(Decision No. 71084)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * *

IN THE MATTER OF THE APPLICATION OF UNION RURAL ELECTRIC ASSOCIATION, INC., A COLORADO CORPORATION, P. O. BOX 218, BRIGHTON, COLORADO, FOR APPROVAL OF A NEW TARIFF TO MODIFY, CHANGE AND AMEND THE EXISTING TARIFF OF THE COMPANY ON FILE WITH THE COMMISSION AND FOR THE CHANGE OF ALL CLASSES OF RATES, AND REVISIONS AND ADDITIONS TO THE RULES AND REGULATIONS UNDER WHICH SERVICE IS TO BE RENDERED.

APPLICATION NO. 22987

March 26, 1968

Appearances: Robert A. Ruyle, Esq., Greeley, Colorado, for Applicant;
Girts Krumins, Esq., Denver, Colorado, for the Staff of the Commission.

S T A T E M E N T

BY THE COMMISSION:

The above entitled application was filed with this Commission on December 19, 1967. Union Rural Electric Association, Inc., hereinafter referred to either by full corporate name or as Applicant, by this filing, seeks approval of this Commission to place into effect a new tariff to modify, change and amend the existing tariff, and for the change of all classes of rates, as well as modification of the class of service, and revisions and additions to the rules and regulations under which service is to be rendered. In effect, Applicant seeks not only a determination by this Commission of the total revenue requirements of Applicant to be recovered by new rates, but also includes new rate schedules in the same filing. This differs from the normal procedure customarily used before this Commission. The normal and preferred procedure involves, in the first instance, the determination by the Commission of the total revenue requirements of a public utility, without regard to rate structure. After this is accomplished, such public utility is then directed to file new rate schedules and tariffs which will produce the required revenue, and another hearing is had on the rate structure alone. However, inasmuch as the new rate schedules were filed with the application, the Commission will determine the entire matter before it at this time. We note that the normal procedure is preferred and should be observed in the future.

The Commission set the matter for hearing, after due notice to all interested parties, on February 20, 1968, at 10:00 A.M. in the District Court House at Brighton, Colorado At said time and place the matter was duly heard by the Commission and, at the conclusion of said hearing, was taken under advisement. Upon motion by the Applicant, which motion was granted, the application was amended at the hearing by inserting the word "increased" at the end of line 7 in paragraph 7 and changing the dollar figure of $108,420 to $102,087 on line 8, paragraph 7. The Commission received twenty-six (26) letters of protest to the new tariff, and one person appeared at the hearing in opposition to the granting of the approval sought.

Union Rural Electric Association, Inc., is a non-profit cooperative corporation, duly organized and existing under the laws of the State of Colorado. Its Articles of Incorporation, as amended, were filed with this Commission in Application No. 20428. Applicant holds a certificate of public convenience and necessity issued by this Commission pursuant to Application No. 20428 (Decision No. 63322), and is engaged in the business of purchasing, acquiring, transmitting, distributing, furnishing and selling electricity to its member and non-member customers in the Counties of Adams, Boulder, Gilpin, Grand, Jefferson and Weld, all in the State of Colorado. Applicant's customers total 6,521.

The following exhibits were introduced by Applicant, supported by competent testimony, and admitted in evidence by the Commission:

<u>Exhibit No. 1</u>: Financial Forecast, prepared in May of 1966, covering the years 1966 through 1975. This financial forecast basically presents the estimated cash requirements of the Applicant, but also contains a projection

of the estimated operating and financial results of the Applicant under the present rates as well as the proposed rates. On the basis of existing rate schedules, operating margins would be in a deficit position through 1973, causing a continuous decrease of the patronage capital throughout the entire period However, the projected deficit in operating margins did not materialize in 1967 as forecast Applicant's witness testified that some recurring expenses were deferred in 1967 because of inadequate funds.

Exhibit No. 2: A power requirements study for Applicant, dated April 1966. This study formed part of the basis of the Financial Forecast (Exhibit No. 1).

Exhibit No. 3: A wholesale power purchase contract between the Applicant and Tri-State Generation and Transmission Association. This exhibit also supports the financial data contained in other exhibits.

