1968

To read or not to read, to bill or not to bill

Curtis H. Cadenhead

Recommended Citation
Haskins & Sells Selected Papers, 1968, p. 158-177

To Read or Not to Read, To Bill or Not to Bill

by Curtis H. Cadenhead, Jr.
Partner, Houston Office

Presented before the Northeast Gas Association, Springfield, Massachusetts—May 1968

With the spiraling costs companies have faced, particularly in the last ten years, and are expected to be facing in the foreseeable future, our thoughts necessarily turn to ideas for reducing these costs or at least to holding the line. After all, rate cases are time-consuming and expensive and at times can be avoided or delayed by controlling costs. Although costs are an important factor, other factors such as the available labor force are also important. Therefore, we do not need to look far in search of incentives for reducing costs or streamlining operations.

One area in particular that has received, and is currently receiving, much attention is meter reading and billing. To read or not to read, to bill or not to bill, that is the question. In presenting this subject today I shall first discuss the merits and demerits of reading and billing less frequent than monthly and then consider alternatives to this approach.

MONTHLY BILLING AND READING

In setting the background for our discussion, we may ask, "What is so sacred about monthly meter reading and billing?" The usual arguments presented for the monthly approach are:

Advantages

- Customer billing takes place at regular, short intervals and covers actual usage, thereby causing little adverse customer reaction.
- The bill is smaller in amount, smaller deposits are required, and uncollectible accounts are less.

On the other side of the coin, however, there may also be disadvantages to monthly reading and billing.

Disadvantages

- The customer must pay for the high cost of preparing and processing his bill.

- Where there are wide variations in usage and billings during the year, billing monthly for actual usage may actually be a disadvantage, even though usually considered an advantage.

READINGS AND BILLINGS LESS FREQUENT THAN MONTHLY

Once we conclude that monthly reading and billing has disadvantages as well as advantages, we can consider readings and billings less frequent than monthly. A natural extension of our thinking would be to bimonthly, but why not quarterly or longer inasmuch as any cost reduction from bimonthly reading and billing would be presumed to increase with longer cycles?

Once we conclude that we can read and bill less frequently than monthly, we must decide whether this policy should be applied across the board to all customers or should be restricted to certain customers. Most likely, we would decide that residential and small commercial customers could be billed less frequently, but that large commercial, industrial, seasonal, and irregular customers should be continued on monthly reading and billing.

Survey

The AGA-EEI Customer Accounting Committee recently made a survey of 77 companies comprising gas, electric, and combination companies. Thirty-one of the companies are presently reading meters less frequently than monthly, and 24 of the 31 companies are doing so for a substantial majority of their customers. Fourteen of the companies bill monthly and fifteen bill bimonthly. Two bill part of the customers monthly and the others bimonthly. Eight of the remaining 46 companies in the survey are actively considering bimonthly reading. Interestingly, there appears to be no correlation between the number of customers and the frequency of meter reading. I think we can conclude from the number of survey companies reading meters less frequently than monthly that there must be advantages to less-frequent readings and that the advantages are considered by such companies to outweigh the disadvantages.

What advantages and disadvantages might there be and what would be the impact of change from monthly reading and billing to reading and billing less frequently than monthly? Let us arbitrarily select a bimonthly period for purposes of discussion.

Advantages

The most obvious advantage of lengthening the reading and billing cycle would be reduction in personnel required for reading meters, processing bills, mailing, and handling collections. The cost of meter readers and the problems of finding and keeping them are usually given as the reasons for considering less-frequent readings. Attendant upon reduction in meter readers would be reduction in transportation, uniform, and other related costs. Attendant upon the reduction in number of billings would be reduction in bill forms, envelopes, supplies, and postage. The study made by an AGA-EEI committee in 1961 reported a decrease in meter-reading personnel ranging from 33% to 50%, the average decrease being 42%. A decrease of about 40% would seem to be a reasonably attainable reduction.

