Evidence of Jim Lazar, Consulting Economist
on behalf of
Time to Respect Earth's Ecosystems [TREE]
and
Resource Conservation Manitoba [RCM]

Q. Please state your name, address, and occupation, and summarize your utility regulation experience.

A. Jim Lazar, 1063 Capitol Way S. #202, Olympia, Washington, 98501, USA. I am a consulting economist specializing in utility rate and resource issues. I have been engaged in utility rate consulting continuously since 1979. During that time, I have appeared before many local, state, and federal regulatory bodies, authored books, papers, and articles on utility ratemaking, and have been a faculty member on numerous occasions at training sessions for utility industry analysts. I have appeared before numerous regulatory commissions, including the British Columbia Utilities Commission, Manitoba's Public Utilities Board, and state Commissions of Washington, Oregon, Idaho, Montana, Arizona, Illinois, Hawaii, and California. I am also an Associate with the Regulatory Assistance Project (RAP), headquartered in Gardiner, Maine; my work with RAP involves advising regulatory bodies throughout the world on the implementation of effective utility oversight programs. In that capacity I have assisted with training programs in India, China, the Philippines, Brazil, and Indonesia.

I testified on behalf of TREE and RCM in the 2002 rate review for Manitoba Hydro.

Q. What exhibits are you presenting with your evidence?

A. I have attached the following exhibits.

- JL-1 sets forth my qualifications and experience
- JL-2 calculates and measures the effect of an inverted residential rate with a 250 kWh initial block
- JL-3 calculates and measures the effect of an inverted residential rate with a 250 kWh initial block for customers with gas available, and a 1,000 kWh initial block for customers without access to natural gas.
- JL-4 is a paper I presented at a conference in Graz, Austria on the subject of utility connection charges and credits.
- JL-5 contains information related to the natural gas efficiency programs of Avista Utilities and Puget Sound Energy.
- JL-6 estimates the revenue that would be available from a 3% System Benefit Charge (SBC) applied to Manitoba Hydro natural gas consumers.

Q. What is the purpose of your evidence in this proceeding?

A. I have been asked by TREE and RCM to propose measures to encourage energy conservation in Manitoba. These measures include movement toward inverted rates for all Manitoba Hydro customer classes, the appropriate regulatory treatment of net export revenues, and the option of implementing new customer connection fees and credits to encourage energy efficiency in new structures built in Manitoba. I also address a means to provide for adequate investment in energy efficiency in homes and businesses that use natural gas for space and water heating purposes.

Q. Please provide an overview of your testimony.

A. First, I recommend that Manitoba Hydro's request to move from a declining block residential rate design to a flat rate design be approved. This is a sensible first step in implementing more equitable electricity prices.

Second, I recommend that Manitoba Hydro be directed to submit an inverted rate design for implementation no later than the end of 2006, that addresses the needs of electricity-dependent heating customers in a constructive manner.

Third, I recommend that Manitoba Hydro be directed to examine methods to implement inverted or tiered rates for commercial and industrial customers, and report back to the Board within one year on the options that I discuss below, and other options that may provide a system benefit.

Fourth, I recommend that the Board direct that the export earnings credit be separated from the normal electricity rate, and separately stated on each customer's electric bill. Rates should be designed to recover the fully allocated costs of serving each class. The export credit (to the extent it is flowed through to customers) should be a separate element of the bill.

Fifth, I recommend that the Board direct Manitoba Hydro to explore implementing hook up fees and hook up credits that would provide a greater incentive for new homes and businesses connecting to the Manitoba Hydro system to choose state-of-the-art cost-effective energy efficiency measures.

Finally, I recommend that a system benefit charge on the MH natural gas distribution rates be implemented in order to fund energy efficiency measures, low-income weatherization programs, and energy efficiency research and development.

INVERTED RATES

Q. Please define what you mean by an inverted rate design?

A. An inverted rate is one where each customer receives a limited amount of power at one price per kilowatt-hour, and additional usage is provided at a higher price per kilowatt-hour.

Q. How is an inverted rate different from the current Manitoba Hydro residential rate design?

A. The current residential rate design is a declining block rate design, where customers using larger amounts of electricity pay a lower rate per kilowatt-hour than smaller consumers. MH has proposed moving to a flat rate design by 2005 in its Application now before the PUB.

Q. How would an inverted rate differ from the current Manitoba Hydro commercial and industrial rates?

A. Current MH commercial rates are either declining block rates or flat rates. An inverted rate would provide each of these customers with a limited amount of power at a low rate, and then a price more closely approximating the cost of new power supply resources for usage beyond that baseline.

Q. Have you personally been involved in the implementation of inverted rate designs for electric utilities?

A. Yes. Beginning in 1978, I was involved in the proceedings of the Washington Utilities Transportation Commission dealing with electric rate design. All of the regulated utilities in Washington currently have inverted residential rates. I consulted to the Arizona Corporation Commission in the early 1990s, when it adopted inverted rates for Arizona Public Service Company. I also participated in the development of inverted rates for two municipal utilities, the City of Seattle, Washington, and the City of Burbank, California, and one electric cooperative, Salem Electric, in Oregon.

Q. What has been the effect of inverted residential rates?

A. Since the Washington Utilities and Transportation Commission ordered "baseline" rate designs for the three investor-owned electric utilities it regulates (which serve approximately half of the consumers in the state), usage per residential customer has declined by as much as 27% for these utilities. One significant shift has been for new residential consumers to choose natural gas heat. In 1980, as much as 80% of new homes in Washington installed electric heat; today that statistic has reversed, with about 80% choosing gas heat. Participation in utility conservation programs increased after the inverted rates were implemented, as consumers with inefficient use of electricity saw higher bills and sought help.

Table 1, below, shows the change in average residential usage for Puget Sound Energy, the state's largest electric utility:

Table 1: Puget Sound Energy Change In Customer Usage 1979 - 2002

Average Usage Per Customer, 1979:	16,134 kWh
Average Usage Per Customer, 2002:	11,723 kWh
Change, %	(27%)

This decline in usage is so significant that, while the utility is serving a 83% increase in residential customers (839,000 in 2002, compared with 458,000 in 1979), its residential total usage has grown by only 33% (from 7,393 GWh to 9,846GWh). It has therefore met well over half of its customer growth requirements with improved efficiency and lower usage, rather than with new generation.

Q. What are the principal purposes of an inverted rate design?

A. There are several. First, an inverted rate design accurately communicates the fact that the utility has only a finite supply of low-cost power. Second, an inverted rate design more accurately reflects the fact that large-use residential customers (those with electric space heating and/or cooling) have much poorer usage characteristics than those with only basic lights and appliances and corresponding smaller usage. Finally, an inverted rate distributes the benefits of the low-cost hydro resources on a more uniform basis to each customer, while a flat or declining block rate design gives the largest users the largest share of the benefit.

In the industrial sector, an inverted rate helps to encourage cogeneration, as the industry sees a greater financial benefit. It can avoid purchases from the utility at the higher end-block rate. In Manitoba, it may be necessary to make specific provision for reverse-metering by cogenerating industries in setting the end-block allocations.

Q. Why is an inverted rate design very appropriate for Manitoba Hydro?

A. Manitoba Hydro has two very different sources of power supply. There is the older system on the Winnipeg River, which provides a limited supply of very low-cost power. Then there are the newer facilities in the far north, which provide a larger supply of power, but at much higher cost both for debt service on the dams and for transmission.

By implementing an inverted rate design, Manitoba Hydro would be accurately reflecting the relative cost of these resources in rates. Each customer could be allocated their share of the low-cost power at one price, and then permitted access to the higher cost power at a price which accurately reflects the cost of those resources.

RESIDENTIAL RATES

Q. What is the form of the current Manitoba Hydro rate design?

A. Manitoba Hydro's current rate design is a declining block rate, with a small decrease in the price for usage over 175 kWh per month. It also contains a basic charge, which is generally recognized in the industry as appropriate for recovering meter reading and billing costs.

Q. Is the current rate design cost-based?

A. Manitoba Hydro's current rate design is a cost-based rate design only in the broadest sense, with total revenues covering total costs, after consideration of off-system sales revenues. A great deal of "averaging" takes place in setting uniform utility rates, and all of these actions reduce the accuracy with which rates convey accurate information on costs to consumers.

Clearly there are several subsidies embedded in the current rate design, most of them intentional. First, because distribution costs are higher in rural areas and a single rate applies systemwide, urban customers tend to subsidize rural customers; this in an intentional subsidy, implemented as a result of legislative action. It will be partially ameliorated by a shift to inverted rates, simply because rural customers tend to have electric heat and use more electricity. Second, customers with overhead electric service (uglier, but cheaper) tend to subsidize customers with underground service. Third, customers in older, established neighborhoods where distribution systems were built in pre-inflationary times tend to subsidize customers in newly-served areas where distribution facilities are more expensive. Subsidies, or more precisely, deviations between electricity prices and fully allocated costs, are inevitable in a utility system, and should not by themselves be considered a "bad" thing.

Q. Would an inverted rate be more cost-based than the current rate design?

A. Yes, I believe it would. As I discussed in great detail in my 2002 evidence, the facilities on the Winnipeg River can provide about 250 kWh per customer per month of low-cost power, while the facilities in the North provide the remaining residential needs, but have a higher cost. The higher cost is due to higher construction costs, northern compensation issues, and the costs of the DC transmission system. In addition, as I discussed in my 2002 evidence, large-use residential customers have inferior usage characteristics, and those also justify a higher price for higher levels of usage.

Q. Have you recalculated any of the estimates that you made in the 2002 proceeding?

A. I have not re-estimated the amount or cost of power that the low-cost facilities can provide, as it appears from the response to TREE/RCM/MH I-11 and I-13 that this has changed little. The approximate $.015/kWh differential remains, and the available supply remains about the same. I did receive newer load research data from MH, and have estimated the level of rate inversion that is justified based upon load factor differences alone.