Exhibit No. 4: Electric rate study prepared by Union Rural Electric Association, Inc., in May of 1966. This study was prompted by the deficits in operating margins forecast at approximately the same time, and in turn the proposed rates were applied to the financial forecast, Exhibit No. 1, to show the effect on operating margins and cash flow resulting from the application of the new rates. The rates proposed in this study are essentially the same rates that Applicant now seeks to place into effect by this application.

Exhibit No. 5: Demand tables and other Rural Electrification Administration bulletins relative to rate design. The information contained in these bulletins was used by Applicant in its rate study.

Exhibit No. 6: An Examination report prepared by Certified Public Accountants of Applicant's books for the 12-month period ending August 31, 1967.

Exhibits Nos. 7 through 10 consist of balance sheets and statements of revenue and expenses for 12-month periods ending August 31, 1967 and December 31, 1967. Exhibit No. 8 shows that total operating revenues for the 12-month period ending August 31, 1967 (the test year) were $1,013,050. This exhibit, in conjunction with Exhibit No. 13, reveals the following detail information:

Operating Revenue	Test Year Ending 8-31-67		In Period Adjustments	Test Year Adjusted Ending 8-31-67
Electric energy revenue	$992,236			
Consumer forfeited discounts	864			
Rent from electric property	14,973			
Other electric revenue	4,977			
Total operating revenue		$1,013,050		$1,013,050
Operating Expenses				
Cost of purchased power	$357,484			
Transmission	2,996			
Distribution	81,590			
Consumer accounting	52,505			
Demonstrating and sales	5,454			
Administrative and general	139,308			
Depreciation expense	186,117			
Amortization of utility plant	1,200			
Amortization of acquisition adjustments	1,689			
Taxes other than income	62,139			
Total operating expense		890,482	2,284	892,766
Total Utility Operating Income		$ 122,568	($2,284)	$ 120,284

After deducting operating expenses of $890,482 from operating revenues of $1,013,050, total utility operating income is $122,568 before adjustments. The operating expenses were increased by an in-period adjustment of $2,284, resulting in an adjusted utility operating income of $120,284. It should be noted that the utility operating income, as shown above, is on the accrual rather than cash basis; that is, it takes into account depreciation rather than actual debt repayments, and further, constitutes operating income before interest charges.

Exhibit No. 11 is entitled Electric Rate Study Supplement. This Supplement updates the rate study made in May 1966, Exhibit No. 4, and is dated December 1967. Revenues and expenses for the 12-month period ending August 31, 1967 (the test year) are used in this supplemental study.

Exhibit No. 12 is a statement of rate base properly computed as follows:

For Year Ended August 31, 1967

Gross Rate Base			
Electric plant:			
in service (original cost)	$7,077,318		
under construction	304,260	$7,381,578	
Material and Supplies - Electric		124,560	
Prepayments		2,738	
Working Capital*		44,543	
Total gross rate base			$7,553,419
Deductions from gross rate base			
Accumulated provision for depreciation		$1,684,038	
Contributions in aid of construction		34,804	
Consumer advances for construction		900	
Total deductions			1,719,742
Rate Base			$5,833,677

*Working capital computed as follows:

	12 months Ended 8-31-67	Portion included in Working Capital	Working Capital
Cost of purchased power	$ 357,484	10/365 (1)	$ 9,794
Other operating & maintenance expenses:			
Transmission	2,996		
Distribution	81,590		
Consumer Accounting	52,505		
Demonstrating & Sales	5,454		
Administrative & General	139,308		
	$ 281,853	45/365 (2)	34,749
Total Working Capital			$44,543

Notes: (1) Lag time of 10 days between payment of wholesale power bill by the Association and receipt of customers' payments for service.

(2) Expenses for 45 days.

