HOUSE BUSINESS & INDUSTRY COMMITTEE

Rep. Jerry Metcalf, Chairman, called the Business & Industry Committee to order on March 29, 1983, in Room 420 of the State Capitol Building at 10:00 a.m. All members were present except Reps. Fabrega, Fagg and Schultz.

SENATE JOINT RESOLUTION 19

SEN. THOMAS, District 20, sponsor, opened by saying this resolution calls for appointment of an interim committee to study power rates paid by various classes of users, the impact of those rates on Montana's economy, the extent to which conservation is a factor in setting rates, and other influences on power costs and supply. The resolution instructs the study committee to cooperate with the Northwest Power Planning Council and other public and private institutions in planning and research and to report to the 49th Legislature their findings. We don't want to tell the PSC what the rate structure should be but I think the legislature has the right and responsibility to set some goals so industry can survive.

PROPONENTS:

ANN SCOTT, Great Falls Economic Growth Council: This resolution deals with an issue that has critical impact for Montana's economic future. It's important that the legislature establish policies for the PSC to use in setting rates. The statutes give no direction to the PSC in rate setting. Some people have energy bills of $600 and up a month. Rep. Jacobsen's bill for one month on his new home with conservation built in was $700. We don't want to be subsidized in the industrial sector, we just want the legislature to look at this. One good thing that will come out of this interim study will be the education of the legislators.

RAY TILMAN, Stouffer Chemical Company - foreman: We were forced to lay off people a couple of weeks ago. Part of the reason is high power rates. Our plant is dependent upon electrical power and it's our single biggest cost. We switched to Montana Power because we thought it might be cheaper. We are becoming non-competitive with the states around us because of the cost of power. I would strongly urge you to support this resolution.

ROBERT FORD, Champion International, Frenchtown: The recent rate restructure ordered by the PSC would increase Montana Power industrial customer electrical rates by 37%. This would immediately add $2.5 million per year to the operating costs of the Frenchtown Mill. (Exhibit #1)

JOHN LOPATCH, Great Falls Economic Growth Council: The PSC surprised us by raising electrical rates for the largest industrial users by 37%. We expect that with the addition

of Colstrip 3 and 4 we will see additional increases. We are making it more difficult to attract new industry to the state at a time when we are looking for jobs. We, therefore, urge this committee to pass SJR 19.

DARRELL LEE, Executive Director - Butte: Butte is becoming paranoid. We wonder when our job lay offs are going to quit. Business cannot remain competitive with the energy rates imposed. The design of SJR 19 points toward economic development. We will be developing a long range policy for the State of Montana.

DON PEOPLES, Chief Executive Butte-Silver Bow: The Butte community has suffered the loss of 1500 jobs. When is it going to stop? Power rates are not the only reason, but it's a contributing factor. One reason industry has chosen Montana in the past is because of our low cost of energy. There are disadvantages for industries to locate in Montana. We have to look at the things that will bring industry into this state and low cost of energy is our biggest plus. We should give guidelines to the PSC.

JEROME ANDERSON, Pierce Packing Company, Billings: This resolution is not limited to the study of electrical rates solely. It could be used in a study of rate structures for natural gas as well. The rate structure in Eastern Montana concerns us. We are a captive user because we can only use natural gas energy in the processing of our foods. Since we opened, we have had a 1200% increase in natural gas. Doing business in Montana is a burden because of transportation costs and energy costs. We believe the PSC is not sufficiently funded to make complete and full rate studies. A committee should be established to examine the functions of the PSC and perhaps give them more personnel to work with for a more complete study of the rate structure.

MOLLY MORITZ, Stouffer Chemical Company: I have been laid off. It's alot harder to be a statistic than to read about it in the newspaper.

JOE ROSSMAN, Teamster's Union: SJR 19 might improve the employment situation in this state.

PHIL HARVEY, Stouffer Chemical Company: We urge your support of SJR 19.

KEN DAVIS, Stouffer Chemical Company: We are here to try to convince you to support SJR 19 which might keep jobs open in Montana.

STEVE BROWNING, Great Falls Economic Growth Council: This is not a resolution seeking a subsidy for industry, it's not a bill to get the legislature involved in setting rates - it's a study bill. It seeks to look at the goals the PSC should use in setting rates. The chart you have (Exhibit #2) shows the electrical consumption by residential and industrial

contract customers. The rates in the 1982 order show an average 37% increase and residential is kept at relatively what they were. This chart shows the projected use by those two classes. I would suggest that despite the fact that industry does pay less per kilowatt hour of electricity, it does cost less to provide that electricity. It may appear on the surface that we are subsidizing industry but the reverse is actually true. We need to remain attractive to industry.

OPPONENTS:

TOM SCHNEIDER, Chairman, PSC: This proposal for a study is not fostered out of any kind of acedemic or theoretical interest in the appropriate way to rate energy or the appropriate way to cost energy. It is fostered for a continued and substantial subsidy for large industrial customers. The proposal presumes that the PSC has treated the large industrial customers unfairly in it's recent rate decision. That presumption is unsupported as well as prejudicial to the PSC. In April of 1978, the commission examined for the first time in the course of the Colstrip #2 hearings issues of costing and pricing electricity in a comprehensive way. Prior to that time industrial rates were set in private negotiation between the utility and the industry. The PSC at that time was interested in total revenues rather than distribution and fairness between the classes. When Colstrip came on line, the commission examined the way those costs were apportioned among the various classes of customers. All responsibility for the fixed cost of generation was then based upon the particular classes useage at system peak. The entire cost was based upon how much you used that day. We are in the midst of building very large generating plants and they are designed for, built for and operated to produce kilowatt hours of energy. They are not a peaking plant - which is an inexpensive, easy to put on line turbine system. To allocate those substantial fixed costs on the basis of a one system peak without regard to how much energy is being consumed over the year, is, in my opinion, irrational. In 1977, the Bell Journal of Economics examined all the rate structures in the United States and they came to the conclusion that the Montana Power rate design was the most tilted rate design of the 156 major utilities in the nation. (Testimony continued in Exhibit #3)

THOMAS POWER, Economics Dept. - U of Mont.: I have submitted a paper which explores the economic impact of lowering industrial electric rates. (Exhibit #4) We are trying here to save industry with low rates but it will result in higher rates for the other people of the state.

DON REED, Montana Invironmental Information Center: It makes sense to make a study but you have a very tough egg to crack and SJR 19 is not the vehicle to use. HJR 18 is the way to go. This bill is not anti-residential but in determining what each class is going to pay, we set ourselves up where we are driving wedges between those different groups, and setting

ourselves up for political power plays between those classes. That is not the way to pursue an answer to the problem.

JIM McNAIRY, Alternative Energy Resource Organization: This resolution intends to prove that industry has received unfair rate increases. Utilities have favored industry for years at the expense of residential users and commercial users who have had to subsidize industrial users. By encouraging industry's consumption of electricity, the Montana utilities have been forced to invest in expensive new power plants. If we are going to study the PSC rate making policies, then lets look at whether the PSC has been requiring the utilities to invest in the cheapest, most cost-effective resources to meet the energy demands in Montana. No one can argue with the fact that conservation is by far the cheapest way to produce additional energy supplies. As long as industry continues to run their businesses disregarding conservation, the rates will continue to be high.

JOHN DRISCOLL, PSC: In the April rate making decision, there were eight different points of view on the cost of service. Many of the people who came to testify were the very best in the country. I strongly believe our commission is heading in the same direction as you are. No one disagreed about how far out of line the industrial users were. The Stouffer Plant changed from BPA to Montana Power knowing the April decision had already been made. Our rates are still among the lowest in the country. We are not against industry - we try to help them the best we can. Champion's rates are high but they are lower here than at their other plant. If we continue to price energy less than what it really costs to some category of customers, you are going to have newer plants faster. It's a good strategy for someone who might want a new power plant. The reason Alumex is backing out of Montana, is they know if they put a new load on our small system, they'll drive up their own utility rates along with everyone elses. Where this resolution is, is where we were years ago. I would prefer to have us work together from where we are now with what we have learned about energy here in Montana.

RENEE BREWERTON, Montana Senior Citizen's Association: Everyone wants lower utility rates, but what we are really talking about is fairness between classes. The process of examining rates is a long and arduous process and it has been done in Montana and if it's the intent of the committee to re-examine the rate design, it's going to cost a great deal of money.

JIM MORTON, Executive Director - District 11 Human Resource Council, Missoula: We advocate for residential customers. We have been disappointed in the commission because they sometimes don't go as far as we would like them to. However, we have not been in front of this legislature asking for special

legislation that would ask that the residential customers get a lower rate. This is what this resolution is about. No one should receive preferential treatment. I don't see the need to spend money on this study.

SEN. THOMAS, in closing, said after hearing the testimony, he is more convinced a study should be undertaken. This problem is going to be the single most important one facing Montana. We have to have the input on how these factors will affect Montana so we are not left in the dark when the commission makes their decisions. Dr. Power's comments were important but he left out an important fact: Residential users are increasing the amount of electricity that they use faster than the industrial users are. The industrial users are not causing the need for new coal-fired plants. They have decreased their useage. This resolution is not an alumax - it's not a witch hunt and it's not an anti-consumer piece of legislation. All we are asking is that we study how the various classes are affected and if one class should be subsidized by another.