Q. What is the result of that newer load factor analysis?

A. MH provided data in response to TREE/RCM/MH-I-22 and MIPUG/MH II-16 which I have used to estimate the rate inversion justified on the basis of load factor. The first 250 kWh of residential usage appear to have an annual coincident-peak load factor of about 77%. Usage above that level appears to have an annual coincident peak load factor of less than 40%. Based upon the unit capacity and energy costs that MH developed for the medium commercial class (which I have used as a proxy for residential demand and energy costs in this calculation), a rate inversion of about 1.75 cents per kWh is justified. Table 2 below shows the derivation of this:

Table 2: Derivation of Rate Inversion for Residential Usage Based on Load Factor

	Usage Under 250 kWh/mo	Usage 250 – 1,000 kWh/mo
Load Factor	77%	38.5%
Capacity Cost per kw	$9.64/mo	$9.64/mo
Capacity Cost per kWh	$.0174/kWh	$.0349/kWh
Energy Cost per kWh	$.0291/kWh	$.0291/kWh
Total Cost per kWh	$.0465/kWh	$.0640/kWh

Q. Is this differential in addition to the differential between the low-cost Southern resources and the higher cost Northern resources?

A. Yes it is. The difference in power resource costs between old and new resources is independent of the difference in cost to provide service to high load-factor vs. low load-factor usage. In theory, combining the new/old power cost differential, and the load factor differential would justify about a $.0325/kWh rate inversion to implement cost-based rates for Manitoba Hydro. This is slightly greater than I estimated in 2002 due to the effect of the newer load research data provided by MH. I do not recommend an inversion of that magnitude at this time, as I think public acceptance would be an issue.

Q. A portion of Manitoba Hydro's rate design is intended to recover the fixed distribution costs in the early usage of residential consumers. Is this an appropriate rate design?

A. Generally not. Most utilities, including Manitoba Hydro, have line extension policies that ensure that they do not extend lines to customers whose usage does not justify the investment. This ensures that new customers either pay for their distribution costs through usage charges, or else pay a hook-up fee in order to secure service. It would double-charge small use customers to also recover a portion of the distribution facilities cost through a fixed charge. The customer charge portion of rates should recover customer-specific metering, meter reading, and billing costs. The usage portion of rates should recover the distribution costs. This approach ensures that all customers pay their fair share of costs (through a combination of line extension charges, customer charges, and usage charges).

Q. What would the impact of an inverted rate be on MH customers?

A. It obviously depends on the form of the rate and the steepness of the inversion. I think a near-term goal (in the next 5 years) should be to implement a rate with an inversion at 250 kWh equal to the load-factor based differential of about $.0175/kWh. I have developed an example of such a rate in my Exhibit JL-2. As this shows, the inverted rate approach would result in slightly lower bills to customers using less than the system average usage, and higher bills to above-average users. I temper this proposal with a discussion below regarding customers that do not have natural gas service available.

Q. What about customers in remote areas and in the far north, who do not have natural gas service available. Would an inverted rate design simply raise their bills?

A. That would be one effect, and as I discussed earlier, this might be “fair” in a cost sense. The Company’s zonal cost of service analysis, provided in response to MIPUG/MH-21, shows that Zone 1 and Zone 2 residential customers are paying about 100% of their cost of service, while Zone 3 customers are paying only about 80% of cost. Effectively, all of the residential shortfall from full cost coverage is explained by below-cost pricing to Zone 3 customers. It is possible to design an inverted rate to prevent adverse impacts on such customers if the PUB desires. One way to do this is to allow a larger initial block in the winter months for these customers. While it is not “cost-based” to do this, it may preserve a sense of equity that may be another important regulatory goal.

Q. Have you estimated the effect of this type of rate?

A. Yes, but it is only an approximation. My Exhibit JL-3 calculates the form of an inverted rate that provides an initial block of 1,000 kWh in all months to all Zone 3 customers, but applies a 250 kWh initial block to all other customers. Since my actual recommendation is that the large block apply only in winter, but apply to all customers without gas available, the use of Zone 3 is only a rough proxy for the impact such a rate would have. As is evident in this exhibit, the rate differentials are relatively minor because of the relatively small number of bills to which the larger initial block would apply.

Q. What would the effect be of providing a larger initial block in winter to customers without gas available on the other customers of MH, those that do have natural gas available?

A. Gas heat customers would pay more for their electricity in order to support a larger initial block to customers without gas available. My exhibit JL-3 shows this effect, and indicates that customers with gas available would pay 2-3% more in order to support this preferential treatment to customers that do not have gas available. As I have indicated, providing such a block is a deviation from cost-based ratemaking, and the PUB would need to determine whether or not this is a desirable alternative.

Bear in mind that the calculations I have provided are illustrative only, using “Zone 3” usage as a proxy for “electric heat usage.” While the magnitudes are similar, and the rate impacts are also therefore similar, these two metrics are not identical by any means. There are electric heat customers in Zones 1 and 2, and gas heat customers in parts of Zone 3.

Q. How should the PUB proceed in directing Manitoba Hydro to continue its studies in this regard?

A. The PUB should direct MH to examine the effect of providing a larger initial block in winter to customers that do not have natural gas service available. I would recommend consideration of an initial block of 1,000 kWh during the months of November through April, and 250 kWh in other months. At this time, it is my understanding that actually implementing such a rate design would be problematic, as the data is not easily available. It is also my understanding that efforts are underway to consolidate the gas and electric billing computer systems, and by 2006 it will be possible to precisely know if individual electric customers do or do not have gas service available. Since I do not recommend implementation of an inverted rate until after that time, this timing will accommodate my recommended approach. MH should be required to report by September 1, 2005 on the options for providing a larger block to customers without access to natural gas.

Q. How should the PUB proceed with amendments to Manitoba Hydro residential rates at this time?

A. The Board should approve the current request to move to flat rates. In addition, it should direct MH to file an inverted residential rate to take effect at the end of 2006. This is a time after the billing computers for the gas and electric system are scheduled to be consolidated, and it will therefore be possible to provide a larger baseline allocation to customers that do not have natural gas available to them.

COMMERCIAL AND INDUSTRIAL RATES

Q. Can inverted rates be designed for commercial and industrial customers?

A. Yes, but it is more difficult than for the residential class, as usage amongst commercial and industrial customers varies over a very wide range, and a single block will not be appropriate. Instead, I recommend that the PUB direct MH to study alternatives for these classes, and report back to the PUB on the results of its studies by the end of this year, as previously directed.

Q. What approaches can be used to set an initial block rate that is fair for commercial and industrial customers?

A. I have examined several alternatives in the past. The first is an allocation per employee; this has the effect of providing a larger share of low-cost hydropower to labor-intensive businesses that bring significant employment to the service territory. The second is an allocation per square foot of floor area being served; this has the advantage of being easily measured. The approach I recommend, however, is what is known as a "rolling baseline" approach, in which each customer gets an allocation of initial block power that is based on a percentage of their historical usage. I recommend a three-year baseline be utilized.

Q. Why do you recommend this approach?

A. First, because the usage of the commercial and industrial sectors is so diverse, it is impossible to set a single block amount that will be fair. This rolling baseline approach prevents creating an undue burden on any customer. Second, the rolling baseline will not adversely affect conservation efforts by these customers. In my experience, commercial and industrial customers typically only look 1 – 3 years ahead in planning energy efficiency investments. By resetting the baseline in that time frame, customers will not defer efficiency investments in order to retain a larger initial block for future expansion. This assures that there is unlikely to be any "gaming" of the system that would adversely affect energy efficiency efforts. Finally, it allows for new customers to be added into the system in an orderly manner, receiving the same benefits as other businesses in a reasonable period of time.

Q. Have other utilities utilized this approach?

A. Yes. Many utilities have established so-called "economic development" rates that apply a different rate to incremental usage above a baseline than to historical usage levels. Most recently, the British Columbia Utilities Commission has directed BC Hydro to file what it calls "Heritage Rates" which apply existing low-cost resources to meet 90% of the demand of existing customers, and charge incremental usage and new customers higher rates.

Q. How would this approach work for Manitoba Hydro commercial and industrial customers?

A. As an example, following the BC approach, each customer would get 90% of their average usage in each of the three preceding years at one rate, and incremental usage would be at a higher rate. The differential could be applied to the energy charge only, or to the energy and demand charge (reflecting the fact that low-cost generation provides both energy and capacity). Table 3 below shows a hypothetical rate design:

Table 3: Hypothetical Rate Design Based on the BC Approach

	Up to 90% of Historical Use	Over 90% of Historical Use
Basic Charge	$10.00	$10.00
Demand	$5.00/kW	$10.00/kW
Energy	$.03/kWh	$.05/kWh

Q. Please describe the benefits of this type of rate design?

A. There are many. First and foremost, essentially all customers would see the higher block as their incremental cost of power, and therefore marginal consumption decisions for all customers would be based upon marginal power costs that MH faces. Second, in deciding what type of equipment to buy when replacing lights, air conditioners, refrigeration equipment, air compressors, or other energy using equipment, customers would see the higher end-block price as the metric against which to measure cost-effectiveness.

Also, under the current MH NUG purchase policies, in which the meter runs backwards when energy is supplied to the system, the higher marginal rates would provide the higher economic incentives to supply to the system that MIPUG called for in their recent testimony before the Wuskwatim hearings.

Q. How would new customers be treated in this system?

A. There are several options, but my preference is that they must “grow into” a baseline allocation. In the first year, their 3-year average would be zero, and all usage would be priced at the end-block price. Over time, they would develop a baseline allocation. Table 4 below shows how this would evolve over their first five years of service.

Table 4: Illustration of Application of Rolling Baseline to New Customers

	Usage Level	Rolling 3-Year 90% Baseline Allocation
Year 1	60,000 kWh	0
Year 2	60,000 kWh	18,000
Year 3	60,000 kWh	36,000
Year 4	60,000 kWh	54,000
Year 5	55,000 kWh	54,000

Q. How would this affect growing businesses and those facing economic difficulties?

A. Growing businesses would make decisions on expanding their operations based upon a comparison of the marginal revenue they would get from their product and the marginal costs that MH would incur to provide them with additional service. Companies in difficult situations would see larger economic savings when they reduced operations than under the current system; that might enable some to weather difficult times, and be able to avoid insolvency.

Q. What is your specific recommendation to the PUB with respect to this proposal?

A. I recommend that the PUB direct MH to study the concept of rolling baseline rates, measure the impact that one or two example rate designs would have on customers, and report back to the PUB at the end of this year on the options and impacts. I do not recommend implementation of any particular rate at this time.

