate structures for which it seeks approval. Essentially, there are two components:

1) the General Terms and Conditions for CNG and LNG Services; and

2) Customer-Specific contracts, which will be filed as Tariff Supplements.

In this Application, FEI is seeking Commission approval of standard form General Terms and Conditions which incorporate its proposed rate design for both CNG and LNG service pursuant to sections 59-61 of the *Utilities Commission Act,* which deal with rates. This proposed rate design "yields a customer-specific rate that will be incorporated into the applicable service agreement." (Exhibit B-1, p. 61)

FortisBC proposes that the General Terms & Conditions will have the following:

- a take or pay provision;
- provisions for full cost recovery from each customer; and
- stipulation of how the cost of service will be determined.

The General Terms and Conditions for which approval is sought are contained in Appendix B of the Application. They are an amendment to FEI's General Terms and Conditions by way of the addition of a section (section 12B) which relates to CNG and LNG Service. (Application, p. 11) Section 12B is very general and comprises little more than a single page. It is reproduced in its entirety in Appendix 1 of these Reasons for Decision.

Section 12B.3 deals with Cost of Service Recovery. This section states:

> "Customers will be charged a "take-or-pay" rate (i.e. minimum contract demand) under the Service Agreement that recovers the present value of the forecast cost of service associated with the provision of CNG or LNG Service over the term of the Service Agreement, where the minimum contract demand is the forecast consumption based on the forecast number of vehicles served by the vehicle fueling station."

Section 12B.5 Costs states:

> "The total costs to be used in determining the forecast cost of service to be recovered from the Customer under the Service Agreement include, without limitation
>
> (a) the capital investment, including any associated labour, material, capitalized overhead and other costs necessary to serve the Customer, less any contributions in aid of construction by the Customer or third parties, grants, tax credits or non-financial factors offsetting the full costs that are deemed to be acceptable by the British Columbia Utilities Commission

(b) depreciation expense related to the capital assets associated with the vehicle fuelling station; and

(c) the incremental operating and maintenance expenses necessary to serve the Customers.

In addition to the costs identified, the cost of service recovery will include applicable property and incomes taxes and the appropriate return on rate base approved by the British Columbia Utilities Commission."

6.4 Cost of Service Model

FEI advises that, at a high level, the cost of service model captures all of the costs associated with providing service to a particular NGV customer, and uses those costs to generate a rate which recovers the cost of serving that specific NGV customer over the term of the agreement. (Exhibit B-1, pp. 11-12)

6.1.1 "Take or Pay" Commitment

Each customer-specific service agreement will contain a "take or pay" commitment which will require the customer to commit to purchase a specified volumetric fuel charge, calculated to recover the cost of service, whether or not such volume is actually required or consumed. However, if the customer takes more service than the amount committed to, an excess rate will be charged, which may be less than the "take or pay" rate. (Exhibit B-1, p. 12) FEI proposes to accumulate any additional revenues from quantities purchased in excess of the minimum committed "take or pay" volume in an ongoing rate base deferral account, commencing in 2012. (Exhibit B-1, p. 71)

6.1.2 Cost of Service Calculation

FEI proposes to base the cost of service calculation on the total forecast – as opposed to actual - costs to provide either CNG or LNG service which include:

- The capital cost of the fuelling station – including any associated labour, materials, capitalized overhead, less any contributions in aid of construction, grants etc. offsetting the full cost;
- Incremental operating and maintenance costs necessary to serve the customer;
- Depreciation expense related to the capital assets associated with the contract;
- Applicable property tax;
- Calculated income tax expense;
- Return on rate base at the then-current approved rate.

(Exhibit B-1, p. 55)

6.1.3 Capital Costs

FEI proposes to use forecast capital costs as an input into its cost of service calculation. It submits that its forecast costs have a high degree of accuracy for the following reasons:

- It has undertaken "detailed and comparative quotations";
- Its project engineering team is experienced;
- The fuelling station, which represents the largest component of a project's costs, can be procured by way of a fixed price contact.

The forecast capital costs also include capitalized overhead. Capitalized overhead is calculated as 14% of forecast gross operating and maintenance costs. (Exhibit B-1, p. 56)

6.1.4 Operating and Maintenance Costs

Forecast operating and maintenance (O&M) costs represent the incremental material and labour expenses associated with maintaining each fuelling station as well as the incremental administrative costs associated with each contract. FEI expects, however, that any administrative costs will be minimal, as most candidates for CNG or LNG service will be existing customers. O&M costs are estimated to be in the range of 4% to 6% of the capital costs for an LNG project. (Exhibit B-6, BCUC IR 2.10.2; 2.10.4) The gross forecast operating and maintenance costs will also be reduced by the 14% amount attributed to capitalized overhead.

FEI increases the net forecasted operating and maintenance expenses in its cost of service model by 2% per annum. (Exhibit B-1, p. 57) However, FEI also proposes that this escalation factor be open to negotiation with the individual customer. (Exhibit B-1, p. 61)

6.1.5 Depreciation and Amortization Expense

FEI proposes to use depreciation rates which, other than capitalized overhead, represent recovery of the cost of the asset over its estimated useful life, which is, for the most part, 20 years. (Exhibit B-1, p. 57) FEI proposes to amortize capitalized overhead at the rate of 2.7% per annum, which equates to a 37-year period.

The following table sets out the depreciation rates for which approval is requested:

TABLE 1
Useful Life and Resulting Depreciation Rates for CNG and LNG Fuelling Assets

Asset	Estimated Useful Life (years)	Depreciation Rate (%)
CNG Dispensing Equipment	20	5%
LNG Dispensing Equipment	20	5%
Foundations	20	5%
Pumps	10	10%
Dehydrator	20	5%
Capitalized Overhead	Average	2.7%

Source: Exhibit B-1, p. 57, Table 5-1

6.1.6 Property Taxes

As property taxes are site-specific, the property tax expense forecast will vary by project. The forecast property tax is an input to the cost of service calculation. (Exhibit B-1, p. 58)

6.1.7 Income Taxes

FEI also proposes to include forecast income taxes expense, calculated on an estimated actual taxes payable basis, in its cost of service calculation. (Exhibit B-1, p. 58)

6.1.8 Rate Base and Earned Return

FortisBC Energy's cost of service will also include an amount for the allowed return on the rate base associated with each CNG or LNG contract. (Exhibit B-1, pp. 60-61)

6.1.9 Contract Term

At a minimum, FortisBC proposes to match the contract term to the life of the initial fleet of NGVs. (Exhibit B-1, p. 55) The life of the vehicles in the projects which FortisBC is targeting ranges from five to ten years. (Exhibit B-1, p. 12)

7.0 ALIGNMENT WITH ENERGY POLICY

In reviewing an expenditure schedule for acceptance under section 44.2 of the *Utilities Commission Act*, (pursuant to which the expenditures on the fuelling station for Waste Management were filed, and others may be filed) the Commission is required to consider the applicable of British Columbia's energy objectives. In its Final Submission, FEI explains how its investments further these objectives.

FEI also asserts that the policy objectives introduced in "The BC Energy Plan A Vision for Clean Energy Leadership" (the 2007 BC Energy Plan) place a new focus on NGVs. (FEI Final Submissions, pp. 19-22)

FEI submits that any future cost-effective investment in fuelling stations for "return to base" fleet customers

can similarly be expected to support British Columbia's energy objectives. FEI submits that "British Columbia's energy objectives apply to CPCN applications under section 45 of the *UCA* and applications brought under 44.2 (among other sections) which both relate to utility capital investments" and that this is "explicit recognition that Government intends public utilities to be investing in cost-effective initiatives and facilities that advance the legislated objectives." (FEI Final Submissions, p. 20)

FEI states that "On November 25, 2008 GHG interim targets were set by Ministerial Order as follows:

- 2012 – six per cent below 2007; and
- 2016 – eighteen per cent below 2007 levels"

and that reductions of at least 33% are required for the year 2020 and subsequent years. (Exhibit B-1, p. 38) These targets are reflected in Section 2(g) of the *Clean Energy Act*.