QUESTIONS:

REP. ELLERD: Mr. Driscoll, do you look at how rates will affect the job situation in Montana during your hearings? Mr. Driscoll: Equity is an important issue and jobs would fall under that heading. The facts in front of us determine rates. Rep. Ellerd: Isn't there a fiscal note attached to this study? Tom Schneider: If we are looking at a re-hash with everyone represented again, it would be $20,000 for each of those persons to come in. That's $160,000 with the same actors involved. The legislative sunset audit involved auditors in the office for between 6 to 9 months with a staff of from 2 to 5 people involved in that study. That's the kind of expense involved to do a nice job. Rep. Ellerd: Are there eight legislators with enough knowledge of the subject to do a good job? Tom Schneider: It's going to take a substantial full-time commitment on their part.
REP. HARPER: Sen. Thomas: On page 3, sub G, you ask that in the study be included the role of the Montana Consumer's Council representing all class of utility users. That seems to imply that the Consumer Council who now represents the residential class of customer would begin to represent the industrial class and commercial users. Is that the intent? Sen. Thomas: This should definitely represent the small user. This situation should be studied. Rep. Harper: Wouldn't that be like one lobbiest trying to represent the power company and the senior citizen at the same time? Sen. Thomas: This is what the study would point out. Maybe we should put a function within the Dept. of Consumer Affairs for businesses. We should study this before we come to a conclusion. Rep. Harper: In your closing, you said you didn't believe any one class should subsidize another, but the wording of subsection B on page 2 seems to say that other factors other than actual costs should be used to set rates. Doesn't that open the door to political considerations and using industry for subsidization?

Sen. Thomas: There are people on both sides of the issue. Industry thinks they are subsidizing the low income groups mainly through conservation. That should be studied to see if it's actually true or not. Possibly senior citizens or some classes should be subsidized but I don't think it should come from the utility payer - it should be met through the legislature. No one knows at this point.
REP. KADAS: I take you to mean that the business along main street should subsidize the primary industry so the wages will be produced for the local economy. Sen. Thomas: If you don't have an industry then it's difficult for the mainstreet business to survive. You have to have a rate that isn't subsidizing one class or another class. If you subsidize residential through the industrial class, these businesses will fail. We are saying it should be equitable.
REP. HART:What's the highest cost of doing business in Montana?
Dr. Power: Labor is the highest cost.

The hearing adjourned at 11:45 a.m.

J. Metcalf

REP. JERRY METCALF, CHAIRMAN

Linda Palmer

Linda Palmer, Secretary

Exhibit #1

SENATE JOINT RESOLUTION 19

TESTIMONY OF ROBERT K. FORD, MANAGER OF ADMINISTRATION

My name is Robert K. Ford and I am Manager of Administration of the Champion International Pulp & Paperboard Mill near Frenchtown, 13 miles west of Missoula, Montana. The Frenchtown Mill is an integral part of the largest forest products operation in Montana, with a total employment of about 2,500 people in the western part of our state.

The mill near Frenchtown employs approximately 700 people and utilizes about 8,000 tons a day of chips, sawdust, hogged fuel, and other residuals produced as a by-product of forest management and forest products production. The utilization of these materials will provide a gross income of over $30.0 million to Montana's forest industry.

Utilizing these sources of wood is its primary raw material, the Frenchtown Pulp and Paperboard Mill produces over 1800 tons per day of kraft linerboard, the brown paperboard used to manufacture corrugated shipping containers. Due to our location and the location of competitive mills, our primary market area is in the midwest and southwest portions of the U.S., resulting in a very high freight cost, averaging over $40 per ton. Freight, in fact, is now our third largest cost item, falling behind only wood and energy as a major cost.

As a supplier to national and international fibre markets, the costs of operation in Montana have significant impact on our competitive position vis-a-vis Southern and West Coast producers. During 1982 the Frenchtown Mill operated at curtailed levels for all but 6 weeks of the year. Champion's other linerboard mill located in North Carolina operated at

full capacity during this period because their costs of production were lower. As a result of this situation, approximately 100 employees were laid off and production and wood consumption was reduced approximately 30 percent for almost all of 1982. Under these conditions, the mill operated at a pre-tax loss exceeding $1.0 million per month. While we have been able to resume full capacity operation since the first of 1983, we have continued to operate at a loss. So far this year, that loss approaches $1.0 million per month. We hope that price increases will allow the mill to achieve breakeven soon and possibly allow a profitable operation before the end of the year.

The recent rate restructure ordered by the Public Service Commission would increase Montana Power industrial customer electrical rates by 37 percent. This would immediately add $2.5 million per year to the operating costs of the Frenchtown Mill. Using our estimates of projected utility rate increases this amount would likely exceed $4.0 million by 1987.

These restructured electrical rates will further weaken our competitive position. In short term, the restructure will increase the likelihood of production curtailments and resulting lay-offs. In the long term, it will force Champion to consider additional electric power generation at the Frenchtown Mill.

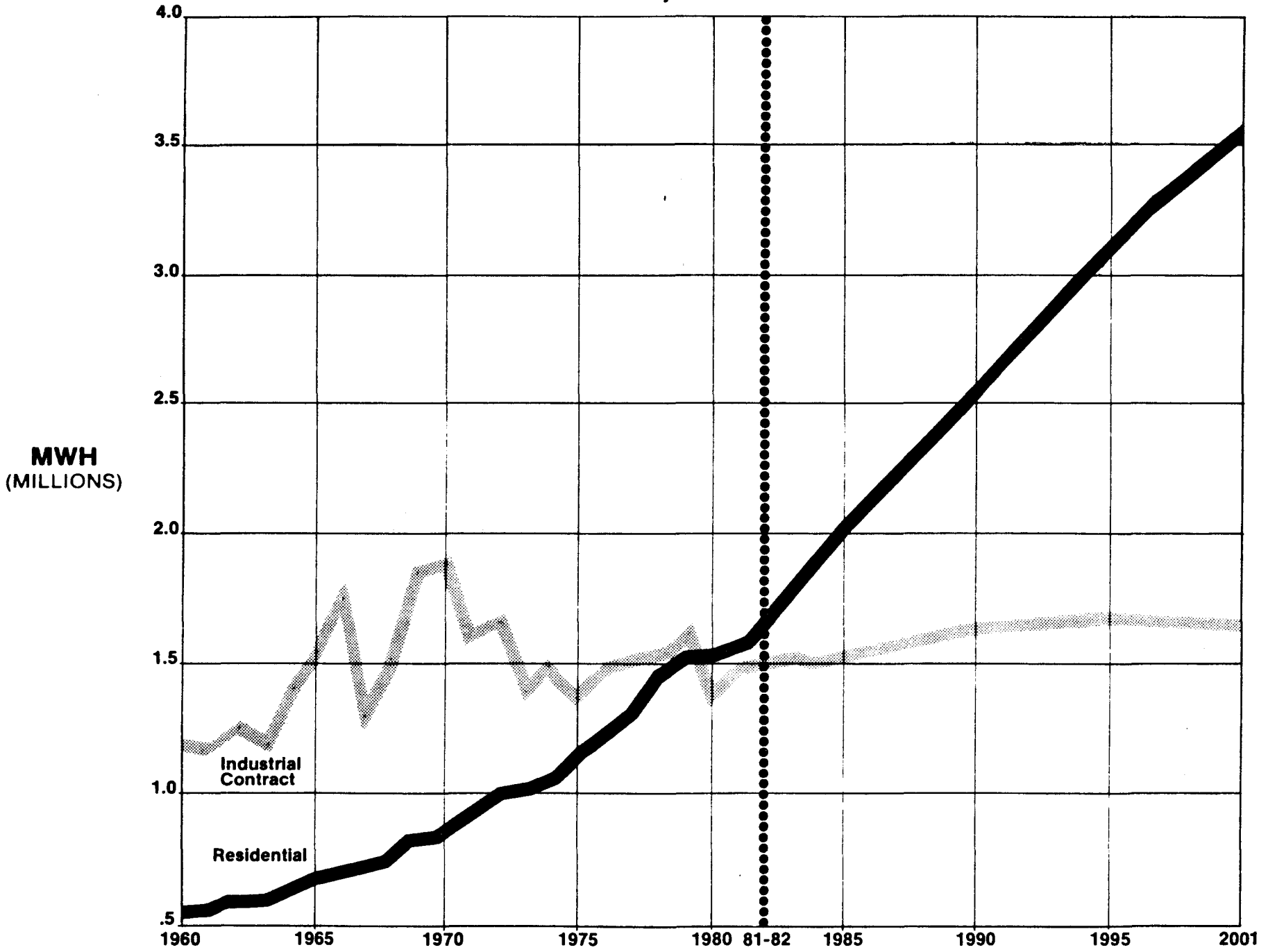
The Frenchtown Mill currently cogenerates about 10 percent of its electrical requirements. At the rates we forecast under the rate restructure, it will likely be feasible to further expand cogeneration and reduce the quantity of purchased power. The reduction of power purchased by the Frenchtown Mill will require that a larger portion of the fixed costs of already installed

electric generation and distribution facilities be allocated to other users further increasing the cost of electricity to all Montana Power's customers.