EXPORT CREDIT

Q. What alternative approach do you recommend for the export credit?

A. I recommend that the export credit, however it is applied, be shown as a separate element on the customers' utility bill. Rates should be designed to fully recover the costs of serving customers (recognizing some deviation from cost for some customer classes or subclasses is inevitable under regulation). Then, any net credit from export operations should be a separately calculated and applied amount. I discuss a couple of options below.

Q. Why should the export credit be separated from the utility rate for service?

A. Quite simply because the export credit is somewhat volatile and uncertain over the long run. It makes more sense to me for customers to see the actual cost of their electric service, and then apply the export credit in some manner unrelated to current consumption. If this is done, then it would be possible to omit the credit in a drought when Manitoba Hydro earns less and its financial condition might be impaired by paying a credit. In addition, the credit would be less likely to artificially influence consumption decisions.

Q. Has this approach been used elsewhere in Canada?

A. Yes. In the 2000-2001 West Coast energy crisis, BC Hydro earned a very large amount from export operations. BC Hydro was concerned that rebating this in the form of lower rates would create an artificially low electricity price that would induce uneconomic power consumption. To avoid this, it paid a one-time $200 credit to each residential customer, rather than build the credit into rates. By doing so, customers did not have an incentive to use more power.

Q. Could a similar approach be used in Manitoba?

A. Yes. Net export revenues could be calculated for a year, and then distributed as a lump sum annually. It is obviously attractive to do this as the December shopping season approaches. I would suggest using a fiscal year as the basis for declaring an export dividend in the following December each year.

Q. How should that dividend be paid to customers?

A. There are many methods. In my opinion, the best are methods that are unrelated to consumption, so as to not distort energy consumption or encourage waste. For the residential sector, a lump-sum equal distribution like BC Hydro did may be a good choice. For the commercial and industrial classes, however, some relationship to the funds contributed would seem appropriate. The three-year rolling baseline approach I discussed above, for setting inverted rates for these classes, would be a good choice.

Q. What would happen in a drought year?

A. In a drought, export earnings would be sharply depressed, and one should assume that the export dividend would be lower.

Q. Is there any example in the United States of a natural resource owned by the government being converted into a per-capita income source for its citizens?

A. Yes. This is similar to what happens in Alaska with the annual declaration of the "Permanent Fund" dividend. The Permanent Fund is built out of oil export revenues from the state's royalty share of North Slope crude oil. The money is invested in a portfolio of stocks and bonds; it is an unpredictable amount of money, and people do not organize their lives based on any specific expectation. Table 5 below shows the annual PFD for the past five years:

Table 5: Alaska Permanent Fund Dividend, 1998 - 2003

Year	Amount	Increase or Decrease
2003	$1107.56	-28.11%
2002	$1540.76	-16.73%
2001	$1850.28	-5.78%
2000	$1963.86	10.96%
1999	$1769.84	14.86%
1998	$1540.88	18.85%

Source: www.pfd.state.ak.us

An export dividend would be something that Manitobans could rationally understand, and in a drought, they could plan ahead for the fact that the dividend would be smaller. Furthermore, by separating the export credit from the base rate, in a drought Manitoba Hydro's financial condition would not be compromised – it would not be crediting money it did not receive.

Q. Isn't there a risk that the Government would simply expropriate the export credit for general governmental purposes if the credit were separated from rates?

A. I suppose that is a risk, but Manitoba is a small province, and the public would quickly understand what had been done. In fact, the current government did recently appropriate a dividend from MH, and was subsequently re-elected. If the public objected to this method of funding government services, an election could provide the necessary forum to express that discontent.

Q. Have you estimated the effect of this on Manitoba Hydro electric rates?

A. Yes. Based on the response to TREE/RCM/MH II-13 (for system costs, revenues, and export credits) and MIPUG/MH II-16 (for kWh), I have estimated the average revenue per kWh for each customer class under the current methodology and with separation of the export credit. This should be viewed as illustrative of the effect, not a precise presentation of the exact result.

Table 6: Estimate of Effect of Removing Export Credit from Rates

	Cost $/kWh	Export Credit $/kWh	Current Revenue $/kWh	Rate Diversion from Cost	**Adjusted Rate/kWh**
Residential	$ 0.064	$ 0.010	$ 0.060	$ (0.004)	**$ 0.070**
General Service - Small Non Demand	$ 0.059	$ 0.010	$ 0.064	$ 0.005	**$ 0.073**
General Service Small Demand	$ 0.045	$ 0.007	$ 0.049	$ 0.004	**$ 0.057**
General Service Medium	$ 0.044	$ 0.007	$ 0.045	$ 0.001	**$ 0.052**
General Service Large 0 - 30 kv	$ 0.041	$ 0.007	$ 0.039	$ (0.001)	**$ 0.046**
General Service Large 30 - 100 kv	$ 0.034	$ 0.005	$ 0.034	$ 0.000	**$ 0.040**
General Service Large >100 kv	$ 0.029	$ 0.005	$ 0.031	$ 0.002	**$ 0.036**
General Service Large > 100 kv Curtailed	$ 0.028	$ 0.005	$ 0.030	$ 0.002	**$ 0.035**

Note: "Adjusted Rate" is equal to current revenue plus the export credit. It assumes that the difference between "cost" and "revenue" is an amount determined by the PUB to be an appropriate deviation from cost as determined by the COSS.

Q. Describe some of the benefits of this approach?

A. There are several. First, customers would pay electric rates that more closely reflect long-run marginal cost, which will lead to more efficient use of electricity, less uneconomic consumption, and reduced environmental impacts of energy use, and encourage NUG supply to the system. Second, export revenues will increase, bringing economic benefits to Manitoba. Third, Manitoba Hydro's economic situation will improve, as in a drought when export revenues are depressed, it can ask the PUB to allow it to pay out a smaller dividend. Perhaps most important, retail rates will no longer be at risk if export earnings do not materialize.

HOOK UP FEES AND CREDITS

Q. What is the goal of a program of hookup charges and credits?

A. A hookup charge collects a fee from a new customer, based on the utility costs to provide increased service. A credit applies against that charge if the customer goes beyond what is required by minimum efficiency codes. Hookup charges and credits are a well-documented way to increase the efficiency of new buildings. A decade ago I wrote and presented a paper on this subject at an international conference, and that paper is included as Exhibit JL-4.

Q. What do you recommend with respect to implementation of hook up fees and credits?

A. I recommend that Manitoba Hydro implement a $2,000 per home connection charge for new residential customers, and a $200 per kilowatt connection charge for new or increased commercial and industrial service. These should be offset by a program of credits for those new customers that implement beyond-code energy efficiency measures, so that the fees are fully avoidable.

Residential

Q. Begin with the residential sector. What is your recommendation for new homes?

A. There are conventional homes, an intermediate efficiency standard in the Power Smart program, and the Canadian national R-2000 standard, which is a high-efficiency set of construction techniques. The goal should be to move customers toward the R-2000 homes.

Q. How can this be done in the context of hookup charges and credits?

A. I recommend a $2,000 per home connection charge. This is approximately $200 per kilowatt for the distribution system capacity required to serve a new home. However, a new home that meets the Power Smart standard would receive a $2,000 credit, offsetting the fee. A new home meeting the R-2000 standard would receive a $3,000 credit, offsetting both the fee and the incremental cost of meeting the R-2000 standard. Based on an assumption that approximately one house will actually pay the fee (i.e., not even meet the Power Smart standard) for every two homes that are built to the R-2000 standard, the program should be revenue neutral. Any shortfall or surplus should be treated as a conservation program cost or revenue.

Non-Residential Structures

Q. What approach do you recommend for non-residential structures?

A. I recommend a $200 per kilowatt connection charge, based on the electrical panel size (or transformer size, whichever is smaller) of the newly connected load. In addition, I recommend that Manitoba Hydro develop a set of rebate credits designed to refund the expected revenue to customers that build efficient structures using cost-effective measures.

Q. What measures should be eligible for rebates, over and above what may be covered by Power Smart?

A. Any measure that produces savings that have a life-cycle cost lower than utility service should be eligible for credits. At a minimum this should include:

- Building design assistance services
- Building Shell measures, including glazing, insulation, and infiltration
- Lighting Measures, including automatic daylight dimming and dimmable ballasts
- HVAC equipment
- Energy Management Systems
- Refrigeration equipment, including vending machines
- Fans and motors
- Conveyors
- Compressed air equipment
- Plug loads such as office equipment and computers
- Building Commissioning services

Q. When should these hookup charges and credits be implemented?

A. I believe that the residential program can be ordered in this docket. There is enough understanding of the Power Smart and R-2000 programs that any delay is really unnecessary. Manitoba Hydro should be directed to file a program for non-residential connections within one year, including an assemblage of credits that will rebate substantially all of the fees collected under the program.

NATURAL GAS EFFICIENCY PROGRAM

Q. Please turn to the Manitoba Hydro natural gas efficiency area. What is obstructing energy efficiency investment in natural gas customers' premises?

A. Currently Manitoba Hydro funds very little in the way of natural gas efficiency, simply because it treats natural gas purchases from Alberta as a pass-through, and therefore sees little if any "system" savings from natural gas efficiency measures. This is a flawed attitude, since every dollar spent on natural gas leaves the Manitoba economy, and is no longer available for spending and job creation within Manitoba.

Q. What is the solution to this situation?

A. First, the cost-effectiveness of natural gas efficiency should be measured based on the Total Resource Cost (TRC) test, which includes the cost of imported natural gas plus any natural gas operating costs or distribution costs that are avoidable in the long-run. Second, the programs should be funded by a System Benefit Charge (SBC) assessed on the delivery of natural gas by the Manitoba Hydro system.

Q. How should the SBC be assessed?

A. Based on experience in California, Washington, and other jurisdictions with natural gas efficiency programs, I recommend that a 2% charge be implemented initially. This will provide a significant source of funding, enough to get some programs started. The SBC can be adjusted periodically as needed to ensure that all cost-effective measures are implemented.

Q. How should the SBC revenues be allocated?

A. Initially, I recommend that three-quarters of the SBC revenues be allocated solely for use by the customer class providing them. One quarter should be available for programs of general benefit, such as research, market transformation, and low-income energy efficiency programs.