The foregoing expenses vary to large extent in proportion to the number of customers and bills, and the impact of change can be estimated with relative accuracy. See Schedule 1, page 161.

Disadvantages

There are bound to be disadvantages, however, some of which can be measured and expressed in dollars and others that cannot be easily measured, or even measured at all.

Increase in estimated billings

All companies find it necessary at various times to estimate billings for customers whose meters are not accessible and the customers not available. In my part of the country, this occurs because meters are located in fenced yards, guarded by large dogs or locked gates. In your part of the country, I understand many of the meters are located inside, particularly in basements. Regardless of the reason, missed readings may necessitate estimated billings for one or more months under a monthly cycle. When meter reading and billing is on a bimonthly or longer cycle, estimated bills can cover a four-to-six-month period, with just two to three missed readings. But is that necessarily bad?

Schedule 1

NATURAL GAS COMPANY

CHANGES IN CUSTOMER ACCOUNTING AND COLLECTING EXPENSES, MONTHLY VS. BIMONTHLY BILLINGS FOR THE YEAR ENDED DECEMBER 31, 1968

LABOR—Cashiering, billing, etc. (directly related to volume of bills rendered):		
Monthly billing procedure	$440	
Estimated savings with bimonthly billing procedure	40%	$176
SUPPLIES AND EXPENSES—Billing forms, data processing runs, envelopes, postage, etc.:		
Monthly billing procedure	418	
Estimated savings with bimonthly billing procedure	50%	209
METER READING—Labor, uniforms, transportation, etc.:		
Monthly billing procedure	332	
Estimated savings with bimonthly billing procedure	40%	133
BAD-DEBT LOSSES (Schedule 2)		(39)
ESTIMATED NET DECREASE IN CUSTOMER ACCOUNTING AND COLLECTING EXPENSES		$479

NOTE: The amounts used in this and the following schedules are based on the actual operations of a natural gas distribution company on a monthly reading and billing cycle. The adjustments to other methods of reading and billing, of course, are estimates to illustrate the changes in procedures.

When a customer is accustomed to receiving actual bills, estimated bills seem to invite inquiry and complaint. I once asked a credit and collection employee of a client what problem, if any, arose from estimated bills. I expected a few brief remarks. Lo and behold, I had touched a nerve, and before I had a chance to say a word, I was given 25 reasons why estimated bills were a problem. Needless to say, an increase in number as well as in size of estimated bills could be expected to cause additional time of employees in responding to customer calls.

Credit and collections

A disadvantage frequently mentioned is the credit and collection policy and the possible increase in uncollectible accounts. Customer reaction to a change to less-frequent billing and reading does not seem to be uniform. One survey I studied, however, reported that the survey companies experienced very little change in the delinquent accounts. Although there was a small increase in delinquent accounts, the change, generally, had no noticeable effect on collections, and very few of the companies changed their deposit requirements. Uncollectible accounts seem to be more dependent upon the collection policies than upon the size of the bills. It would seem to me that the usual collection policy would and should be continued. Instead of having 60 days of uncollected revenues at the disconnect date, however, you would probably expect to have 90 days of uncollected revenues. Therefore, you might expect to have up to a 50% increase in uncollectible accounts. See Schedule 2, page 163.

During 1966, I spent several months working in Buenos Aires, Argentina. There, as you may be aware, the postal system is not as efficient as it is in our country, and there is little sense of integrity on the part of postal employees. If an envelope appears to contain anything of value, chances are it may never be delivered. Consequently, most accounts are settled by messenger delivery of checks or by personal payment with currency. The utility companies hand-deliver bills, and then an hour or so later a collector requests payment.