Given a 2007 estimated level of GHG emissions of 67.3 million tonnes (BC Provincial GHG Inventory Report, 2007; Exhibit B-1, p. 41), this amounts to required reductions of approximately 4 million, 12 million and 22 million tonnes in 2012, 2016 and 2020, respectively. FEI maintains that fuel switching for return to base fleets will help contribute to this required reduction. To this end, FEI estimates that if its "Reference Case," (which forecasts consumption of approximately 30 PJs (or 30 million GJs) of natural gas by trucks, buses and marine vessels which have switched away from conventional fuels to natural gas by 2030) comes to pass, there will be a reduction of 865,000 tonnes of GHGs emitted in the year 2030. However, much lower reductions are forecast for earlier years in the range of approximately 25,000, 70,000 and 180,000 tonnes for the years 2012, 2016 and 2020, respectively. (Exhibit B-1, Appendix A1, pp. 19, 27)

Commission Panel Discussion

As noted by FEI, the 2007 Energy Plan indicates that the single largest source of GHG emissions in B.C. is the transportation sector. This sector accounts for 39% of GHG emissions, as compared to 11% for the residential and commercial sector. FEI "believes that reducing GHG emissions in the transportation sector is necessary in order to realistically achieve the provincial government's stated objectives." (Exhibit B-1, pp. 41-42 citing 2007BC Energy Plan) FEI submits that the use of NGVs in BC will achieve large reductions in overall GHG emissions and this will help meet the Provincial government's GHG reduction targets.

FEI notes the comment in the 2007 Energy Plan that "natural gas burns cleaner than either gasoline or propane, resulting in less air pollution" in support of its proposition that "government policy generally places a new focus on NGVs". (FEI Final Submissions, p. 19) However, the Energy Plan also describes other transportation technologies, some considerably cleaner than natural gas and in fact went on to state in the next sentence that "[f]uel cell vehicles are propelled by electric motors powered by fuel cells, devices that produce electricity from hydrogen without combustion". It continued: "[c]ars that run on blends of renewable biofuels like ethanol and biodiesel emit lower levels of greenhouse gases and air pollutants. Electricity can provide an alternative to gasoline vehicles when used in hybrids and electric cars." (2007 BC Energy Plan, p. 19)

Further, the "policy actions" for addressing greenhouse gas emissions from transportation and increasing innovation as set out in the 2007 BC Energy Plan contemplated measures such as: the implementation of a 5% renewable fuel standard for diesel, support for the federal action of increasing the ethanol content in gasoline, and development of a leading hydrogen economy with a new, harmonized regulatory framework for hydrogen. (2007 BC Energy Plan, p. 20)

As well, the "key initiatives and recent announcements" in the 2007 BC Energy Plan in this area contemplated the promotion of hybrid vehicles through tax incentives and government purchases of hybrid vehicles exclusively. The 2007 BC Energy Plan also noted the Province's intention to reduce "diesel emissions through new financial incentives to help municipalities shift to hybrid vehicle fleets and retrofit diesel vehicles with cleaner technologies." (2007 BC Energy Plan, p. 21)

The Panel is of the view that the interest expressed in electricity and hydrogen as alternative fuels for the transportation sector in the 2007 BC Energy Plan introduces an additional element of risk to FEI's proposed NGV program, particularly as these alternative fuels tend to have a lower carbon footprint than natural gas and, when viewed in comparison, would align more closely with British Columbia's energy objectives.

In its closing submission, the BCSEA states that "…the evidence establishes that substituting CNG or LNG powered vehicles for diesel powered vehicles will significantly reduce GHG emissions in BC." (BCSEA Final Submission, p. 5) CEC submits that FEI has established that NGV applications for the target markets, switching from diesel to natural gas, would result in a reduced carbon footprint, and that FEI has also established that this is consistent with the BC energy objectives. (CEC Final Submission, p. 6) The BCOAPO is silent on the alignment of the NGV program with the Provincial Government's energy policy and its impact on GHG emissions.

The Panel accepts that fuel switching from diesel to natural gas will assist the province in meeting its energy objectives. However, we note that whether this contribution is considered "significant" is largely subjective.

While subsection 44.2 (5)(a) does indeed require the Commission to consider "the applicable of British Columbia's energy objectives," subsection 5(e) requires the Commission to consider the "interests of persons in British Columbia who receive or may receive service from the public utility."

The 2007 BC Energy Plan basically contemplates government initiatives and spending but otherwise provides little guidance on who should bear any specific costs associated with programs to reduce emissions.

There is a potential for some future guidance to be provided under the *Clean Energy Act*. Subsection 18(1) of that Act defines a **"**prescribed undertaking**"** as "a project, program, contract or expenditure that is in a class of projects, programs, contracts or expenditures prescribed for the purpose of reducing greenhouse gas emissions in British Columbia." Subsection 18(2) requires the Commission to set rates for a public utility that is carrying out a "prescribed undertaking" "that allow the public utility to collect sufficient revenue in each fiscal year to enable it to recover its costs incurred with respect to the prescribed undertaking". By subsection 35(n), the Lieutenant Governor in Council may make regulations... "(n) for the purposes of the definition of "prescribed undertaking" in section 18, prescribing classes of projects, programs, contracts or expenditures that encourage

(i)the use of
(A) electricity, or
(B) energy directly from a clean or renewable resource

instead of the use of other energy sources that produce higher greenhouse gas emissions, or

(ii) the use of natural gas, hydrogen or electricity in vehicles, and the construction and operation of infrastructure for natural gas or hydrogen fueling or electricity charging."

However, the Panel has not been referred to and is otherwise unaware of any regulations having been made to this point in time relating to "prescribed undertakings."

Accordingly, the Panel will examine the interests of FEI's existing ratepayers in considering the acceptability of NGV related expenditures under subsection 44.2(5).

As noted above, subsection 44.2(5)(e) requires the Commission to consider "the interests of persons in British Columbia who receive or may receive service from the public utility."

The Panel is of the view that not every expenditure that helps to meet an objective of the Energy Plan will necessarily be automatically eligible for acceptance under Section 44.2. Additional analysis is required to ensure that the expenditure is a reasonable use of limited funds and that better uses are not readily available. It is also important that proposed expenditures do not create too great of a burden on those who will be asked to foot the bill.

Further, in the Panel's view, it is important that, where there are different rate schedules in effect, the customer which benefits from the expenditure is responsible to "pay the freight". In this case, FEI's proposed NGV program targets a reduction in the GHG emissions of the transportation sector. Although many costs are borne directly by the NGV customers under the proposed Cost of Service model, cost overruns and unaccounted for costs are proposed to be borne by FEI's existing ratepayers. In addition, as discussed elsewhere in this decision, these existing ratepayers are proposed to shoulder the risk for what could amount to considerable additional costs should market conditions deteriorate, as they did in FEI's previous NGV venture.

The Panel questions whether it is in the interests of FEI's existing ratepayers to bear the costs or risks associated with reducing carbon emissions for the transportation sector when FEI ratepayers represent only a portion of the province's population and, generally speaking, are not directly responsible for those emissions. We are of the opinion that they should not. In our view, it is more appropriate that these costs be borne either by the owners of the vehicles, as they are the emitters, or by the people of the province as a whole, as they are the beneficiaries. Thus, in the Panel's view, expenditures undertaken to provide and operate infrastructure for fuelling NGVs are not sufficiently in the interests of FEI's existing ratepayers to satisfy the requirements of subsection 44.2(5)(e) as it relates to the interests of persons who take service from the public utility. The expenditures would, however, appear to be in the interests of those potential new customers who may receive CNG/LNG service from the utility.

Thus, the Panel agrees with FEI's approach that the ratepayers be "kept whole," and throughout this decision, we discuss the reasons for our agreement. **Consistent with this approach, the Panel finds that while the benefits of GHG emission reduction provides a justification for FEI's proposed NGV program, FEI's ratepayers must be insulated, to the greatest extent possible, from the costs and risks of the program.**

8.0 ISSUES ARISING

8.1 Introduction

In the view of the Commission Panel the Application raises several key issues. The first relates to the protection of the public interest in circumstances such as these, where a regulated utility is seeking to offer services which would otherwise not be subject to regulation.

Other issues which flow from the first include:

- Management of Risk
- Potential for Rate Discrimination
- Interpretation of Just and Reasonable Rates
- The Need for Confidentiality
- Adequacy of the Cost of Service Model and related Allocations

These issues all converge in the overarching concern of the Panel expressed throughout these Reasons, which is how best to insulate the existing ratepayer from various costs and risks and how to ensure that the costs and risks are actually borne by the parties who stand to benefit the most.