Q. Are natural gas efficiency programs as cost-effective as electricity efficiency programs?

A. Yes, many of these opportunities are very economical. Natural gas prices have increased sharply, and equal or nearly equal Manitoba Hydro's electric rates. The soaring cost of natural gas has been driven by higher demand for natural gas, and the best way to slow or reverse that growth is to use natural gas more efficiently. New home construction methods, basic insulation retrofit programs, water heater and appliance efficiency programs, industrial boiler modifications, and many other natural gas measures are highly cost-effective.

Q. Are other natural gas utilities providing efficiency services through system benefit charges?

A. Yes. My Exhibit JL-5 includes the rebate forms used by Avista Utilities and the section of the Puget Sound Energy Least Cost Plan addressing natural gas conservation programs. Both of these utilities actively fund natural gas conservation activities with revenues derived from a System Benefit Charge.

Q. Which measures have proven most cost-effective for these utilities?

A. The most cost-effective natural gas conservation programs have been those aimed at improving the efficiency of natural gas appliances at the time of purchase. Rebates for furnace upgrades, water heater upgrades, and gas fireplace upgrades have all produced highly cost-effective savings. Window retrofits tend to be fairly expensive measures, and the cost-effectiveness must be examined carefully. In the commercial and industrial sectors, building design assistance, HVAC system upgrades, and building commissioning programs have produced very cost-effective savings.

Q. What level of funding would your proposed 2% System Benefit Charge generate for natural gas efficiency programs?

A. As shown in Exhibit JL-6, it would generate about $10 million for the system, divided roughly equally between residential consumers and commercial/industrial consumers. There is no reason to preclude a different SBC to different classes of customers if the needed funding to achieve cost-effective efficiency opportunities are different.

SUMMARY

Q. Please summarize your recommendations in this proceeding.

A. I recommend that

- Manitoba Hydro's proposal to move to a flat residential rate next year be approved and implemented. This is a responsible first step toward rates which more accurately reflect current and future costs.

- Specific consideration be given to implementing inverted residential electric rates in 2006, as soon as it is possible to differentiate between customers that do and do not have access to natural gas.

- Studies be immediately initiated by Manitoba Hydro examining the option of moving to rolling baseline inverted rates for commercial and industrial customers, so that customers that are not growing will not have to subsidize those which have increasing loads.

- That the net revenues from exports of electricity be removed from the general calculation of rates and made a separate element electric bills. This will ensure that customers see the full cost of their electric service, and will also protect Manitoba Hydro's financial condition in the event of a prolonged drought. Providing the rebate on some basis not directly linked to current usage will improve incentives for customers to conserve, which in turn will help to maximize export sales.

- Manitoba Hydro should implement a hook up fee and credit program for the residential new construction sector promptly, in order to move the market towards R-2000 construction. Manitoba Hydro should be required to report within one year on the options for a commercial and industrial connection charge and credit program designed to ensure that all cost-effective efficiency measures are implemented at the time of new construction.

- A system benefit charge should be implemented to fund cost-effective natural gas conservation programs, and such programs should be implemented based on a Total Resource Cost Test. This will keep money in Manitoba that will otherwise be exported to Alberta, and thereby strengthen the Manitoba economy while savings gas consumers money.

Q. Does this complete your prepared evidence?

A. Yes.

Before the
Manitoba Public Utilities Board

Exhibit of Jim Lazar

Exhibit JL-1
Resume of Jim Lazar

Jim Lazar is a consulting economist specializing in utility rate and resource analysis. In more than seventy appearances before regulatory bodies in the United States and abroad, he has provided expert assistance in the areas of revenue requirement, cost of capital, formation of new publicly owned utility systems, electric and gas utility integrated resource planning, cost of service and rate design, least cost and integrated resource planning, the appropriate regulatory treatment of excess capacity, subsidiary profits, and regulatory treatment of real estate transactions.

Technical Assistance: Jim Lazar has provided technical assistance to local, state, and federal public agencies, public interest groups, industry trade groups, and electric utilities. Expert testimony has been presented before the state regulatory commissions of Washington, Idaho, Montana, Hawaii, Illinois, Oregon, and Arizona, before the Federal Energy Regulatory Commission, Nuclear Regulatory Commission, Economic Regulatory Administration, Bonneville Power Administration, California Energy Commission, British Columbia Utilities Commission, and numerous local regulatory agencies. Internationally, Mr. Lazar has assisted clients in New Zealand, Ireland, Mozambique, Namibia, and Canada with utility rate and resource analysis.

Training: Jim Lazar has taught Energy Economics as a member of the faculty of Edmonds Community College, and previously served as a faculty member to the Western Consumer Utility Training Center in 1982. He was the lead author of a book on utility rate and resource issues, The People's Power Guide, published in 1982, and a handbook on electric utility cost of service analysis prepared for the Arizona Corporation Commission in 1993. He has presented papers at numerous conferences in the United States, as well as Canada, New Zealand, and Austria, and has taught courses utility resource and regulatory principles in The Philippines, India, China, Indonesia, Brazil, and for the regulatory Commission of Kyrgyzstan..

EDUCATION:

University of California, Los Angeles
Shimer College, Mt. Carroll, Illinois

Western Washington University, Bellingham B.A. 1974		(Economics)
Graduate work:	Western Washington University	(Economics)
	University of Washington	(Public Administration)

EMPLOYMENT HISTORY

1979 to Present

Self-employed consulting economist, and community college faculty: Transportation studies; Utility rate and resource analysis, conservation program design and evaluation, transportation system analysis. Associate with the Regulatory Assistance Project since 1999.

1983-84

Research Director, Northwest Energy Coalition: Directed studies on energy resource cost-effectiveness, including nuclear, conservation, building codes, and unconventional resources;

1982

Research Associate, Metropolitan Development Council of Tacoma, Washington: Research Director, People's Organization for Washington Energy Resources

PUBLICATIONS AND RESEARCH [Excluding Regulatory Proceeding Testimony]

Hawaii Energy Utility Regulation And Taxation, prepared for Hawaii Energy Policy Project in conjunction with J. Carl Freedman, 2003

Power Market Restructuring Issues: Integrated Monopoly ➔ Single Buyer ➔ Wholesale Market, prepared for the Electricity Control Board of Namibia in conjunction with Nexant Corporation / U.S. Agency for International Development, 2003

History, Current Status, and Future of the Residential Exchange, Snohomish Public Utility District, 2003

Tools Available to BPA and WAPA to Develop Renewables, Western States Renewable Energy Summit, Reno, Nevada, 2003

The Role of Regulation, and Starting and Staffing a Regulatory Commission, prepared for the Central Electricity Commission of Mozambique in conjunction with Nexant Corporation / U.S. Agency for International Development, 2003

Low-Income and Rural Electrification Assistance Programs for the Indonesia Social Electricity Development Fund, Prepared for the Institute of International Education / U.S. Agency for International Development, 2002

Convergence: Electricity and Natural Gas in Washington State, Prepared for Washington State Office of Trade and Economic Development, 2001 (One of seven authors)

Improving State Electricity Taxation, Prepared for Regulatory Assistance Project, 2001 (with Cheryl Harrington)

Lessons Learned from the California Energy Crisis: Prepared for Regulatory Assistance Project / Energy Foundation China Sustainable Energy Program, 2001

Consumer Protection and Customer Service in Emerging Utility Industry Structures: Prepared for Regulatory Assistance Project (Brazil) / USAID, 2000

Electric Cost of Service Analysis: Prepared for City of Burbank, California Public Service Department, 2000

Tariff Analysis in a Regulatory Regime: Prepared for Administrative Staff College of India / USAID, 1999

Energy Efficiency Promotion Policies: Prepared for Administrative Staff College of India / USAID, 1999

Demand Side Management in a Regulatory Environment: Prepared for Institute of Financial Management and Research (Madras, India) / USAID, 1999

Consumer Advocacy in a Restructured Electric Utility Industry: Prepared for Administrative Staff College of India / USAID, 1999

Private Energy Utilities and Bellevue's Options for the Future: Prepared for City of Bellevue, Washington, 1998

Energy Sector Regulation Principles and Practice: Prepared for Philippines Department of Energy / USAID, 1997

Electric Rate Unbundling for a Competitive Market: Prepared for Washington Water Power Company / Idaho PUC, 1997

Retail Wheeling Pilot Proposal, Puget Sound Power and Light Company, Office of the Attorney General, State of Washington 1996

Conservco: An Option for Achieving Efficiency in a Competitive Utility Market Structure, Prepared for the Snohomish County Public Utility District, 1995

Making Integrated Resource Planning Better and Cheaper, British Columbia Energy Coalition, 1995

Cost Elements and Study Organization For Embedded Cost of Service Analysis, Briefing Paper to Arizona Corporation Commission, (Arizona Corporation Commission, July, 1992)

Transmission and Distribution Cost Allocation in Embedded Cost of Service Analysis, Briefing Paper to Arizona Corporation Commission, (Arizona Corporation Commission, July, 1992)

Production Cost Allocation in Embedded Cost of Service Analysis, Briefing Paper to Arizona Corporation Commission, (Arizona Corporation Commission, July, 1992)

Utility Connection Charges and Credits: Stepping Up the Rate of Energy Efficiency Implementation, (Second International Conference on Energy Consulting, Graz, Austria, 1991)

Electric Power Resource Evaluation for Improved Fish Migration, (Pacific States Marine Fisheries Commission, 1991)

Long-Term Financial Model Review: Prepared for Emerald People's Utility District, 1991

Unrecovered Costs of Serving New Residential Space Heat Loads, (Mason PUD #3, June, 1990)

Direct Use of Natural Gas for Residential Space and Water Heat Compared to Gas-Fired Electric Generation for Hydro-firming; Thermodynamic, Economic, and Environmental Impacts, (Association of Northwest Gas Utilities, 1990)

Model Energy Conservation and Power Planning Action Plan, (Northwest Conservation Act Coalition, 1990)

Ten Year Financial Plan Analysis for Startup, Oregon Trail Electric Cooperative, 1988

Impact of Operation of the Columbia Basin Irrigation Project on Northwest Electric Power Users, 1954-1986; (Natural Resources Defense Council, 1987)

WPPSS Preservation Costs and the BPA Residential and Small Farm Exchange (Mason County PUD, 1986)

