# Green Energy Coalition

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BEFORE THE ONTARIO ENERGY BOARD

in EBRO 490

## Prefiled Evidence of Paul Chernick Covering DSM, Lost Revenue Adjustments, and Capital Variance Accounts

prepared by

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for
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## Introduction

Consumers Gas will experience a significant variance between its forecasted DSM volumes and actual DSM volumes in FY1995. It is also in the process of disengaging its DSM planning and implementation schedule from the annual rate case cycle, reducing the precision of lost revenue forecasts. Therefore, it is timely for the Ontario Energy Board to consider the issue of a lost revenue adjustment mechanism (LRAM) for DSM-related variances. More generally, revenue variances which occur through no fault of the Company should not result in windfall profits for shareholders or charges to ratepayers.

It is a generally accepted principle that DSM cost recovery should be fair, and that the utilities that perform better for their customers should do better than those that perform poorly. While interpretations of fairness, superior performance, and suitable incentives vary widely, regulators should clearly seek to align the self-interest of utility shareholders and managers with the interests of ratepayers and the public.

At a minimum, regulators should remove any systematic conflicts between the interests of those groups. In the long run, regulators should eliminate any incentive that might lead a utility to prefer a higher-cost supply option over a more economical demand-management resource.

In this regard, the regulatory framework in Ontario is incomplete in two respects:

1. Although the gas utility is compensated prospectively in rate cases for the projected revenue losses due to DSM, there is no consistent mechanism for reconciling projected lost revenues with actual. Regardless of the amount of lost revenues that may be built into rates, the utility can reduce lost revenues and increase earnings by reducing its level of effort and/or the quality of its management of the programs. To the extent the utility exerts more or better efforts to reduce total social and ratepayer costs through increased conservation achievements, the utility's earnings will be less than they would have been without the increased effort. Therefore, the lost-revenue problem provides a perverse signal to utility management.

2. The Board permits, but does not require, balancing accounts for expensed and/or capitalized DSM expenditures. In the case of Consumers Gas, a variance

account for expenses has been created, but not for DSM capital expenditures.

I recommend the following changes to better align ratepayer and shareholder interests, and to facilitate the smooth evolution of the DSM portfolio:

1. A symmetric revenue-adjustment mechanism for Consumers Gas, analogous to a balancing account for expenses, that reconciles the sales reductions due to DSM that were projected in the previous rate case to the actual DSM savings. The approach recommended here should be distinguished from the broader "decoupling", which divorces utility earnings from sales levels completely by setting an allowable rate of return based on some target or measure of performance.

2. Creation of a symmetric balancing account for DSM capital expenditures.

## Revenue-Adjustment Mechanism

According to D2/T6/S1/p.III-64, in 1995 Consumers Gas expects to achieve less than 50% of the DSM gas savings that were projected in EBRO 487. As a result, shareholders will receive a windfall of $130,000 at a cost to ratepayers of $230,000 (I/T2/S13). If the DSM savings in 1996 are again only 50% of the projected level for each DSM program, the shareholder windfall will increase to $250,000 and the cost to ratepayers will increase to $450,000 (I/T5/S36). If this underperformance carries through to the long term, ratepayers will be paying for more costly supply, adding insult to injury.

Whatever the reason for underperformance, a variance account for DSM net revenues would create a more equitable regulatory framework for DSM. If the Company falls short of its DSM goals, regardless of the cause (whether it be intentional delay in program implementation or causes beyond the control of the utility, such as bottlenecks in the ramp-up phase of program implementation, a contractors strike, or severe weather resulting in delays in installations), there is no reason why the shareholder should benefit. Conversely, if Consumers Gas exceeds its DSM goal, its shareholders should not be penalized for good performance.

In its EBO-169-III Report, the Board indicated a willingness to consider a DSM lost revenue adjustment mechanism at a later date, if merited. In that

proceeding, Consumers Gas supported "partial decoupling" as an equitable solution to the lost-revenue problem. As described in the E.B.O. 169-III Report of the Board, Consumers Gas believes that a symmetrical adjustment mechanism would

> ... ensure that both the ratepayer and shareholder were equally protected against unexpected DSM consequences. Partial decoupling would also address the concerns of those who believe that a utility will not undertake conservation DSM if the existing link between profits and throughput volumes is maintained. (10.2.17)