My family accompanied me to Buenos Aires and we rented an apartment for part of our visit. Our rent included the utilities. One morning my wife, while sitting in the apartment, noticed an envelope being slipped under the door. She picked it up, opened it, and not reading or understanding Spanish, soon forgot about it. About an hour later there was a knock on the door, and a collector appeared, speaking in Spanish, presumably requesting payment. By this time my wife had learned to say she could not understand the language and so advised the collector, whereupon he tried to respond in his very limited English. He was told we did not pay the bills. He understood less English than he spoke. Apparently, he again asked for payment and my wife, using the remainder of her Spanish, answered "No"; whereupon he asked if he should collect from the doorman, who acted as manager for the building. Again, in Spanish, my wife said "No." After many words and several no's, the poor fellow was completely frustrated and left shaking his head. I've often wondered if the collector was as amused by this incident as we were.

Schedule 2

NATURAL GAS COMPANY

COMPARISON OF BAD-DEBT LOSSES,
MONTHLY VS. BIMONTHLY BILLINGS

CONSUMPTION BY BAD ACCOUNT:			
First month	$10		
Second month	10		
Third month	10		
Total	$30		
	Bimonthly Billings	*Monthly Billings*	*Possible % Increase in Loss Experience*
Amount of original billing	$20	$10	
Add—consumption during average 30-day collection attempt prior to disconnection	10	10	
Total loss on bad account	$30	$20	50%

INCREASE IN ESTIMATED BAD-DEBT LOSSES: (Note: Assume all losses occur from residential and small commercial accounts)	
Residential and small commercial sales with monthly billing procedure	$25,836
Apply bad-debt loss experience rate	.3561%
Estimated bad debts with monthly billing procedure	92
Residential and small commercial sales with bimonthly billing procedure	24,520
Apply adjusted bad-debt rate (150% × .3561%)	.5342%
Estimated bad debts with bimonthly billing procedure	131
ESTIMATED INCREASE IN BAD-DEBT LOSSES	$ 39

Revenue and cash flow

One of the measurable disadvantages mentioned most frequently when bimonthly billings are discussed is the deferral of revenues, with the resultant effect on income and cash flow. This is a more or less permanent deferral of income and cash flow from about one-half month's revenue (under a monthly cycle) until the company goes out of business. This can have a distorting effect on income for the year of change. After the year of change, income from year to year would be affected only by the variation in cold weather near year end, and this possibly could be a larger variation than under monthly billing. See Schedule 3, below.

Upon adoption of bimonthly billing, there is a distortion of the monthly operating ratios and an accentuation of unaccounted-for gas. This distortion requires a drastic change in thinking relative to billing statistics. Usage and revenue per customer will increase up to double that of the monthly billing cycle, while most operating expenses remain unaffected. For the year-of-change comparison with the prior year's by month and year-to-date and for the first two years, the 12-months-to-date financial and operating data will be confusing. But most likely these same problems were discussed years ago when cycle billing was adopted. See Schedule 4, page 165.

Schedule 3

NATURAL GAS COMPANY

COMPARISON OF REVENUES, MONTHLY VS. BIMONTHLY BILLINGS (ESTIMATED) FOR THE YEAR ENDED DECEMBER 31, 1968

	BILLING FREQUENCY		
	MONTHLY	BIMONTHLY (ESTIMATED)	DIFFERENCE
REVENUES:			
January	$ 4,196	$ 2,098	$(2,098)
February	3,589	3,893	304
March	3,064	3,326	262
April	1,831	2,448	617
May	1,463	1,647	184
June	1,437	1,450	13
July	1,336	1,386	50
August	1,317	1,327	10
September	1,362	1,339	(23)
October	1,459	1,411	(48)
November	2,149	1,804	(345)
December	2,633	2,391	(242)
TOTALS	$25,836	$24,520	$(1,316)