Each of the nine issues specified for study by the resolution need to be examined in detail, and hopefully resolved. We respectfully urge your favorable consideration of SJR 19.

Electrical Consumption by Residential and Industrial Contract Customers

Actual Data 1960-1981 • Projected Data 1982-2001



Source: Montana Power Company
Projection of Electrical Loads and Resources February 1982

Exhibit #3

PUBLIC SERVICE COMMISSION 1227 11th Avenue • Helena, Montana 59620
Telephone: (406) 449-3007 or 449-3008

COMMENTS OF
PUBLIC SERVICE COMMISSION
PRESENTED BY TOM SCHNEIDER, CHAIRMAN
RE: SJR 19

1. It is critical to recognize at the outset that this study resolution is not a harmless proposal. It is not fostered out of an academic or technical interest in cost allocation methods or rate design.
2. This study proposal represents a concerted effort to obtain a substantial and continued electric rate subsidy for large contract industrial customers. Any rate subsidy for the nine contract industrials must come from the residential, commercial, irrigation, and other customer classes.
3. This "study" proposals presumes that the PSC has treated the large industrials unfairly. Such presumption is unsupported and prejudical to a fair study.
4. The historic industrial rate was established by negotiation between the utility and industrial customer.
5. Not until the 1975 MPC electric case was a fully allocated cost of service study performed and presented to the PSC. No party other than MPC presented a cost study. MPC used the Coincidental Peak Demand method for allocating fixed generation costs.

6. In April, 1978 the PSC rejected an updated Coincidental Peak Demand study. The PSC determined it was not rational or equitable to allocate the fixed costs of Colstrip #2 on the basis of peak demand. Rather the PSC determined this baseload coal plant was designed, built, and operated to produce energy on a continuous basis. The PSC called for a comprehensive examination of entire costing and pricing approaches. The decision was appealed by Ideal Cement and the Anaconda Company. The PSC prevailed.

7. Bell Journal of Economics (1977) identified the MPC rate design as the most tilted rate design of 156 major utilities in the nation. It found that the industrial class consumed 51 percent of the energy and paid 30 percent of the revenues, while the residential class consumed 19 percent of the energy and provided 37 percent of the revenue.

8. During 1982 the average rate paid by the various customer classes is shown:

Residential	3.37¢/kwh
Commercial	3.06¢/kwh
Gov't/Municipal	3.05¢/kwh
Small Industrial	2.156¢/kwh
Large Industrial	1.58¢/kwh

9. Based upon several thousand pages of expert testimony by witnesses for MPC, Montana Consumer Counsel, HRDC's, Irrigators and Industrials, the PSC issued its decision which substantially increased the industrial and irrigation rates. The PSC decision was appealed and is currently pending in District Court.

10. The PSC decision adopted rates based upon the marginal cost or incremental cost methods presented by MPC, Consumer Counsel, and HRDC. This decision is consistent with approaches adopted in the MDU and PP&L systems in 1977-78. Twenty-four other states and large public utilities require use of marginal cost studies and 61 allow its use. The approach is not startling or radical.

11. The cost method and pricing method adopted by the PSC is designed to identify the costs associated with incremental (new or replacement) generation, transmission, and distribution in order to reflect those costs in price signals. Done appropriately, customers then face prices which more nearly reflect today's realities. Each customer class was treated in an identical manner (i.e. each class pays the same percentage of the marginal or incremental cost of service) except for irrigators. The PSC moderated the increase to the irrigation class by 50 percent because of the severe increase required by the cost study.

12. The resulting industrial rates are extremely favorable when compared to any industrial rates in the nation. However, as the costs associated with Colstrip #3 and #4 approach, it is possible that the rates for all MPC customers will increase dramatically -- regardless of rate design.

13. Obviously, the change from an antiquated and irrational approach designed for a hydro system and declining unit costs to a thermal system with skyrocketing unit costs is

extremely painful. But, to ignore those changed conditions in costing and pricing energy is to perpetuate serious inequities among customer classes and to insure a vicious circle of power plant construction and higher rates for the future. The resolution questions whether energy conservation should be a factor in rate design. The Commission has adopted a conservation approach, but not out of some desire to be social engineers. Rather, conservation -- meaning efficient use of energy -- is, with today's rising energy costs, part and parcel of the Commission's obligation to assure the lowest possible rates for consumers. It would be irresponsible for the Commission or the legislature to not consider conservation in setting rates. The result would be higher rates for all utility customers.

14. The legislative study required to adequately address the complex issues of costing method and rate design will require substantial resources. The University System, DNRC, private consultants (primarily out-of-state) and the utility company are the likely sources of expertise. To adequately and comprehensively examine the issues, another full blown Cost of Service/Rate Design case similar to the PURPA case conducted by the PSC will be required. Anything less than such a comprehensive examination (with all points of view presented) may be misleading, dangerous, and wasteful.

15. Upon completion of the Study the Legislative Committee will then be in a position to agree or disagree with the PSC. In

the event the Committee does not support the PSC approach it will face limited options, including:

(a) Order the PSC to use an average embedded cost study.

Q. Which of the 19-37 methods available?

Q. What if the method selected to maximize the benefit to the industrial customers increases irrigation rates 338 percent as in the MPC approach?

(b) Enact a law which requires the PSC to establish the lowest industrial rates in the nation regardless of cost.

(c) Reduce industrial taxes and subsidize transportation costs for the nine large industrial contract customers. Increase other taxes to cover lost revenues.

(d) Eliminate the existing Montana laws which require that utility rates be: Fair, Just, Reasonable, and Not Unjustly Discriminatory.

(e) Petition Congress to repeal the PURPA goals of promoting conservation, efficiency and equity.

16. The Commission respectfully urges the Legislature to decline or reject the Study Proposal contained in SJR 19.

Montana PSC Order 4714d
Alternative Cost of Service Results Presented

4714a revenues $\times 10^3$	1 Existing @ 4714a $	2 Embedded/Inc. MPC Proposed	3 % Δ	4 HRC Proposed	5 % Δ	6 MCC Proposed	7 % Δ	Irrig. Proposed	% Δ	Final @ 4714.1	% Δ
Residential	$ 57631	$ 53488	+3.6	$ 45763	-11.3	$ 52560	+1.8	$ 52046	+.8	$ 48708	-5.66
General Service	54749	45341	-17.2	49918	-8.8	46700	-14.7	49079	-10.4	49821	-8.98
Irrigation	1976	8671	+338.8	6405	+224.1	3114	+57.6	2026	+2.53	3068	+55.26
Special Contract	20448	20832	+1.9	27854	+36.2	25855	+26.4	25021	+22.4	28199	+37.91
Lighting	4328	4693	+8.43	2344	-45.8	4559	+5.3	4347	+.1	4328	± 0
Gov't/Municipal	1002	1095	+9.3	1371	+36.8	1343	+34.0	1246	+24.4	— [a]	
Total	134134	134134		133660		134137		133765		134134	

Source Columns 1-9 Exh 4 Docket No 84.4.2 (attach 1)
Columns 10-13 Compliance Workpapers Docket No 84.4.2 (attach 1)

GWI split between GS + SC
GWI not included
GWI included

Exhibit #4

THE ECONOMIC IMPACT OF LOWERING ELECTRIC RATES

Prepared For

District XI Human Resources Council

By

Thomas M. Power
Economics Department
University of Montana
Missoula, Montana 59812

February, 1983

THE ECONOMIC IMPACT OF LOWERING INDUSTRIAL ELECTRIC RATES

Introduction and Conclusions

In 1982 the Montana Public Service Commission (PSC) adopted a new method of calculating cost responsibility in establishing electric rates for different classes of customers on the Montana Power Company (MPC) system. One impact of this change was to raise large industrial electric rates by 37 percent while slightly lowering residential rates.

Industrial customers responded vigorously, challenging the PSC in court and in the legislature. Such rates, they insisted, would damage the Montana economy by discouraging industrial growth. Many economic development boosters support them in this attempt to lower industrial electric rates.

This paper explores the economic impact of lowering industrial electric rates. Among its conclusions are the following:

a. Montana Power Company's industrial electric rates have been among the lowest in the nation. The gap between residential and industrial electric rates has been the greatest of all major utilities in the nation.

b. The economic justification for these special low electric rates was destroyed by changes in the economics of electricity generation in the 1970's.

c. Industrial electric rates can be lowered only by raising residential and commercial rates.

d. Raising residential electric rates drains purchasing power out of local communities. This undermines locally oriented businesses.

e. Raising commerical electric rates further threatens local businesses. These smaller, local businesses have been the prime source of new jobs in Montana.

f. MPC has only 11 large industrial customers which would benefit from the lower rates. It has 30,000 other business customers who could be harmed by increased residential and commercial rates.

g. Industrial rates have been rising nationwide far faster than in Montana. In 1980 average industrial rates nationwide were two and a half times Montana Power's industrial rates.

h. The U. S. Department of Energy's summary of Typical Electric Bills in 1982 showed Montana tied for first place for lowest industrial electric costs in the country.

i. Electric cost is not a major determinant of most industrial locations because electric costs are such a small part of total costs. Thus higher electric costs will not discourage most industries from locating in the State.

j. Industrial customers are not helpless in protecting themselves against rising electric costs. There are substantial conservation potentials open to them to offset these costs.

k. Champion International's paperboard mill in Western Montana is not threatened by high electric rates but by poor management.

l. A new aluminum smelter can be served at existing industrial rates only if other customers are willing to subsidize the aluminum plant with 75 million dollars per year in additional utility payments.

m. Such a subsidy would amount to $75,000 per year for each $26,000 per year job created. This is, three dollars would be drained out of the economy for each dollar injected in.

n. If the Great Falls area wished to provide this subsidy themselves, each Great Falls MPC customer would have to accept a fourfold increase in electric rates or a $240 per month payment to an aluminum company support fund.