WPPSS Nuclear Plants #1 and #3 in a Rapidly Changing Environment, (Snohomish County PUD, 1986)

WPPSS #1 and #3: Costs and Alternatives, (Northwest Conservation Act Coalition, 1984)

Do or Die: The Seabrook Nuclear Generating Station and the Public Service Company of New Hampshire, (Campaign for Ratepayer Rights, 1984)

Should Utility Conservation Efforts Continue During a Surplus, (Pacific Northwest Regional Economic Conference, 1984)

WPPSS Nuclear Plant #3: Where Now?, (Northwest Conservation Act Coalition, 1983)

A Ratepayer Perspective on Avoided Cost Pricing Under PURPA Section 210, (California Energy Commission, 1982)

The People's Power Guide: A Manual of Electric Utility Policies for Consumer Activists, (People's Organization for Washington Energy Resources, 1982)

Model Conservation and Electric Power Plan for the Pacific Northwest, (Northwest Conservation Act Coalition, 1982)

Electricity Market Decontrol through Windfall Profits Taxation and Competitive Power Supply Contracting, (PNW Regional Economic Conference, 1982)

Northwest Electric Load Shaping for Fish Enhancement, (Romer Associates/National Marine Fisheries Service, 1981)

Conserving Electricity in the Pacific Northwest, (Pacific Northwest Regional Economic Conference, 1980)

JIM LAZAR CONSULTING ECONOMIST
RECENT CONSULTING CLIENTS [PARTIAL LISTING]

UTILITIES AND UTILITY ASSOCIATIONS

City of Burbank, California
Emerald People's Utility District [Eugene, OR]
Hawaiian Electric Company
Mason County Public Utility District #3 [Shelton, WA]
Salem Electric Cooperative [Salem, OR]
Snohomish County Public Utility District [Everett, WA]
Northwest Gas Association [Portland, OR]

PUBLIC AGENCIES

Arizona Corporation Commission
City of Bellevue, Washington
Environmental Protection Agency
Hawaii Department of Commerce and Consumer Affairs
Idaho Public Utilities Commission
Mount Rainier National Park
National Marine Fisheries Service
Office of the Attorney General, Washington
Pacific States Marine Fisheries Commission
Research Corporation of the University of Hawaii
Washington State Department of Community, Trade, and Economic Development
Washington State Department of Wildlife
Washington Utilities and Transportation Commission

NONPROFIT ENTITIES

Association for the Advancement of Sustainable Energy Policy (Canada)
British Columbia Energy Coalition (Canada)
Citizen’s Utility Board, (Illinois)
Columbia River Intertribal Fish Commission
EnergyWatch (New Zealand)
Institute of International Education
Montana Electricity Buying Cooperative
Natural Resources Defense Council
Nez Perce Indian Nation
Northwest Conservation Act Coalition
Regulatory Assistance Project
Squamish Indian Nation (Canada)
Time to Respect Earth’s Ecosystems (Canada)
Yakima Indian Nation

EXPERT TESTIMONY AND ENERGY/UTILITY RESEARCH BY JIM LAZAR

YEAR		ORG	FORUM	CASE #	TOPIC/TITLE
1979	SKAG	NRC			Alternatives to Skagit Nuclear Plant
1979	PGN	OPUC	UF-3518		Review Increase Rate of Return
1979	PSD	WUTC	U-79-70		Insulation Stds, Conservation Loan Prog Industry
1979	PSD	NRC			Relocation of Skagit Plant
1979		WPPSS			Critique of WPPSS Bond Statements
1979		SENATE			"Summary Data on Petrol Supply Demand & Price"
1980	PSD	WUTC	U-80-10		Resource Alternatives, Error in Water Study Rate Study
1980	PSD	WUTC	U-78-05		Rate Analysis and Service Fees
1980	IPC	IPUC			Conservation Based Hook-up Charges
1981		GRAY			Review of PURPA Rate Making Standards
1981		SCL			"Giving Your Customers What They Want--And Need"
1981	WPPSS				Senate Report: Total Costs WNP's 1 Through 5
1981	WWP	IPUC	U-1008-155		Review WNP & Skagit as Relates to WWP
1982	CEC	CEC	OII-2		Recommendations and Conclusion on PURPA
1982	CEC	CEC	OII-2		Ratepayer View on Avoided Cost (PURPA)
1982	WWP	WUTC	U-82-10		Review WWP Costs Study
1982	BPA	BPA			Low Density Discounts
1983	MTP	MPSC	83.9.67		Cost Effectiveness of Colstrip 3 to Ratepayer
1983	PPW	WUTC	U-83-57		Colstrip & PP&L Review Blk Hills Colstrip Cost Exhibit
1983	PSD	WUTC	U-83-54		Review Rate Design
1983	WPPSS		394		Draft Cost Effectiveness Study of WNP 2&3
1983	WPPSS				WNP3 Cost of Completion & Operation to NCAC
1983	WPPSS				“WNP 3, Where Now?"
1983	WWP	WUTC	U-83-26		Cost of Colstrip 4, WWP Rate of Return, AFUDC, Power Supply Costs
1983	WWP	IPUC	U-1008-204		WNP3 Cost
1983	WWP	IPUC	U-1008-185		Review Colstrip 3&4 Costs, Rate of Return on WNP 3, Power Supply Costs
1984	PSD	WUTC	U-84-27/44		CWIP
1984	PSD	WUTC	U-84-61		Review Secondary Power Purchases & Sales
1984	WPPSS	NCAC			WNP 1&3 Cost Alternatives
1984	WWP	WUTC	U-84-28		Power Supply Costs, Lobbying Costs, Kettle Falls Rates
1985	PGN	OPUC	UE-44		Rate Design For Residential Users
1985	WWP	IPUC	U-1008-204		WNP3 Cost Rebuttal
1985	WWP	WUTC	U-85-36		Cost of Service Analysis, Rebuttal to Schoenbeck
1986	AZP	ACC	U134585156		Cost of Service, Rate Design, Load/Resource Balance
1986	CGC	WUTC	U-86-100		Revenue Requirements, Cost of Service
1986	PGN	OPUC	UE-48		WPPSS Investments, Property Transfers
1986	PPW	WUTC	U-86-02		Skagit, Pebble Springs, Cost of Service, Rate Design
1986	PSD	WUTC	U-85-53		Conservation Program Cost of Service/Rate Design
1986	SNO	SNOPUD			WNP 1 & 3 In A Rapidly changing environment"
1986	WECO	WUTC	U-86-117		Cost of Service, Rate Design
1986	WPPSS				Power Cost of WNP 2
1986	WWP	IPUC	U-1008-204		Surrebuttal
1987	AZP	ACC	U-1345-85367		Review AZP Cost of Service & Rate Design
1987	PSD	WUTC	U-86-131		BPA Settlement Exchange Agreement
1987	PSD	WUTC	U-87-1262		ECAC
1987	NIGAS	ICC	87-0032		Cost of Service
1987	SALEM	SALEM			Cost of Service/Rate Design
1987	WDW	9TH	86-7704		Cost Effectiveness of Third AC Intertie
1988	PP&L	WUTC	U-87-1513		Residential Rate Design
1988	CWE	ICC	87-0427		Cost of Service/Rate Design
1988	WWP	WUTC	87-1532-T		Gas Transportation Rates
1988	WWP	WUTC	88-2380-T		Natural Gas General Rate Increase
1988	IP	ICC	87-0695		Cost of Service/Rate Design
1988	SALEM	SALEM			Large Industrial Rate Study
1988	WWP	WUTC	88-2363-P		Power Cost Adjustment
1988	PUGET	WUTC	88-2010-T		Energy Cost Adjustment
1989	MASON	MASON			Service Extension Policy Analysis
1989	PUGET	WUTC	81-41-RE		Energy Cost Adjustment Reopening
1989	PUGET	WUTC	89-2862-T		Energy Cost Adjustment
1989	PUGET	WUTC	89-2688-T		General Rate Increase - WPPSS #3 - Cost of Service/Rate Design
1989	WWP	WUTC	U-89-3105-T		Interstate Cost Allocation/Excess Capacity

EXPERT TESTIMONY AND ENERGY/UTILITY RESEARCH BY JIM LAZAR

YEAR		ORG	FORUM	CASE #	TOPIC/TITLE
1990	WWP	WUTC	UG-900190		General Rate Increase - Cost of Service/Rate Design
1990	IP	ICC	90-0072		General Rate Increase - Cost of Service/Rate Design
1990	WECO	WUTC	UG-900210		Gas Transportation Rates
1991	PUGET	WUTC	UE-910689		Least Cost Planning Performance
1991	WPPSS	MASON			WNP 2 Revenues & Cost of Power
1991	WPPSS	MASON			WNP 1&3 Issues & Concerns
1991	PUGET	WUTC	UE-901183		Decoupling; Power Supply Cost Recovery
1991	GRANT	FERC	E-9569		Cost Impact of Fish Bypass Systems
1991		AZP	ACC	U-1345-90007	Cost of Service/Rate Design
1992	HECO	HPUC	6998		Cost of Service/Rate Design
1992	HELCO	HPUC	6999		Cost of Service/Rate Design
1992	KE	HPUC	7003		Cost of Service/Rate Design
1992	CGC	WUTC	UG-920062		Gas Tracker
1992	PSD	WUTC	UE-920630		Periodic Rate Adjustment Mechanism
1993	PSD	WUTC	UE-920499		Cost of Service / Rate Design
1993	HECO	HPUC	7310		Avoided Costs of Generation
1993	BPA	BPA	WP-93		Rate Design
1994		BCG	BCUC	IRP	Integrated Resource Planning / Decoupling
1994	WNG	WUTC	UG-931405		Gas Revenue Requirements
1995	BCEC	BCUC			Electric Utility Industry Structure
1995	MECO	HPUC	94-0345		Cost Allocation / Rate Design
1995	GASCO	HPUC	94-0307		Gas Supply; Cost of Service; Rate Design
1996	MECO	HPUC	96-0040		Cost Allocation / Rate Design
1996	BCG	BCUC			Shareholder Incentives
1996	PSD	WUTC	UE-960299		Special Contract
1996	PSD	WUTC	UE-960195		Merger, Puget Sound Power and Light / Washington Natural GAs
1997		BCG	BCUC		Southern Crossing Pipeline Economics
1998		MECO	HPUC	97-0346	Cost of Service and Rate Design
1999		PSD	WUTC	UE-990267	Colstrip Sale and Accounting Treatment
1999		WPPSS	EFSEC		WNP-4 Site Restoration Options
1999		PSD/WWP/PPL		UE-991255	Centralia Sale and Accounting Treatment
2000		Avista	WUTC	UE-991606	Revenue Requirement; Rate Spread; Rate Design
2000		NWNG	WUTC	UG-000073	Revenue Requirement; Rate Spread; Rate Design
2000		Sumas	EFSEC	99-01	Recommendations on Site Certification Application
2000	PSE	WUTC	UE-001952		Industrial Market-Based Rates
2001		Sumas	EFSEC	99-01	Recommendations on Revised Application
2002		PSE	WUTC	UE-011411	Merger Compliance Rate Filing
2002		PSE	WUTC	UE-011570	General Rate Proceeding
2003		MH	MPUB		Residential Rate Design