Schedule 4

NATURAL GAS COMPANY

CHANGES IN CASH FLOW, MONTHLY VS. BIMONTHLY BILLINGS FOR THE YEAR ENDED DECEMBER 31, 1968

	BILLING FREQUENCY			RUNNING
	MONTHLY	BIMONTHLY	DIFFERENCE	SHORTAGE (ESTIMATED)
ESTIMATED CASH COLLECTIONS:				
January	$ 2,609	$ 2,609		
February	4,196	2,098	$(2,098)	$ 2,098
March	3,589	3,893	304	1,794
April	3,064	3,326	262	1,532
May	1,831	2,448	617	915
June	1,463	1,647	184	731
July	1,437	1,450	13	718
August	1,336	1,386	50	668
September	1,317	1,327	10	658
October	1,362	1,339	(23)	681
November	1,459	1,411	(48)	729
December	2,149	1,804	(345)	1,074
TOTALS	$25,812	$24,738	$(1,074)	$11,598 ÷12 mo.
AVERAGE SHORTAGE				967
INTEREST RATE TO FINANCE				7%
ADDITIONAL INTEREST COST				$ 67

NOTE: Assume all accounts are collected in month subsequent to billing.

The deferral of cash flow from about one-half month's revenue would seem to require a permanent addition to working capital equal to the maximum amount of additional unbilled revenue during the year. If the additional working capital is obtained through long-term borrowing, it would presently cost about 7%; however, the entire amount of additional working capital would not be required all year. To lessen the impact of the additional expense, the difference between the high and low requirements could be invested at 6% for a period probably equivalent to about half the year. Alternatively, working capital could be increased to an amount equal to the average requirement, and short-term borrowings arranged for the excess requirement. Again, this is merely an extension of the same problem we have under the monthly cycle billing procedure and not something new with bimonthly billing. See Schedule 5, pages 166 and 167.

Schedule 5

NATURAL GAS COMPANY

STATEMENT OF INCOME, MONTHLY VS. BIMONTHLY BILLINGS FOR THE YEAR ENDED DECEMBER 31, 1968

	BILLING FREQUENCY		
	MONTHLY	ADJUSTMENTS	BIMONTHLY
OPERATING REVENUES:			
Gas service revenues:			
Residential and small commercial sales (Schedule 3)	$25,836	$(1,316)	$24,520
Large commercial and industrial sales	5,775		5,775
Other	97		97
Total gas service revenues	31,708	(1,316)	30,392
Other operating revenues:			
Customers' forfeited discounts	711		711
Transportation revenues	164		164
Miscellaneous	370		370
Total operating revenues	32,953	(1,316)	31,637
OPERATING REVENUE DEDUCTIONS:			
Operating expenses:			
Gas purchases	12,428		12,428
Distribution expenses	3,830		3,830
Customer accounting and collection expenses (Schedule 1)	2,000	(479)	1,521
Sales promotion expenses	1,738		1,738
Administrative and general expenses	2,789		2,789
Total operating expenses	22,785	(479)	22,306
Depreciation	2,257		2,257
Taxes:			
Federal income taxes	1,925	(434)	1,491
Ad valorem taxes	1,334		1,334
Other	1,289		1,289
Total operating revenue deductions	29,590	(913)	28,677
NET OPERATING REVENUES	3,363	(403)	2,960

Schedule 5 continued

OTHER INCOME (DEDUCTIONS):			
Miscellaneous non-operating revenues	328		328
Interest on long-term debt	(1,750)		(1,750)
Other interest charges (Schedule 4)	(165)	(67)	(232)
Interest charged to construction—credit	310		310
Net other deductions	(1,277)	(67)	(1,344)
NET INCOME	$ 2,086	$ (470)	$ 1,616

Federal income taxes

Another important problem to consider in a change from a monthly to a bimonthly billing cycle in reporting income is the effect on income taxes. Such a change is considered by the Internal Revenue Service to be a change in method of accounting for which prior consent of the Commissioner is required. Ordinarily, a company will be permitted to change to a less-frequent meter reading and billing cycle, provided it agrees to adjustments that will avoid the distortion of income or expense in the year of change.