The overall conclusion is that reducing industrial electric rates is anything but an economic development strategy. For most industries, it would be ineffective in changing their location decisions. It would, however, significantly burden all existing state businesses.

THE ECONOMIC HISTORY OF MONTANA'S LOW INDUSTRIAL ELECTRIC RATES

Until the Montana Public Service Commission acted in 1982 to modify the way in which costs of electric service were assigned to different customer groups, large industrial customers in Montana Power Company's (MPC's) service area were able to buy electricity at rates which were dramatically below residential and business ("general service") rates. One 1976 analysis of all of the nation's large electric utilities ranked the industrial rates charged by MPC as the lowest in the nation relative to the rates charged its other customers. While industrial customers consumed 51 percent of the electricity, they provided only 30 percent of the revenues to MPC. ("Spread" in Electric Utility Rate Structures, Bell Journal of Economics, Vol. 5, p. 379). At the beginning of 1982, residential customers paid 2.84¢ while large industrial customers paid 1.09¢ per Kwh.

This special treatment of industrial customers has an explanation in the particular economic history of MPC as well as in the general economic history of electric utilities in the United States.

The Montana Power Company was formed in 1912 by the President of the State's largest industrial company, the predecessor of the Anaconda Copper Company, John Ryan. MPC was created out of an economic struggle over just who was going to serve the massive electrical needs of the copper conglomerate in the Butte-Anaconda area. In a manner of speaking Anaconda Company, seeing that its industrial electric demand was the dominant load in the State, chose to serve itself. Until the mid-1930's, the Montana Power Company and the Anaconda Company had the same chief executive and shared offices and personnel in Butte. MPC's corporate headquarters remain in Butte despite Butte's and Anaconda Company's decline as dominant centers in the State.

Thus the Montana Power Company's very origins and original purpose lay in its ability to provide electricity to the largest industrial companies at the lowest possible rates.

This is not to say that a cost-based justification could not be provided for the unusually low industrial rates. Until the mid-1970's MPC was almost totally a hydroelectric utility. Its large dams on the Missouri and its smaller dams on most of the State's major streams provided an abundant source of very cheap electricity. In the early decades of this century there were substantial surpluses of hydroelectricity available.

The costs of providing this electricity were relatively fixed. Once the dams, generators, and transmission lines were in place, the cost associated with providing another kilowatt-hour of energy or kilowatt of power was almost zero. All one had to do was allow more water to pass through the turbines which were already in place.

In that situation, additional electric sales at any price above the very low operating costs could honestly be said to be "cost-based" for it

did cover the additional costs. Similarly, marketing additional electricity to industrial customers at such very low, short run incremental cost rates could be shown to benefit all customers. This was so because the increased industrial sales allowed some of the large fixed costs to be spread over a larger quantity of total sales and thus reduce the per unit costs faced by residential and business customers.

In this historical situation, it is not surprising that MPC's industrial rates were very low.

But things have changed dramatically over the last two decades. Anaconda Company has declined and been swallowed by an international conglomerate, ARCO, with no particular ties to MPC. MPC, on the other hand, has grown into a large natural resource company itself. Starting in the early 1970's, Anaconda Company, for the first time, actually began to legally and economically oppose MPC's pricing policies. At about the same time, the limits of MPC's hydroelectric resources were reached. To substantially supplement the hydro system, the Colstrip energy park was planned. MPC's share of these coal-fired facilities was double the operating ability of the original hydro system. These supplemental resources, however, were considerably more costly to both construct and operate than the hydro facilities. That is, MPC faced a situation where the cost of additional increments of electric supply cost 5 to 10 times what the hydro energy cost. The important policy question was who was going to pay for these new facilities.

Note the turn-around in the economics of electric energy supply. Now there was no surplus generating capacity, rather, new facilities had to be built. Now the operating costs were not near zero. Costly fossil fuels had to be burned. In this situation it was no longer the case that sales to industrial customers at low prices lowered the costs to other customers. Now any customer's consumption contributed to the need for costly new thermal

facilities.

It was this change from a situation of low costs of increments of supply to very high costs of incremental supply which led the Montana Public Service Commission (PSC) to change the way industrial rates were calculated. A dramatically changed cost situation led to an appropriate and necessary adjustment in the way industrial rates were calculated. To not have changed would have been to try to live in a distant past at significant cost to all other MPC customers and to the utility itself.

THE PSC'S NEW APPROACH TO INDUSTRIAL RATES

In 1982 the Montana PSC shought to adjust industrial electric rates to the new economic realities by making two changes in how responsibility for the utility's costs are assigned to different customer groups. First it insisted, as it had since 1976, that a substantial portion of the fixed costs of new coal-fired plants are incurred to provide electric energy. Industrial customers argued that fixed costs are incurred to have peak generating capacity standing by for irregular users and that the "true" energy costs were simply the variable operating costs incurred when the plants were used. This approach suggested that industrial customers with their very smooth usage patterns were not responsible for much of the fixed costs and that irregular users like residential and business customers should pay most of these costs. Given the huge fixed costs associated with the Colstrip facilities, the assignment of responsibility for these costs among customer groups was very important. The industrial customers sought to avoid a significant share of these costs. The PSC ruled against them, insisting that the Colstrip facilities were built primarily to provide energy and all customers should pay for them primarily in proportion to the energy they use.

The PSC also insisted that the cost of providing additional increments of electricity or the costs which would be avoided if consumption were reduced and those additional increments of supply were not needed, be the basis of assigning cost responsibility. The industrial customers argued that the average of all past costs incurred by the utility be used as the basis for assigning cost responsibility. Since new increments of electric energy cost many times what electric energy cost in the past hydro period, energy intensive industries objected to the focus on what costs could be avoided if their load was not as high as it was. They wanted the lower average energy costs to be used in figuring their cost responsibility.

The difference between these two approaches can be substantial. Table 1 below compares the cost responsibility calculated under the PSC's approach with the more traditional cost assignment developed by MPC and supported by industrial customers.

Table 1

Cost Responsibility of Each Customer Class

Customer Class	Industrial Customers' Traditional Approach To Cost Responsibility	Montana PSC's Cost Approach	Difference
Residential	$ 52,951,000	$ 49,332,000	- 6.8%
Business	45,956,000	47,252,000	+ 2.8%
Large Industry	22,195,000	27,764,000	+25.1%
Irrigation	8,357,000	4,456,000	-46.7%
Street Lighting	3,728,000	4,327,000	+16.1%
TOTAL	$133,187,000	$133,131,000	0.0%

Note that the industrial customers support an approach which would lower their cost responsibility by over 25 percent while raising the cost to agricultural users by almost 50 percent and increasing residential bills by about

7 percent.

For a new large industrial load, for whom a new generating facility had to be built, the difference between the incremental cost approach and the embedded cost approach would be even more dramatic. The average cost of electricity to an industrial customer might only be 2¢ per Kwh, but the cost of new supply could be over 5¢ per Kwh. For a large facility like an aluminum smelter, this could amount to a difference in costs of as much as 75 million dollars a year.

The large industrial customers have tried to argue that this modification of cost responsibility to match the new energy situation is not "cost-based". What they mean is that it is not based upon the approach to cost definition they favor. It is emphatically cost-based, for it is tied to a straightforward calculation of incremental costs. These incremental costs are the real, economic costs associated with serving any customer, for they are the costs the utility could avoid if that customer were to reduce its load. These costs are the costs causally associated with any customer's electric energy behavior. The irony is that in the past, when large industrial customers benefitted from this cost approach, they enthusiastically supported it. This after all was the cost basis for their low rates in the past: When surplus capacity existed and the variable costs associated with the hydro system were very low, it could be said that the additional costs associated with serving the large industrial customers was very low and their rates, therefore, should be very low. Now that this is no longer true, the large industrial customers reject this approach and want to emphasize an average of all past costs as the basis for rates.

This debate over cost is bound to be frustrating to those who are not accountants or economists. One might wish that there was only one definition

of cost and only one way of measuring cost responsibility. Unfortunately this is not the case. Costs have several different facets or dimensions which cannot be summarized in one single number. There are short run and long run costs. There are incremental and average costs. There are historical accounting costs and forward-looking economic costs. There are fixed and variable costs. Etc. Etc. A Public Service Commission exists because the definition of costs is complex and can be used in a slippery way by the utility to justify just about any conceivable promotional or discriminatory rate design. Public policy considerations inevitably have to guide the choice of appropriate cost concepts and the accurate measurement of them. This the PSC does through very lengthy and highly technical evidentiary proceedings where all recommendations are given careful scrutiny by all concerned parties. The industrial customers presented their own evidence and expert witnesses. They also had an opportunity to investigate all other approaches and challenge the evidence and witnesses of other parties. From this process came the PSC decision on how electric cost responsibility is to be measured. After all of this, it is not very useful to simply assert that the PSC's approach is not cost-based simply because the PSC found more convincing an approach to costs different from that proposed by the industrial customers. Almost two dozen utility regulatory commissions in other states have come to the same conculsions as the Montana PSC about the use of incremental costs to assign cost responsibility.

