

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF THE GAS DISTRIBUTION ACT AND REGULATIONS

- and -

IN THE MATTER OF AN APPLICATION BY HERITAGE GAS LIMITED FOR APPROVAL OF NATURAL GAS
STORAGE SERVICE COSTS (M06582)

**Redacted Direct Evidence of Brian Byers
on behalf of Board Counsel**

March 16, 2014

1 **Introduction**

2 **Q. Please state your name and business address.**

3 A. My name is Brian Byers. My business address is 418 8th Concession East, RR3, Campbellville,
4 Ontario, L0P 1B0.

5 **Q. Who do you work for and in what capacity?**

6 A. I am an independent consultant. I specialize in energy advisory services to participants in the North
7 American electricity and natural gas marketplaces.

8 **Q. What is the purpose of your testimony in the proceeding?**

9 A. I have been engaged by counsel to Nova Scotia Utility and Review Board (the "Board") to review the
10 Natural Gas Storage Service Costs Application (the "Application") filed by Heritage Gas Limited
11 ("Heritage") and to identify and address concerns as they may relate to the Final Issues List as
12 approved by the Board on February 2, 2015 .

13 **Q. What are the specific issues you will address from the Board's Final Issues List?**

14 A. I have reviewed the Application and all of the attachments, as well as Information Requests ("IRs")
15 made to Heritage and its subsequent responses. My review considered the Final Issues List with
16 specific focus on:

- 17
 - Issue 2 - the necessity for and benefits of storage, and
 - 18 • Issue 6 - the Precedent Agreement ("PA") - does it benefit Heritage customers, is it fair,
19 is it flexible and is the risk associated with the PA in line with its benefits?

20 **Q. What are your qualifications to provide this testimony in this proceeding?**

21 A. I have more than 25 years of experience in the North American energy industry. Prior to
22 establishing my own consulting business in 2011, I was employed by Sithe Global Canadian Power
23 Services, Ltd. where I headed its energy management group. This group was responsible for
24 managing the fuel requirements and electricity output for a large power generation facility in
25 Ontario including the management and optimization of its long term natural gas storage contract.

26 Prior to that, I spent more than 12.5 years in roles where my primary responsibilities included
27 trading natural gas in Canada and the U.S. northeast where understanding the impact storage has in
28 a marketplace was crucial. In these roles I participated in the negotiation of natural gas storage
29 contracts with storage operators and also optimized the value of those contracts in the natural gas
30 marketplace.

31 I also have experience working with a natural gas utility and storage operator. In various roles I
32 worked with existing customers in the provision of storage and other services and I also sold storage
33 and related services for more than 1.5 years.

1 **The Heritage Application and Precedent Agreement**

2 **Q. What is your understanding of the Heritage Application?**

3 A. Heritage has entered into a PA with Alton Natural Gas Storage L.P. (“Alton”) for the provision of a
4 firm natural gas storage service by Alton to Heritage. Heritage is requesting Board approval of the
5 costs contemplated by the PA and rate base treatment of the cost of cushion gas and natural gas in
6 storage during the term of the PA. Heritage is also requesting approval of its proposed methodology
7 for recovery and allocation of the costs of the PA and rate base items.

8 **Q. Are there benefits of the PA to Heritage and its customers?**

9 A. Yes. The information presented in the Application shows that natural gas storage could provide
10 financial benefit to the customers of Heritage. The analysis done by Heritage consultant ICF
11 International (“ICF”) clearly lays out the cost savings that Heritage customers could achieve based
12 on: (a) Alton storage service as contemplated in the PA, (b) reasonable operational assumptions,
13 and (c) current natural gas market conditions in the U.S. northeast and the Maritimes.

14 ICF’s analysis also detailed the benefits as they relate to the security of natural gas supply in the
15 Maritimes and the reduction of natural gas price volatility as previously experienced by Heritage.

16 I found no fault in ICF’s analysis and I generally agree with its findings.

17 Heritage and its customers could also benefit from storage optimization opportunities that could
18 arise periodically when the contract rights as per the PA are being under-utilized. Heritage has
19 stated that “In times of under-utilization, such as a warmer than normal winter, Heritage Gas will
20 consider all opportunities to utilize the contract rights to mitigate the costs for the franchise and its
21 customers.”¹ It is unclear at this time how this benefit will flow through to customers.

