Docket NG-HG-R-10

NOVA SCOTIA UTILITY AND REVIEW BOARD

In the Matter of: An Application by Heritage Gas Limited for Approval of Amendments to its Schedule of Rates, Tolls, and Charges

DIRECT TESTIMONY OF

PAUL CHERNICK

ON BEHALF OF

THE CONSUMER ADVOCATE

Resource Insight, Inc.

OCTOBER 27, 2010

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Exhibit PC-1 *Professional Qualifications of Paul Chernick*

I. Identification & Qualifications

Q: Mr. Chernick, please state your name, occupation, and business address.

A: I am Paul L. Chernick. I am the president of Resource Insight, Inc., 5 Water St., Arlington, Massachusetts.

Q: Summarize your professional education and experience.

A: I received an SB degree from the Massachusetts Institute of Technology in June 1974 from the Civil Engineering Department, and an SM degree from the Massachusetts Institute of Technology in February 1978 in technology and policy. I have been elected to membership in the civil-engineering honorary society Chi Epsilon, and the engineering honour society Tau Beta Pi, and to associate membership in the research honorary society Sigma Xi.

I was a utility analyst for the Massachusetts Attorney General for more than three years, and was involved in numerous aspects of utility rate design, costing, load forecasting, and the evaluation of power supply options. Since 1981, I have been a consultant in utility regulation and planning, first as a research associate at Analysis and Inference, after 1986 as president of PLC, Inc., and in my current position at Resource Insight. In these capacities, I have advised a variety of clients on utility matters.

My work has considered, among other things, the cost-effectiveness of prospective new electric generation plants and transmission lines, retrospective review of generation-planning decisions, ratemaking for plant under construction, ratemaking for excess and/or uneconomical plant entering service, conservation program design, cost recovery for utility efficiency programs, the valuation of environmental externalities from energy production and use, allocation of

costs of service between rate classes and jurisdictions, design of retail and wholesale rates, and performance-based ratemaking and cost recovery in restructured gas and electric industries. My professional qualifications are further summarized in Exhibit PC-1.

Q: Have you testified previously in utility proceedings?

A: Yes. I have testified more than two hundred times on utility issues before various regulatory, legislative, and judicial bodies, including utility regulators in thirty states and five Canadian provinces, and two U.S. Federal agencies.

Q: Have you previously testified before this Board?

A: Yes. I testified in the following proceedings:

- The Board's review of Nova Scotia Power's Demand Side Management Plan for 2010 and Demand Side Management Cost Recovery Rider in May 2009 (NSUARB P-884(2)).
- The Board's review of the proposed purchased-power agreement between Nova Scotia Power Inc. (NSPI) and a biomass project to be constructed at the NewPage Pt. Hawkesbury (NPPH) pulp and paper mill in June 2009 (NSUARB P-172).
- The Board's review of NSPI's proposal to construct a biomass-fueled power plant at the NPPH facility in June 2010 (NSUARB P-128.10).

Q: Have you been involved in any other activities related to utility regulation in Nova Scotia?

A: Yes. I assisted the Consumer Advocate in reviewing utility filings and/or drafting comments in the following matters:

- Nova Scotia Power's proposals regarding the Pt. Tupper, Nuttby, and Digby wind projects;
- Aspects of NSPI's fuel-adjustment mechanism;

- Heritage's proposal to expand to Bedford and other communities (NSUARB NG-HG-FIN-2010);
- The Board's review of complaints from potential customers regarding Heritage's reluctance to connect new customers (NSUARB NG-HG-COMP);
- Nova Scotia Power's Action Plan Status Report from the 2009 IRP Update (NSUARB P-884).

II. Introduction

Q: On whose behalf are you testifying?

A: My testimony is sponsored by the Nova Scotia Consumer Advocate.

Q: What is the purpose of your testimony?

A: The Consumer Advocate has asked me to review certain issues related to the proposal by Heritage to increase its rates to recovery additional operation, maintenance, and administrative (OM&A) expenses. Those issues include the treatment of sales growth from 2010 to 2011, the allocation of any rate increase among classes and among rate components, the effect of Heritage's expansion policies on sales and revenues, and the relationship between the issues in this case and Heritage's allowed return.

Q: Is there any background that is particularly relevant to the context of this proceeding?

A: Yes. Both the level of the rate increase in this proceeding and the level of Heritage's revenue-deficiency account (RDA) are increased by Heritage's failure to meet its goals for customer connections and sales. Heritage's request in this case cannot be separated from its expansion plans and policies.

Q: Have you been able to obtain all the information necessary to review fully the need for the requested rate increase?

