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Ontario Energy Board

E.B.R.O. 484

Centra Gas Rate Hearing

RATE PROPOSALS FOR RATES 1 AND 10

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INTRODUCTION

The purpose of this testimony is to analyse the following issues:

- i. should the Rate 1 (small volume general service) and Rate 10 (large volume general service) customer charges be raised in F1994;
- ii. should the differential between the Rate 10 peak and off-peak charges be increased;
- iii. should the number of months in the Rate 10 peak billing period be reduced; and
- iv. should peak and off-peak billing periods be established for Rate 1?

THE LEVELS OF THE RATES 1 AND 10 CUSTOMER CHARGES

Centra is proposing to raise the Rate 1 customer charge from \$8 per month in 1993 to \$9 per month in 1994. Centra is also proposing to raise the Rate 10 customer charge from \$20 per month in 1993 to \$25 per month in 1994.

Centra's proposals raise two important questions:

- i. would a rise in the customer charges of Rates 1 and 10 make Centra's rates more cost-related; and
- ii. would higher customer charges discourage energy conservation?

Cost-Related Rates

Customer costs are costs that vary according to the number of customers served by a utility.

"These [customer costs] are those operating and capital costs found to vary with number of customers regardless, or almost regardless, of power consumption. Included as a minimum are the costs of metering and billing along with whatever other expenses the company must incur in taking on another consumer." [James Bonbright, Principles of Public Utility Rates (New York: Columbia University Press; 1961), p. 347]

The Ontario Energy Board has "traditionally espoused cost-related rates that, to the degree reasonably possible, reflect cost causality." [E.B.O. 169-III, Report Of The Board, p. 85] Thus, everything else being equal, the Rates 1 and 10 customer charges should be raised if Centra's costs that are causally related to its number of customers exceed \$8 and \$20 per month respectively and if they are not recovered by another customer-related charge (e.g., a water-heater rental charge).

According to Centra's fully allocated cost study the monthly customer-related costs for Rates 1 and 10 are \$22.40 and \$102.62 per month respectively. [Ex. H1, Appendix B;] However, not all these costs are causally related to Centra's number of customers. On the contrary, according to Centra's cost allocation methodology, all costs that are not demand-related or commodity-related are classified as customer-related whether or not they are causally related to the number of Centra's customers:

"Centra classifies all rate base and operating costs as demand related, commodity related, or customer related. Costs are classified as customer related when they are incurred independently of a customer's peak demand or gas consumption." [Ex. J5.50, p. 3]

For example, mains are responsible for \$1.44 and \$1.94 of Centra's monthly fully allocated customer-related costs for Rates 1 and 10 respectively. However, Centra's customer-related mains costs will not decline if Centra's number of customers decline (i.e., these costs are not causally related to Centra's number of customers). Similarly, Centra's customer-related mains costs will not rise, as Centra's number of customers rise, if the new customers are located on streets that already have gas mains.¹

Furthermore, at least \$3.41 and \$7.97 per month of the Rates 1 and 10 fully allocated customer costs respectively are a function of the costs of Centra's appliance rental programme. [Ex. H1, Appendix B; Ex. J5.50, p. 2] One hundred per cent of these

¹. "But the really controversial aspect of customer-cost imputation arises because of the cost analyst's frequent practice of including, not just those costs that can be definitely earmarked as incurred for the benefit of specific customers but also a substantial fraction of the annual maintenance and capital costs of the secondary (low voltage) distribution system - a fraction equal to the estimated annual costs of a hypothetical system of minimum capacity. This minimum capacity is sometimes determined by the smallest sizes of conductors deemed adequate to maintain voltage and to keep from falling of their own weight. In any case, the annual costs of this phantom, minimum-sized distribution system are treated as customer costs and are deducted from the annual costs of the existing system, only the balance being included among those demand-related costs to be mentioned in the following section. Their inclusion among the customer costs is defended on the ground that, since they vary directly with the area of the distribution system (or else with the lengths of the distribution lines, depending on the type of distribution system), they therefore vary indirectly with the number of customers.