Over the years, internal revenue agents have raised questions concerning recognition of unbilled and unrecorded revenues at year end. The agents have generally been unsuccessful in asserting such deficiencies, and it is my understanding that national headquarters has advised the agents not to pursue this point.

The request for a change to bimonthly billing would certainly give the Service an opportunity to specify adjustments for all unbilled revenues as a condition for its approval. Adjustment for the estimated difference in revenues between monthly and bimonthly billing would, however, avoid distortion of income and could be expected to satisfy the Service.

Under Accounting Principles Board Opinion No. 11, concerning comprehensive tax allocation, income tax relating to the adjustment of unbilled revenues for tax purposes would be recorded as deferred tax unless such revenues were recorded. The payment of the tax would be a permanent outflow of cash and would require a permanent addition to working capital. The cost of this additional capital should be provided in an evaluation of a change to bimonthly billing. See Schedule 6, page 168.

Schedule 6

NATURAL GAS COMPANY

RECONCILEMENT OF NET INCOME AND TAXABLE INCOME — BIMONTHLY BILLINGS FOR THE YEAR ENDED DECEMBER 31, 1968

NET INCOME			$1,616
ADD:			
Federal income taxes		$1,491	
Residential and small commercial revenues deferred until 1969		1,316	2,807
Taxable income			$4,423
Federal income tax liability (48%)			$2,123
Prepaid federal income taxes	$ 632		
Federal income tax expense	1,491		
Federal income tax liability	$2,123		

NOTE: Assume 48% tax rate.

Recording unbilled revenues

The practice of utility companies generally has been to ignore unbilled revenues and the fluctuations therein resulting from cycle billing. A few companies, however, have recorded such unbilled revenues and made adjustments monthly or annually for fluctuations. The most prevalent practice of those companies recording unbilled revenues resulting from cycle billing has been to record a static amount and to ignore monthly and annual fluctuations. From a theoretical viewpoint, there is no question but that all unbilled revenues should be recorded; however, most companies do not wish to run the risk of being taxed on recorded unbilled revenues.

In the instance of changing to bimonthly billing, a company would almost certainly be taxed, as previously mentioned, on the unbilled revenues resulting from the change. Upon change, the risk of additional taxes, therefore, would not be an argument for ignoring the additional unbilled revenues.

Considering the continuing requirement of most utility companies to raise capital, relations with stockholders, and materiality, how many companies could afford not to record the additional unbilled revenues resulting from the change to bimonthly billing? Not many, I think. Aside from this, your independent accountants would probably encourage recording such unbilled revenues. Otherwise, there would be an inconsistency in application of accounting principles and practices to which your independent acountants might make reference in their report. See Schedule 7, below.

Labor relations

In the area of labor relations, some companies have encountered problems with their unions; however, these problems have not been insurmountable. Employees in positions that would no longer be required

Schedule 7

NATURAL GAS COMPANY

CONDENSED STATEMENT OF INCOME (SECOND CONSIDERATION) FOR THE YEAR ENDED DECEMBER 31, 1968

	BIMONTHLY BILLING PROCEDURE		
	WITHOUT RECORDING OF UNBILLED REVENUES	ADJUSTMENTS	WITH RECORDING OF UNBILLED REVENUES
OPERATING REVENUES (Schedule 3)	$31,637	$1,316	$32,953
OPERATING REVENUE DEDUCTIONS:			
Operating expenses	22,306		22,306
Depreciation	2,257		2,257
Taxes:			
Federal income taxes (Schedule 6)	1,491	632	2,123
Ad valorem taxes	1,334		1,334
Other	1,289		1,289
Total operating revenue deductions	28,677	632	29,309
NET OPERATING REVENUES	2,960	684	3,644
OTHER DEDUCTIONS	1,344		1,344
NET INCOME	$ 1,616	$ 684	$ 2,300

after a change to bimonthly reading and billing usually show a high turnover rate. Normal attrition and transfers to fill other job openings would usually permit reduction of the number of employees to the desired level within a rather short period. Usually when employees are assured they will not be fired or downgraded by reason of the change, the relations problem is slight.