ACRONYMS

ACC	ARIZONA CORPORATION COMMISSION
ANGU	ASSOCIATION OF NORTHWEST GAS UTILITIES
AZP	ARIZONA PUBLIC SERVICE COMPANY
BCEC	British Columbia Energy Coalition
BCG	BRITISH COLUMBIA GAS UTILITIES LTD.
BCUC	BRITISH COLUMBIA UTILITIES COMMISSION
BEL	City of Bellevue, Washington
BPA	BONNEVILLE POWER ADMINISTRATION
CBFWA	COLUMBIA BASIN FISH AND WILDLIFE AUTHORITY
GRANT	GRANT COUNTY PUBLIC UTILITY DISTRICT
GRAY	GRAYS HARBOR PUBLIC UTILITY DISTRICT
HECO	HAWAIIAN ELECTRIC COMPANY
HELCO	HAWAII ELECTRIC LIGHT COMPANY
HPUC	HAWAII PUBLIC UTILITY COMMISSION
ICC	ILLINOIS COMMERCE COMMISSION
IP	ILLINOIS POWER COMPANY
IPUC	IDAHO PUBLIC UTILITIES COMMISSION
KE	KAUAI ELECTRIC
MASON	PUBLIC UTILITY DISTRICT #3 OF MASON COUNTY, WASHINGTON
MTP	MONTANA POWER COMPANY
NIGAS	NORTHERN ILLINOIS GAS COMPANY
NMFS	NATIONAL MARINE FISHERIES SERVICE
NRC	ATOMIC SAFETY AND LICENSING BOARD/NUCLEAR REGULATORY COMMISSION
OPUC	PUBLIC UTILITY COMMISSION OF OREGON
PGN	PORTLAND GENERAL ELECTRIC COMPANY
PPW	PACIFIC POWER AND LIGHT COMPANY
PSD	PUGET SOUND POWER AND LIGHT COMPANY
SALEM	SALEM ELECTRIC COOPERATIVE
SAUDER	SAUDER INDUSTRIES, LTD. [CANADA]
SCL	SEATTLE CITY LIGHT
SENATE	WASHINGTON STATE SENATE
SNOPUD	SNOHOMISH COUNTY PUBLIC UTILITY DISTRICT
Sumas	Sumas Energy Corporation
THERM	THERMAL REDUCTION, INC.
TRAILS	OREGON TRAILS ELECTRIC COOPERATIVE
TRIBE	COLUMBIA RIVER INTERTRIBAL FISH COMMISSION
WDW	WASHINGTON DEPARTMENT OF WILDLIFE
WECO	WASHINGTON NATURAL GAS COMPANY
WPPSS	WASHINGTON PUBLIC POWER SUPPLY SYSTEM
WUTC	WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION
WWP	WASHINGTON WATER POWER COMPANY

NOTE: LIST DOES NOT INCLUDE LITIGATION ASSISTANCE

Before the
Manitoba Public Utilities Board

Exhibit of Jim Lazar

Exhibit JL-2
Systemwide Residential Inverted Rate

Exhibit JL-2

Residential Rate Design Analysis

Current Rate			
	Units	Rate	Revenue
Customer Charge	5,025,643	$ 6.25	$ 31,410,269
First 175 kWh	830,568,384	$ 0.0578	$ 48,006,853
Over 175 kWh	5,464,148,344	$ 0.0516	$ 281,950,055
Total:	6,294,716,727		$ 361,367,176
Average:	1,253		$ 0.0574

Note: Ignores Additional facilities charge > 200 amps

Ilustrative Inverted Rate At 250 kWh With $.0175/kWh Differential			
	Units	Rate	Revenue
Customer Charge	5,025,643	$ 6.25	$ 31,410,269
First 250 kWh	1,166,405,056	$ 0.03816	$ 44,510,017
Over 250 kWh	5,128,311,671	$ 0.05566	$ 285,441,828
Total:	6,294,716,727		$ 361,362,113
Average:			$ 0.0574

Note: Ignores Additional facilities charge > 200 amps

Bill Comparison Between Current and Inverted Rate

Usage	Current Rate	Inverted Rate	Difference $	%
0	$ 6.25	$ 6.25	$ -	0%
175	16.37	12.93	$ (3.44)	-21%
250	20.24	15.79	$ (4.45)	-22%
500	33.14	29.71	$ (3.43)	-10%
1000	58.94	57.54	$ (1.40)	-2%
2000	110.54	113.20	$ 2.66	2%
3000	162.14	168.86	$ 6.72	4%
5000	265.34	280.18	$ 14.84	6%

Before the
Manitoba Public Utilities Board

Exhibit of Jim Lazar

Exhibit JL-3
Residential Inverted Rate With Larger
Initial Block for Non-Gas Customers

Higher Initial Block for Customers Without Gas Available

Illustrative Inverted Rate With 1,000 kWh Block in Zone 3			
Note: Illustrative Only; Actual Block Would Apply to All Non-Gas Customers			
	Units	Rate	Revenue
Customer Charge	5,025,643	$ 6.25	$ 31,410,269
Zones W/1/2			
First 250 kWh	967,590,835	$ 0.03962	$ 38,335,949
Over 250 kWh	3,312,287,043	$ 0.05712	$ 189,197,836
Zone 3			
First 1,000 kWh	721,821,543	$ 0.03962	$ 28,598,570
Over 1,000 kWh	1,293,017,306	$ 0.05712	$ 73,857,149
Total:	6,294,716,727		$ 361,399,772
Average:	1,253		$ 0.0574
Note: Ignores Additional facilities charge > 200 amps			

Bill Comparison Between Current and Inverted Rate For **Gas** Customers Assuming that a larger block applies to **non-gas** customers				
Usage	Inverted Rate - Without Distinction for Non-Gas	Inverted Rate With 1000 kWh Non-Gas Block	Difference $	%
0	$ 6.25	$ 6.25	$ -	0%
175	$ 12.93	13.18	$ 0.26	2%
250	$ 15.79	16.16	$ 0.37	2%
500	$ 29.71	30.44	$ 0.73	2%
1000	$ 57.54	59.00	$ 1.46	3%
2000	$ 113.20	116.12	$ 2.92	3%
3000	$ 168.86	173.24	$ 4.38	3%
5000	$ 280.18	287.48	$ 7.30	3%

Exhibit JL-3 (Corrected)
Page 2

Bill Comparison Between Current and Inverted Rate For Non-Gas Customers
Assume higher block in mid-winter months only

Usage	Current Rate	Inverted Rate	Difference $	%
0	$ 6.25	$ 6.25	$ -	0%
175	$ 16.37	13.18	$ (3.18)	-19%
250	$ 20.24	16.16	$ (4.08)	-20%
500	$ 33.14	26.06	$ (7.08)	-21%
1000	$ 58.94	45.87	$ (13.07)	-22%
2000	$ 110.54	102.99	$ (7.54)	-7%
3000	$ 162.14	160.11	$ (2.02)	-1%
5000	$ 265.34	274.35	$ 9.02	3%

Before the
Manitoba Public Utilities Board

Exhibit of Jim Lazar

Exhibit JL-4
Utility Connection Charges and Credits

UTILITY CONNECTION CHARGES AND CREDITS
Stepping Up the Rate of Energy Efficiency Implementation

Jim Lazar
Consulting Economist
Olympia, Washington U.S.A.

Presented to:
Second International Conference on Energy Consulting
Graz, Austria
September 25-27, 1991

INTRODUCTION

One of the most severe barriers to implementation of cost-effective energy conservation is the fact that the person or company making the decision of what type of equipment to install in a building, or even of what building to construct, is often not the same person who will pay the energy bills over the life of the building. Because the builder will not have to pay the energy costs resulting from these decisions, they have little incentive to invest in energy-conserving measures.

This problem is most obvious in the residential sector, where contractors who build new single-family or multi-family housing select the type of construction, the type of lighting systems, the type of heating and water heating equipment, and even the major appliances. The home buyer or apartment renter -- who will ultimately pay the energy bill -- has little or no opportunity to influence these decisions. While a more efficient refrigerator may cost as little as $50 more than a standard model, the builder perceives no benefit to such an expenditure -- even though the energy savings each year may be great enough to repay the investment in just a year or two.

In the commercial sector it is often no different. General contractors construct buildings on behalf of limited partnerships, which then rent the facilities with leases where the tenants are responsible for the energy bills. More efficient equipment provides no benefit to either the builder or the building owner. The economics are even more stark in this sector. More efficient and more precise lighting can save operating costs, the installation of fewer fixtures can save capital funds and cooler operation of efficient lighting systems can reduce the size of chillers needed to provide a comfortable structure. Such precision lighting systems, however, require high quality engineering, which is itself a significant capital expenditure.

The most common approach in the United States for encouraging energy efficiency in new buildings is for governmental agencies to adopt building codes requiring specified levels of energy efficiency. While beneficial, codes are often poorly written, ineffectively enforced, and chronically out of date. One way that utilities and other policy makers can influence the efficiency of new buildings is through connection charges and credits for electric utility service based upon the efficiency of the structure.

This paper examines several different approaches which have been considered or implemented in the Pacific Northwest region of the United States for achieving electrical energy efficiency in new building, and compares the effectiveness of each approach.