What this last-named cost imputation overlooks, of course, is the very weak correlation between the area (or the mileage) of a distribution system and the number of customers served by this system. For it makes no allowance for the density factor (customers per linear mile or per square mile). Indeed, if the company's entire service area stays fixed, an increase in number of customers does not necessarily betoken any increase whatever in the costs of a minimum-sized distribution system." [Principles of Public Utility Rates, pp. 347, 348] See also Second Technical Conference Transcript, p. 197, l. 2 to p. 198, l. 8.

costs are recovered by Centra's fixed monthly appliance rental charges. [Ex. J5.50] Therefore it would not be appropriate to also recover these costs by means of the fixed monthly customer charge for gas service. [First Technical Conference Transcript, Vol. 2, p. 362, l. 19 to p. 364, l. 19]

In short, from a cost-causality perspective, the crucial issue is whether Centra's Rates 1 and 10 costs that vary with its number of Rates 1 and 10 customers (e.g., costs of meter reading and billing) are significantly different than Centra's total customer charge revenues (e.g., monthly charges for gas service, water-heater rental charges, account opening charges). Centra's fully allocated cost study does not answer this question.²

Energy Conservation

Moreover, cost-relatedness is only one of Bonbright's eight criteria of a desirable rate structure. According to Bonbright another important objective of rate design is to promote the wise use of energy:

"Efficiency of the rate classes and rate blocks in discouraging wasteful use of service while promoting all justified types and amounts of use:
(a) in the control of the total amounts of service supplied by the company;
(b) in the control of the relative uses of alternative types of service (on-peak versus off-peak electricity, Pullman travel versus coach travel, single-party telephone service versus service from a multi-party line, etc.)." [Principles of Public Utility Rates, p. 291]

². In this context it is important to note that the objective of Centra's fully allocated cost study is simply to "allocate the test year costs to the rate classes." [Ex. G3, Tab 1, Sch. 1, p. 6]

Assuming fixed revenue requirements for Rates 1 and 10, Centra's proposal to raise their customer charges implies that their commodity charges must decline. A decline in the Rates 1 and 10 commodity charges will reduce the financial incentive for Rates 1 and 10 customers to conserve energy. Thus Centra's proposal to raise the monthly customer charges is in conflict with the desire of the Government of Ontario that Centra will aggressively promote energy conservation.

Conclusions

Centra's pre-filed evidence has failed to demonstrate that a rise in the Rates 1 and 10 customer charges will make Centra's rates more cost-related. Furthermore, a rise in the Rates 1 and 10 customer charges will discourage energy conservation.

Recommendations

1. The Rates 1 and 10 customer charges remain at the E.B.R.O. 474 levels in 1994.
2. Centra Gas be directed to present, at its next main rates case, a quantitative analysis of its costs that are causally related to its number of: i) Rate 1; and ii) Rate 10 customers.

RATE 10 SEASONALIZATION

Rate 10 has winter (November to April) and summer (May to October) billing periods for its gas transportation services commodity charges.

The differential between the winter and summer rates, 3 cents per cubic metre, is less than the differential between the Centra's fully allocated cost of providing natural gas service during the winter and summer periods, approximately 6 cents per cubic metre.³

Centra's rates could become more cost-related if its winter billing period is limited to the months during which Centra's peak day demand may occur, i.e., December, January and February. [First Technical Conference Transcript, Vol. 2, pp. 343, 344; Ex. J5.46] However, a four month peak billing period (December, January, February and March) could be appropriate for the following reasons.

First, it would reduce the rate impact during the transition to a shorter peak period.

Second, a four month peak period for Centra would be consistent with Consumers' peak billing period.

Third, a four month peak period would reduce the risk of Centra's peak day

³. The differential between the fully allocated cost of providing gas service for Rate 10 in the winter and summer periods was calculated by dividing the sum of the Rate 10 delivery and storage demand costs (Ex. H3, Tab 8, p. 8) by the Rate 10 winter period volumes (Ex. C3, Tab 3, Sch. 5). That is, \$17,544,946 divided by 294,597,000 cubic metres equals 5.9556 cents per cubic metre.

demand occurring during the off-peak billing period in the future.

Centra's rates would also be more cost-related if the differential between the peak and off-peak rates more closely approximates the differential between Centra's peak and off-peak period costs of providing gas service.

