

Utah State University

DigitalCommons@USU

Economic Research Institute Study Papers

Economics and Finance

4-1-1976

In the Matter of the Application of Utah Power & Light Company for Approval of its Proposed Electric Rate Schedules and Electric Service Regulations

Lynn H. Davis
Utah State University

Follow this and additional works at: <https://digitalcommons.usu.edu/eri>

Recommended Citation

Davis, Lynn H., "In the Matter of the Application of Utah Power & Light Company for Approval of its Proposed Electric Rate Schedules and Electric Service Regulations" (1976). *Economic Research Institute Study Papers*. Paper 373.

<https://digitalcommons.usu.edu/eri/373>

This Article is brought to you for free and open access by the Economics and Finance at DigitalCommons@USU. It has been accepted for inclusion in Economic Research Institute Study Papers by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.



April 1976

Study Paper #78-12

IN THE MATTER OF THE APPLICATION OF UTAH POWER
& LIGHT COMPANY FOR APPROVAL OF ITS
PROPOSED ELECTRIC RATE SCHEDULES
AND ELECTRIC SERVICE REGULATIONS

by

Lynn H. Davis

QUESTION:

Please state your name.

ANSWER:

Lynn H. Davis

QUESTION:

What is your residence address?

ANSWER:

7530 North Highway 91, Smithfield, Utah.

QUESTION:

What is your occupation?

ANSWER:

I am a professor of agricultural economics at Utah State University. My teaching assignments at the University have included Agricultural Statistics, Farm and Ranch Appraisal, Production Economics, Agricultural Credit, Farm and Ranch Management, Principles of Economics and various related seminars.

QUESTION:

What is your educational background in your professional field?

ANSWER:

I received a Bachelor of Science degree, with a major in agricultural economics, and a minor in animal science from Utah State University in 1949; a Master of Science degree, with a major in agricultural economics, from Utah State University in 1953; and a Doctor of Philosophy degree with a major in agricultural economics, and minors in economics and statistics, from Oregon State University in 1961.

QUESTION:

What has been your professional experience in the field of agricultural economics?

ANSWER:

I have had more than twenty years experience in Agricultural Economics research and teaching at Utah State University.

During this period I have been responsible for research projects and teaching in production economics, farm management, agricultural statistics, rural appraisal, agricultural policy and livestock marketing. I have been project leader of two to four Agricultural Experiment Station research projects each year and chairman of four western regional research projects over the past fourteen years. Currently, I am project leader of projects dealing with the effects of rural property transfers, the impact of rural manufacturing firms on rural economics and the determination of agricultural use values for agricultural lands in Utah. In addition to the courses taught to which I have earlier referred, during the period 1962 to 1966 I taught three courses each year in the Department of Applied Statistics and Computer Science.

QUESTION:

Have you served as a consultant to any private groups or government agencies?

ANSWER:

Yes. I have served as a consultant to a farm machinery manufacturer, and I have also made appraisals of rural properties on a fee basis. During 1970 and 1971 I was in charge of a project to ascertain agricultural use values for all private farmland and grazing land in Utah. This work has continued and I supervised the updating of cost and return budgets as late as 1975. I have also been involved in four consulting assignments in foreign lands.

QUESTION:

Can you tell us of what those foreign consulting assignments involved?

ANSWER:

Yes.

In 1965, I traveled extensively in North Central Saudi Arabia as a member of a team employed by Parsons-Basil Company to inventory the resources of the area and recommend programs of investigation for the agricultural development of the area. Several reports were prepared and the longer range aspects of

the project were continued by the Saudi Arabian government.

During 1967 I served as a consultant to the Development and Resources Corporation in the Khuzestan area of Iran for two months. My assignment was to ascertain the feasibility of establishing an integrated crop farm-feedlot-meat packing plant in the Khuzestan Plains. The report was published by the Development and Resources Corporation and used as a basis of recommending the expansion of the livestock industry in the area to provide meat to Tehran and other metropolitan markets in Iran.

In 1968 I served as a member of a Utah State University team which traveled to the Santiago del Estero area of Argentina to advise the Rio Dulce Corporation relative to irrigation project development and to conduct a two-week seminar for river basin project administrators and engineers on problems related to soils, irrigation and drainage and production economics as related to project development. A special report was prepared and submitted to the administration of the Rio Dulce project.

During 1970 I traveled and worked in Venezuela, Colombia, and Ecuador as an employee of Utah State University to help establish cooperative research projects dealing with on-farm water management. Contacts were made, particularly in Venezuela and Ecuador, with government agencies and Universities to establish research projects which will be carried out by graduate students.