8.2 Regulated vs. Non-Regulated and the Public Interest

FEI has chosen to apply to the Commission to provide the new CNG and LNG fuelling services in its capacity as a regulated public utility. Given the definition of "petroleum industry" as including "the retail distribution of liquefied or compressed natural gas" and "public utility" as not including "a person not otherwise a public utility who is engaged in the petroleum industry..." in section 1 of the *Utilities Commission Act*, it is only because FEI is already "otherwise a public utility" that this new business is required to be regulated. FEI would be free to pursue this business through a non-regulated subsidiary and thereby avoid Commission oversight. Other companies, not otherwise public utilities, may enter the industry and will not be subject to regulation. In fact, FEI maintains that its CNG and LNG business models do not preclude a third party from offering the same services and that it supports other third party investment. (Exhibit B-1, pp. 16, 18) FEI states, however, that for its part, it "is interested in owning and operating NGV fuelling stations only through its regulated utility subsidiaries...in the manner proposed" in the Application. (Exhibit B-6, BCUC IR 2.29.1)

FEI also takes the position that once the Commission has approved a tariff offering for CNG and LNG service, such service becomes subject to the statutory framework relating to a utility's legal obligation to provide its service to the public, as set out in sections 28 to 30 of the *Act*. (Exhibit B-9, CEC IR 2.1.3)

Commission Panel Discussion

The Commission Panel acknowledges that the *Utilities Commission Act* does not prohibit FEI from providing CNG/LNG service offerings but that, unlike other potential market participants, if it does so, it will be subject to regulation. FEI is subject to regulation because it is otherwise a monopoly, and the regulatory framework exists to protect the public from monopolistic behaviour and the potential associated problems. (Atco Gas

Pipelines Ltd. v. Alberta (Energy Utilities Board), [2006] 1 S.C.R. 140, 2006, SCC4, para. 3) The Panel is of the view that in a case such as this one, the public interest requires that, if FEI is to provide CNG/LNG services in its capacity as a public utility, it must do so without utilizing any potential economic leverage which it may have as a result of its status as a monopoly distributor of natural gas.

The Commission Panel does not agree with FEI's position the "once Commission approval has been obtained for a tariff offering for CNG and LNG service" it will be under an obligation to provide this service to the public pursuant to section 28 of the *Act*. (Exhibit B-9, CEC IR 2.1.3) The Commission Panel is of the view that the obligation to serve stems from the nature of a monopoly provider of services with infrastructure which has natural monopoly characteristics such that a competitive market structure does not make economic sense. In the circumstances of this Application, the fuel dispensing service has no natural monopoly characteristics and could potentially be supplied by any number of competitors. As such, there is no corresponding requirement to recognize an obligation to serve such potential customers.

8.3 Risks

8.3.1 Parallels to Previous Natural Gas Program

As discussed earlier, FEI has, through a predecessor company, previously tried to establish a market for NGVs in British Columbia. However, the venture was ultimately not successful. The Panel will now examine the ways in which the current proposal is similar, and in what ways it differs, from the previous venture.

It is FEI's position that the current program has little in common with previous NGV initiatives. As previously described, this Application is based on a business model that targets return to base fleets of buses, heavy duty and vocational trucks. FEI submits that this "anchor tenant" model, although directed at a smaller target market, is less risky.

However, the Panel notes that FEI also owned and operated an NGV compression and dispensing facility for BC Transit. This facility was also constructed to serve a return-to-base fleet of heavy duty vehicles and was backed by a take or pay contract as is proposed here. FEI summarizes the main difference between the BC Transit case and the Waste Management case: "the BC Transit facility was a fast-fill design utilizing early CNG equipment technology, whereas the WM facility is time-fill facility using off the shelf proven CNG refuelling equipment." (Exhibit B-4, BCUC IR 1.11.1; 1.11.2)

One factor cited by FEI in the deterioration of the market for its previous NGV offering is an erosion of the cost differential between natural gas commodity prices and the price of conventional fuels, but that since 2000, the price differential has been re-established. FEI states that natural gas has historically had an advantage in price over other motor vehicle fuels and the lower operating cost savings result in savings for customers in spite of the higher cost of OEM NGVs or after-market conversions. Figure 3-1 in the Application outlines a historical comparison of the cost of CNG (including a $5/GJ compression charge and applicable rate riders) and diesel fuel. The figure shows that the CNG bundled rate over the ten year period commencing in 2000 would compare favourably with diesel over the entire period. Similar results are outlined in Figure 3-2 which depicts a comparison with gasoline. FEI further notes that as of the date of the Application, the advantage over diesel would be $.40/litre or 40 percent and submits that forward market prices indicate that natural gas is likely to maintain this price advantage for the foreseeable future. (Exhibit B-1, pp. 28-31)

Commission Panel Discussion

The Commission Panel acknowledges that the basis for this program and its operating fundamentals may be somewhat different from FEI`s previous offering, but remains concerned that some of the factors which contributed to the lack of success with the initial NGV program remain at play with the current Application. For example, in the BC Transit case, the model was similar and the venture was not successful. As a result, the risk of stranded assets exists and with it the potential for additional costs, which FEI seeks to recover from its ratepayers.

As noted by FEI in the Application, the price of natural gas in 1992 was very favourable but this advantage eroded significantly by the early 2000's when "the price advantage of natural gas versus conventional fuels narrowed to the point where there was insufficient economic incentive to switch fuels given the differential in capital cost between the two options". (Exhibit B-1, p. 9) The Panel notes that the current price advantage related to natural gas has been affected by the current market surplus resulting from the exploitation of shale gas throughout North America. Whether this price advantage continues to be maintained over the next five to ten years remains an issue given potential for worldwide demand for LNG leading to the export of surplus natural gas in a liquefied state. We remain concerned that when initial service agreements, which FEI estimates to be 5 to 10 years (in line with the life of the vehicles), expire, the attractiveness of the programs may have diminished and customers may choose to pursue other alternatives. (Exhibit B-1, p. 12)

The Commission Panel is of the view that the primary reason this type of program will be attractive to prospective customers is because it offers a cost effective option to more traditional fuel alternatives. The current cost advantage enjoyed by CNG/LNG, is significant as FEI has pointed out. As a result, customers who choose to move forward with this program stand a very good chance of enjoying operating cost savings while also projecting a "greener" image due to the reduced emissions associated with NGVs. Of concern to the Commission Panel, as noted above, is the lack of certainty that the current price advantage of CNG/LNG versus conventional fuels will continue into the future. Additionally, the Panel is concerned about the potential for technology advancements which may provide a greener or more cost effective solution than that offered by CNG/LNG. For example, there may be increasing support for electric vehicles that are fuelled by energy generated from renewable hydro. In this regard, the Panel notes that the introduction of hybrid electric vehicles was cited by FEI as a factor in the decline of the NGV market in BC in the past ten years. (Exhibit B-1, p. 10)

8.3.2 Potential for Stranded Assets

For the purposes of the discussion in these Reasons, the Commission Panel considers a stranded asset to be an asset with a book value that exceeds its market value, in circumstances where the asset is no longer used or useful for utility purposes. The potential for stranded assets in the business model presented by FEI in this Application in particular, arises because of the differences in the time period covered by fleet operator service agreements (which FEI proposes to match to the life of the vehicle) and the asset life of the station infrastructure (which is estimated to be 20 years). As FEI has acknowledged, the risk associated with the expiry of the service agreement before recovery of the full capital cost of the station is one of under-recovery. Where a customer does not choose to use natural gas as its fuel beyond the initial term of a service agreement, 10 to 15 years of unrecovered costs could remain. Based on the average station infrastructure cost of $700,000 utilized in Figure 2-1 of the Application, this would amount to a potential for stranded asset costs ranging from $350,000 to $525,000 for each project depending on the period covered in the initial service agreement. (Exhibit B-1, pp. 12-13, 65)

FEI states that this recovery risk can be mitigated in a number of ways:

- Stations could be relocated to another project location resulting in an estimated recovery of 50 to 70 percent of the capital;
- Station assets could be sold into other jurisdictions [No cost mitigation estimates were provided for this instance]; and/or
- FEI could seek to negotiate contractual terms with customers to mitigate risk.

With respect to the last measure, the Waste Management Agreement contains a clause which stipulates that the customer must pay for any unrecovered amount if it chooses not to renew the Agreement (Exhibit B-1, Appendix D-1).