A lost-revenue true-up mechanism has several additional important benefits. First, it will tend to reduce regulatory costs. Since the disincentives created by lost revenues are diametrically opposed to the objectives of integrated least-cost planning, without some mechanism to reduce or eliminate the problem, vigilant and vigorous policing of the utilities' DSM activities is required, as the Board has recognized. In its E.B.O. 169-III Report, the Board found that the lost-revenue disincentive did not appear to have adversely affected gas utilities' DSM performance in the past. It stated, however, that:

> the Board, nonetheless, is aware of the need to be vigilant to assure that shareholder interests do not constrain the pace at which DSM programs are identified and implemented in the future. (10.3.1)

In addition, a LRAM would tend to reduce the importance of detailed scrutiny of revenue loss projections in rate cases. For example, in a rate case, projecting revenue losses may involve disputes over such details as program participation rates or over size and efficiency effects of installations. The Parties will more readily accept higher revenue loss projections if they know that the revenues will be adjusted later for over-optimistic savings estimates.

An LRAM is particularly timely in light of a recent move by Consumers Gas to disengage its DSM consultation, development and implementation process from the rate case cycle. The Company wants the flexibility of being able to cancel, add or change programs without prior rate case review. This added flexibility can improve DSM implementation, but the lack of a revenue adjustment mechanism constrains the utility in its decisions to implement new programs and places the ratepayer at a higher

risk (for example, by increasing the uncertainty of the load forecasts relied on in rate cases).

Currently, the Company has 16 DSM program opportunities, which could be implemented at any time under its 'decoupled' planning cycle. Suppose that implementation of these programs could double the gas savings forecasted for 1996. In that event, instead of a potential windfall of $250,000, shareholders would be penalized by $500,000. The Company has not, in fact, budgeted for implementation of these initiatives in 1996. (Ex. I/T2/S26)

Second, a lost revenue reconciliation mechanism may avoid some delay in program implementation. Completion of full DSM impact evaluation will often take a couple of years. As a result, in a rate case, the Board may have to make a decision about projected revenue losses before reliable monitoring and evaluation (M&E) results are available. Without a revenue reconciliation mechanism, there may be pressure to halt program implementation until M&E results are ready.

Third, given that corporate profit is a component of the Senior Management annual incentive program, a revenue adjustment mechanism will better align management incentives with ratepayer interests. (D1/T8/S1)

The revenue adjustment mechanism can be structured and implemented as a routine part of a rate case. The reconciliation calculation would rely on the M&E that the Company will be performing anyway, both for purposes of DSM implementation and as a basis for projecting revenue losses in rate cases. In order to project sales and revenue losses, the Company will have to examine the historic DSM performance and annualize the sales impacts of the DSM installed. Reconciliation of actual with projected revenue losses can be a straightforward part of that analysis.

Regulators that allow recovery of lost revenues usually include some reconciliation mechanism in the process. For example, utilities in Arizona, Connecticut, Indiana, Maryland, Massachusetts, New York and Vermont are required to reconcile estimated to measured program results.

The Company has argued that the high percentage deviation in 1995 was a normal result of program ramp-up and is not representative of future DSM performance. While the 1995 deviation from projected lost revenues may be unusual or considered small in absolute terms, it is still important to put the mechanism in

place, for the following reasons:

- The cost to ratepayers is almost twice as high, since they have to pay in before-tax dollars.

- The magnitude of the revenue losses and the possible windfall gain to shareholders will become more important as the DSM effort grows. This will be the case even if the percentage deviation from the forecasted sales reductions falls as the program ramps up to full-scale. For its avoided cost analysis, Consumers Gas assumed a 4% DSM decrement, because it was "reasonable to expect that in the long term, the load reduction DSM programs will have an aggregate impact of this order of magnitude" (EBRO 487, D2/T6/S1/p. VI-8). Such a DSM savings trajectory is consistent with a between-rate-case annual increment of 0.6%.[1] At a 25% shortfall from a projected savings of 0.6% the windfall to shareholders would be about $600,000 and the direct cost to ratepayers would be about $1 million per year.

- If it turns out that there is only a small difference between projected and actual gas sales reduction, because the Company has successfully implemented its planned programs, then so much the better. The cost of a revenue reconciliation mechanism is minimal.