A: No. For a rate case filing, Heritage's submittal was very limited in detail. For example, the submittal did not even state how Heritage determined the allocation of costs among rate schedules, or the design of rates in each schedule. My review of the issues relevant to this proceeding has been further complicated by Heritage's refusal to provide materials requested in discovery. For example, Heritage

- refused to provide tables in their original spreadsheet form (e.g., CA-IR-3, 4, 5, 6, 10, 12, 15, 16, 22);
- responded to requests for specific computations with vague references to the entire record or transcript in NSUARB NG-HG-COMP (e.g., CA-IR-11, 13, 14, 15, 18);
- failed to provide supporting data (e.g., CA-IR-11c, 16).

Q: Please summarize your recommendations.

A: I recommend that the Board take the following steps:

- Reduce Heritage's rate increase to reflect additional sales expected in 2011.
- Allocate more of the rate increase to Schedules 2–4 than to Schedule 1.
- Require that any increase in Schedule 1 be in the energy rate, rather than the customer charge.
- Continue to investigate Heritage's policies regarding expansions and new hook-ups.
- Reduce Heritage's cost of capital, to reflect the reduced risk evidenced by this proceeding, reduce pressure on the RDA and help Heritage out of its current rate dilemma.

III. Revenue Increase and Rate Increase

Q: What overall rate increase is Heritage seeking in this proceeding?

A: Heritage has requested a 7% rate increase to recover an additional $1.1 million from its sales base at the end of 2010.

Q: Is that a reasonable approach?

A: No. The rate increase would go into effect in 2011, by which time Heritage expects its sales to have increased. With its anticipated 2011 sales, Heritage estimates that an increase of 6.8% would produce the target $1.1 million revenue increase (CA-IR-10).

IV. Revenue Allocation and Rate Design

Q: How does Heritage propose to allocate the increased revenue requirements among the rate classes?

A: Heritage proposes to increase revenues from each rate schedule by the same percentage, specifically 7% (CA-IR-20).

Q: Is that a reasonable approach?

A: No. Heritage has not analysed the cost causation for the additional OM&A expenses (ERI-IR-1).

Part of the increase in Heritage's OM&A expenses appears to be related to Heritage's increased efforts to market gas to large customers and design and install new connections. Since Heritage is not encouraging smaller customers to connect (as I describe in more detail in Section V below), these marketing efforts are not likely to benefit small customers in the next several years, until and unless Heritage finds a way to draw down its revenue deficiency account.

Hence, any OM&A allowed in this case should be allocated more heavily to Schedules 2, 3, and 4 than to Schedule 1.

Q: How does Heritage propose to spread the rate increase across billing determinants?

A: Heritage proposes to increase each rate component by the same 7%.

Q: Is this a reasonable approach?

A: No. As discussed below, Heritage is moving toward a position that the average residential customer (or even small commercial customer) is not economic to connect to the system. Continuing to increase the fixed monthly customer charge does little to improve the economics of connection for the larger customers.

Large customers within Schedule 1 save more in fuel costs from switching to gas. Consequently increasing the Base Energy Charge should do little to discourage conversions, while improving the economics of hook-ups from Heritage's perspective.

Hence, I recommend that whatever revenue increase is allocated to Schedule 1 be recovered entirely through the Base Energy Charge.

V. Heritage's Expansion Policies

Q: Please expand on your observation that Heritage's policies regarding customer connections were related to the level of the RDA.

A: Heritage appears to have gotten itself into a corner, through the interaction of three factors. First, Heritage has found that expanding its system and attracting customers is more difficult than it expected. Second, the lower revenues resulting from slow customer acquisition has resulted in a larger and more-

persistent RDA than expected, leading the Board to cap the RDA at $50 million.[1] Third, faced with the RDA cap, Heritage has further restricted hook-ups of new customers.

Q: How has Heritage been restricting hook-ups of new customers?

A: Heritage uses an estimate cost of customer connection that is so great that even connecting a customer to an existing main on the street would appear to exceed the revenues from the customer, fail the feasibility test, and increase the RDA.

In addition, Heritage has indicated that it will restrict cost-effective interconnections to stay under the RDA cap.

Q: Please explain how Heritage's estimated cost of hook-up for a small customer would fail the feasibility test.

A: Heritage has established a standard estimate of $5,000 per hookup (installing "a service line of up to 20 metres in length," plus meter and meter set) for small customers (CA-IR-11a; NSUARB-HG-COMP Submittal, p. 10). Heritage's $5,000 estimated hook-up charge is great enough to cause potential connections to fail the feasibility test, even with only the hook-up cost included in the project cost; see Table 1.[2] The one exception is the Dartmouth 2009 project, for which two of the sixteen customers were commercial, rather than residential.[3]

[1]The size of the RDA is also increased by the higher rate of return Heritage has been allowed by the Board.