None of the Interveners expressed significant concern with respect to the risk of stranded assets. In reference to the Waste Management Agreement, BCSEA states that existing customers are provided significant protection against stranded asset risks with the 'take or pay' feature, bolstered by protection against unrecovered capital where a contract is not renewed. Additionally, it notes that the protection is greater than that provided by the Mains Extension test, which is applied in instances where there are customer driven extensions of the existing pipeline. (BCSEA Final Submission, p. 7) BCSEA makes no further comment with regard to stranded assets in its comments on the proposed General Terms and Conditions. BCOAPO notes that in its view the "risks of stranding assets are low" and the tolling proposal will provide "for fairly certain cost recovery." (BCOAPO Final Submission, p. 1) The CEC argues that the 'take or pay contracts', FEI's expectation that 50 to 70 percent of remaining capital costs can be recovered, and the potential for FEI to negotiate renewal or buyout terms provides a risk mitigation which significantly exceeds that available for other customer classes. The CEC concludes its comments on this issue by stating "the risks of stranded assets due to customers switching to other fuel sources exists across the FEI system and the risk for the proposed NGV assets is relatively low in comparison." (CEC Final Submission, pp. 3-4)

Commission Panel Determination

As noted earlier, the Panel remains concerned that there is a risk for stranded assets due to the potential for changing circumstances with respect to the use of natural gas as a transportation fuel. Further, the Panel is not convinced that FEI has made sufficient provisions within the proposed General Terms and Conditions to ensure the potential for stranded assets is adequately mitigated. We note that the 'take or pay' provision within the General Terms and Conditions ensures that the forecast cost of service over the term of the service agreement will be recovered. However, this provides no relief in the event that a customer decides not to renew after the initial 5 or 10 year term. FEI has stated that there are opportunities for it to recover 50 to 70 percent of the remaining unamortized capital in such instances. While the Panel will not dispute that the assets may still have useful life remaining, we do question whether the value would be realized in such instances. In the Panel's view the biggest threat to customer renewal is changing circumstances which may make CNG/LNG less attractive as a fuel source. This may be because of a change in the economics or through the introduction of new technology over the 5 or 10 year initial term period. In such instances the migration away from this solution would not likely be made by one customer but more likely by many and would apply to new customers as well. Thus, if such a change were to occur as it did with the previous NGV offering, it would be unreasonable to assume that reselling or relocating the assets would be certain or even likely. If resale or relocation did not occur,

the cost proposed to be borne by existing ratepayers, as noted previously, would range between $350,000 and $525,000 per non renewing customer, based on average infrastructure costs of approximately $700,000.

As also noted earlier, in the case of the Waste Management Agreement, the 'take or pay' feature is bolstered by protection against unrecovered capital costs through a provision requiring Waste Management to purchase the fuelling station at its remaining undepreciated capital cost, if the contract is not renewed. However, FEI did not include such a provision in its proposed General Terms and Conditions, but stated that it can "… negotiate contractual terms that mitigate risk." (Exhibit B-1, p. 65) The Panel is of the view that, in the circumstances of this Application, a period of 5 to 10 years is a long time and, as evidenced by occurrences over the last few years, a great deal of change can occur over even a relatively short period of time. Failure to include provisions to protect against the risk of stranded assets would not be in the public interest. **Accordingly, the Commission Panel has determined that to be approved, the General Terms and Conditions must include a provision requiring the customer to pay any unrecovered capital in those cases where the initial contract is not renewed, or a similar provision that provides equivalent protection.** The Panel understands adding this provision may result in some potential customers being lost because they are not prepared to bear that risk. However, we also see no reason why the ratepayer should be required to do so either.

8.3.3 "Kick Starting" the Market

FEI submits that it should build the fuelling facilities to "kick-start" the market and that it is uniquely qualified to do so. FEI argues that the market for CNG in BC has stagnated in the past ten years or so, and that it must provide CNG/LNG service as a regulated entity to revitalize the market. It also states that it "is not aware of other businesses with the expertise and technical capability that have committed to developing the B.C. fuelling station market." (FEI Final Submissions, pp. 23-24)

Commission Panel Determination

In the Panel's view, while the lack of an experienced and committed CNG supplier may indeed be a reason for the decline in CNG use, FEI has provided a number of other factors, including an insufficient price spread between natural gas and conventional fuels, the introduction of hybrid electric vehicles and, significantly, the cost of engine conversion and the discontinuation of federal government incentive grants to support these conversions. (Exhibit B-1, p. 47, Appendix A-2, pp. 10-11) These last two reasons are underscored by the fact that FEI provided incentive funding to Waste Management to cover the entire incremental cost of purchasing 20 CNG fuelled vehicles over 20 diesel fuelled vehicles. The incentive funding was provided under the terms of a separate Contribution Agreement. (Exhibit B-1, p. 47; Exhibit B-8, BCSEA IR 2.27.2) FEI states that it "believes that incentive funding is important to achieving near-term opportunities…". (Exhibit B-1, Appendix A-1, p. 29) In fact, all three of FEI's demand scenarios assume the availability of incentive funding. FEI states that "if no incentive funding is available through government or other sources, NGV adoption under all three scenarios will be insignificant over the short and long term." (Exhibit B-11, BCUC IR 3.7.2)

Thus, the Panel notes the potential role of incentive funding in 'kick-starting' the market and is concerned that FEI has not established the potential existence of any market in the absence of such incentive funding. The Panel further notes that If it were the case that the market is dependent on incentive funding, from one source or another, then it introduces an additional element of risk into this service offering, in that incentive funding may not be sufficient or even available in the longer term.

Accordingly, while FEI may – or may not - be able to kick start the market, the Panel finds the evidence supporting FEI's assertion that it is uniquely qualified to do so is less than compelling. The Panel finds that there is a significant potential for risk in assuming the long term viability of this potential market and directs that ratepayers be insulated from this risk to the fullest extent possible.

8.4 Implications of Sections 59-62

8.4.1 Rate Discrimination

Section 59(2)(b) of the *UCA* states: *A public utility must not extend to any person a form of agreement, a rule or a facility or privilege, unless the agreement, rule, facility or privilege is regularly and uniformly extended to all persons under substantially similar circumstances and conditions for service of the same description.* However, FEI argues that it needs considerable flexibility to negotiate terms of individual agreements that could extend beyond the proposed General Terms and Conditions. The Panel is concerned that this potential for significant variations in the terms of each custom service agreement could constitute a discriminatory extension of a privilege to a customer. For example, FEI states that the initial term of future contracts will vary. (Exhibit B-6, BCUC IR 2.3.1) FEI further admits that there will still be un-recovered costs at the end of the term unless the term is as long as the life of the underlying assets and that, in most cases, customers will expect a term only as long as the expected life of their vehicle assets. (Exhibit B-7, BCOAPO IR 2.1.1) In the case of Waste Management, FEI was able to negotiate a provision to ensure recovery of the undepreciated cost of the asset at the end of the initial contract term. If another customer did not agree to such a provision, the Panel questions whether both parties would have, in fact, been extended the same rule or privilege.

Commission Panel Determination

Given the General Terms and Conditions proposed and the negotiation process as described by FEI, there is a potential for a benefit or benefits being made available to one LNG/CNG customer but not another. **Therefore, the Panel finds that FEI's proposal, which provides for the potential to negotiate significant variations among different service agreements, is not acceptable.** The Panel favours a more structured approach to the General Terms and Conditions, which will result in a more standard form, leaving less to negotiate and consequently reducing the likelihood that an agreement will be discriminatory within the meaning of section 59(2)(b) of the *Act*.

8.4.2 Just, Reasonable and Fair Rates

Both the Waste Management Agreement and the proposed General Terms and Conditions are subject to approval under sections 59-61 of the *UCA*, which require that rates be not unjust or unreasonable or unduly discriminatory. Subsection 59(5) of the *Act* defines an unreasonable rate as one that is more than a fair and reasonable charge for service of the nature and quality provided by the utility, or is insufficient to yield a fair and reasonable compensation for the service provided by the utility. The Panel is concerned that the cost of service model as reflected in the proposed terms and conditions may not recover the full, actual cost of the services provided.