Exhibit No. 13 is a statement of rate of return for the same period. This exhibit shows that Applicant's rate of return for the 12-month period ending August 31, 1967 (the test year) was 2.10%, as follows:

Operating income before interest charges	$122,568
Rate base	5,833,677
Rate of return (122,568/5,833,677)	2.10%

After making an adjustment of [illegible] for wage increases during the period, the rate of return calculation is as follows:

Operating income before interest charges	$120,284
Rate base	5,833,677
Rate of return (120,284/5,833,677)	2.06%

The proposed new tariff would result in an increase of operating revenue of $102,087. As a result of this increase, utility operating income would be increased to $222,371 and the rate of return calculation would be as follows:

Operating income before interest charges	$222,371
Rate base	5,833,677
Rate of return (222,371/5,833,677)	3.81%

Exhibit No. 14 is a summary of residential and small commercial bills rendered during the year ended August 31, 1967.

The Staff did not offer any exhibits nor render any testimony with respect to Exhibits Nos. 1 through 14, except with reference to the rate structure affecting the several classes of service as will be noted hereafter.

Exhibit No. 15 contains the tariffs and schedules of rates proposed by the Applicant herein.

Upon request of the Staff, Exhibit No. 16 was filed as a late-filed exhibit. This exhibit shows principally the depreciation expense as compared to debt service payments during the several periods.

Exhibit No. A offered by Staff shows the effect of various rate forms to produce the same revenue as provided by Applicant's proposed rate and the ratios of increased costs to present costs at various kwh uses.

DISCUSSION

The basic determination involved in determining fair and reasonable rates for utility service is that of total revenue requirements of the public utility. These revenue requirements include operating expenses; taxes, other than income; depreciation; capital costs; and income taxes, if any. In formula form:

Revenue requirements = Operating expenses plus depreciation plus taxes other than income plus capital costs plus income taxes.

These requirements are basically the same for non-profit, or, as in this case, cooperative organizations, as they are for investor-owned companies. While some of the elements, such as capital costs, may have to be computed differently in a non-profit organization, the revenue requirements still include all the costs of doing business as a public utility. The term "revenue requirements" means simply the amount of money a public utility (or for that matter, any other business) needs to stay in business. For an investor-owned utility, capital costs are normally expressed as "return by applying a "rate of return" on the capital invested in utility property which is computed as "rate base". This "return" must be adequate to cover interest costs on long term debt and the costs of attracting and building up equity capital. A part of this "return" is necessarily (and usually) paid out in dividends to the equity owners or investors of the corporation. The situation is somewhat different in the case of a non-profit organization, since no dividends will be paid, as such. However, even a non-profit or cooperative entity, if it is to build or to have an equity position, must include in its revenue requirements a factor at least similar to the rate of return as applied in the case of investor-owned utilities. The terminology may not be exactly the same, since the term "rate of return" may imply profit, but the concept and mathematical computations are the same. In other words, the portion of revenue requirements termed "return" simply constitutes the capital costs of the public utility. In the case of a non-profit cooperative corporation, such as we have in the instant application, the equity capital is generated by retaining the patronage margins for a specified period of time. These patronage margins so retained are equivalent to the net income of an investor-owned utility. After a period of time, the patronage margins are refunded to the original customers contributing to such margins. In effect, the patronage margins constitute a revolving fund, and the cost of equity to a cooperative is simply the cost of revolving such patronage margins after the desired equity level has been attained. The evidence in this application indicates that Applicant's current policy is to revolve these margins on a fifteen-year basis.

The exhibits further reveal (See Exhibit No. 7) that, as of August 31, 1967, Applicant had total margins and equities of $955,944 and long term debt of $5,059,222. From these figures it is evident that the Applicant's equity capital constitutes 15.89% of total capitalization and debt constitutes 84.11% of the total capitalization. This Commission is of the opinion that a reasonable equity position ranges from a minimum of 20% to a desirable 30% or more (depending on the factual situation) of total capitalization. Furthermore, we are of the opinion, that the period for which patronage margins are retained before refunding should probably be not less than ten years, nor more than fifteen years.

Exhibits and testimony presented by Applicant considered mostly the cash position and cash flow of the Applicant, and the proposed rates have been designed to meet the cash requirements of the business. Certainly the cash requirements in any one year are of paramount importance to the management of any business. This Commission, however, is of the opinion that the responsibility for proper cash flow lies primarily with the management of the company, and that for the purpose of establishing revenue requirements and the rates necessitated thereby, the cash requirements in any one year are only of secondary importance. To be sure, the revenue requirements must be tested to see that the public utility can operate successfully on a cash basis, but this is only for the purposes of a test to verify the validity of the factors used in determining the revenue requirements of the public utility.