The final irony here is that the PSC based their cost responsibility calculations primarily on a marginal cost of service study the Montana Power Company submitted. That cost analysis was conducted by one of the nation's leading utility consulting firms, National Economic Research Associates. It was not the PSC which generated the cost data which was used. In addition,

the large industrial customers could not agree among themselves about how costs should be defined and measured. The Anaconda Company agreed that the use of an average of past accounting costs was not appropriate. Champion International aruged that it was.

THE ECONOMIC IMPACT OF HIGHER RESIDENTIAL ELECTRIC RATES

If residential electric rates are raised in order to keep industrial rates low, the increase in residential rates does not have a neutral impact upon the economy; it has a negative effect.

Higher residential utility rates have the direct economic impact of draining purchasing power out of every Montana community. Purchasing power which otherwise would have been spent locally and would have circulated and recirculated within local businesses will flow instead to the large industrial corporations where it is likely to be exported to their distant corporate headquarters and stockholders or to their customers. Just as new jobs are seen as stimulating the local economy in a multiple sort of way, so too will this draining of purchasing power have a multiplier effect in undermining local businesses and employment.

In addition, higher residential rates raise the local cost of living. In the long run, local wage rates must adjust to see that the real wage rate paid to local workers is competitive with what is paid elsewhere. This means that money wages ultimately tend to rise to compensate for locally higher costs of living. These higher wage rates become an additional cost to all local businesses. This burden itself may retard local business development.

If a new industrial operation such as an aluminum smelter is sold electricity at an average industrial rate of 2¢ per Kwh while the new coal-fired generator needed to serve the industrial load costs 5¢ per Kwh, the new in-

dustry will shift as much as $75 million a year in electric costs each year to other customers. (This assumes a 350 MW demand at 90 percent load factor and 20 percent reserve capacity). Seventy five million dollars would flow out of Montana communities each year to subsidize the new industrial operation. This is the equivalent loss to Montana's local economies of 5,000 jobs paying $15,000 per year. Clearly subsidizing industrial development in this manner would be self defeating.

THE ECONOMIC IMPACT OF HIGHER COMMERCIAL ELECTRIC RATES

If lower industrial rates are provided at the expense of higher commercial rates, the vast majority of businesses in the state will be burdened directly for the benefit of a handful of large corporations. MPC, for instance, has over 30,000 business customers but only 11 large industrial customers. The electric rate increases will raise their costs of doing business, threaten their margins or profit, and increase the risk of failure. This direct cost burden is in addition to the impact of reduced local consumer spending and higher wage costs triggered by residential rate hikes.

In evaluating the economic impact of this shift in cost burdens, it must be kept in mind that the primary source of jobs in Montana over the last decade or so has not been the large industrial corporations. In fact since 1979, 7,000 jobs have been lost in those industries. Anaconda has eliminated thousands of jobs in Butte, Anaconda and Great Falls. Employment at the Columbia Falls smelter is unstable. Evans Products in Missoula shut down, laying off 400 workers. Burlington Northern and Mountain Bell have substantially reduced employment in most Montana cities. Railroad employment has fallen by 2,200 jobs. Employment in the major wood products companies

has fallen drastically recently. Since 1974, 4,300 jobs have been lost there.

The major source of jobs in Montana over the last decade has been small local businesses employing fewer than 100 workers, not large sprawling corporate giants. This has been true throughout the west and the nation. Two-thirds of all new jobs have been created in very small firms, those employing fewer than 20 people. Fortune magazine's top 1,000 corporations added just 75,000 new jobs nation-wide between 1970-76 while the overall economy added 6.2 million jobs - 82 times as many.

To burden, directly or indirectly, the small businesses which have been the primary source of additional jobs in Montana in order to protect the large international corporations which have not proven to be a reliable source of employment or income might be judged by some to be the opposite of an economic development strategy.

THE IMPACT OF ELECTRIC RATES ON LARGE INDUSTRIAL CUSTOMERS

The Problem of Evaluating Industrial Threats

There is no disputing the fact that the cost of electricity, like all costs, effect the economic health and competitive viability of any business operation. This is almost true by definition. The size of the effect, however, can range from being so insignificant relative to other costs and market considerations that it is ignored to being a dominant consideration in operating decisions.

Since any cost, in theory, can be the "straw that broke the camel's back", industrial customers can always claim that electric rate increases will have drastic effects on their ability to continue operations or ex-

pand. Most of the information needed to evaluate these types of threats is available only to the businesses making the assertions. It is proprietary information to which neither private citizens nor regulatory agencies have access. This makes such claims nearly impossible to dispute empirically in any detail. However, several general considerations can help put these claims in a critical perspective.

a. Electric rates to industrial customers have been rising nation-wide.

Montana is not the only area where industrial electric rates have been increasing. Recently they have been rising rapidly throughout the Pacific Northwest. That is one of the reasons for Alumax Aluminum Company's interest in a smelter in Montana. Alumax has a contract for electricity from the Bonneville Power Administration (BPA) in Oregon and all of its environmental permits, but BPA's industrial rates have been rising so rapidly that it is shopping around for an electric supply which may be cheaper or at least have a more predictable cost. But it is not only in the Pacific Northwest where industrial electric rates have risen rapidly.

In fact, MPC's industrial rates have not been rising at all in real, inflation adjusted terms, until very recently. Between 1969 and 1980, the cost of 5,000 Kwh a month to an industrial customer fell by 45 percent, from about 2.2¢/Kwh to 1.2¢/Kwh (projections of Electric Loads and Resources, 1982, MPC, Fig. 8). During the same period, 1979-1980, industrial electric rates nation-wide rose 55 percent in real terms, from about 2.0¢/Kwh to about 3.1¢/Kwh (Statistical Abstract of the United States). Thus, during the 1970's MPC's industrial customers' competitive position improved substantially. In 1970 MPC's industrial rates were at the national average. By 1980 the national average was 2.6 times as high as MPC's rates. Substantial industrial rate increases in Montana will be required to eliminate that advantage.

b. Electric Rates to large industrial customers remain lower in Montana than elsewhere in the country.

Despite the considerable increases in industrial electric rates in Montana, the cheap hydroelectric base upon which MPC's system has been expanding and the relatively low cost mine mouth coal plants which have supplemented it, have kept Montana's electric costs below those found in most of the nation, especially those in the more industrialized regions. Under the new industrial contract rates, MPC charges an average of 1.71¢/Kwh. The 1982 Electric Power Annual, published by the U. S. Department of Energy, indicated that the median industrial rate in late 1982 in large urban areas was 5.57¢/Kwh. This median urban rate was over three times as high as MPC's current industrial rates. The 1980 Annual Survey of Manufacturers indicated that the cost of purchased fuels and electricity in Montana in 1980 was the 4th lowest in the country. The 1977 Census of Manufacturers indicates that the average industrial electric rates paid by manufacturing firms in the United States were 3.5 times as high as Montana rates. Only the state of Washington had lower purchased electric costs. The 1982 Typical Electric Bills published by the U. S. Department of Energy shows Montana about tied with the state of Washington for lowest industrial electric rates in the nation. Figure 1 summarizes this information. Note that Montana industrial bills were less than a third as high as the national average. It is not clear where industrial customers could go and get "a better deal" than they have in Montana.

FIGURE 1

Industrial Service—Averages

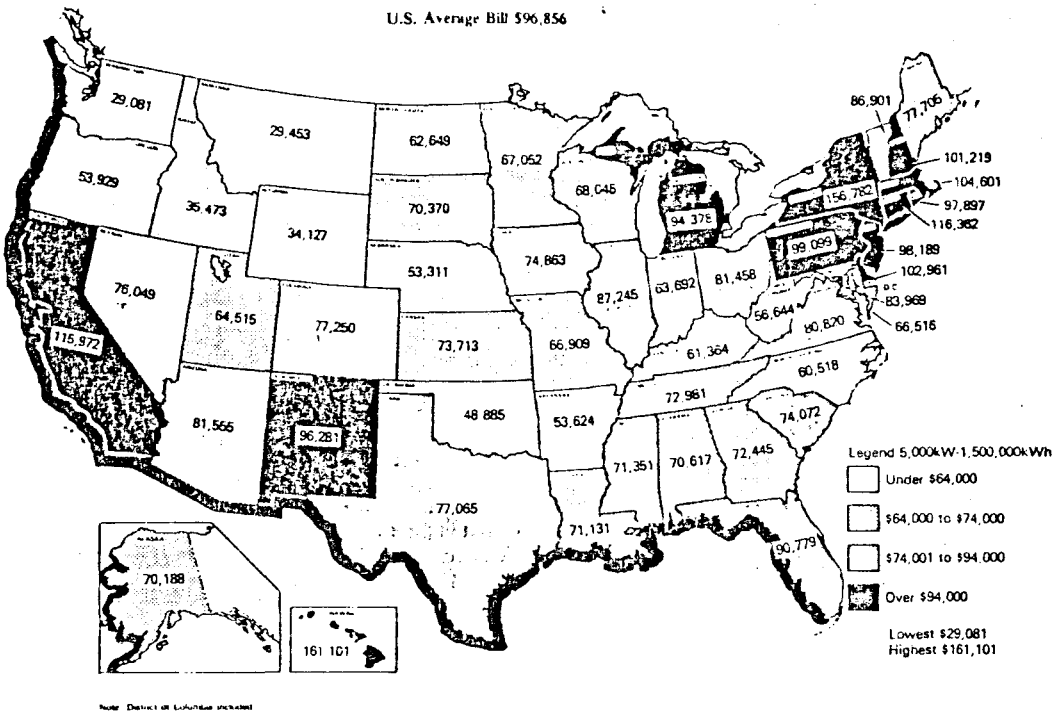


Figure 19. State Average Monthly Bills, 5,000 kW-1,500,000 kWh Industrial, January 1, 1982

c. Electricity is not a major cost influencing location decisions for most industries.