BCSEA argues that the Waste Management Agreement rate is just and reasonable because it is based on the cost of service and it is satisfied that there is no cross-subsidization by ratepayers. (BCSEA Final Submission, pp. 7-8) While the Panel agrees that a rate that is based on the cost of service could be just and reasonable, we are concerned that the General Terms and Conditions, as proposed by FEI, base the cost of service on

forecast, as opposed such costs. (Exhibit B-6, BCUC IR 2.1.1) Actual costs may differ from forecast costs due to elements as cost overruns during construction. Further, higher inflation rates or taxes than originally anticipated, and potential increases to the utility's allowed rate of return will not be recovered from the customer. In addition, as discussed above, depending upon the term of the contract with the LNG /CNG customer, the cost of service as proposed by FEI, may not recover all of the potential costs to FEI of providing the service. The proposed cost of service model also does not include any costs relating to marketing of the program. While some of these costs may not be significant, there is a potential, under certain market scenarios, for some to be consequential. Thus, the Panel is concerned that there is a potential for cross-subsidization by ratepayers.

Commission Panel Determination

CEC argues that it is just and reasonable to recover only forecast costs and that the Mains Extension test supports this approach. (CEC Final Submission, p. 8) However, the Panel questions this comparison. In Exhibit B-9, CEC IR 2.8.1 FEI asserts that existing customers share in the costs of extending the system for a Mains Extension because they see benefit from additional load (emphasis added). The Panel does not agree with this characterization and does not consider Mains Extensions to be an appropriate basis of comparison. While additional load and the resulting potential for lower delivery rates may indeed be a benefit of a Mains Extension to existing ratepayers, it is not the reason for the cost sharing. The purpose of a Mains Extension is to connect new customers to the system, thereby extending the distribution system. A Mains Extension within the service area of a regulated utility can only be undertaken by that utility. Generally speaking all ratepayers – including the new ratepayers who will receive the service – will be required to share in the costs of the extension, as they share in all of the costs related to the operation of the distribution system. In cases where the connection costs are excessive, a utility may recover some of the costs from the new ratepayers through a "contribution in aid of construction." It is appropriate to share costs in this fashion since all ratepayers get connected to the utility at one time or another, so all receive the same benefit.

A CNG or LNG refuelling facility is not an extension of the distribution system. Most existing ratepayers do not require a return to base CNG or LNG refuelling facility. With the cost of service model, CNG /LNG customers do not share in all the costs of the distribution system beyond those recovered under the applicable Rate Schedule, but only in the incremental cost of providing their CNG /LNG service. Further, as noted earlier, the construction and operation of CNG /LNG fuelling facilities are not required to be regulated, unless they are provided by a [regulated] public utility. If a CNG station, for example, were provided by an unregulated entity, there would be no requirement, or need, for existing ratepayers to share the cost of providing the facilities, yet they would still benefit from increased throughput in FEI's distribution system. The Panel does not agree that existing ratepayers should share the costs just because FEI is providing the fuelling facilities.

The Panel finds that FEI has failed to provide a convincing argument that it is just and reasonable that existing ratepayers should subsidize the costs of the refuelling facilities. We believe that there should be as little potential for cross-subsidization as it is possible to achieve. In its submission, FEI endorses this approach when it describes its cost of service model: "At a high level, it captures all of the costs associated with providing service to an NGV customer, and uses these costs to generate a rate that recovers the cost of service from the NGV customer over the term of the service agreement. The intent is to keep other natural gas customers whole." (Exhibit B-1, p. 11) However, as discussed, the Panel is concerned about the effect of unbudgeted costs, cost overruns and other factors that could require ratepayer subsidization. The Panel therefore requires that, to the extent possible, none of the actual costs of the CNG/LNG service offerings be recovered from existing ratepayers. Any General Terms and Conditions must therefore include additional

assurance that the total actual cost of the refuelling facility will be recovered from the CNG/LNG customer to the extent possible.

8.5 Confidentiality

In Order G-6-11 dated January 14, 2011 the Commission Panel approved the Waste Management Agreement as a Tariff Supplement on an interim basis and subject to certain conditions, including the condition that if the Waste Management Agreement was to be amended in accordance with the Commission's determinations and refiled, the Agreement was to be refiled on a non-confidential basis.

On February 25, 2011 FEI refiled the amended and restated Waste Management Agreement as Tariff Supplement J-1 on a non-confidential basis.

In its Reasons for Decision in support of the January 14, 2011 Order (Order G-6-11) the Commission Panel noted that section 62 of the *Act,* requires that: "A public utility must keep a copy of the schedules filed open to and available for public inspection under commission rules." The Panel noted at that time that: "...because transparency is a fundamental principle of sound regulation, the Commission requires public utilities to publically file all approved rates, rate schedules and tariff supplements unless there are very unusual circumstances."

In its Reply Submission (at p. 2) FEI endorses the rationale behind the Commission's decision that the public interest will generally favour the publication of rate schedules, but notes the support received from the CEC on the issue of confidentiality .

CEC submits that individual customer information does not need to be made public in the oversight process. It submits that important regulatory information could be separated from individual information and that adequate aggregate information with ranges could be made available. CEC submits that "disclosure of individual contract provisions may not be necessary or even sensible in order to protect FEI's commercial ability to negotiate terms." (CEC Submission, p. 12)

BCSEA notes that "both public access to public utilities' rate schedules and the protection of legitimate claims of confidentiality are important, and potentially conflicting interests." (BCSEA Submission, p. 9)

Commission Panel Determination

The Commission Panel remains of the view that there is no compelling reason why new customer-specific rate schedules should not be in the public domain, especially if each contract is designed to recover costs in a just and fair manner. The Panel does not support the need for confidentiality to allow FEI to negotiate different commercial terms with different customers, as suggested by the CEC.

Exhibit A2-9 is an example of a Tariff Supplement which relates to a particular individual customer. The Commission Panel believes that rate schedules should continue to be public documents to ensure openness and transparency and the absence of any form of discrimination in rates. However, the Panel acknowledges the possible need to protect commercially sensitive information in certain exceptional cases and notes that FEI has the ability to apply to the Commission in the event there are extenuating circumstances which may relate to a particular customer.

8.6 Cost of Service Calculation

The Commission Panel agrees with FEI that public interest considerations support the inclusion of terms and conditions which ensure the cost of the facilities will be recovered from the customer. This is critical to the Panel's review, consideration and potential approval of any General Terms and Conditions for future contracts.

8.6.1 Capital Cost Recovery

As noted in Section 5.1.3 of this decision, FEI proposes to use the forecast capital cost of the fuelling station as an input to the Cost of Service Model, including the "take or pay" provision. In its proposed model, any overruns would be recovered from existing ratepayers, absent a finding of imprudence. (Exhibit B-6, BCUC IR 2.1.9; 2.1.10)

FEI argues that customers want CNG and LNG rates that are known with certainty at the time a contract is entered and that this will necessarily precede the construction of the facility. (Exhibit B-6, IR BCUC 2.1.8) FEI further states that "the forecast cost of service is likely to be reasonably accurate," and the "bulk of the rate [being] composed of [capital and O&M] costs that can be estimated with a relatively high degree of certainty." (Exhibit B-6, BCUC IR. 2.1.1, 2.1.11)

Commission Panel Discussion

Given that FEI proposes to recover any cost overruns from general ratepayers, as noted above, the Panel is concerned with the use of forecast, as opposed to actual capital costs. For example, when the refuelling station for BC Transit was constructed in 1991, the actual cost exceeded the forecast cost by a factor of 75%. (Exhibit B-6, BCUC 2.1.6) In the case of Waste Management, actual construction costs exceeded forecast by approximately $37,000, a factor of 5%. (Exhibit B-11, BCUC IR 3.1.2)

In the Panel's view, the importance of using actual as opposed to forecast capital costs is further underlined by the fact that, at least for LNG, FEI has, at a high level, estimated the operating costs of the fuelling station based on the forecast capital cost. To the extent that the forecast capital cost is incorrect, this divergence will be magnified as the basis for the calculation of estimated operating costs will also be inaccurate. (Exhibit B-6, BCUC IR 2.10.2)

The provision of a fuelling station at a customer's premises is not, in the Panel's view, a typical utility project. Rather, such a project is essentially a custom construction project for an individual customer. In this regard, the Panel notes that FEI also contracted to provide other "associated" construction work to Waste Management under a separate agreement on a cost plus basis with an estimated margin of approximately $115,000. (Exhibit B-3, BCUC Confidential IR 1.9.1; Exhibit B-11, BCUC IR 3.1.4)

Accordingly, the Panel directs that FEI and use the actual construction costs in the calculation of the cost of service in any revised General Terms and Conditions. This could mean that the determination of the rate perhaps cannot be finalized until after construction is completed. Alternatively, hiring a third party construction company to provide the service on a fixed price basis would serve to provide the customer with certainty for the cost at the outset. In any event, as FEI has noted, since the forecast cost is assumed to be reasonably accurate, in the Panel's view the use of actual costs should not introduce an unacceptable level of uncertainty at the time the contact is being negotiated.