In addition to making Centra's rates more cost-related, a rise in the differential between the peak and the off-peak rates and/or a shorter peak period would provide the following benefits:

- i. it would increase the financial incentive for Rate 10 customers to reduce their peak period gas consumption (e.g., by buying super-efficient furnaces, windows and doors); and/or
- ii. it would increase the financial incentive for Rate 10 customers to switch from electricity to gas for high load factor end-uses (e.g., water heating, cooking, drying and cooling).

Recommendation

3. Centra Gas be directed to present, at its next main rates case, analyses of the merits of specific proposals to: i) reduce the number of months in the Rate 10 peak billing period; and/or ii) to change the magnitude of the differential between the Rate 10 peak and off-peak rates.

RATE 1 SEASONALIZATION

Rate 1 is a winter peaking rate class with a relatively low load factor (see Appendix). Moreover, according to Centra's fully allocated cost study, the winter/summer differential in the cost of providing gas service to Rate 1 customers is approximately 9 cents per cubic metre.⁴ Nevertheless, the Rate 1 commodity charges are not seasonalized.

The establishment of peak and off-peak billing periods for Rate 1 would provide the following benefits:

- i. it would make the Rate 1 commodity charges more cost-related;
- ii. it would increase the financial incentive for Rate 1 customers to reduce their peak period gas consumption (e.g., by buying super-efficient furnaces, windows and doors); and
- iii. it would increase the financial incentive for Rate 1 customers to switch from electricity to gas for high load factor end-uses (e.g., water heating, cooking, drying and cooling).⁵

⁴. The differential between the fully allocated cost of providing gas service for Rate 1 in the winter and summer periods was calculated by dividing the sum of the Rate 1 delivery and storage demand costs (Ex. H3, Tab 8, p. 8) by the Rate 1 winter period (November-April) volumes (Ex. C3, Tab 3, Sch. 5). That is, \$61,121,031 divided by 681,854,000 equals 8.9640 cents per cubic metre.

⁵. For example, reducing the Rate 1 commodity charge by 0.597 cent per cubic metre for 8 months and increasing the Rate 1 commodity charge by 0.403 cent per cubic metre for 4 months will reduce the annual operating cost of a base load gas appliance. That is, if the monthly gas consumption of a Rate 1 base load appliance is one cubic metre, its annual operating cost would fall by 3.164 cents $[(0.403 \times 4) - (0.597 \times 8)]$.

If the peak period demand of Rate 1 declines and/or if its number of high load factor end-uses rise, the load factor of Rate 1 and the Centra Gas system will rise. Everything else being equal, a rise in a utility's load factor will lead to a fall in its average costs and rates.

The creation of a one cent per cubic metre differential between the Rate 1 peak (December-March) and off-peak (April-November) rates would raise the bills of "typical" Rate 1 residential customers by 0.01% to 0.13% relative to Centra's rate proposals.⁶ [Ex. J5.40, p. 5]

According to Centra, it remains unconvinced that seasonal pricing would send a significant signal to its Rate 1 customers given its large number of equal billing customers. [Ex. J5.41] However, there are a number of steps Centra could take to mitigate this perceived problem.

First, Centra could undertake a public information campaign to inform its Rate 1 customers about the Rate 1 rate structure and rates.

Second, Centra's monthly bills could clearly state the customers' actual incurred gas costs per month.

Third, Centra could ensure that the retailers of gas appliances and equipment are fully informed about Centra's rate structures and rates so that they can calculate the pay-

⁶. If a one cent per cubic metre differential is created between the Rate 1 peak and off-peak rates and the Rate 1 monthly customer charge remains constant at \$8 per month, the bills of "typical" Rate 1 residential customers will fall/rise by -1.76% to 0.51% relative to Centra's proposals. [Ex. J5.40, pp. 8 and 11]

back periods for various types of gas appliances and equipment (e.g., mid and high-efficiency gas furnaces and water heaters).

Recommendations

4. Peak (December-March) and off-peak (April-November) billing periods be established for Rate 1 effective January 1, 1994.

5. The differential between the Rate 1 peak and off-peak commodity rates, effective January 1, 1994, be one cent per cubic metre.