The entire process then, of establishing revenue requirements consist of the following steps:

1. Test Year. A past period for which all pertinent information is available is selected as the "test year." In this case, the Applicant selected the 12-month period ended August 31, 1967, as the test year.

2. Revenue Requirements. The revenue requirements, which include the factors described above, are determined on the basis of the test year operations and rate base for such test year. Any known adjustments are made to normalize test year data as much as possible.

3. A rate structure is designed that would produce the required revenue, as adjusted, in the test year, for prospective application in the future. The theory is that, if all steps have been properly computed, the rate structure will continue to produce adequate revenues to cover the reasonable costs of doing business, including cash requirements, in the foreseeable future. If unforeseen or unforeseeable changes occur, the situation must be reviewed again and a new determination made. The Commission is of the opinion that by proper application of this theory unjustifiable speculation and prognostication of future events will be avoided.

As previously stated, the revenue requirements on which Applicant's rates should be based consist of:

(a) Operating expenses plus depreciation plus taxes other than income. For the test year, these costs amount to $892,766, after adjustments, and

(b) Capital costs (Necessary Return).

Applicant seeks $222,371 as its capital costs in the test year for a total revenue requirement of $1,115,137. This would produce on the Applicant's rate base a "rate of return" of 3.81%. This "rate of return" represents the capital costs of the Applicant. Splitting separately the capital costs of debt and equity capital, we can make the following computations:

		% of Capital	% Rate	Composite Cost %
Debt	$5,059,222	84.11	2.0	1.68
Equity	955,944	15.89	13.40	2.13
	$6,015,166			3.81

Out of the total composite costs of capital of 3.81%, 2.13% is available for equity. This would be the equivalent of a return of 13.40% on equity capital.

This would provide for a return of equity (patronage capital) every 7.46 years while retaining the equity ratio at 15.89%. (100%/13.40% = 7.46 years). However, since the Commission has found that equity should be a minimum of 20% of capital, we may revise the foregoing figures to determine what "rate of return" is required on equity to maintain this figure, based on fifteen years as the maximum reasonable period for the retention of patronage capital:

	% of Capital	% Rate	Composite Cost %
Debt	80	2.0	1.60
Equity	20	6.67	1.33
			2.93

Revolving equity on a 15-year basis provides for a 6.67% return on equity capital (100%/15 = 6.67%). Under this arrangement the composite cost of capital is 2.93%. Since Applicant must build up its equity to attain a 20% ratio, rather than only maintain such ratio, a rate of return of more than 2.93% is necessary.

The Commission has further found that a 30% equity position and revolving of equity capital on a ten-year basis would likewise be reasonable and fair. Let us see what this would mean in terms of a rate of return:

	% of Capital	% Rate	Composite Cost %
Debt	70	2.0	1.4
Equity	30	10.0	3.0
			4.4

Here we see that a 4.4% rate of return would be required to maintain a 30% equity position and revolve patronage capital on a 10-year revolving basis. It would appear reasonable then, for Applicant to have a rate of return some place between 2.93% and 4.4%.

Applicant has asked for revenues which would produce a 3.81% rate of return. The sufficiency of this return may be examined in the light of Applicant's suggested attainment of a 20% equity position, the minimum amount viewed as reasonable by this Commission, and a 15-year revolving patronage capital which also is deemed to be reasonable.

a cash basis, a 3.8% return would produce the following in the test year:

Utility operating income		$222,371
Add: Depreciation (non-cash)		186,117
		$408,488
Less: Interest	$105,181	
Debt repayments	167,775	272,956
Cash Generated		$135,532

This cash would be available for necessary refunds of previously credited patronage margin, plant replacements, and reserve funds. Total revenue requirement of $1,115,137 for the Applicant for the test year appears to be reasonable, and should be adequate to meet the necessary cash flow requirements of the Applicant.