Regulatory matters

In the area of regulation, the rules and regulations of the regulatory commissions concerned should be studied to determine whether or not Commission approval is required for a change in the reading and billing period. Unless the change in period is accompanied by a change in rates, approval by the Commission might not be required. If Commission approval were required, however, one would not expect it to be withheld. Bimonthly reading is merely a less expensive method of determining customer usage; bimonthly billing is a less expensive method of effecting collection and does not affect the cost of gas. Regardless of the requirement for approval, it would seem prudent from the standpoint of relations to notify the regulatory commission of proposed changes in reading and billing.

Public relations

Resistance is an expected human reaction to any proposed change, whether it be on the part of company employees and management or of customers. The possibility of adverse customer reaction most definitely must be considered before a change to bimonthly reading and billing is adopted. On the basis of surveys and case studies I have read, however, a change to bimonthly billing, surprisingly, has in most cases brought very little reaction from customers. One survey reported that, of the companies keeping records of complaints following the change, the frequency of complaints increased from less than .01% to a high of 4%. The 4% increase was reported by but one company, and their experience did not seem to be representative of the other reporting companies. That company further reported that only a small percentage of customers remained dissatisfied.

To avoid adverse customer reaction, most companies undertake a very extensive public relations program utilizing bill enclosures, newspaper advertisements, and radio and television time to explain the reasons for the change and the benefits to customers. One company, however, reportedly successfully implemented the change in such a short period that it had only enough time to avail itself of bill enclosures and this for only one mailing. Doing it this way certainly seems to be stretching your luck.

Companies anticipating adverse reaction to bimonthly billing on the part of certain customers provided for alternative procedures whereby complaining customers could either pay monthly or receive monthly bills. Some of the alternatives offered these customers were:

• Customers could be placed on budget billing so that they would receive monthly bills for the budget amount.

• For the interim months when no bill was rendered, customers could be furnished with a year's supply of cashier's coupons calling for the payment of an amount equivalent to one month's usage, such collection to be shown as a credit on the next regular bill.

• Customers could be supplied with reading cards that they could fill out and return covering the interim months when they would not otherwise receive a bill.

With the exception of budget billing, the customers generally would become disenchanted with the extra effort required on their part and for that reason acquiesce in the practice of bimonthly billing.

Budget billing, of course, is used in varying degrees by many companies on monthly reading cycles, and customers on such a plan have little, if any, objection to meter reading less frequent than monthly, since it does not change the amount of their payment. For those customers not previously on a budget plan, it would afford the benefit of eliminating the wide fluctuations in bills between summer and winter months.

Summary of Bimonthly Reading and Billing

From a purely economic standpoint, reading and billing less frequent than monthly offers the best possibility, at the present time, for reducing cost of service; it has been successfully carried out by many companies and is being studied by others. Studying less-frequent billing solely from the standpoint of cost, however, is reminiscent of the story of a Texas Aggie's examination of a horseshoe.

For the information of those who have not heard of Texas Aggies, it is an endearing term used to describe students and graduates of the Agricultural and Mechanical College of Texas. As happens with a number of ethnic groups around the country, the Aggies receive the brunt of many jokes and stories in Texas.

To go on with the story: The Aggie walked into the blacksmith's shop, as he frequently did, just as the blacksmith had completed shaping a horseshoe, quenching it, and laying it aside to cool. The Aggie, noticing the horseshoe lying by the forge, picked it up and quickly put it down. The blacksmith, laughing to himself, asked the Aggie if the horseshoe was hot, to which the Aggie replied, "No, it just doesn't take me long to examine a horseshoe."