8.6.2 Operating and Maintenance Costs

Operating and maintenance cost forecasts for CNG are based on estimates of the material and labour costs associated with maintaining the fuelling station, and any additional administrative expenses associated with the service agreement. (Exhibit B-1, p. 56) In the case of LNG, FEI provided a high level estimate for O&M costs equivalent to 2% of the capital cost of the fuelling system. However, FEI now states that subsequent discussions with the manufacturer suggest that a range of 3%-6% is likely to be more reasonable. (Exhibit B-6, BCUC IR 2.10.2) The Panel notes that the amount for O&M that will be charged to the CNG/LNG customer is actually lower, as FEI proposes to take 14% of gross O&M to include in "capitalized overhead," to be recovered over a 37 year period. Once again, FEI proposes that any underestimate be recovered from all non-bypass customers. (Exhibit B-4, BCUC IR 1.9.6)

Commission Panel Determination

The Panel is concerned that FEI is proposing to recover estimated operating and maintenance expenses as opposed to actual. While FEI will gain experience as the program progresses, the risk of cost overruns remains, particularly in the early stages of the program, and particularly in the case of LNG, where there is less experience to draw upon. Ideally, FEI would charge its NGV customers the actual operating and maintenance costs incurred. **The Panel directs FEI to consider modifications to the General Terms and Conditions that will ensure that the operating and maintenance costs recovered from the customer are as close as possible to the actual operating and maintenance costs incurred.**

The Panel discusses the issue of capitalized overhead further in Section 8.6.4 below.

8.6.3 Escalation Factor

FEI proposes that that a 2% per annum escalation factor be applied to inflate O&M costs during the contract term. (Exhibit B-1, p. 57) The Panel notes that, in the case of the Waste Management Agreement, this escalation factor was only applicable to the first ten year term of the contract, and not to subsequent terms.

Commission Panel Determination

The Panel is concerned that, over the time periods contemplated in the Application, this escalation factor could become unrealistic. **FEI is therefore directed to include an escalation factor equal to the value of the British Columbia Consumer Price Index for all items, as produced by BC Stats on a monthly basis in any revised General Terms and Conditions.**

8.6.4 Depreciation and Amortization Expense

FEI proposes to depreciate the capital assets making up the fuelling station over either 10 or 20 years, which is consistent with the expected life of a fuelling station, being 20 years, with the exception of "capitalized overhead," which it proposes to depreciate in accordance with its average rates, or 2.7%. However the use of 2.7% will mean that the depreciation period will exceed the contract term such that this amount will not be fully recovered from the customer (absent an extension of the contract by the customer beyond the useful life of the other assets) putting other ratepayers potentially at risk for unrecovered costs. In the case of the Waste Management Agreement, FEI acknowledges that "the total present value of the free cash flow is negative because the depreciation period of the capitalized overhead is longer than the 20 year period.

That is, the full recovery of the capitalized overhead does not occur within the 20 year period." (Exhibit B-4, BCUC 1.24.1)

FEI has also excluded any provision for negative salvage value from its depreciation rate calculation and proposes to apply any removal costs to income in the year in which they are incurred. (Exhibit B-4, BCUC IR 1.22.2) In the circumstances of the CNG/LNG service offerings, these costs, which are directly associated with the service offering to the individual customer, would fall to be borne by rate payers.

Commission Panel Determination

The Commission Panel is again concerned that this cost recovery model does not adequately recover the full cost of the service from the customer over the unique timeframe associated with these projects and therefore directs FEI to include 100% of the operating and maintenance costs in the cost of service calculation and to include zero percent of gross operating and maintenance costs as capitalized overhead for CNG/LNG projects in any revised General Terms and Conditions. The Panel further directs FEI to include the estimated net negative salvage value in the cost of service calculation in any revised General Terms and Conditions.

8.6.5 Other Costs

The Commission Panel notes that there are a number of other costs on which FEI has been silent in its cost of service model. These include overhead and marketing costs related to the NGV programs and an allowance for any increase to FEI's allowed rate of return or cost of debt. For example, FEI has a full-time salesperson assigned to its NGV program. (Exhibit B-11, BCUC IR 3.5.2)

Commission Panel and Determination

As discussed throughout these Reasons for Decision, the Commission Panel requires that to be approved, any General Terms and Conditions must include a cost of service calculation which reflects the actual full cost of service, including the cost of establishing, maintaining and promoting the program, as closely as possible. **The Commission Panel therefore directs that any revised General Terms and Conditions contain a provision whereby FEI will estimate the overhead and marketing expenses which relate to the CNG/LNG program and the expected CNG/LNG sales volume and allocate those costs in a reasonable manner among CNG/LNG customers going forward.**

8.7 Contract Term

The cost of service model generally recovers the cost of providing service to a particular customer, over the term of its individual contract. However, unless the contact term matches the useful life of the fuelling station assets (20 years), there will be an asset remaining which may or may not be useful, and for which the cost has not been recovered, and therefore has the potential for being stranded. As noted earlier, in the case of Waste Management, FEI was able to negotiate a term requiring Waste Management to purchase the fuelling station for its un-depreciated capital cost if Waste Management chose not to proceed with the second ten year tem of the Agreement. This provision serves to a large extent to protect against this risk. (Exhibit B-1, p. 65)

Commission Panel Determination

As discussed in section 8.3.2 of these Reasons, the Commission Panel is of the view that a contractual term which serves to ensure that the customer pay the full cost of the fuelling station over its twenty year life is essential to mitigating the risk of stranded assets. **Accordingly, the Panel directs FEI to include a provision similar to that employed in the Waste Management Agreement, or some other equivalent provision which will result in the customer paying the full cost of the fuelling station during the term of the contract in any revised General Terms and Conditions**.

8.8 Carbon Credits

Treatment of any potential carbon credits which may be available from the NGV service offering remains unresolved at this time. FEI confirms that there may be additional value in monetizing GHG emission reductions as offsets in the event that there is a "suitable protocol" for switching from a higher carbon fuel to a lower carbon fuel. FEI advises that current industry practice in this area would see the benefit of the GHG reductions being attributed to the end user which is reducing its carbon footprint. However, FEI believes it unlikely that it would be cost effective to undertake validating and verifying emission reductions for an individual project. FEI proposes to consider including a term that it is entitled to any GHG emission credits in its future negotiations, in the event there are multiple projects supporting third party validation and verification on an aggregate basis. (Exhibit B-1, p. 34)

Commission Panel Determination

The Panel is of the view that carbon has a value and that value should be determined and recognized. **The Panel therefore directs FEI to quantify the GHG reductions and potential for carbon credits in future applications and describe any steps that have been taken by the parties to monetize those potential benefits.**

8.9 Competition

While this new business may or may not be a natural extension of FEI's existing regulated business, as argued by FEI at page 19 of the Application, the retail distribution of liquefied or compressed natural gas has no natural monopoly characteristics. Accordingly, non-regulated entities are free to enter this marketplace. This is a significantly different situation than that faced by FEI in the regulated distribution of natural gas to consumers and businesses.

Commission Panel Discussion

Given that FEI may be in competition with other non-regulated businesses, the Commission Panel is concerned about the potential for cross subsidization by FEI's existing ratepayers. The Panel considers that the public interest would not be served by effectively providing FEI with a competitive advantage over other potential participants in the industry by allowing FEI to subsidize the costs of what would otherwise be an unregulated service, with existing ratepayer money. This again supports the Panel's determination that, to the extent possible, the full cost of CNG and LNG service is to be recovered from the CNG and LNG customers, respectively.

9.0 COMMISSION PANEL DECISION

9.1 General Terms and Conditions

The Panel is persuaded that benefits will accrue to FEI, FEI's NGV customers, its ratepayers and the people of British Columbia if the NGV market can be kick-started. FEI's NGV customers could potentially save a significant amount on their fuel costs and its ratepayers may enjoy some rate stability or even a reduction in terms of delivery charges, other things being equal, if the load building that is forecast can be realized in the longer term. In addition, residents of the province will benefit from GHG reductions if diesel and gasoline vehicles switch to natural gas as a fuel. Further, a potential exists for these GHG reductions to be monetized by FEI's NGV customers. Accordingly, the Panel finds the benefits outlined in this Application to be generally in the public interest.