We turn now to a review of the processes used by Applicant to develop its proposed rates to produce the revenue requirements. Applicant's cost of service study indicates inconsistencies in some areas. The rates as presented, particularly the Farm and Home Rate, provide for a substantial increase in the minimum monthly bill and then abruptly drop to a low charge per kwh after the first 40 kwh. The argument, for this form of rate structure, is that the "fixed" costs associated with each consumer should be paid by that consumer in his minimum bill. Applicant has conscientiously developed a cost of service to support the rates proposed. Applicant's only witness admitted other approaches could be made and that other competent individuals conducting such a study could reasonably arrive at differing conclusions as to the cost of service. We do not propose to advocate a different approach in this case. However, we will point out some areas to support our conclusion that, in two areas, at least, the rates submitted by Applicant should be modified. In the development of the Farm and Home cost of service, it is assumed every customer has dedicated to his exclusive use one meter pole and one transformer pole (Exhibit 4, page 49). While no testimony was introduced to refute this position, it appears to us unreasonable to assume that in no instance is more than one Farm and Home consumer served from the same transformer pole and the same transformer, or that a meter pole is required for all consumers. The investment per Farm and Home customer for poles and fixtures is determined to be $125.64. The comparable investment for a seasonal consumer is $62.82.

Exhibit 11, page 6, is a summary of proposed revenue from Farm and Home consumers. It is stated on this page:

> "Many of the minimum bill consumers above may be eligible to receive service under the Association's Proposed Schedule A-S 'Seasonal Residential Service'. In the event all minimum bill consumers received service under Schedule A-S, the net income from Schedule A above would be approximately. $613,855.84
>
> "The other 17,978 minimum bill consumers (1,498 Seasonal Consumers) would provide revenue under Schedule A-S of approximately 66,511.20

Yet the plant investment required to establish a part of the Farm and Home cost of service is determined by including the above mentioned 1,498 (approximately 30% of Farm and Home customers) estimated potentially "Seasonal Customers" as requiring an investment in poles and fixtures of $125.64. The corresponding investment for seasonal customers is $62.82, or only 50% of the poles and fixtures investment dedicated to Farm and Home customers.

In spreading costs between capacity, customers and energy, capacity and energy costs should be adjusted to recognize the increased costs of the revised power purchase agreement. This decreases capacity costs $10,968 and increases energy costs $9,151. In establishing the assignment to energy costs, only the cost of the energy component set forth in the purchase agreement was used, which is not reasonable. Substantial reasons can be advanced to allocate portions of other expense items to energy costs, such as meter reading, customer accounting and collections, sales expense and administrative and general expense.

Therefore, we would make the following transfers to energy costs: $31,218 of administrative and general expense from capacity costs; and $2,018 of meter reading expense, $5,624 of customer records and accounting expense, $3,700 of sales expense and $14,990 of administrative and general expense from customer costs. Such proforming and allocations increase total energy costs by $66,701, or from an average cost per kwh of $.00507 to an average cost of $.00676 per kwh, a percentage increase of 13.6. This being true, another look should be taken at the price of the tail of residence and commercial rates and of the last blocks of the power rates.

For the same reasons energy costs increase, capacity and customer costs decrease; and we compute them to be $3.39 per kw and $3.79 per Farm and Home customer by using the same allocation procedures between classes of customers as Applicant. Accordingly, the minimum monthly charge should not exceed $4.00 per month with a kwh allowance of 40 for Farm and Home users.

There is little real difference in the cost of servicing Seasonal customers and Farm and Home consumers. As demonstrated by the cost study of Exhibit 4, the substantial cost of service for low volume, or convenience users, is in fixed cost -- i.e. customer and capacity. These costs occur on an annual basis and are in no way related to the time service is used such as one day, one week or one month or any other short period of time. Therefore, the seasonal or annual minimum should be 12 times the monthly minimum to Farm and Home users.

One other comment should be made relative to total required revenue. Page 5 of Exhibit 11 shows as a revenue item "Headquarters Use of Energy @ $9,718.60." This is actually an expense item and will have to be recovered in the rates charged to consumers in order to recover the total revenue of $1,115,137 which we shall allow in our Order to follow.