In other words, a company's study must consider and anticipate all advantages and disadvantages of change from the viewpoint of the customer as well as that of the company, so that the new procedure will not have to be "put down" quickly once it has been implemented. A public utility is charged with providing the best possible service at the least possible cost. Therefore, a billing method that would cause hardship for customers would not fulfill the utility's objective and responsibility. The make-up of a company's customers would then be an important consideration in deciding whether or not to adopt less-frequent billing. Where customers for the most part have average or above-average income, a change in billing frequency would be more likely to succeed. But where the customer make-up includes a relatively large number of low-income or pensioner customers, a compromise billing method may be more practical and in line with the company's objective and responsibility to the public.

If we conclude in a particular case that less-frequent billing is impractical, let us explore some alternatives that, combined with a monthly billing, would yield the cost savings of less-frequent reading.

ESTIMATED INTERIM BILLINGS

The development of high-speed electronic computers with almost unlimited storage capacity has made it possible to store sufficient information concerning a customer's history of usage for a long enough period to permit estimating current usage on the basis of the customer's past history. Before such computers became available, the manual or mechanical computation of estimates on this basis was prohibitive from both a time and a cost standpoint. Consequently, estimates were often made on the basis of current usage of similarly located customers and frequently evoked complaints. Although complaints will never be eliminated, the sophisticated procedures of estimating now possible to program should help to hold complaints to a minimum.

Several companies using interim estimated billing combined with bimonthly or quarterly readings reported in a 1967 AGA-EEI survey that the initial rate of customer complaints or bill rejections had caused them to improve and refine their estimating procedures and programs. There is much that can be learned from the good and bad experiences of these companies and from the various AGA-EEI surveys and compendiums prepared therefrom. In fact, a very thorough compendium of estimating procedures and policies was presented at the AGA-EEI Accounting Conference last month [January 1968] and is available in bound form.

There is a certain amount of psychology connected with interim estimated billings, and several companies have through experience found it helpful to designate such bills as "interim." In such cases, the term "estimate" is reserved for those instances where scheduled readings were missed. When customers strenuously object to interim estimates, several companies have adopted a flexible policy of permitting the customer to pay upon receipt of the meter-reading bill; of furnishing reading cards to be filled in by the customer and returned to the company during interim months for preparation of actual usage bills; or of agreeing to read the customer's meter monthly. Of course, any handling aside from the prescribed procedures tends to complicate the plan; the frequency of exceptions would be expected to be small, however.

The credit and collection operations seem to be affected little by a change to less-frequent reading and interim monthly bills, and the same collection policies should be followed with respect to the interim bills as was previously followed for actual monthly bills. There should be little or no increase in delinquent or uncollectible accounts.

Inaccurate estimating of interim bills may cause some increase in customer accounting expense because of an increase in frequency of adjustments. Automatic correction of inaccurate estimates on the read bill, however, will tend to minimize any additional expense.

Regulatory Commission

Most likely, approval of the applicable regulatory commission would be required concerning the procedures to be followed in estimating interim bills. As previously mentioned, notification would seem to be prudent in instances where approval is not required.

General Accounting and Reporting

Under bimonthly reading and billing we have previously discussed the distortion of income and monthly operating results and ratios and the desirability of recording unbilled revenues monthly or annually. It would seem then that, under a plan of less-frequent readings with interim estimated bills, the amount of interim bills would most definitely be recorded as revenues monthly, regardless of how they were shown on customers' bills. The entries made monthly would depend on the treatment accorded such bills.

For those companies treating the interim-month bill as a payment on account on the read-month bill, the interim bill would be recorded as revenue and be reversed in the month of reading. The entire amount of the read-month bill would then be recorded as revenue.

In instances in which the interim bill is treated as an estimated or no-read bill, it would be recorded as revenue without later reversal. The read-month bill then would be recorded on the basis of usage shown by it.

Regardless of the mechanics, the foregoing procedures should yield revenues comparable to those reported under the monthly reading and billing plan, the only difference being that some companies report that their estimated billings tend to be slightly less than those measured by actual usage.