Very few industries use so much electricity relative to other inputs that electric costs exercise any significant influence over its location and operations decisions. For most industries, electric costs make up, at most, only a percent or so of their total costs and are swamped by such other costs as labor, raw materials, and transportation. For that reason, electric costs have little influence on operations decisions. Thus, for the vast majority of potential industrial developments, electric rates are largely irrelevant.

There are dramatic exceptions. Aluminum production and electro-chemical operations such as elemental phosphorous, are two important Montana exceptions. But even energy intensive industries like paper mills are not primarily electric energy intensive. In Pacific Northwest paper mills only 15 percent of total energy consumption is electric consumption. 1977 Census of Manufacturing data indicates that in integrated paperboard mills, labor costs are six times as high as purchased electricity costs and that purchased electricity costs are only 2.6 percent of the total value of shipments.

d. Industrial customers are not powerless to control electric energy cost increases.

Industrial electric customers are not just helpless victims of rising electric costs. They can make a broad range of adjustment in their operations to minimize the impact of electric rate increases.

Industrial electric consumption is not dictated soley by the technical requirements of production. The level of electric consumption is also an economic decision. If electricity is very cheap, little investment will be made in minimizing its usage. As electric costs rise, more attention is paid in the choice of production technology to minimize its usage. The level

of industrial electric use is a continuous function of the price of electricity. Thus, industrial customers can creatively react to electric price increases to minimize the net impact on their operations. This can be dramatically seen even in the industries which use electricity as a direct raw material such as aluminum and elemental phosphorous where major modifications in technology have significantly lowered the electric input requirements.

ELECTRIC COSTS AND THE CHAMPION PAPERBOARD FACILITY IN MONTANA

One of the leaders in the attack on the Montana PSC's current approach to calculating industrial electric cost responsibility is the Champion International Corporation which, in the Missoula area, operates Montana's only paper mill.

In addition to a legal suit in district court against the PSC and heavy lobbying in the Montana legislature to get it to legislate lower industrial electric rates, Champion has also been conducting a broad based "educational" campaign aimed at its employees, business and political leaders and the general public. It argues that the current approach to electric pricing seriously threatens to make its Montana mill non-competitive both within Champion's own paper division and within the industry as a whole.

The point it is trying to make is that high industrial electric rates threaten to make the Montana mill one of Champion's higher cost paperboard mills to operate. As a result, when demand is slack, it is the mill most likely to be shut down. Also, in periods of high demand, when expansion is considered, the Montana facility is unlikely to be considered for expansion. Ultimately, it is suggested, high electric rates could lead to the closing of the operation all together.

As in all industrial threats of this sort, only Champion has the data

to evaluate the truth of the assertions being made. Outsiders are forced to use secondary data to evaluate the realism of the assertions being made. But consider the following information:

a. Champion recently expanded the Montana mill.

Champion recently completed an expansion of its Frenchtown mill. The fact that it recently invested hundreds of millions of dollars in that facility indicates that its most recent full scale economic evaluation indicated that the Montana location held significant cost advantages. This evaluation must have included projections of what would happen to the costs of electricity as the Colstrip facilities were added to MPC's rate base. The Montana PSC has been on record since 1976 on how these costs would be handled. In addition, many regional analyses of electric prices clearly indicated that industrial electric rates would rise significantly faster than other rates. It is inconceivable that a large international corporation about to invest hundreds of millions of dollars would not have evaluated the impact of these rate increases on the viability of the proposed facility. Thus Champion's own recent investment indicates its judgment that the mill would be competitive despite industrial electric rate increases.

b. The Montana mill has had serious management problems.

Any corporate projection of costs must make assumptions about local management's ability to make a facility operate at reasonable efficiency. It would appear that thus far some of these assumptions are proving wrong at the Montana mill. The corporation experienced significant cost overruns in completing the expansion and had serious problems with quality control. Once completed, the new facility has yet to operate regularly as intended. A new paper machine cannot be kept operating because of an apparent mismatch between the size of the machine and the pulp feeding equipment. Worker morale,

scheduling of repairs, and spare parts inventories also appear to have been problems. Champion's corporate management, after a local investigation, has been trying to correct these problems by shuffling its local management. The resident manager recently was replaced.

This is important in evaluating Champion's attack on industrial electric rates because that attack may simply be local management's attempts to compensate for its own inability to hold down costs and attain the expected level of productivity. That is, the local managers, finding that they could not get the mill to operate as well as corporate management expected, are looking for ways to politically cut costs. The legal and political efforts by Champion's local management can then be seen as an effort to compensate for their own management failure in an attempt to keep the Montana mill competitive within the Champion packaging division. This would explain their strenuous objection to rate increases which corporate management must have originally judged to be acceptable. If this is correct, all MPC residential and business customers are being asked to accept higher electric rates in order to compensate for local management's failure to control other costs and maintain productivity.

c. Electricity is not a dominant input in paperboard production.

Paper production is a relatively energy intensive process but its primary energy input is not electricity. On a BTU basis only about 15 percent of the energy used is purchased electricity (BPA Forecast of Electric Consumption, Appendix I, May 1982). One analyst estimated that only six percent of variable costs are electric costs. He concluded that the Pacific Northwest paper industry was not "highly exposed" to industrial electric price increases. A 100 percent increase in rates was projected to reduce output only 4 percent. (WPPSS Independent Review, "Forecast of Loads", Chapter 4, Industrial Sector Demand for Electricity". Charles Rivers Associates).

Labor costs have been a much more important determinant of total cost and the paper industry has focused much more attention upon minimizing labor costs than on the reduction of electric energy use.

d. Paperboard mills can exercise considerable control over the amount of electricity they have to purchase.

Paper mills use considerable quantities of process steam in their production processes. For that reason they have the option open to them of first using the steam to generate electricity and then using the "waste" steam for the heat needed in paper production. This "cogeneration" of electricity and process steam is extensively used in the industry. Nationwide paper mills generate 40 percent of their electric energy. In the Pacific Northwest, because electricity has been so cheap, paper mills only provide 17 percent of their own electricity. But one estimate indicates that paperboard mills, in the Pacific Northwest, produce 31 percent of their electric needs. At the Frenchtown mill, almost no electricity is produced.

During the recent expansion, Champion had the opportunity as it added new boilers and replaced old ones, to provide its own hedge against future increases in electric prices by generating its own electricity. It chose not to do so. Given the high rates at which all of the electricity it could have generated could have been sold to MPC under existing cogeneration rates, its decision would again seem to indicate that electricity costs have been a relatively low priority consideration until very recently.

e. The regional advantages of the Western Montana mill.

The paper mill at Frenchtown was not located where it was because electricity was cheap. It was located there because it allowed the mill to tap the waste wood chips being produced by the lumber mills in the region. The timber supply in Western Montana offered a sustained supply of higher quality long

wood fiber. In addition, there was a substantial water supply.

It is true that the Southeastern part of the country has a more abundant and quicker growing supply of wood fiber and is closer to most national markets. But Pacific Northwest mills are better suited to serve the growing Western markets as well as the Pacific Rim nations and have higher quality fiber. It would take substantial increases in the costs of Western Montana electricity relative to the costs of electric energy elsewhere in the country to eliminate the original economic logic of the Frenchtown mill and the economic logic of its recent expansion.

ALUMINUM SMELTING, ELECTRIC RATES, AND ECONOMIC DEVELOPMENT

1. Electric Costs and Aluminum Smelter Location

One of the prime concerns about MPC's industrial electric rates has been that Alumax Aluminum Company, which has expressed an interest in locating an aluminum smelter in the Great Falls or Butte-Anaconda area, will abandon Montana as a feasible site. This is a double concern for Great Falls because without a large new electric load such as Alumax's, MPC's new coal-fired plant planned for Salem just outside of Great Falls will be delayed or abandoned, too.