[2]The projects listed in Table 1 are the only ones for which Heritage provided feasibility test results.

[3]I estimated the results of Heritage's feasibility test with the $5,000/customer cost, since Heritage has refused to provide its spreadsheets (CA-IR-14).

Table 1: Heritage Feasibility Tests Adjusted to $5,000 Hook-up Cost

	Est. Capital Cost	Profitability Ratio		Sched. 1 Custs.	With Hookup Cost of $5,000/Customer		
						Profitability Ratio	
		NPV	*Year 7*		*Cost*	NPV	Year 7
Waterloo/Oakland/Bellevue Committed Customers	$232,500	0.10	0.14	9	$45,000	0.52	0.72
Waterloo/Oakland/Bellevue Possible Customers	$472,500	0.55	0.5	57	$285,000	0.91	0.83
Dartmouth-Russell Lake West	$151,487	1.19	1.18	51	$255,000	0.71	0.70
Dartmouth—June 2009	$136,132	1.05	0.98	16	$80,000	1.79	1.67
Halifax—August 2010	$19,744	0.15	0.21	1	$5,000	0.59	0.83

Source: NSUARB HG-COMP, Heritage Submittal, p. 10 and Heritage response to PA-IR-4

It thus appears that no new connections of existing residential customers would be cost-effective. The costs may be less for homes under construction.[4]

Indeed, "Heritage Gas has not performed any successful analyses that passed the two-part feasibility test, for delivery of gas to residential areas (primarily single family homes)," with the exception of new subdivisions, joint projects with the municipality (and commercial customers), projects in which "the resident provides an aid to construct" (NSUARB NG-HG-COMP, PA-IR-4, p. 1).

Q: What is the origin of the estimated $5,000 cost of connecting a new residential customer?

A: When asked to explain the basis for that estimate, Heritage responded

- "The $5,000 cost estimate represents an historical average of actual costs incurred by Heritage Gas in the Halifax Regional Municipality" (NSUARB-HG-COMP, PA-IR-3);

[4]Assumed revenue per residential customer also appears to vary significantly from one analysis to another, although HG does not provide revenue detail for the projects in the discovery responses.

- "The assumptions on retro-fit service line installations were described in detail as part of Heritage Gas' various submissions related to the recently completed HG-COMP hearing" (CA-IR-11a);
- "These cost estimates are based on a combination of: historical averages for comparable areas; unit prices from construction tenders; existing contracts and historical averages for the cost of materials, inspection and permitting" (CA-IR-11c).

In no case did Heritage provide any actual cost data, construction tenders, or other support for its $5,000/residence estimate.

Q: Do you have any information on the hook-up costs for residential customers?

A: Yes. In NSUARB-HG-COMP, Heritage provided the following average hookup estimates (NSUARB-HG-COMP, PA-IR-4):

- $895 for the Dartmouth–Russell Lake new construction.
- $2,813 for the Dartmouth June 2009 project, on an existing street, with some cost advantages due to coordination with municipal paving work.[5]
- $3,845 for the August 2010 Halifax project, on existing streets.

All these costs are substantially below the $5,000 that Heritage now assumes.

Were $5,000 actually the average for Halifax hookups, connecting existing residential customers would not make sense, even if the main were to run right by their doors.

[5]It is not clear from Heritage's description how much this cost sharing reduced the costs of services, as opposed to mains.

Q: What has Heritage been paying for hooking up residential customers located on streets with existing gas mains?

A: Heritage has not supplied any such data in discovery.

Q: Has Heritage been connecting existing customers on streets with gas mains?

A: That is not clear on the record. Interestingly, "Heritage Gas does not prepare feasibility tests for service line only customers located on existing mains" (CA-IR-17). Further, "customers expected to utilize less than 200 GJs annually will be provided a service line of up to 20 metres in length at no cost. Heritage Gas assumes a cost of approximately $5,000 for these service lines" (CA-IR-11a). Heritage may thus be making investments that are uneconomic and will increase rates for all customers. On the other hand, if connecting customers is not economic, it is not clear how Heritage can ever become a significant energy supplier to any but the largest customers.

Q: Has Heritage stated that the high RDA may cause it to defer cost-effective connections of new customers?

A: Yes.