22 **Q. Does the PA provide flexibility to Heritage customers?**

23 A. Yes. Currently, Heritage sources its natural gas supply on a “delivered basis.”² This means that it
24 currently has to source supply at its city-gate on a daily basis in amounts that closely match its
25 customers’ daily demand [REDACTED]

26 [REDACTED]
27 [REDACTED].³ Storage should provide additional flexibility in meeting customers’ daily
28 demand, especially on moderate weather days of the withdrawal season as Heritage can adjust its
29 withdrawal nominations to Alton on a firm basis throughout the day⁴ in response to real time
30 demand changes and if intraday supply opportunities arise. Given the fee structure of the PA, the
31 cost of this flexibility is essentially zero whereas the value that can be realized is the savings
32 achieved by possible supply opportunities or the avoided costs of the alternative balancing services.

¹ Response to NSUARB-IR-3(a).

² Response to NSUARB-IR-4.

³ Response to NSUARB-IR-26(c).

⁴ Response to NSUARB-IR-16.

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]⁵ Similar flexibility savings
4 can also be realized in the injection season though their potential is most likely lower than those
5 possible during the withdrawal season given lower Heritage customer demand and lower natural
6 gas market volatility.

6 **Q. Are there risks associated with the PA that Heritage and its customers will bear?**

7 A. Yes, there are several areas where I believe risk arises in the storage service contemplated in the PA.

8 **(i) Interruptible Delivery of Alton Withdrawal Gas to Heritage City-gate** – Heritage stated that it
9 currently receives its natural gas supply on “a delivered basis.”⁶ ICF has stated that “Withdrawals
10 from Alton storage will be delivered to the Heritage service territory under the existing M&NP
11 storage delivery tariff, which does not provide firm service on M&NP.”⁷ This was confirmed by
12 Heritage along with the comment that “It is expected that the new compression associated with the
13 Alton facility will enhance the deliverability of the M&NP system.”⁸ It therefore appears that
14 Heritage and its customers could be bearing lower quality delivery reliability when using Alton
15 storage withdrawals than what it currently bears.

16 **(ii) Inventory Demand Rate (“IDR”) Increase** – The IDR in the PA is initially set at [REDACTED]
17 and can increase if the actual cost to develop the Alton facility is greater than the projected cost of
18 [REDACTED] and/or the actual capacity developed is less than the target capacity of [REDACTED].⁹

19 [REDACTED]
20 [REDACTED]¹⁰ [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]¹¹

24 This risk is offset by the fact that the IDR can also be reduced if actual development costs are lower
25 than projected.¹² IDR is not impacted by capacity developed incremental to the target capacity
26 (“Incremental Capacity”). The benefit from any Incremental Capacity is solely Alton’s. [REDACTED]

27 [REDACTED]
28 [REDACTED]

29 The table in Figure 1 is an annual IDR matrix based on the actual capacity developed by Alton and its
30 actual construction costs to develop that capacity. It shows the impact of each scenario (as forecast,

⁵ Response to NSUARB-IR-26(b).
⁶ Response to NSUARB-IR-4.
⁷ Attachment 1 to the Application, ICF Report “Updated Assessment of Alton Natural Gas Storage” dated July 18, 2014, p. 8.
⁸ Response to NSUARB-IR-12.
⁹ Exhibit A of Attachment 5 to the Application, Precedent Agreement between Heritage Gas and Alton dated October 20, 2014, p. 2.
¹⁰ Ibid.
¹¹ Response to NSPI-IR-20(c)(ii).
¹² Exhibit A of Attachment 5 to the Application, op. cit.

1 higher than forecast and lower than forecast) on the IDR costs Heritage customers will pay under
2 the storage service contemplated by the PA.

3 **Figure 1 – IDR Matrix**

Annual IDR		Actual Construction Costs		
		Lower than Forecast	As Forecast	Higher than Forecast
Actual Capacity Developed	Lower than Forecast			
	As Forecast			
	Higher than Forecast			

4

5 **(iii) Lost Cushion Gas** – Section 5.2 of the General Terms and Conditions of the Alton Tariff which is
6 attached as Exhibit B to the PA states that “Customer and Alton Gas Storage acknowledge there may
7 be variance between the amount of Cushion Gas supplied by Customer and the amount of Cushion
8 Gas to be returned to Customer at the end of the Term due to actual operations of salt caverns, and
9 Customer shall not hold Alton Gas Storage accountable for such variance.” The value of this cushion
10 gas is proposed in the Application to become part of Heritage’s rate base.¹³ Any lost cushion gas
11 would therefore lead to a loss of a Heritage rate base asset. In its response to NSUARB-IR-17,
12 Heritage stated that “there is very little potential for loss of cushion gas in salt cavern storage
13 facilities, unless a situation of force majeure exists, because salt caverns are impermeable.” In the
14 same response, it goes on to say that Heritage “may purchase insurance on the cushion gas.” It is
15 unclear at this time how the cost of this insurance would impact Heritage customers’ costs. The
16 impact to Heritage customers if cushion gas is lost is also unclear.