In this case the concern is not that MPC's existing electric rates are too high. They currently fall into the 1.5-2.0¢/Kwh range Alumax has said is acceptable. The "problem" is that MPC will not offer to sell electricity to Alumax at this rate. It argues that in order to serve Alumax more than an entire new coal-fired plant the size of the Salem plant would have to be built. Electricity from such a facility would have to be sold at at least five cents per kilowatt-hour in order to pay for its operation and recover the capital investment. MPC has thus far insisted that Alumax pay these incremental costs

to obtain its electricity. Alumax sees this as economically infeasible. It has already indefinitely suspended plans to build a fully permitted plant in Umatilla, Oregon, because BPA's electric rates are now at 2.6¢/Kwh and expected to go to 3.25¢/Kwh next year. Alumax admits that there is no where in the country where it can buy electricity at 1.5 to 2.0¢/Kwh. It has asserted that a foreign location is the only possible source of electricity this cheap.

The 1.5 to 2.0¢/Kwh "wish" of Alumax may be an exageration. One of its most recently constructed plants in the United States is located in South Carolina. When it was built in the late 1970's, it doubled the industrial load on the South Carolina Public Service Authority. It is currently paying an average of 3.35¢/Kwh for its electricity there. Thus, new aluminum facilities appear to be able to operate profitably in the United States at ratesconsiderably above what Alumax has said is necessary. In both the TVA service area and the Ohio Valley where most of the aluminum producing capacity outside the Pacific Northwest is located, electric rates already exceed the price range Alumax says is necessary. But because much of the aluminum produced in the Pacific Northwest is shipped east to markets, the transportation costs associated with production in the Pacific Northwest add a distinct disadvantage which may require electric rates to be lower than in the East to make the region competitive.

In order to evaluate the advantages of Alumax locating a smelter in Montana, the costs associated with lowering electric rates to it need to be evaluated as well as the impact such a facility is likely to have on the local economy.

2. The Cost of Selling Electricity to Alumax at Existing Industrial Rates

Alumax would like to buy electricity from MPC at the current industrial

rate of 1.7¢/Kwh. Legislation has even been proposed to legally require the utility to sell power to all industrial customers at the average cost of production. MPC and the Montana PSC have resisted such efforts because the new facility necessary to supply Alumax would require 4.5 to 5.5¢/Kwh charges to fully recover costs. If Alumax were sold this power at the average rate, all other MPC customers, including other industrial customers, would have to pay significantly higher rates to cover the cost of the new facility.

These costs would be significant. If electricity were sold to Alumax at the 2.0¢/Kwh they say is the upper limit of what they can pay, but the electricity costs 5.0¢/Kwh, the 3.0¢/Kwh difference has to be paid by MPC's other customers. For the full 2.5 billion Kwh a typical facility could consume each year, this could cost other customers 75 million dollars each year. Industrial Process Energy End-Use Date Base for the Pacific Northwest, BPA, May 1981, p. Y-9). That is, each year, 75 million dollars of purchasing power would be drained from all Montana communities and businesses to be exported to Alumax's customers around the world. If, ultimately, 1,000 workers were employed, the annual cost to other customers would be $75,000 per job created.

This has to be compared with the annual wages. The 1980 survey of manufacturers indicates that aluminum production workers earn an average of about $26,000 per year. Thus the electric energy subsidy which would drain out of all communities would be three times as large as the additional income injected into the state economy by the new jobs. Clearly this would depress the state's economy, not stimulate it. For each additional dollar injected, three would drain out.

If this annual electric subsidy to Alumax were to be paid by the residents of the town in which Alumax located and where the stimulus of the new jobs was primarily felt, a substantial utility tax would have to be paid. For instance, Great Falls has about 26,000 MPC customers. If the 75 million dollar annual subsidy were to be collected on a per customer basis, each Great Falls customer would have to pay a $240 per month tax. If the subsidy were to be collected on a Kwh basis, Great Falls residents would face quadrupled electric rates. Clearly neither of these would be recommended by anyone. Yet they indicate the size of the subsidy which some Great Falls leaders have urged be given to Alumax. When subsidies are urged, it is important to simultaneously indicate the total size of the subsidy and who is going to be asked to finance the subsidy.

3. The Instability in Aluminum Industry Production

The layoffs in early 1983 at the Columbia Falls, Montana, and Spokane, Washington, area aluminum smelters should provide sufficient warning that the demand for both workers and electricity at aluminum facilities fluctuates widely. The Kaiser facility outside Spokane has laid off 1350 workers and shut down three-quarters of its production capacity. This type of shut down is costly to both the workers, the community, and the utility serving the aluminum plant.

Aluminum production is a very volatile industry because two of its principle customers are industries which fluctuate widely: housing and transportation including automobiles and airlines. Western Montana already knows first hand how fluctuations in the housing market can disrupt the wood products industry. It does the same to aluminum. We are also all aware of the impact of changes in demand for automobiles on employment in Michigan and changes in demand for new airplanes and employment in Seattle. Both have been severely hit by the latest recession. Aluminum has been, too. Thus if Alumax had

located in Montana in the past, it is highly likely that it not only would not be helping stabilize our economy right now, but rather it would be aggravating the unemployment situation. If it had located in the Butte-Anaconda area, we would not have just had Anaconda Company announcing the layoff of a thousand workers. We would also have had Alumax doing the same.

Such unexpected shut downs can be very costly to the utility. The rates the utility is allowed to charge are determined ahead of time by the PSC. The expected level of sales of electricity determines how "thinly" the fixed costs associated with electric production can be spread and thus the level of electric rates. If those sales do not materialize, the set rates will not allow the utility to recover all of its costs. Costly electric generating equipment built for the aluminum smelter sits idle. This could be disasterous to the utility. Contractual guarantees of minimum payments can mitigate some of this risk. This risk may explain MPC's lack of enthusiasm about welcoming Alumax on to its system at low rates.

In addition to following and aggravating recessions and depressions, an aluminum producer in Montana would add another source of instability because of its likely source of electricity. In order to obtain relatively cheap access to electricity in a region with substantial hydroelectric facilities, an aluminum smelter is likely to have to accept interruptible power which could be cut off in poor water years and at time of peak demand. The electric supply to the Columbia Falls facility and all other aluminum smelters in the region, for instance, can be cut as much as 50% to protect supplies to other customers. Thus employment might also fluctuate with the weather: cold winters in dry years could lead the aluminum operations to be severely restricted.

4. The Jobs Produced Per Kwh of Electricity Used in Aluminum Production

Aluminum production is a very energy intensive process. It used relatively little labor. Thus, if electric energy is in short supply and an community or state is interested in producing as many jobs or as much wage income as possible per kilowatt-hour generated, it might be interested in comparing aluminum production with other industries. Table 2 presents some of that information. Note that non-ferrous metal smelting (including aluminum) produces only one cent worth of wages per Kwh consumed. Saw mills on the other hand produce 55 cents in wages and food processing produces 70 to 90 cents in wages per Kwh consumed. The point is that electricity "spent" in aluminum smelting produces relatively very few jobs compared to its use in almost any other industry.

Table 2

Wages Paid Per Thousand Kwh Used (1981$)

SIC	Industry	Wages ($/thousand Kwh)	Valued Added (¢/Kwh)	Remarks
201	Meat Products	700	139	
203	Canned & Preserved Fruits & Vegetables	420	105	Labor Intensive Industries
208	Beverages	880	280	
242	Sawmills & Planing Mills	540	118	
243	Millwork, Plywood, etc.	550	115	
249	Misc. Wood Products	240	56	
261	Pulp MIls	60	19	
262	Paper Mills	60	18	
263	Paperboard Mills	40	13	
281	Inorganic Chemicals	30	11	Electricity Intensive Industries
291	Petroleum Refining	70	10	
324	Cement Hydraulic	50	25	
331	Blast Furnaces, Steel Works & Rolling & Finishing Mills	50	11	
332	Iron & Steel Foundries	180	34	
333	Primary Smelting & Refining of Non-Ferrous Metals	10	6	
335	Rolling & Drawing & Extruding of Non-Ferrous Metals	190	51	
357	Office, Computing & Accounting Machines	930	354	
367	Electronic Components & Access.	840	395	Labor Intensive Industries
372	Aircraft and Parts	960	680	
382	Measuring & Controlling Instruments	990	495	
	Other	380	80	

SOURCE: ICF estimates based upon data in (1) Census of Manufacturers, 1977; (2) "Industrial Process Energy End-Use Data Base for the Pacific Northwest," Report by SRS to BPA, May 1981.

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SPONSOR Thomas

NAME	RESIDENCE	REPRESENTING	SUP- PORT	OP- POSE
Bob Ford	Missoula	Champion Intl	X	
Bill Kirkpatrick	"	"	X	
Ray Tillman	Butte	Stauffer Chem Co	X	
Molly Moritz	Butte "	Stauffer Chem	X	
Glen Davis		Stauffer Chem	X	
Phil Harvey	Butte	Stauffer Chm	X	
Ron Ignatowicz	Butte	Teamsters Local #2	X	
John Zopach	Great Falls	Economic Growth Council of Great Falls	X	
Jerome Anderson	Billings	Pierce Packing Co	X	
Tom Stearns	Helena	Northern Plains Resource Council		X
[illegible]	Butte	[illegible]	^	
Don Reed	Helena	MEIC		✓
Jim McNairy	Helena	AERO		X
Thomas Power	Missoula	Self		X
Ann Scott	GT Falls Simms	GT Falls Econ Growth.	X	
Steve Browning	Helena	EGC	X	

IF YOU CARE TO WRITE COMMENTS, ASK SECRETARY FOR LONGER FORM.