THE FAILURE OF THE MARKETPLACE

A good western economist should theoretically argue against any interference with competitive market forces, which we supposedly believe will result in the maximum cost-effective energy efficiency as buyers and renters of buildings demand that their landlords install measures which will save them money. Unfortunately the market theory fails when energy efficiency is at issue primarily because the conditions necessary for an efficient market are utterly lacking. Market theory holds that competition will produce an efficient allocation of goods and services under the following conditions:

1) All goods are perfectly substitutable;
2) All buyers and sellers have perfect information about the marketplace;
3) No buyer or seller is large enough to influence the market; and
4) Capital is highly mobile and will find it's way to the highest return.

Obviously these conditions are not met in the marketplace for new structures. Energy efficiency, which is a capitalized item, is not "perfectly" substitutable for electricity purchases, which are an operating expense. Most buyers of buildings have far from perfect information about building energy economics. In the residential sector, renters may have almost no information at all. Major contractors and equipment vendors may be large enough to influence the choice of equipment installed through cooperative ventures with builders; this may result in inefficiency when neither the builder nor the vendor will be paying the energy bills. Finally, access to capital is not equal for all potential borrowers, and it may be easier for a builder to obtain capital than for a vendor of energy-conserving equipment to do so.

Energy conservation is not perfectly substitutable for energy generation for several reasons. One important difference lies in the fact that electric utilities constructing generating plants to serve new buildings typically construct long-lived facilities and finance them with long-term securities. Buyers and renters typically have much shorter time perspectives, desiring a recovery of their investment (payback period) of as little as two to four years. This is not "perfect" substitution.

The end result is that "pure competition" does not exist in the market for energy efficiency, and we should not expect an efficient allocation of resources without intervention in the marketplace.

THE PACIFIC NORTHWEST

The Pacific Northwest region of the United States includes the states of Washington, Oregon, Idaho, and Western Montana. The largest cities are Seattle, Portland, Spokane, and Boise. It is divided by the Cascade mountain range, with forests west of the mountains, and desert to the east. The primary economic activities are aircraft construction (Boeing), forestry, grain and vegetable farming, and computer software development. The region is characterized by rapid economic growth in urban areas of western Washington and Oregon, and stagnant economic conditions in the rural areas.

The region enjoys the largest hydroelectric power system in the United States, and typical retail electric charges prior to 1980 were approximately $.01/kwh, less than half the average for the nation. Today, electricity prices have increased dramatically, but, at $.03- $.05/kwh, remain at about half the level of most of the country. These low prices have led to much greater dependency on electricity, relative to other fuels, in the Pacific Northwest, and to rapid historical growth in electrical demands.

In 1980, the fast-growing region was facing the prospect of a severe electric power shortage, and the United States Congress enacted the Pacific Northwest Electric Power Planning and Conservation Act (the Act). The anticipated power shortage, the passage of the Act, and the creation of the Northwest Power Planning Council, which is responsible for implementing the Act, have created an atmosphere where energy efficiency planning is a focus of the region.

The Act directed the creation of a regional power plan, and required that "Model Conservation Standards" be implemented designed to achieve all conservation which was cost-effective to the region and economically feasible for consumers. To make the "economic feasibility" issue easier to satisfy, the Act directed that consumers be given financial assistance where necessary to assure that cost-effective conservation measures were achieved.

When the power shortages loomed a decade ago, due primarily to delays in construction of new electrical generating plants, utilities reacted by implementing some of the first energy conservation programs in the nation. Some state regulatory bodies stepped in with creative approaches. The Bonneville Power Administration, a wholesale electric supplier to numerous small electric distribution utilities in the Northwest, began financing locally implemented conservation measures.

The power shortages projected for the 1980's never materialized, primarily due to very large increases in electric prices required to pay for the (delayed) new generating plants, several of which were never completed. The price increases caused a great deal of price response in the form of conservation, fuel substitution, and curtailment of operations. However the decade served as a laboratory for testing many alternative methods of meeting electrical requirements for the region.

The goal of the Act was to evaluate energy conservation and energy supply measures in a common manner, and to choose the most economical based upon the life-cycle economics of each. The term "life-cycle costing" generally refers to the life-cycle acquisition and energy costs. An evolution of this, "value engineering" incorporates the same concepts, but includes recognition of such costs as labor savings associated with less frequent replacement of compact fluorescent replacements for incandescent lamps.

After a decade, progress has been slow but steady. A large number of different programs have been attempted. Some have been extremely successful. Others have not. Among the least successful have been attempts to amend building codes to require efficiency measures to be built in. Among the most successful were direct policies implemented by electric utilities to require improved efficiency as a condition of service, or to impose high fees on builders of less efficient structures based on the expected energy use of those structures.

RESIDENTIAL BUILDING CODES

The entire history of building codes for energy efficiency in the Pacific Northwest has been characterized by "following the market." Codes tend to be consensual, and barely better than the lowest efficiency level being achieved in the marketplace. Once the majority of contractors and builders, driven by market forces, have implemented a standard of energy efficiency, it then becomes politically feasible for governmental agencies to adopt a mandatory standard.

In the residential sector, once floor, ceiling, and wall insulation and insulated glazing became standard practice, they were imposed by code. In the commercial sector, only after the incandescent lamp became archaic did codes place limitations of any kind on the wattage per square foot of lighting to be installed.

The first building codes for energy efficiency were implemented in about 1977. These required only minimal upgrades to then-conventional building techniques. Modifications to the codes which increase the required level of energy efficiency have been implemented throughout the region in stages, most notably in 1980, 1985, and 1991. However, the improved codes typically have not kept pace with improvements in energy conservation technology.

The most recent residential code in the Seattle area, for example, requires only R-38 insulation in attics and R-19 insulation in walls, although R-49 and R-27 are now clearly cost-effective. Technological evolution, such as heat-mirror glazing, compact fluorescent lighting systems, high-efficiency appliances, and heat-recovery ventilating systems are still not required.

Each code amending process has been characterized by bitter fights between conservation advocates, including most electric utilities, and builder groups. Legislative delays have pushed back to 1991 implementation of a code which was to take effect in 1986, at the direction of the Northwest Power Planning Council, and the code's efficiency standards were weakened in the process. Frustrated with the political process of adopting building codes, some local utilities have taken innovative approaches involving connection fees and standards for new buildings.

CONNECTION FEES AND STANDARDS -- EARLY EXPERIMENTS

Several attempts to impose energy efficiency measures through direct utility charges and standards have been made in the region. Some of the earlier efforts may have failed, but in the process, may have created the potential for future success.

State of Idaho

The first regional experiment with a connection standard or fee was implemented in 1979 by the state of Idaho Public Utilities Commission (IPUC). The IPUC directed the Washington Water Power Company to begin charging $50 per kilowatt of connected load for new residential structures. Given a typical installed size of 20 - 30 kilowatts for electric heating systems, this imposed a $1000 - $1500 additional charge on builders. The intended effect was to shift new electric heating installations to natural gas, a lower cost fuel, or to at least cause builders installing electric heat to more fully insulate the structures to reduce the size of the connected heating load.

The implementation of this fee per connected kilowatt immediately resulted in significant improvements in the energy efficiency of the new buildings constructed, and did succeed in shifting new construction to use natural gas for space and water heating purposes. The IPUC was encouraged by these results, and convened a proceeding to establish a "point system" by which new residential structures would pay a progressively increasing connection charge if all available and cost-effective energy conservation measures were not installed.

Builders reacted vigorously to this policy initiative on two fronts. First, they succeeded in having the regulations invalidated by the state Supreme Court on the grounds that these type of standards exceeded the legal authority of the IPUC. Second, builders persuaded the legislature to more specifically limit the authority of the IPUC. The experiment came to a rapid end; the $50/kw fee was eliminated. However, the precedent was not lost, and this approach was successfully utilized in the state of Washington a decade later.

State of Washington

In 1979, Puget Power, the largest electric utility in the state, requested a moratorium on new connections of electric resistance space and water heat in areas where natural gas service was available. An "unholy alliance" of natural gas utilities, conservation advocates, industrial power users, and low income citizen advocates succeeded in persuading the Washington Utilities and Transportation Commission to order a complete ban on new electric resistance space and water heating installations. The only exceptions granted were for superinsulated buildings, and as backup systems to solar heating systems.

Builders again succeeded in the courtroom where they had failed in the regulatory arena. A local judge invalidated the moratorium, and before it could be reviewed by an appellate court, the passage of the conservation Act referenced earlier created a completely different wholesale power market in which Puget Power could obtain supplies not previously available to it. The moratorium was never implemented.

Oregon

Building construction standards in the state of Oregon adopted in 1985 allowed a form of perimeter crawl space insulation which is substantially inferior to conventional underfloor insulation. Salem Electric a small electric utility serving 12,000 households, implemented a $200 connection surcharge during 1989 for any new home which was not fitted with full underfloor insulation. The amount was selected to equal the additional cost of installing underfloor insulation [so that builders would be indifferent from an initial cost perspective.] The program was initially successful -- nearly 100% of new homes were fitted with underfloor insulation. It was never challenged in court action by builders. Within a year the state building standards were modified to require underfloor insulation, and the program became unnecessary. At that time, the program was modified into an incentive mechanism to encourage a higher level of energy efficiency than required by code, but the penalty provision was abandoned.

THE MODEL CONSERVATION STANDARDS

The Northwest Power Planning Council adopted residential model conservation standards (MCS) in 1983, which were intended to be in operation throughout the region by 1986. The standards called for new residential structures to have heating requirements less than one half the level required by conventional construction as of 1983. In theory, areas within the Pacific Northwest which did not adhere to the standards by 1986 were to be subjected to surcharges of up to 10% on the price of wholesale power purchases from the Bonneville Power Administration.

City of Tacoma

The first governmental body in the region to adopt the MCS was the city of Tacoma, a community of about 200,000 people about 50 km south of Seattle. In 1984, the city council implemented the standards throughout the city limits. These were expanded in 1985 to include areas outside the incorporated city which were served by the Tacoma municipal lighting system. This was the first utility-imposed efficiency standard in the region. It was challenged by builder groups, but the utility prevailed in court. While enforcement may have been somewhat lax, this requirement did succeed in greatly improving the level of energy efficiency in new homes in the Tacoma area.