SUMMARY OF RECOMMENDATIONS

1. The Rates 1 and 10 customer charges remain at the E.B.R.O. 474 levels in 1994.

2. Centra Gas be directed to present, at its next main rates case, a quantitative analysis of its costs that are causally related to its number of: i) Rate 1; and ii) Rate 10 customers.

3. Centra Gas be directed to present, at its next main rates case, analyses of the merits of specific proposals to: i) reduce the number of months in the Rate 10 peak period; and/or ii) to change the magnitude of the differential between the Rate 10 peak and off-peak rates.

4. Peak (December-March) and off-peak (April-November) billing periods be established for Rate 1 effective January 1, 1994.

5. The differential between the Rate 1 peak and off-peak commodity rates, effective January 1, 1994, be one cent per cubic metre.

Appendix

Figure 1 shows the forecast 1994 Rate 1 throughput volumes by month.

Figure 2 shows the forecast 1994 Rate 10 throughput volumes by month.

Figure 3 shows the forecast 1994 total throughput volumes of the Centra Gas system by month.

Figure 4 shows the forecast 1994 total throughput volumes of the Centra Gas system by month excluding the Rates 1 and 10 volumes.

Figure 1

Rate 1

1994 Forecast Throughput Volumes

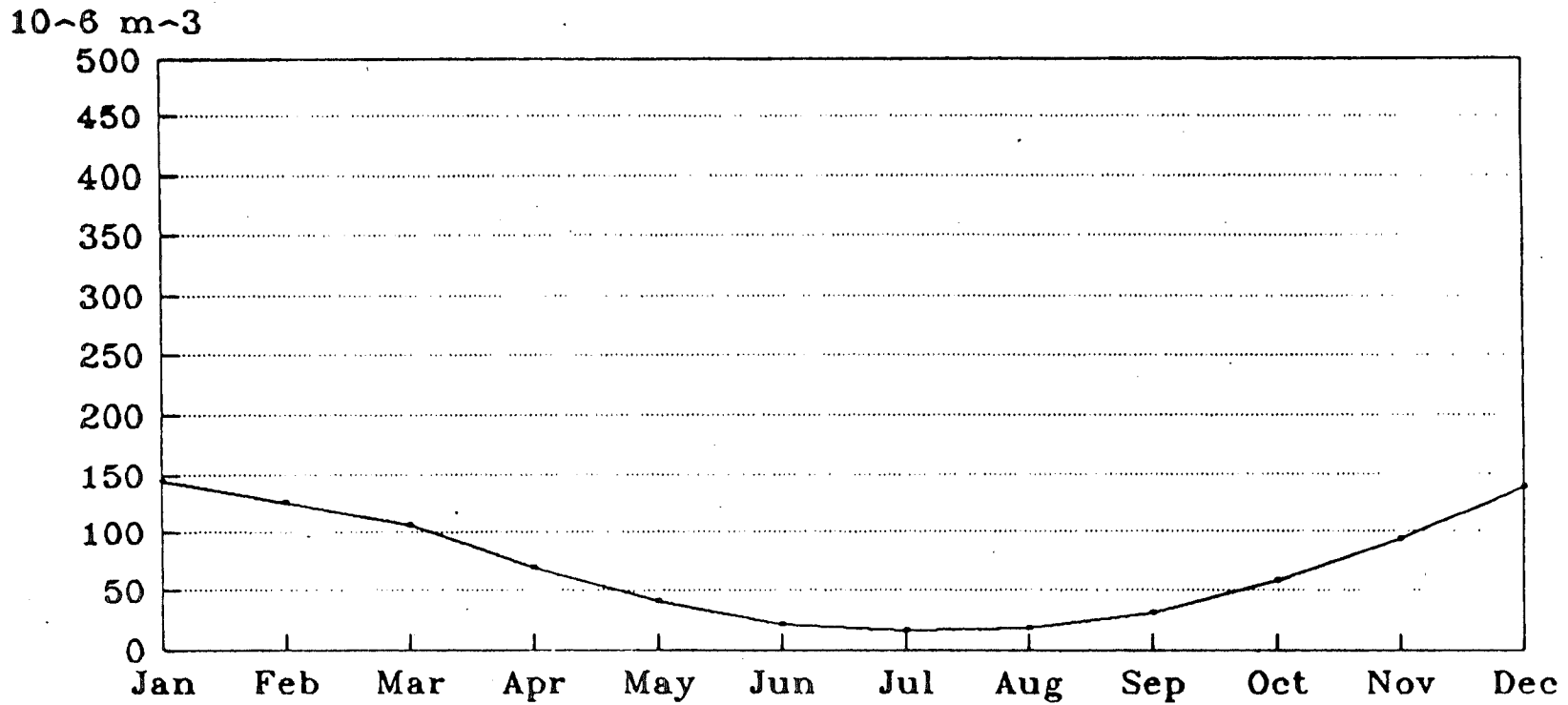


Figure 2

Rate 10

1994 Forecast Throughput Volumes

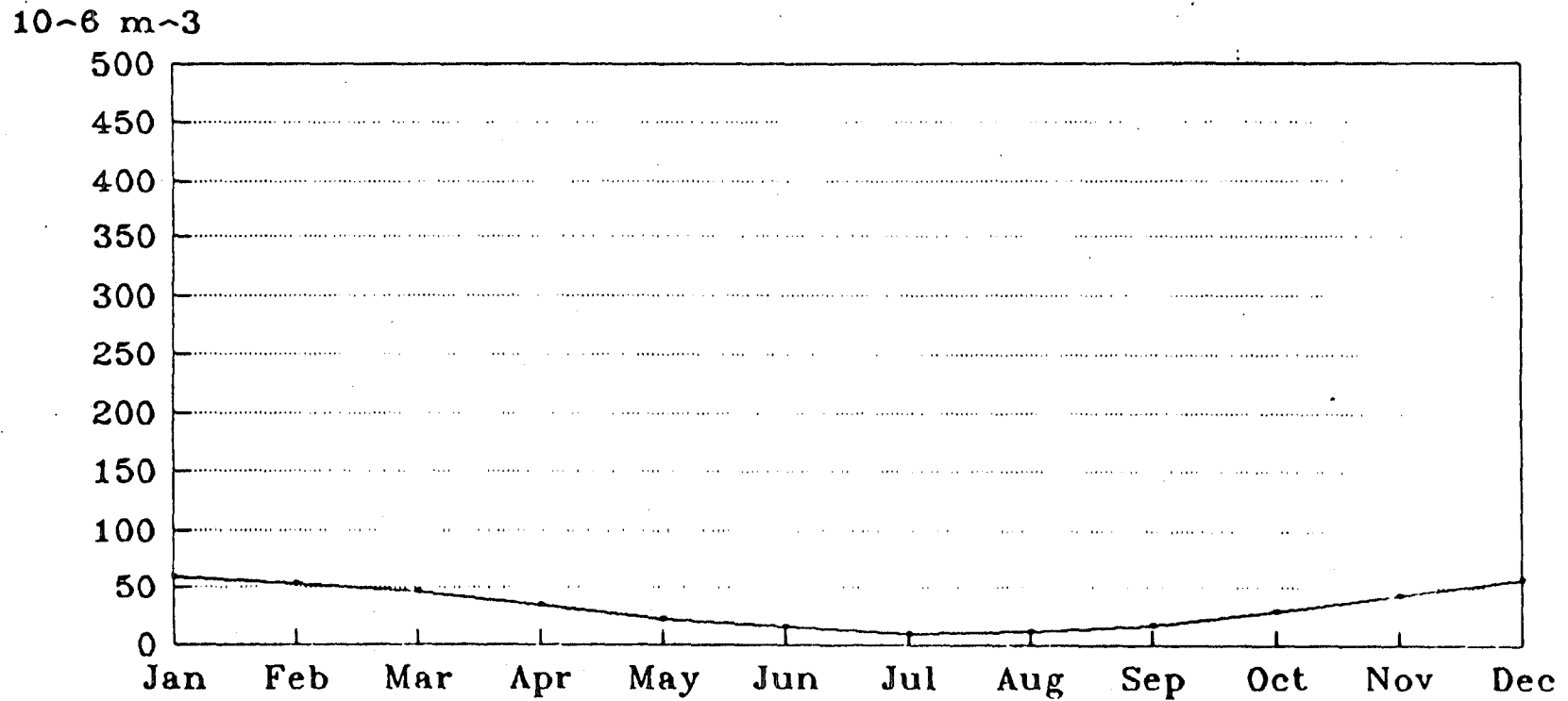


Figure 3

Total Incl. T-Service 1994 Forecast Throughput Volumes

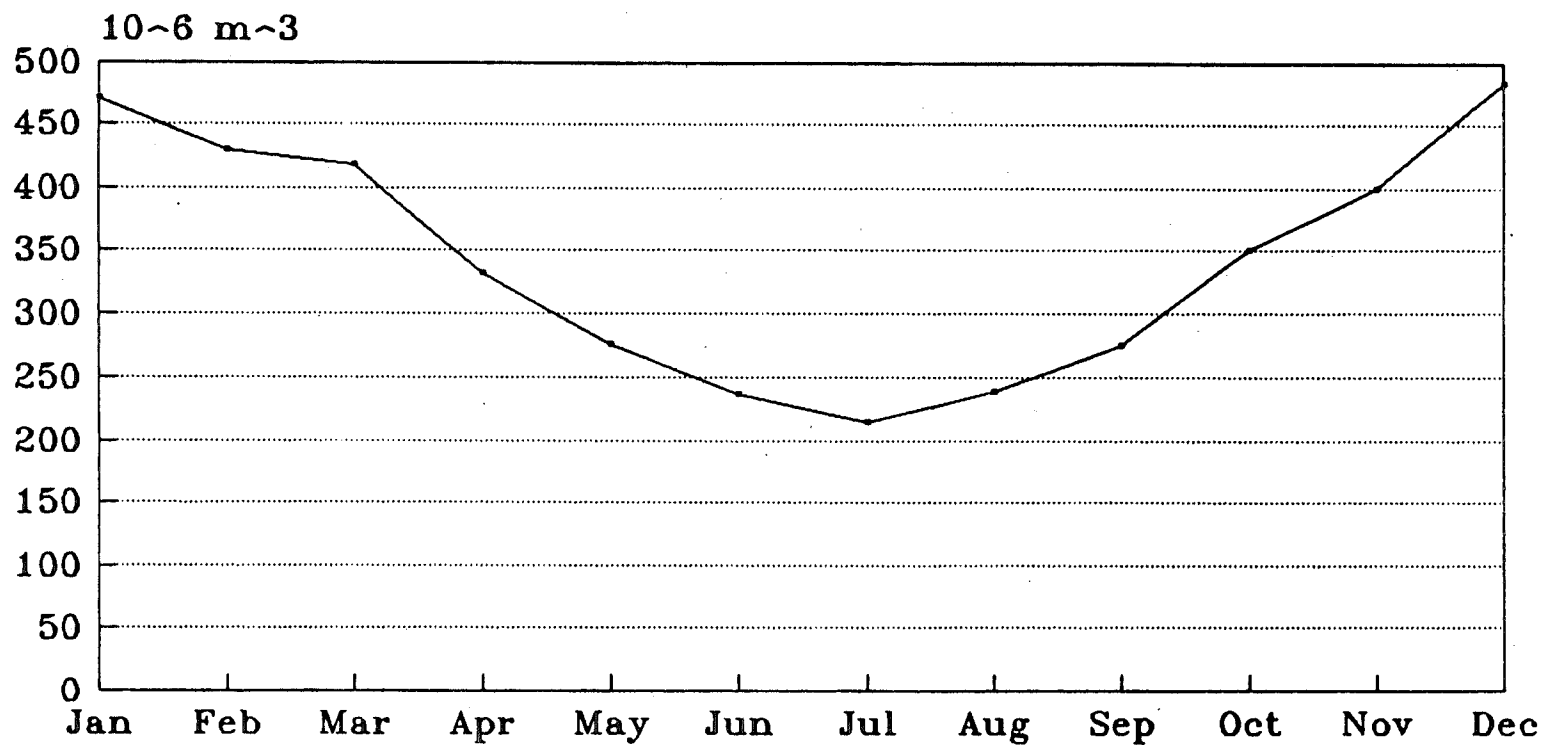


Figure 4

Total - Rates 1 & 10 1994 Forecast Throughput Volumes