17 **(iv) Unutilized Storage Capacity** – Section 4 of the Firm Storage Service Schedule of the Alton Tariff
18 states that Alton “may reduce Customer's Request for Service duly made hereunder, in whole or in
19 part, without penalty, in order to perform planned or unplanned maintenance, repairs, additions or
20 modifications to any of the Alton Gas Storage Facilities”. Based on the MCI and Maximum Daily
21 Injection Quantity outlined in the PA, Heritage requires a minimum of [REDACTED] injection season days to
22 fill its natural gas storage before the subsequent withdrawal season begins (assumes inventory is

¹³ Section 5.5 of Application, p.15.

1 zero at the end of the previous withdrawal season). If a circumstance arises where a long
2 maintenance period is required by Alton during the injection season, there is a possibility that
3 Heritage would have no ability to fully utilize its MCI. In this circumstance, Heritage confirmed that
4 it would continue to be responsible for full IDR payments.¹⁴ If this were to occur, Heritage
5 customers would receive no benefit from the unutilized capacity but continue to pay for it.

6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]¹⁵
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]¹⁶

13 **Q. Do you have concerns with any aspects or interpretations of the PA?**

14 A. Yes. There are several items where I believe the Board should seek further clarity.

15 **(i) Customer's Fuel Gas Quantity** – The PA states that Customer Fuel Gas Quantity is “2% of the
16 volume of Gas delivered by Customer to the Alton Gas Storage Facilities in a Gas Year.”¹⁷ This
17 percentage is also confirmed in section 5.4 of the Application and in the confidential attachment to
18 the Heritage response to NSUARB-IR-14 in which it provides an example of the FS Transaction Form
19 it shall complete on the Commencement Date as defined in the PA. In its response to NSUARB-IR-
20 27(b), Heritage states “Heritage Gas’ understanding is that for [REDACTED] for injection and
21 withdrawal, Heritage Gas will nominate a total of [REDACTED] to include the required fuel gas
22 quantity.” I believe this Information Request response reflects an error as no fuel quantity should
23 be required on withdrawals.

24 **(ii) Fuel on Cushion Gas** – In Section [REDACTED] of the Alton Tariff it states [REDACTED]
25 [REDACTED]
26 [REDACTED]
27 [REDACTED]
28 [REDACTED] This would indicate
29 that there are no Alton costs associated with the delivery of cushion gas. In its response to ECI-IR-
30 2(a), Heritage confirms that by stating “Heritage Gas does not anticipate any charges for injecting
31 cushion gas.”

¹⁴ Response to NSUARB-IR-18.

¹⁵ Exhibit A of Attachment 5 to the Application, Precedent Agreement between Heritage Gas and Alton dated October 20, 2014, p. 1-2.

¹⁶ Ibid.

¹⁷ Exhibit A of Attachment 5 to the Application, Precedent Agreement between Heritage Gas and Alton dated October 20, 2014, p. 3.

1 Its response to CA-IR-3(b) is contradictory to this as it states “Heritage Gas proposes that fuel gas
2 costs associated with cushion gas be included in rate base as part of the full landed cost of the
3 cushion gas.” I believe this is a mistake in the Information Response to the Consumer Advocate as
4 no fuel quantity should be required on the delivery of cushion gas to Alton.

5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]

13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]¹⁸ [REDACTED]

17 [REDACTED]¹⁹ [REDACTED]
18 [REDACTED]²⁰ [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]
24 [REDACTED]

25 [REDACTED]
26 [REDACTED]
27 [REDACTED]
28 [REDACTED]
29 [REDACTED]
30 [REDACTED]
31 [REDACTED]
32 [REDACTED]
33 [REDACTED]
34 [REDACTED]

¹⁸ Section 4(a)(ii) of Attachment 5 to the Application, Precedent Agreement between Heritage Gas and Alton dated October 20, 2014, p. 5.