QUESTION:

Do you serve in any professionally related capacities to which you have not testified.

ANSWER:

Yes. I am an appointed member of the State Farmland Evaluation Advisory Committee, created under the Farmland Assessment Act of 1969 (Sections 59-5-86 through 59-5-105, Utah Code Annotated 1953, as amended). The duties of this committee include an annual review, the several classifications of land in agricultural use in Utah, and to make recommendation to the State Tax Commission of the classifications and ranges of fair value of such

lands based upon production capabilities when devoted to agriculture uses.

QUESTION:

What writings and printed matters have you authored?

ANSWER:

I have written and collaborated with other researchers in writing several dozen research bulletins and articles relating to the economics of agricultural production in Utah.

QUESTION:

Are you a member of any professional societies or groups?

ANSWER:

Yes, I am a member of the American and Utah Societies of Farm Managers and Rural Appraisers (I have been College Vice President of the American Society, and President of the Utah Society).

QUESTION:

Do you presently own a farm or ranch?

ANSWER:

Yes, I and my family own and operate a 320-acre ranch in Cache County, Utah. We raise and sell registered Red Angus breeding stock.

QUESTION:

Do your professional duties involve you in any analysis of the cost of producing crops on irrigated land in Utah and have you participated in any studies regarding the cost of producing crops on irrigated land in Utah?

ANSWER:

Yes.

QUESTION:

And what is that involvement?

ANSWER:

In my research related to the Farmland Assessment Act I made analyses of costs and returns for crops produced on various classes of land in Utah. This information has been published in the form of cost and return budgets and used to establish earnings

values for establishing assessed values for the various classes of land.

For a number of years I was involved in cost and return analysis for various farm enterprises in Utah. In fact, my M.S. thesis was an analysis of Costs and Returns for Canning Pea Production in Utah.

I am also interested in costs and returns as it affects the income producing ability of farmland and the capitalized value of the income stream as an estimate of the land value.

QUESTION:

I hand you what has been testified to, and identified as Exhibits , relating to the estimated average receipts, costs and net returns per acre for producing and cubing, or baling as the case may be, of alfalfa hay in the Milford area for the year 1975, as prepared by Jerry Mayer, Russel Mayer, Ross Marshall, and Robert O. Christiansen, and will ask if you have analyzed and reviewed the same?

ANSWER:

Yes, I have.

QUESTION:

Can you tell us whether or not these exhibits appear to be fairly representative of average receipts, costs, and net returns per acre for the same crop, of irrigation pumpers generally in the state?

ANSWER:

Yes, the exhibits do appear to fairly represent and reflect average receipts, costs, and net returns per acre, for alfalfa hay production during 1975, for irrigation pumpers generally in the state with some variations due to location or other factors.

QUESTION:

Can you briefly tell us what has been the development of irrigated agriculture in the State of Utah?

ANSWER:

Irrigated Agricultural development in Utah was first

values for establishing assessed values for the various classes of land.

For a number of years I was involved in cost and return analysis for various farm enterprises in Utah. In fact, my M.S. thesis was an analysis of Costs and Returns for Canning Pea Production in Utah.

I am also interested in costs and returns as it affects the income producing ability of farmland and the capitalized value of the income stream as an estimate of the land value.

QUESTION:

I hand you what has been testified to, and identified as Exhibits , relating to the estimated average receipts, costs and net returns per acre for producing and cubing, or baling as the case may be, of alfalfa hay in the Milford area for the year 1975, as prepared by Jerry Mayer, Russel Mayer, Ross Marshall, and Robert O. Christiansen, and will ask if you have analyzed and reviewed the same?

ANSWER:

Yes, I have.

QUESTION:

Can you tell us whether or not these exhibits appear to be fairly representative of average receipts, costs, and net returns per acre for the same crop, of irrigation pumpers generally in the state?

ANSWER:

Yes, the exhibits do appear to fairly represent and reflect average receipts, costs, and net returns per acre, for alfalfa hay production during 1975, for irrigation pumpers generally in the state with some variations due to location or other factors.

QUESTION:

Can you briefly tell us what has been the development of irrigated agriculture in the State of Utah?