FINDINGS OF FACT

THE COMMISSION FINDS THAT:

1. The Applicant is a public utility organized on a cooperative basis and is engaged in the business of purchasing, acquiring, transmitting, distributing, furnishing and selling electricity to member and non-member consumers on its lines in the Counties of Adams, Boulder, Gilpin, Grand, Jefferson and Weld, State of Colorado, and, as such, operates under the jurisdiction of this Commission.

2. The Commission has jurisdiction over the subject matter of this application.

3. The above and foregoing Statement should be, and hereby is, incorporated in these Findings of Fact by reference.

4. The test year to be used for the purposes of this application is the 12-month period ended August 31, 1967.

5. Applicant's rate base for the test year is $5,833,677.

6. The principal source of equity capital for the Applicant consists of retained patronage margins, which are ultimately refunded to the consumer.

7. A reasonable equity position for the Applicant and other public utilities similarly situated lies between 20% and 30% of total capitalization.

8. A reasonable revolving period of patronage margins for the Applicant and for public utilities similarly situated is a minimum of 10 years and a maximum of 15 years.

9. The long term debt of the Applicant consists entirely of Rural Electrification Administration loans at an annual interest rate of 2%.

10. A fair rate of return for the Applicant should be adequate to pay interest on long term debt and to attain and maintain an equity position and revolving period of patronage margins that are reasonable as stated in Findings Nos. 7 and 8 above.

11. In accordance with Findings Nos. 7, 8 and 10, the zone of reasonableness for a fair rate of return lies between 2.93% and 4.4% on Applicant's rate base.

12. 3.81% on rate base is a fair rate of return for the Applicant at this time.

13. A 3.81% rate of return, applied to the test year rate base, will produce net operating income of $222,371.

14. Applicant's necessary operating expenses in the test year, as adjusted, are $892,766, exclusive of interest on long term debt. No income taxes were payable by Applicant in the test year.

15. In order to produce net operating income of $222,371 in the test year, an increase in operating revenues of $102,087 is necessary, making the total operating revenue required for the test year of $1,115,137.

16. Applicant should be permitted to file new rates that would produce operating revenue of $1,115,137 in the test year.

17. The rates proposed by Applicant herein are discriminatory and not in the public interest, and new and different rates should be filed to conform to the comments of the Statement above.

18. The Rules, Regulations and Line Extension Policy as proposed by Applicant are just, reasonable, non-discriminatory and in the public interest and should be permitted to be filed and become effective.

19. Operating revenues based on rates that would produce revenues of $1,115,137 in the test year should be adequate for cash requirements of the Applicant as well as enable the Applicant to achieve a necessary increase in equity capital in the future.

20. The "rate of return", as used herein, when applied to the rate base of the Applicant, constitutes the true, reasonable and necessary costs of capital for the Applicant.

O R D E R

THE COMMISSION ORDERS:

1. That the rates contained in Exhibit 15 are unjust, discriminatory and not in the public interest and their filing is hereby denied.

2. That new rates, to conform to the Statement herein, may be filed on not less than ten (10) days' notice to this Commission and the public to provide :

(a) Farm and Home: monthly minimum $4.00

(b) Seasonal Service: annual minimum $48.00

(c) Power Service: increase, as necessary, the rates in the blocks to recover minimum energy costs of $.00676.

3. That the Rules, Regulations and Line Extension Policy of Exhibit 15 may be filed concurrently with the Rates, without change.

4. That the Applicant shall file such new Rates, Rules and Regulations that will produce revenues for the test year of not more than $1,115,137.00.

5. That the Commission retains jurisdiction herein to make such further order, or orders, as may be necessary.

6. That this Order shall be effective twenty-one (21) days from the date hereof.

(S E A L)

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

HENRY E. ZARLENGO

HOWARD S. BJELLAND

EDWIN R. LUNDBORG

Commissioners

Dated at Denver, Colorado,
this 26th day of March, 1968
et

ATTEST: A TRUE COPY

William D. Mitchell

William D. Mitchell, Executive Secretary