> Due to normal rate design practices, expansion projects which meet the economic feasibility test usually increase the RDA balance in the early years of the project. In most cases, the revenue from customers who are to be served by a capital investment is not sufficient initially, to offset the required return on investment, even though the investment is economic over a 25-year period. Projects that meet the feasibility tests could cause the RDA cap to be exceeded, even though it is drawn down in subsequent years. As a result, in order to prudently manage the RDA balance and to stay within the cap, future expansion activity may be increasingly focussed on projects that are expected to contribute to the reduction of the RDA. Expansions to residential customers located on streets that are in retro-fit or conversion markets have always been difficult to justify within the economic feasibility tests. There will be less ability to justify such expansions until the RDA balance is reduced or eliminated. (Heritage submittal, HG-COMP, p. 8)

> To date shareholders, including AltaGas, have financed Heritage Gas expansions which meet the economic feasibility test approved by the Board, which often forecast RDA increases in early years and rapid draw-downs thereafter. AltaGas continues to be committed to the economic growth of the Heritage Gas franchise but with the implementation of the RDA cap on September 10, 2010 AltaGas will diligently plan to operate and expand Heritage Gas and stay within the $50 million cap. Without very significant firm commitments from potential customers, or a reduction in capital investment required, it does not appear that [the currently unserved areas of the Initial Development Plan (New Glasgow, Truro, East Hants)] will be serviced within the next three years under the bounds of the $50 million RDA cap. (NSUARB-HG-COMP, PRDC-IR-2)

Interestingly, despite Heritage's reluctance to connect new existing residences and its use of prohibitively-high hook-up costs, Heritage appears to be incurring marketing expenses for those same residential customers, as described in PRDC-IR-5 (NSUARB-HG-COMP). It seems unlikely that "door-to-door marketing," "homeshows," or "Street BBQs" are marketing primarily to the larger commercial customers who might pass Heritage's profitability test.

VI. Cost of Capital

Q: How is the allowed cost of capital related to the issues in this case and the problems you discuss above?

A: Heritage's current cost of capital is based on a return on equity of 13% and a debt return of 8.75%, with 55% equity, all much higher than the corresponding inputs to the cost of capital for most utilities. Neither of these values is based on the market price of capital; Heritage's debt is provided by its equity owners. In contrast, the Board allows NSPI a return of 9.8% on equity and about 6.2% on debt, with 37.5% equity (Order in NSUARB-NSPI-P-888, November 5, 2008). The higher equity return and equity percentage also results in higher income taxes

being imputed on Heritage rates. The resulting cost of capital and taxes for Heritage is about 50% greater than for NSPI.

The high allowed rate of return leads to a number of problems for Heritage. First, the allowed high return results in higher rates, which make customer hook-ups less likely to pass the economic feasibility test. The high allowed return thus creates a barrier to connection of new customers who would be profitable and reduce costs to other ratepayers at normal return levels.

Second, even for hook-ups that pass the economic feasibility test, the higher rates result in revenue shortfalls for the early years, increasing the revenue deferral account. As Heritage explained:

> In most cases, the revenue from customers who are to be served by a capital investment is not sufficient initially, to offset the required return on investment, even though the investment is economic over a 25-year period. Projects that meet the feasibility tests could cause the RDA cap to be exceeded, even though it is drawn down in subsequent years. (Heritage Gas submittal, NSUARB-HG-COMP, p. 8)

The higher return thus increases the RDA. Since the Board has established a cap of $50 million on the RDA, Heritage may not be connecting customers who would pass the economic feasibility test but would increase the RDA in the short run.

The allowed return also affects the monthly compounding of the RDA; the higher that return, the higher the RDA balance.

Q: Is a high return typical in the start-up years of a company?

A: No. Start-ups often operate at a loss in their early years.

Q: Has the Board considered a similar option for Heritage?

A: Yes. In the order in the Bedford expansion proceeding (NG-HG-FIN-2010, p. 15), the Board suggested "allowing new assets into rate base when there are sufficient customers to justify the Project economically, and in the meantime,

allowing only short-term interest rates." The report from Board Counsel (17 August, 2010) does not consider this option further. Since the hard cap on the RDA proposed by the Board Counsel seems to have created some of the "unintended consequences" that the Board and its Counsel sought to avoid (Order, p. 2, Counsel letter, p. 1), the Board should revisit and reduce the high return allowed on under-utilitised new investments.

Q: How is this proceeding related to Heritage's cost of capital?

A: The fact that the Board has allowed this proceeding, and even encouraged Heritage to file it, indicates that the Board is flexible in ratemaking for Heritage and thus that Heritage is exposed to less risk than the initial fixed three-year rate plan would suggest. Thus, allowing Heritage to file a single-issue rate case in the midst of the previously-determine rate period suggests that Heritage's allowed return might reasonably be reduced.

Q: Does this conclude your testimony?

A: Yes.