ANSWER:

Irrigated Agricultural development in Utah was first

accomplished by diverting water from streams and by using gravity flow the water was conveyed through canals or ditches to the fields where irrigation was accomplished. Later where feasible, reservoirs were built to provide water storage for regulating the availability of irrigation water throughout the growing season. Stream flow was often too low during the late summer to provide water for late season crops. Oftentimes an electric power generating capacity was also realized as a result of the irrigation project.

Later as the easier or less costly sources of water were fully developed it became necessary to utilize other sources by pumping from underground sources or by pumping water from streams or ponds to higher elevation lands that have irrigation potential. In some cases, the water was under pressure and could be distributed through sprinkler systems with resultant increases in irrigation efficiency making it possible to irrigate more acres with a given amount of water. Also it was possible to irrigate land by sprinklers that were too unlevel to irrigate by surface irrigation methods.

QUESTION:

Can you tell us whether or not the pumping of irrigation water has resulted in increasing agricultural productivity for the state of Utah?

ANSWER:

Yes, it has resulted in increased agricultural productivity for the state. This is because pumping (1) has made it possible to utilize water resources that were formerly unused; (2) has increased the efficiency of irrigation; and (3) has brought land under irrigation which was formerly brushland or dry farmland. This latter change of use has resulted in increased land values, both as to wealth and tax base, as a result of the investment made in irrigation.

QUESTION:

Has the availability of electricity affected the development of irrigated agriculture to which you have referred?

ANSWER:

Yes, it has. Electricity is a prime source of energy for pumping from underground sources of water and from streams and ponds.

QUESTION:

Are you familiar with the pending proposal of Utah Power & Light Company regarding the spread of its allowed revenues over existing rate schedules?

ANSWER:

Yes.

QUESTION:

What do you understand the proposal of the Company to be in regard to the increase of rates for irrigation pumping power service as compared to other users?

ANSWER:

I understand that the proposed schedule for irrigation pumping will result in approximately a 45 percent increase over the rate schedule in force prior to the current proceeding. The proposed schedules of rates are designed to produce a general increase of approximately 19.3 percent over the rates set forth in the prior schedules, with certain exceptions, of which irrigation pumping is one. The proposed increase under the irrigation pumping schedule reflects that approximate 19.3 percent increase, plus an additional 26 percent increase. The 26 percent increase apparently represents a one-third part of anticipated adjustment increases.

QUESTION:

Do you have an opinion as to whether the proposed rate increase of 45 percent will have an economic effect on irrigation pumpers in the state?

ANSWER:

Yes.

QUESTION:

And what is that opinion?

ANSWER:

The proposed rate increase, if allowed, would have an adverse effect on the pumpers.

QUESTION:

And why is that?

ANSWER:

In the development of pump irrigation, farmers had a choice between electricity and other energy sources. Many chose electricity because it was lower cost. After the choice had been made and the electric installation made the farmers had fixed or sunk costs which essentially removes the possibility of shifting to other sources of energy as the relative costs of the various sources fluctuate one with another. Any increase in energy costs regardless of energy type used has the effect of reducing profitability for the individual farmer and of making irrigation pumpers generally at a disadvantage compared to farmers who do not have to rely on pumping.

QUESTION:

Couldn't the farmer pass the rate increase on to handlers and processers who would, in turn, pass the rate increase on to consumers of the products.

ANSWER:

Not actually. Farmers operate in what economists call a perfectly competitive market situation. As a result of this situation, the farmer produces his crop with all the costs incurred prior to the time the crop is harvested and then he must accept the price that is determined in the marketplace for his products. He is a price taker as compared to a price maker.

The farmer is also largely a price taker for the inputs of production such as electricity for pumping irrigation water. If electricity costs more per unit it has to be absorbed by the farmer since he cannot raise his product price above what the market dictates.

QUESTION:

In the event of an increase in irrigation pumping rates, do the pumpers have any economic recourse?

ANSWER:

The only recourse the farmer has is to use less power which reduces his production or in essence means he ceases production. The increased power cost if he continues to pump as before the rate increase means a lower net return or a negative net return to the farmer; and if he elects to not use the power, he reduces his gross income potential.

To elect to use less power would result in reduced agricultural product to sell which would necessitate that the farmer either find off-farm employment to supplement his income or leave agriculture entirely and either lease, rent, or sell his land.

QUESTION:

Can you tell us whether or not an increase in irrigation pumping rates will reduce the earning value of the pumper's farm land?

ANSWER:

The net effect of an increase in the pumping cost assuming other costs remain the same, will be to reduce the net earning value of farmland. This can be explained by the process known as capitalization. In the capitalization process we say:

$$\text{Value} = \frac{\text{net income}}{\text{capitalization rate}}$$

In the above formula if the net income is decreased as a result of a power rate increase then the value will be reduced. This will result in making credit harder to obtain and the sale value of land used in agricultural production being lower.