WHEN TESTIFYING PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

FORM CS-33

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261	Pulp MIlls	60	19	
262	Paper Mills	60	18	
263	Paperboard Mills	40	13	
281	Inorganic Chemicals	30	11	Electricity Intensive Industries
291	Petroleum Refining	70	10	
324	Cement Hydraulic	50	25	
331	Blast Furnaces, Steel Works & Rolling & Finishing Mills	50	11	
332	Iron & Steel Foundries	180	34	
333	Primary Smelting & Refining of Non-Ferrous Metals	10	6	
335	Rolling & Drawing & Extruding of Non-Ferrous Metals	190	51	
357	Office, Computing & Accounting Machines	930	354	
367	Electronic Components & Access.	840	395	Labor Intensive Industries
372	Aircraft and Parts	960	680	
382	Measuring & Controlling Instruments	990	495	
	Other	380	80	

SOURCE: ICF estimates based upon data in (1) Census of Manufacturers, 1977; (2) "Industrial Process Energy End-Use Data Base for the Pacific Northwest," Report by SRS to BPA, May 1981.

WITNESS STATEMENT

Name Roy Ulman Committee On SJR 19

Address PO Box 3146 Butte Date 3/29/83

Representing Stauffer Chemical Co Support X

Bill No. SJR 19 Oppose

Amend

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

1. Please support SJR 19 to help protect 250 jobs in Butte Silver Bow

2.

3.

4.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

FORM CS-34
1-83

WITNESS STATEMENT

Name DON REED Committee On B&I

Address P.O. Box 1184 Helena Date 3/29/83

Representing MEIC Support

Bill No. SJR 19 Oppose ✓

Amend

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

1. HJR18 is a better alternative to this bill.

2. We support legislative involvement with the PSC and we support studying the issue. This can be done under HJR18.

3. SJR19 does not look at the broad problem.

4. SJR19 drives a wedge between different consumer classes. It will only lead to more conflict, not a resolution of the conflict.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

FORM CS-34
1-83

WITNESS STATEMENT

Name John Fossett

Address P.O. Box 1273 Great Falls, MT. 59403

Representing Economic Growth Council, G.F.

Bill No. SJR 19

Committee On Business and Industry

Date 3/29/83

Support X

Oppose

Amend

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

1. Utility rates have traditionally been a positive factor in Montana's efforts to attract basic industry.

2. The April order of the Public Service Commission raises electricity rates for the largest industrial users (among our largest basic industry employers) by 37%. As others' testimony will document, this increase endangers Montana's industrial base.

3. The April PSC order also makes it more difficult to recruit new industry to Montana, because it erodes one

4. of the State's few advantages.

SJR 19 requests that the Legislature review the policies which guide the Public Service Commission in designing and setting utility rates. Informed opinion suggests that over and above the 37% increase for industry, Colstrip 3 will occasion a 20-25% rate increase, and Colstrip 4 a similar increase. Industrial profits and, therefore, jobs, could be jeopardized quickly.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

FORM CS-34
1-83

WITNESS STATEMENT

Name Rep. Davis Committee On Banks

Address 24 W center Butte Date 3-29-83

Representing Stonepicker Assn Support X

Bill No. SJR 19 Oppose

Amend

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

1. Please support SJR 19 to attract more industry to Montana. and keep the industry that we already have.

2.

3.

4.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

FORM CS-34
1-83

WITNESS STATEMENT

Name Bill Hauser Committee On

Address 34 O'Neil Date 3/29/83

Representing Stauffer Chem Support X

Bill No. SJR 19 Oppose

Amend

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:
1. Please support SJR 19 Bill to attract industry to Montana

2.

3.

4.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

FORM CS-34
1-83

WITNESS STATEMENT

Name Molly Marik | Committee On B ... I
Address 19016 Juniper Acres Rd. | Date 3/29/83
Representing Stauffer Chem. | Support X
Bill No. SJR 19 | Oppose
Amend

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

1. Please Support S.J.R 19 To attract Industry to the State of Mont. and attempt to keep what we have. Lean

2.

3.

4.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

FORM CS-34
1-83

WITNESS STATEMENT

Name Ron Ignatowski Committee On

Address 911 Colo. Date 3/29/83

Representing Teamsters Local #2 Butte Support X

Bill No. Resolution # 19 Oppose

Amend

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

1. To help set electric rates to save jobs at Stauffer Chem. and all industries in Montana by supporting Senate Resolution #19.

2.

3.

4.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

FORM CS-34
1-83

WITNESS STATEMENT

Name DARRYL A LEE. Committee On Bus. & Ind.

Address 2950 Harrison Ave. - Butte, MT. Date 3/29/83

Representing Butte Local Dev. Corp - Chamber Comm. Support ✓

Bill No. Resolution 19 Oppose

Amend

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

1. Recommend a State Energy Plan to Keep Montana Competitive.
2. Analysis of Energy Rates which will lead to the encouragement of industry locating in state.
3.
4.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

FORM CS-34
1-83

WITNESS STATEMENT

Name Jerome Anderson | Committee On B+I.

Address Billings, Mt. | Date 3/29/83

Representing Pierce Packing Co | Support X

Bill No. SJR-19 | Oppose

Amend

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

1.

2.

3.

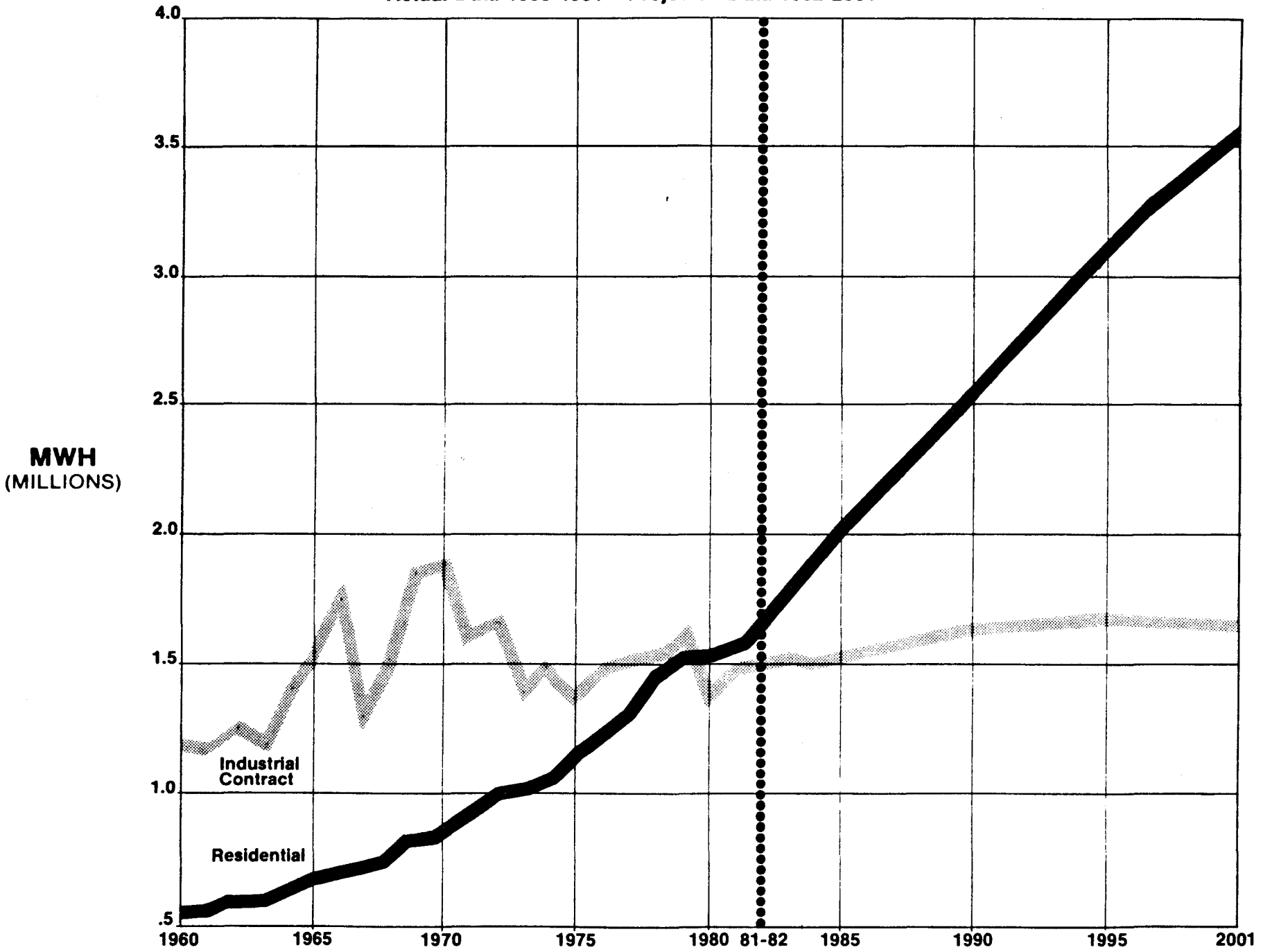
4.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

FORM CS-34
1-83

Electrical Consumption by Residential and Industrial Contract Customers

Actual Data 1960-1981 • Projected Data 1982-2001



Source: Montana Power Company
Projection of Electrical Loads and Resources February 1982