Reading Cycle

Inasmuch as revenues and cash flow will not be affected materially when there are interim estimated billings, there seems to be little theoretical reason for not considering reading cycles longer than bimonthly—say, quarterly, semiannually, or annually. There currently seems to be considerable thought and study given to the longer reading cycles, although to my knowledge there are no companies in the U. S., other than possibly some REA companuies, that are reading a substantial number of their meters less frequently than quarterly. I have read, however, that some European utilities have successfully adopted annual meter-reading plans.

Expense Reductions

We have previously discussed the estimated reductions in expenses upon adoption of a bimonthly reading and billing plan. A large part of the savings expected there would be eliminated by reason of the preparation, processing, mailing, and collection of interim monthly bills (Schedule 1, page 161). By the same token, however, there would seem to be little or no need for additional working capital, which certainly would be an advantage over less-frequent billing. The savings in meter reading and related costs would be the same. See Schedules 8 and 9, pages 176 and 177.

Federal Income Taxes

A change from a monthly reading and billing plan to a less-frequent reading plan with interim estimated billings should produce about the same income as the monthly plan. It is merely a different method of arriving at the same income and therefore should not be considered a change in accounting method requiring approval of the Commissioner of Internal Revenue.

AUTOMATIC METER READING

In other attempts to combat increasing meter-reading costs, there has been much research in automatic meter-reading devices, and several such devices are in use experimentally on a small scale. It is expected, however, that many years may pass before they will be sufficiently competitive to gain widespread use.

CONCLUSION

In summary, I think we can conclude that monthly reading and billing plans, to a certain extent, have been a luxury most utilities have been reluctant to give up. Spiraling costs, however, are causing more utilities to assess the advantages and disadvantages of less-frequent meter-reading

Schedule 8

NATURAL GAS COMPANY

CONDENSED STATEMENT OF INCOME, BIMONTHLY READING WITH INTERIM ESTIMATED BILLINGS

	MONTHLY READING AND BILLING	ADJUST-MENTS	BIMONTHLY READING WITH INTERIM MONTHLY ESTIMATED BILLINGS
OPERATING REVENUES	$32,953		$32,953
OPERATING REVENUE DEDUCTIONS:			
Operating expenses (Schedule 1)	22,785	$(133)	22,652
Depreciation	2,257		2,257
Taxes:			
Federal income	1,925	64	1,989
Ad valorem	1,334		1,334
Other	1,289		1,289
Total operating revenue deductions	29,590	69	29,521
NET OPERATING REVENUES	3,363	69	3,432
OTHER DEDUCTIONS	1,277		1,277
NET INCOME	$ 2,086	69	$ 2,155

plans, accompanied by either less-frequent billings or interim monthly billings. The effect of these plans is such that they must be considered on a company-by-company and service-area-by-service-area basis. If you have not already done so, I suggest that you make such a study for your company.

Schedule 9

NATURAL GAS COMPANY

COMPARATIVE CONDENSED STATEMENTS OF INCOME

	BIMONTHLY READING & BILLING		BIMONTHLY READING
	WITHOUT RECORDING UNBILLED REVENUES	WITH UNBILLED REVENUES	WITH INTERIM MONTHLY ESTIMATED BILLINGS
OPERATING REVENUES	$31,637	$32,953	$32,953
OPERATING REVENUE DEDUCTIONS:			
Operating expenses	22,306	22,306	22,652
Depreciation	2,257	2,257	2,257
Taxes:			
Federal income	1,491	2,129	1,989
Ad valorem	1,334	1,334	1,334
Other	1,289	1,289	1,289
Total operating revenue deductions	28,677	29,309	29,521
NET OPERATING REVENUES	2,960	3,644	3,432
OTHER DEDUCTIONS	1,344	1,344	1,277
NET INCOME	$ 1,616	$ 2,300	$ 2,155