However, given the history of FEI's prior unsuccessful attempt to promote CNG as a transportation fuel, based in part on the behaviour of the relative market prices for diesel and natural gas, the Commission Panel finds that existing ratepayers should bear minimum risk in the service offerings proposed in this Application. In the Panel's view, the public interest will not be protected without strong measures in place to ensure that the proposed CNG or LNG customer pays for the full associated cost of service. Elsewhere in this decision, we have discussed the General Terms and Conditions as proposed by FEI. While FEI states that it supports the concept of cost recovery, we have found that the actual proposed General Terms and Conditions do not, in fact, recover all, or a even a sufficient proportion of the costs of the CNG /LNG offerings from the customers of those offerings to make the Application, as filed, in the public interest.

Therefore, the Commission Panel rejects the General Terms and Conditions, as proposed. The Commission Panel would be prepared, however, to approve revised General Terms and Conditions which better reflect full cost recovery from the CNG/LNG customer, as outlined in the Reasons above. In particular, the Panel invites FEI to file revised General Terms and Conditions which, in addition to the "Take or Pay" commitment, require that the rates charged to customers:

- Use actual construction costs as opposed to forecast costs;
- Fully recover the capital cost of the fuelling station (including estimated negative salvage value) within the term of the contract or include provisions requiring the customer to purchase the equipment for its undepreciated capital cost;
- Ensure that actual operating and maintenance costs are recovered as fully as possible;
- Inflate operating and maintenance costs by the regional CPI annually;
- Reflect no amount for capitalized overhead such that all operating and maintenance costs are recovered from the CNG/LNG customer over the term of the contract; and
- Provide an allowance for overhead and marketing to be recovered from the CNG/LNG customer.

9.2 Future Reporting Requirements

The Commission Panel is also concerned that the twenty year time horizon for the CNG assets is a lengthy time and FEI's proposed business model is therefore subject to the considerable uncertainty inherent in predictions of market forces a long time out. **Accordingly, the Panel directs FEI to keep the costs and**

revenues associated with the Waste Management Agreement and any other offerings separate and distinct and to monitor such offerings during a two year test period and provide a report by March 31, 2013. The scope of the report should include the topics listed in Appendix 2.

9.3 Waste Management Agreement

The Waste Management Agreement, for which interim approval was granted, is a concrete example of an application of the proposed General Terms and Conditions. The contract was approved on an interim basis only, to allow for a more thorough review of the context and the issues arising.

The Waste Management Agreement includes an additional provision which is intended to ensure that Waste Management pays the cost of the new service and the capital asset necessary to provide it. However, FEI suggests that some of these provisions may not be universally acceptable to potential new customers and therefore should be open for negotiation.

For example, in addition to the "take or pay" provision which is central to the business model and which purportedly ensures recovery of the cost of service over the term of the contract, the Waste Management Agreement covers a twenty year time period, coinciding with the expected life of the fuelling station. (The Agreement comprises an initial term of ten years, and a renewal term of a further ten years with a provision requiring Waste Management to purchase the fuelling station (for roughly its undepreciated capital cost) if Waste Management elects not to proceed with the second term). This provision is not reflected in the proposed General Terms and Conditions.

There are also real potential costs which may or may not be recovered from Waste Management. For example, as discussed earlier, the actual construction costs for the Waste Management facility exceeded the forecast cost used in the cost of service calculation. As well, for example, any increases in operating costs beyond those accounted for by the escalation factor, and increases to taxes and FEI's allowed ROE will also not be captured, and therefore will not be recovered from this customer.

Commission Panel Determination

The Commission Panel approves the Waste Management Agreement, filed as Tariff Supplement J-1 on March 25, 2011, in final form. Although the Panel remains concerned with the potential for increased costs which are not recoverable from Waste Management, this contract is in effect and because it is unique, the level of risk is, for the most part, acceptable in that it is identifiable and quantifiable and can be limited to this contract only. The Panel therefore approves this Agreement on an exception basis only. The Panel addressed the risks which it has identified as unacceptable for future contacts in its consideration of the proposed General Terms and Conditions.

9.4 Expenditures on Waste Management Fuelling Station

As noted above, FEI is also seeking acceptance of its expenditures on the Waste Management fuelling station and related facilities pursuant to s. 44.2 of the *Act*. By subsection 44.2(5) the Commission is required to consider a number of items. Of relevance to this Application are:

(a) the applicable of British Columbia's energy objectives;

(b) the most recent long term resource plan filed under s. 44.1...; and

(c) The interests of persons in British Columbia who receive or may receive service from the public utility.

British Columbia's energy objectives are set out in the *Clean Energy Act* SBC 2010 c. 22 s. 1. FEI submits that the energy objectives which apply to this Application are:

(d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources;

(g) to reduce BC greenhouse gas emissions...;

(h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia;

(i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently;

(j) to encourage economic development and the creation and retention of jobs.

(Application, p. 45)

Commission Panel Determination

With respect to energy objective (d), in the Commission Panel's view the promotion of innovative technologies refers only to those "that support energy conservation and efficiency and the use of clean or renewable resources". The promotion of natural gas in place of diesel as a fuel, although reducing carbon emissions, does not, in the Panel's view, necessarily support energy conservation and/or energy efficiency. In terms of "energy efficiency" the Panel specifically notes that natural gas is in fact less efficient as a fuel than diesel by a factor ranging from 10% to 20 % and that in its calculations, FEI used a figure of 17% for efficiency loss. (Exhibit B-1, pp. 50-51; Exhibit B-8, BCSEA IR 2.3.1) Further, the term "clean or renewable resource" is defined in the *Clean Energy Act* and does not include natural gas. Therefore, the Panel finds that this particular objective is not applicable to the circumstances of this Application.

The Panel does accept, however, that the use of natural gas as a fuel will result in fewer carbon and other emissions than the diesel which it replaces and the Application is therefore consistent with the energy objectives which relate to the reduction of greenhouse gas emissions. FEI estimates that the Waste Management project, which involves the replacement of 20 diesel vehicles with vehicles which consume natural gas, will result in a 214 tonne reduction of greenhouse gas emissions per year. The Panel further accepts that there may be some economic development benefits in that certain component manufacturers for NGVs are located in British Columbia.

FEI submits that its 2010 Long Term Resource Plan discussed the impacts of the service offerings applied for "at a high level" but that this Application contains more detailed information. (Exhibit B-1, p. 5) The Panel agrees that the information provided in the LTRP was at an extremely high level and therefore finds that the Application is not inconsistent with FortisBC Energy's most recent Long Term Resource Plan.

FEI, as noted above, submits that the expenditures are in the interests of persons in British Columbia who receive or may receive service from it in that the Waste Management fuelling facility will add cost-effective load to its system, thereby reducing delivery costs, other things equal, for its existing ratepayers, while providing the new customers with economic benefits through reduced operating costs. FEI states that the

"typical payback period for a heavy duty fleet operator switching from diesel to CNG is approximately four to six years." (Exhibit B-1, pp. 1, 29-30, 50, 63)

The Panel accepts that the addition of cost effective load may benefit existing ratepayers, *other things equal* but reiterates that, in its view, existing ratepayers are not the main beneficiaries of the expenditures necessary for this project. Further, other things may not remain equal and to the extent that the increased load creates the need for additional infrastructure, this may not be the case. As well, the benefits to new CNG/LNG customers are dependent to a large extent on the continued price differential as between natural gas and diesel. Finally, the benefits attributable to existing ratepayers from the addition of cost-effective load are not dependent upon FEI undertaking the projects, but would flow in any event if the projects were undertaken by other market participants.

FEI also submits that the expenditures are in the public interest because the cost of the facilities is to be recovered from Waste Management over the term of the Waste Management Agreement. (Exhibit B-1, p. 1) As discussed throughout these Reasons, this factor is critical. The Panel's approval of the Waste Management Agreement is predicated on the fact that, in the Panel's view, the Agreement does accomplish cost recovery from the customer to a significant extent. **The Commission Panel therefore accepts the expenditures on the Waste Management fuelling station and related facilities pursuant to section 44.2 of the *Utilities Commission Act.***

10.0 FORTISBC ENERGY CNG AND LNG SERVICES – SUMMARY OF DETERMINATIONS

1. The Waste Management Agreement, as amended and refiled on March 25, 2011 as Tariff Supplement J-1, is approved in final form.