¹⁹ Attachment 5 to the Application, Precedent Agreement between Heritage Gas and Alton dated October 20, 2014, p. 1.

²⁰ Attachment 5 to the Application, op. cit.

1 **Q. How would you consider fairness based on your understanding of the PA?**

2 A. When I consider the PA's fairness to Heritage customers, I look at it in terms of the net benefit that
3 customers could achieve under the PA vs. the additional risks they would have to bear. I believe
4 that customers could benefit economically from approval of the Application. I also believe that
5 customers could experience benefits from the PA related to lower natural gas price volatility and
6 higher security of supply (though this may be offset by the interruptible nature of M&NP deliveries
7 of withdrawal gas to the Heritage city-gate). These benefits should manifest in the first year the
8 Alton facility is in-service.

9 The costs that Heritage customers will be asked to bear if the Application is approved is not fully
10 fixed at this time given the possibility of an IDR increase (or IDR reduction) as described in the
11 answer to the previous question. Customers will be at risk to Alton's construction costs and the
12 actual capacity established [REDACTED]

13 [REDACTED]
14 [REDACTED]²¹ [REDACTED]. On the other hand, if [REDACTED]
15 [REDACTED] Alton is able to develop more than [REDACTED] of storage capacity, the Incremental
16 Capacity is fully for the benefit of Alton. [REDACTED]

17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]

21 In short, IDR risk can be summarized as follows:

- 22 - Customers are at risk of paying higher fees if unitized costs increase through a combination of
23 higher construction costs and/or lower developed capacity than projected [REDACTED]
24 [REDACTED];
- 25 - Customers will benefit if unitized costs decrease through lower construction costs (IDR could
26 decrease even if the developed capacity was lower than projected in certain scenarios);
- 27 - Customers will not benefit by way of lower fees from storage capacity that is developed above
28 the level of the MCI as per the PA, even though they will essentially be paying for the
29 development of that capacity.

30 [REDACTED]
31 [REDACTED]
32 [REDACTED]²² [REDACTED]
33 [REDACTED]
34 [REDACTED]
35 [REDACTED]

²¹ Exhibit A of Attachment 5 to the Application, Precedent Agreement between Heritage Gas and Alton dated October 20, 2014, p. 2.

²² Response to NSUARB-IR-22, Confidential Attachment 1.

1 The risk of unutilized capacity and lost cushion gas must also be kept in mind when considering the
2 fairness of the PA.

3 **Q. Is the PA fair to the customers of Heritage?**

4 A. Heritage has stated that the potential savings its customers could realize is “more than \$17.0
5 million/year”²³ based on ICF’s analysis. This analysis considered spot natural gas prices which are
6 typically more volatile than average monthly prices. The potential savings is reduced to \$13.0
7 million per year if monthly prices are used in the analysis²⁴. I agree that these savings are
8 achievable. If the traditional spread between summer and winter prices in the New England natural
9 gas market were to flatten, it appears as though storage would still provide a net economic benefit
10 to customers, though at a much lower level (\$1.7 million)²⁵.

11 These possible benefits would be reduced if the IDR increases as per the PA. Customers could pay
12 higher annual fees than those currently projected. [REDACTED]
13 [REDACTED] based on the PA’s calculation of IDR. On the other hand, the fees could go down if Alton’s
14 construction costs are lower than forecasted.

15 Heritage customers will not benefit from capacity developed beyond the MCI of the PA [REDACTED]
16 [REDACTED]
17 [REDACTED].

18 I am concerned about the interruptible nature of the M&NP deliveries of storage gas to the Heritage
19 city-gate to serve firm customer demand. I understand that the incremental compression of the
20 Alton facility should enhance deliverability but I think Heritage should consider options to “firm up”
21 these deliveries or provide additional information supporting the expected delivery quality of
22 M&NP’s storage transportation service.

23 Based on the information reviewed, my opinion is that the PA is fair to the customers of Heritage
24 and it’s likely that the net benefit that will be achieved through the use of the storage service will
25 outweigh the risks related to the agreement.

26 **Q. Does this conclude your direct evidence in this matter?**

27 A. Yes.

²³ Section 3.1 of the Application, p. 10.

²⁴ Attachment 3 to Application.

²⁵ Ibid.