- Certain events may raise suspicions, deserved or not, that the utility has succumbed to perverse incentives. For example, it may happen, as is projected for 1995, that no DSM programs will exceed the savings forecasted and total savings will be considerably lower than what was forecasted. (See D2/T6/S1/p.III-64 Corrected - Table III.4) Or it may happen that the utility experiences a warm winter and profits are low, and at the same time slow DSM performance boosts its earnings. Ultimately it is not possible to know how and to what extent perverse incentives have influenced utility actions. With an adjustment mechanism in place, these concerns are eliminated, and therefore consultations and other relations among the parties may be less

[1] Although it is used here for illustrative purposes, this is based on the Company's estimate of a 4% of load DSM savings potential to 2005. No judgement is made here of the appropriateness of that assumption.

antagonistic and more productive.

An argument might be made that there is no need for a revenue adjustment mechanism because the Company has the option of requesting an Accounting Order. The option of an Accounting Order is not an adequate substitute for lost-revenue reconciliation mechanism, because it is discretionary. It protects the shareholder, as it should, by permitting the utility to file for additional recovery if the actual sales reductions exceed what was forecasted. However, the interests of the ratepayer are *not* protected, because the utility is unlikely to request that ratepayers be reimbursed for revenue losses that were projected but not actually incurred.

## Variance Account for Capitalized Expenses

In the E.B.O. 169-III Report, the Board endorsed balancing accounts for both capitalized and expensed DSM spending. Consumers Gas has requested such an account for DSM expenses, but not for its DSM capital investments. Without some adjustment mechanism to reconcile projected with actual investments, the gas utility is inappropriately penalized if it overspends and rewarded if it underspends, by the amount of the carrying charges on the variance.

Consumers is not proposing a DSMVA—Capital in EBRO 490 because it believes that the variance is unlikely to be large. In addition it states it could request a variance account through an Accounting Order.

The capital expenditures reflected in the 1995 rates of Consumers Gas exceed the current projection of actual by ~$400,000 (D2/S6/S1/p.VII-2), not an insignificant amount. The option of requesting an Accounting Order, while it may protect the shareholders interests, does not do the same thing for the ratepayer. Consumers Gas is not required to and cannot be expected to request a downward adjustment to revenues for underspending. This asymmetry in rate treatment should be eliminated by requiring a variance account for DSM capital expenditures.

Qualifications of

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**Summary of Professional Experience**

*1986–Present* **President, Resource Insight, Inc.** Consults and testifies in utility and insurance economics. Reviews utility supply-planning processes and outcomes: assesses prudence of prior power planning investment decisions, identifies excess generating capacity, analyzes effects of power-pool-pricing rules on equity and utility incentives. Reviews electric-utility rate design. Estimates magnitude and cost of future load growth. Designs and evaluates conservation programs for electric, natural-gas, and water utilities, including hook-up charges and conservation cost recovery mechanisms. Determines avoided costs due to cogenerators. Evaluates cogeneration rate risk. Negotiates cogeneration contracts. Reviews management and pricing of district heating systems. Determines fair profit margins for automobile and workers' compensation insurance lines, incorporating reward for risk, return on investments, and tax effects. Determines profitability of transportation services. Advises regulatory commissions in least-cost planning, rate design, and cost allocation.

*1981–86* **Research Associate, Analysis and Inference, Inc.** (Consultant, 1980–81). Researched, advised, and testified in various aspects of utility and insurance regulation. Designed self-insurance pool for nuclear decommissioning; estimated probability and cost of insurable events, and rate levels; assessed alternative rate designs. Projected nuclear power plant construction, operation, and decommissioning costs. Assessed reasonableness of earlier estimates of nuclear power plant construction schedules and costs. Reviewed prudence of utility construction decisions. Consulted on utility rate-design issues, including small-power-producer rates; retail natural-gas rates; public-agency electric rates, and comprehensive electric-rate design for a regional power agency. Developed electricity cost allocations between customer classes. Reviewed district-heating-system efficiency. Proposed power-plant performance standards. Analyzed auto-insurance profit requirements. Designed utility-financed, decentralized conservation program. Analyzed cost-effectiveness of transmission lines.

*1977–81* **Utility Rate Analyst, Massachusetts Attorney General.** Analyzed utility filings and prepared alternative proposals. Participated in rate negotiations, discovery, cross-examination, and briefing. Provided extensive expert testimony before various regulatory agencies. Topics included demand forecasting, rate design, marginal costs, time-of-use rates, reliability issues, power-pool operations, nuclear-power cost projections, power-plant cost-

**Education**

SM, Technology and Policy Program, Massachusetts Institute of Technology, February, 1978.