QUESTION:

Would you summarize your testimony?

ANSWER:

Certainly.

In summary, the following points are valid in ascertaining

the situation relative to irrigation by pumping and an increase in electric power rates.

1. Farmers made investments and the decision to use electric power on the basis of rates established by the utility company.

2. One of the reasons there has been an increase in irrigated land in Utah has been through the increased use of power for pumping irrigation water from underground sources and for sprinkling making it possible to irrigate more acres.

3. Any increase in rates at this time or in the future will:

- a. decrease the competitive position of electric power relative to other energy sources and as a result reduce the adoption of electricity for pumping irrigation water. This will result in less irrigation development in Utah and perhaps some land currently irrigated by pumping will not be irrigated.
- b. result in increased costs of production for any farmer using electric power. Since farmers must absorb the cost increase because they operate under conditions approaching a perfectly competitive market situation, they will either have greater losses or reduced net return.
- c. force farmers operating at the economic margin to take other supplemental or fulltime employment thus reducing agricultural output.
- d. will reduce the earning value of farms making it more difficult for pump irrigation farmers to obtain credit.
- e. will reduce the sale value of farms with pump irrigation using electricity.

Lynn H. Davis

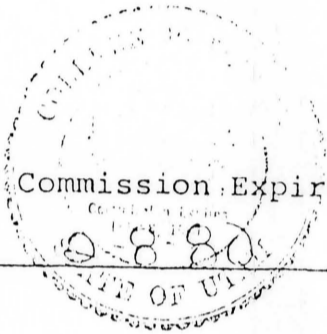
STATE OF UTAH)
 : ss.
County of Salt Lake)

Lynn H. Davis, being first duly sworn, deposes and says that he adopts the foregoing answers as his testimony and that it is the truth, the whole truth and nothing but the truth.

Lynn H. Davis
Lynn H. Davis

Subscribed and sworn to before me this 8th day of April, 1976.

My Commission Expires:
9-8-80



Colleen Peterson
NOTARY PUBLIC

Residing at: Salt Lake County

Estimated average receipts, costs, and net return per acre from producing alfalfa hay production, Milford pumping area, Utah, 1965 and 1975

Item	1965				1975							
	Rate	Times	Labor	Power and Machinery	Material and service	Total	Rate	Times	Labor	Power and Machinery	Materials and service	Total
Receipts:												
Alfalfa, 4.5 tons	\$22.50/ton					\$101.25	\$50.00/ton					\$225.00
Variable Costs:												
Harrowing	5 acre/hr.		.30	.50		.80	6 acre/hr		.75	2.00		2.75
Fertilizer, 100 lbs. P	80.00/ton				3.20	3.20	180.00/ton				9.00	9.00
Fertilizing	5 acre/hr	1	.50	.50		1.00	8 acre/hr	1	.50	.50		1.00
Corrugating	4 acre/hr	1	.65	.85		1.50	4 acre/hr	1	1.00	3.00		4.00
Spraying	6 acre/hr	2	.50	.75	3.75	5.00	6 acre/hr	2	1.50	1.75	5.75	9.00
Irrigating	4 acre/hr	6	2.40			2.40	4 acre/hr	6	4.50			4.50
Electrical power					12.61	12.61					24.00	24.00
Well and pump maintenance					8.00	8.00					15.00	15.00
Windrowing	2 acre/hr at 4.00/ac	3	1.80	8.40		10.20	3 acre/hr at 4.70/ac	3	2.00	12.10		14.10
Baling	3.15/ton					14.18	6.00/ton					27.00
Stacking	1.50/ton	3				6.75	3.00/ton	3				13.50
Interest	5%, var. costs, 6mon					2.20	10%, var costs, 6mon					6.45
Insurance on Hay						1.30						2.80
Total Variable Costs						69.14						133.60
Fixed Costs:												
Interest on Land Value	\$600/acre, 5% interest					30.00	\$1000/acre, 7.5% interest					75.00
Land Tax	\$50 assessed at 60 mills				3.00	3.00	\$70 assessed at 70 mills			4.90		4.90
Other (new seeding-alfalfa-fencing)					2.40	2.40				7.35		7.35
Total Fixed Cost						35.40						87.25
Total Costs						104.54						220.35
Net Returns						(3.29)						4.65