2. The expenditures made to provide the Waste Management fuelling station and related facilities in the final amount of $775,031 are accepted pursuant to s. 44.2 of the *Act*.

3. Approval of FEI's proposed General Terms and Conditions, specifically, the addition of a new section 12B relating to CNG and LNG Service, is denied.

4. The Commission Panel will approve revised General Terms and Conditions which, in addition to the proposed "Take or Pay" commitment, better reflect full cost recovery from the potential CNG/LNG customer, as described herein;

5. Subject to FEI filing revised General Terms and Conditions acceptable to the Commission, depreciation rates are approved in accordance with the following table:

Asset	Estimated Useful Life (years)	Depreciation Rate (%)
CNG Dispensing Equipment	20	5%
LNG Dispensing Equipment	20	5%
Foundations	20	5%
Pumps	10	10%
Dehydrator	20	5%

No amounts will be approved for capitalized overhead.

The following deferral accounts are approved:

a. A non-rate base deferral account attracting AFUDC to capture the cost of the current application, including the cost of the Waste Management Application and to recover these costs from all non-by-pass customers by amortizing them through delivery rates commencing January 1, 2012 over a three year period. [Future individual application costs must be recovered from those customers.]

b. A non-rate base deferral account attracting AFUDC to capture the O&M costs and the cost of service associated with the capital additions to the delivery system incurred and the CNG and LNG Service recoveries received prior to January 1, 2012 for contracts approved by the Commission, and to recover or refund the balance to all non-bypass customers by amortizing the balance through delivery rates commencing January 1, 2012 over a three year period.

c. An ongoing rate base deferral account to capture incremental CNG and LNG recoveries received from actual volumes purchased in excess of minimum contract take or pay commitments to be refunded to all non-bypass customers by amortizing the balance through delivery rates over a one year period, commencing the following year, to be effective as of January 1, 2012 pursuant to sections 59 to 61 of the Act.

FEI Proposed General Terms and Conditions – Section 12B

12B. Vehicle Fueling Stations

12B.1 **Compression and Dispensing Service for Compressed Natural Gas (CNG) Fueling and Fuel Storage and Dispensing Service for Liquefied Natural Gas (LNG) Fueling** - Terasen Gas will make extensions to the Terasen Gas System and provide CNG and LNG Services to vehicles in accordance with the provisions of this section.

CNG or LNG Service will be provided under the terms and conditions of a Service Agreement between Terasen Gas and the Customer. The CNG and LNG Services are described below:

CNG Service will typically consist of:

- installing and maintaining a CNG fueling station, including, but not limited to, the compression, gas dryer /dehydrator, high pressure storage, dispensing equipment; and
- dispensing of compressed natural gas.

LNG Service will typically consist of:

- transport and delivery of the LNG from TGI's LNG facilities to the Customer premise by LNG tankers;
- installing and maintaining a LNG fueling station, including, but not limited to, the storage, vaporizer, pump, dispensing equipment; and
- dispensing of liquefied natural gas.

12B.2 **Ownership** - All CNG and LNG fueling stations will remain the property of Terasen Gas.

12B.3 **Cost of Service Recovery** – Customers will be charged a "take-or-pay" rate (i.e. minimum contract demand) under the Service Agreement that recovers the present value of the forecast cost of service associated with provision of CNG or LNG Service over the term of the Service Agreement, where the minimum contract demand is the forecast consumption based on the forecast number of vehicles served by the vehicle fueling station.

12B.5 **Costs** - The total costs to be used in determining the forecast cost of service to be recovered from the Customer under the Service Agreement include, without limitation

(a) the capital investment, including any associated labour, material, capitalized overhead and other costs necessary to serve the Customer, less any contributions in aid of construction by the Customer or third parties, grants, tax credits or non-financial factors offsetting the full costs that are deemed to be acceptable by the British Columbia Utilities Commission;

(c) depreciation expense related to the capital assets associated with the vehicle fueling station; and

(d) the incremental operating and maintenance expenses necessary to serve the Customers.

In addition to the costs identified, the cost of service recovery will include applicable property and incomes taxes and the appropriate return on rate base as approved by the British Columbia Utilities Commission.

Scope of Two Year Test Period Report on CNG LNG Service

The reporting period for the purposes of the report shall be fiscal 2011 and 2012 and the report shall be filed with the Commission by March 31, 2013.

The scope of the review and the report shall include the following:

1) CNG LNG Service to date
   a) Provide a List of CNG LNG Service Tariff Supplements executed with details regarding name of customer, location of refuelling station, number of vehicles in fleet, take-or-pay quantities, volumes delivered, rate, term of contract, capital costs, and operating and maintenance costs
   b) For each CNG LNG Agreement, provide a comparison of actual and forecast capital costs, revenues and expenses by month for CNG LNG Service for 2011 and 2012
   c) Quantify costs and benefits for other ratepayers for 2011 and 2012
2) Cost of Service
   a) Provide updates to the cost of service model inputs and explain any changes
   b) Provide rate base, depreciation/amortization and deferral account continuity schedules
3) Updated CNG LNG Market Forecasts for 5, 10, 15 and 20 years out
   a) Forecast CNG LNG Service market share
   b) Forecast annual CNG LNG Service volumes
   c) Forecast CNG LNG Service costs and revenue
4) Nature and Evolution of CNG LNG Service Agreements Executed To Date.

   In particular, provide details regarding:
   a) Range and types of terms incorporated in agreements negotiated to date
   b) Describe trends in standard terms of CNG LNG Agreements
   c) Feasibility of implementing Pro Forma Tariffs for CNG LNG Service
5) Deferral Account Update
   a) Report details of costs for all deferral accounts related to CNG LNG Service
   b) Describe any approved changes to such deferral accounts
   c) Describe any proposed changes to deferral accounts
6) Current Status of NGV sector in British Columbia
   a) Address the ongoing need for FEI to “kickstart” the return–to-base fleet NGV sector
   b) Identify remaining barriers to NGV uptake
   c) Discuss ongoing need for economic incentives
   d) Identify any technological threats (e.g. switching to electric hybrids)

e) Identify extent to which NGV refuelling stations are provided by suppliers other than FEI (number of stations, quantities, number and type of vehicles)

7) Natural Gas /Diesel Price Forecasts
   a) Provide update on natural gas supply and pricing
   b) Provide update on diesel/ natural gas price differentials

8) LNG Supply
   a) Provide update on LNG supply availability and reliability of supply for LNG Service customers
   b) Provide update on status of Rate Schedule 16 (e.g. approval of pilot, rate changes, volume restrictions)
   c) Comment on any need to expand Tilbury (timing, cost and nature of any required expansion)
   d) LNG tanker truck service (rate, cost, need for additional tankers, extent to which service is provided by FEI)
   e) Impact of LNG Service on LNG Peaking reliability, availability and cost of service for other ratepayers
   f) Role of Mt Hayes Facility in supply of LNG to LNG Service customers

9) LNG Standards and Codes
   a) Provide an update on status of development of LNG Codes and Standards
   b) Describe impact of new /revised codes on facility design and operation
   c) Provided estimate of any cost impact related to changes in standards and codes

10) Update of Fully Allocated Cost of Service
   a) Provide revenues and load factors for the rate classes relevant to CNG LNG Service (e.g. CNG LNG Service, Rate Schedule 16, Rate 25)
   b) Provide estimates of the cost of serving new CNG LNG Service customers with a description of methodology
   c) Compare revenue to cost ratios for all rate classes as compared to earlier years before implementation of CNG LNG Service

11) Ownership of Carbon Credits
   a) Describe current status on treatment of carbon credits associated with CNG LNG Service
   b) Provide update on FEI role in supporting third party validation and verification
   c) Provide update on current cost/value of carbon

12) Incentive Funding
   a) Status of incentive funding for NGVs
   b) Amount of funding awarded for NGVs
   c) Ongoing need for incentive funding in NGV sector

d) Identification of other potential or existing suppliers of incentive funding

13) Government policy impacting NGV sector

a) Provincial policy impacts

b) Federal policy impacts

c) Municipal policy impacts

14) NGV Regulations

a) Identify any government regulations related to CNG LNG Service

b) Describe the impact of the regulations on CNG LNG Service and the NGV market