SB, Civil Engineering Department, Massachusetts Institute of Technology, June, 1974.

**Honors**

Chi Epsilon (Civil Engineering)

Tau Beta Pi (Engineering)

Sigma Xi (Research)

Institute Award, Institute of Public Utilities, 1981.

**Selected Recent Publications**

"The Allocation of DSM Costs to Rate Classes," *Proceedings of the Fifth National Conference on Integrated Resource Planning*. Washington: National Association of Regulatory Utility Commissioners. May 1994.

"Environmental Externalities: Highways and Byways" (with Bruce Biewald and William Steinhurst), *Proceedings of the Fifth National Conference on Integrated Resource Planning*. Washington: National Association of Regulatory Utility Commissioners. May 1994.

"The Transfer Loss is All Transfer, No Loss" (with Jonathan Wallach), The *Electricity Journal* 6:6 (July, 1993).

"Benefit-Cost Ratios Ignore Interclass Equity" (with others), *DSM Quarterly*, Spring 1992.

**Selected Recent Reports**

"Review of the Elizabethtown Gas Company's 1992 DSM Plan and the Demand-Side Management Rules" (with J. Wallach, J. Plunkett, J. Peters, S. Geller, B. Hamilton, and A. Shapiro); Report to the New Jersey Department of Public Advocate, November 1992.

"The AGREA Project Critique of Externality Valuation: A Brief Rebuttal," March 1992.

*Environmental Externalities Valuation and Ontario Hydro's Resource Planning* (with E. Caverhill and R. Brailove), 3 vols.; prepared for the Coalition of Environmental Groups for a Sustainable Energy Future, October 1992.

Management Rules" (with J. Wallach, et al.); Report to the New Jersey Department of Public Advocate, June 1992.

"The Potential Economic Benefits of Regulatory $NO_X$ Valuation for Clean Air Act Ozone Compliance in Massachusetts," March 1992.

"Initial Review of Ontario Hydro's Demand-Supply Plan Update" (with Argue, David, et al.), February, 1992.

"Report on the Adequacy of Ontario Hydro's Estimates of Externality Costs Associated with Electricity Exports" (with E. Caverhill), January 1991.

**Recent Presentations**

"The Economic and Environmental Benefits of Gas IRP: FERC 636 and Beyond." Presentation as part of the Ohio Office of Energy Efficiency's seminar, "Gas Utility Integrated Resource Planning," April 1994.

"Cost Recovery and Utility Incentives." Day-long presentation as part of the Demand-Side-Management Training Institute's workshop, "DSM for Public Interest Groups," October 1993.

"Cost Allocation for Utility Ratemaking." With Susan Geller. Day-long workshop for the staff of the Connecticut Department of Public Utility Control, October, 1993.

"Comparing and Integrating DSM with Supply." Day-long presentation as part of the Demand-Side-Management Training Institute's workshop, "DSM for Public Interest Groups," October 1993.

"DSM Cost Recovery and Rate Impacts." Presentation as part of "Effective DSM Collaborative Processes," a week-long training session for Ohio DSM advocates sponsored by the Ohio Office of Energy Efficiency, August, 1993.

"Cost-Effectiveness Analysis." Presentation as part of "Effective DSM Collaborative Processes," a week-long training session for Ohio DSM advocates sponsored by the Ohio Office of Energy Efficiency, August, 1993.

Conservation Law Foundation Utility Energy Efficiency Advocacy Workshop; Boston, February 28, 1991; "Least Cost Planning and Gas Utilities."

NARUC Forum on Gas Integrated Resource Planning; Washington, D.C., February 24, 1991; "Least-Cost Planning in a Multi-Fuel Context."

New England Gas Association Gas Utility Managers' Conference; Woodstock, Vermont, September 10, 1990; "Increasing Market Share Through Energy Efficiency."

**Advisory Assignments to Regulatory Commissions**

District of Columbia Public Service Commission, Docket No. 834, Phase II; Least-cost planning procedures and goals; August 1987 to March 1988.

Connecticut Department of Public Utility Control, Docket No. 87-07-01, Phase 2; Rate design and cost allocations; March 1988 to June 1989.

**Expert Testimony**

Paul Chernick has testified in over 100 regulatory proceedings on a wide variety of utility planning and economics issues since 1978.