Super Good Cents

In an effort to encourage higher efficiency and to train builders in efficiency construction techniques, the Bonneville Power Administration initiated a program called "Super Good Cents" (SGC) in 1984. It provides for payments of up to $2000 to builders who constructed electrically heated homes meeting the SGC standards. The program has remained in operation since that time. After seven years of operation, the program is still only reaching about 28% of all new electrically-heated single family homes, 26% of new multi-family apartment units, and 8% of new factory-built homes.

CODES AND INCENTIVES FOR COMMERCIAL STRUCTURES

Commercial structures are much more complex than residential buildings, and it is more difficult to design and implement building codes to achieve desired energy efficiency in this sector. Although there is a commercial MCS, it is not nearly as strict as the residential MCS. Various other approaches have been attempted to improve energy efficiency in new commercial buildings in the region.

Design Assistance

The Design Assistance programs are of the greatest interest to energy consultants. The programs operated by different electric utilities have different names, such as Design Plus, Energy Edge, and Energy Smart Design. In each of these programs the utilities pay for all or part of the cost of professional design assistance to builders of new commercial buildings in order to ensure that cost-effective conservation measures are evaluated. The builder is responsible for the actual cost of installing the measures, but they are often very inexpensive.

An evaluation of the design assistance program by the Washington State Energy Office concluded that only about half of the recommended cost-effective measures are installed. Building aesthetics, personal preferences of builders and designers, and continuation of past practices all were influential in the rejection of cost-effective measures. While design assistance has the potential to become a valuable tool, in the absence of conservation financing mechanisms or mandates of any type, it does not accomplish the goal of ensuring that all cost-effective measures are installed.

For example, improved lighting efficiency may mean installing fewer fixtures, and reduced lighting energy levels can reduce the need for air conditioning capacity. In many cases, the increased energy efficiency reduces the initial cost of construction, and also reduces annual operating expenses.

UTILITY CONNECTION CHARGES AND STANDARDS

Mason County Public Utility District #3 Hookup Charge

Frustrated with slow progress on adoption of statewide energy codes, the Mason County Public Utility District (PUD), which serves about 20,000 customers in Washington state, adopted a $2000 hookup charge for new homes which do not meet the MCS. It was intended to recover the portion of the costs of serving inefficient structures which are not recovered in current electric prices. A novel aspect of the Mason PUD approach is that it applies equally to conventional site-built homes and to factory built housing which is brought to the site by truck. Efficiency requirements for factory-built homes are governed by federal standards, not by the states. The Mason PUD approach circumvents this preemption because is not technically a "standard." Mason PUD operates the Super Good Cents program, so home builders and buyers are faced with a choice between receiving a payment of $1000 - $2000 if they build homes which meet the MCS, or paying a penalty of $2000 if they do not.

In 1990, the first full year of operation, the Mason PUD hookup charge reached approximately 98% of conventionally built housing, and 85% of new manufactured housing units. This is a much higher rate of achievement than any of the incentive programs such as Super Good Cents alone have achieved. It is important to note that with such high participation rates, the program is producing virtually no revenue. This is consistent with the goal of the utility to achieve the desired efficiency, rather than to collect high surcharges.

The Mason PUD approach is currently being considered by a number of other electric utilities in the region. Clallam County PUD, another small electric utility in Washington, simply imposed an absolute ban on new connections of homes which did not meet the MCS. This was in effect for about a year before an improvement in the state building code which achieved nearly the same level of efficiency took effect in July, 1991.

Snohomish County Public Utility District $200/kw Progressive Charge

The Snohomish Public Utility District, which serves some 200,000 customers in the fast-growing area north of Seattle, is considering numerous strategies to reduce the rate of growth in electricity demand. These include participating in the Super Good Cents residential program, the Energy Smart Design commercial program, and even a cooperative (and very controversial) venture with the local natural gas distribution utility to shift electric water heating to natural gas.

The utility is currently considering a service connection charge for new commercial buildings which would be based on the requested level of peak service. The basic connection charge would be $200 per kilowatt. While significantly less than the cost of facilities needed to serve growing loads, this is an amount sufficient to gain the attention of builders, and is often an amount sufficient to cover the cost of energy efficiency measures. If builders reduce the demand of a new building on the utility they reduce their initial costs by $200 multiplied by the reduced demand. Depending on the conservation alternatives available for a particular building, the cost of doing so may be significantly less than $200 for each kilowatt of demand reduction.

Under the proposal now being considered, this $200 amount would be reduced to $150 per kilowatt if the builder agreed to participate in the Energy Smart Design program to identify cost-effective conservation options. It would be further reduced to $50 per kilowatt if all cost-effective measures identified in the design assistance process were installed. The fee would be completely waived if all cost-effective measures were installed and the building owner agreed to make at least a portion of the connected load subject to interruption during the highest peak hours of the year.

Mason PUD #3 Commercial Line Extension Policy

Mason County PUD #3, the same utility which implemented the connection charge for new residential structures not meeting the MCS, is now considering a similar approach for new commercial customers. Currently the utility typically extends service to commercial customers, including distribution line extensions, transformers, services, and meters, at no direct charge. Under the proposed policy, where customers do not install all conservation measures determined to be cost-effective as a result of a design assistance program, they would be required to pay the entire cost of the service connection. The current policy would apply to those buildings where all cost-effective conservation measures are installed.

New School Design Standards

The state of Washington is currently experiencing rapid population growth, and there is a continuing need for new public schools. Nearly 300 locally controlled school districts are responsible for the construction process, but a large portion of the construction and operating funds are supplied by the State. The state Superintendent of Public Instruction, in cooperation with the Washington State Energy Office, adopted rules in 1990 which require that designs for new public schools be subjected to engineering analyses of cost-effective lighting, heating, and cooling alternatives. A life-cycle costing approach is used to determine cost-effectiveness over the entire useful life of the building.

The standards require approximately 30% greater efficiency than the level permitted by the current commercial building codes. Any increase in state control typically meets some resistance among school districts which historically have enjoyed a greater measure of local control, but the design review process is in place and appears to be working reasonably well. While there is not enough data available to conclude that the savings are as expected, it is clear that lighting levels have been reduced, that use of electronic ballasts has increased, and that the use of electric resistance heating has declined in favor of greater use of natural gas compared with patterns in existence before 1990.

APPLICABILITY IN EMERGING EASTERN EUROPEAN MARKET ECONOMIES

Eastern European economies are characterized by inadequate and inefficient electrical generating capacity, a need for massive construction and reconstruction of residential units and commercial buildings, and limited capital availability. Clearly it is economically unsatisfactory to limit energy efficiency investments in new buildings if the result is to require much larger capital outlays and operating expenses for new electrical generating capacity. In a planned economy (in theory), these tradeoffs between capital investment in a building and capital investment in the utility sector are given full consideration. In a market economy, they probably will not. The ability of these economies to grow may depend on the efficient allocation of capital -- an outcome which is unlikely to occur without some method to ensure that builders take the impacts of their decisions on the utility sector into account when designing and constructing new facilities.

Design assistance programs, incentive payments, and codes have all proven relatively ineffective at achieving cost-effective energy goals. Connection standards and connection charges based upon the amount of connected electrical load have been far more effective.

CONCLUSION

Building codes are only one of a number of strategies available to encourage residential and commercial energy efficiency, and their effectiveness is constrained by political considerations. Incentive programs, such as Super Good Cents, which provide funding for greater energy efficiency, but do not mandate increased efficiency, are beneficial, but do not typically achieve high participation rates. Other options, such as hookup connection charges and standards, which force builders to make decisions on energy efficiency early in the construction process, are proving more effective at achieving desired energy goals. By *internalizing the cost of inefficiency* into the builder's costs, hookup charges appear to be a way to achieve a cost-effective market response to energy costs.

If a policy goal is to achieve all cost-effective conservation measures, a system of connection standards and inefficiency surcharges may prove extremely effective at motivating the marketplace.

Before the
Manitoba Public Utilities Board

Exhibit of Jim Lazar

Exhibit JL-5
Natural Gas Efficiency Programs of
Avista Utilities and Puget Sound Energy

APPENDIX D
CONSERVATION AND EFFICIENCY

PSE has been offering energy efficiency programs to customers for over 20 years. Utilities throughout the Pacific Northwest have a unique legacy. Despite some of the lowest electricity rates in the country, PSE and others in the region have invested heavily in conservation programs, encouraging efficiency use by customers. Utility new construction programs of the 1980's largely resulted in Washington State's current energy codes, among the country's strongest for encouraging energy efficiency in housing and the commercial building stock. PSE has consistently offered programs targeted to its low-income customers, and over the years has developed a strong working partnership with the Community Action Agencies in the communities it serves.

Recent History

During the mid-1990s, utilities invested less in demand-side resources due to uncertainty over future deregulation in the electricity industry. Electric and gas avoided costs were significantly lower than they had been up until that time, with many anticipating restructured electricity markets to produce lower prices. Most conservation incentives for residential end-uses were no longer cost-effective, and residential programs came to rely primarily on information, education and referral services to encourage efficiency. PSE grants and rebates, in addition to information and technical services, continued for the more cost-effective commercial and industrial sector programs. At the same time, Energy Service Companies (ESCOs) were beginning to actively target the commercial building sector. These independent contractors could package services and equipment together with favorable financing by using the energy bill savings generated by the project. Of particular note, the Washington State General Administration Office promoted ESCO financing for public facilities, and the State Treasurer's office made low-interest financing available for public projects. The largest industrial customers were pursuing the option to purchase power on the open market in regulatory and legislative forums. A period of uncertainty ensued wherein the future requirements for utilities to acquire resources for some customer classes might be changed through legislative or regulatory actions.

At the same time, improved energy codes were adopted in Washington State, making new construction and major remodels more energy efficient from the beginning, thus requiring less future investment for retrofits to homes and buildings.

While national interests were promoting deregulation of the electric industry, the governors of the four Pacific Northwest States convened the Comprehensive Review of Northwest Energy System. Business interests – particularly of large consumers who viewed deregulation as a way to lower energy costs for their “bulk” purchases – were influential. The Review committee addressed “public purpose” issues, including conservation, low-income assistance and renewable resources. From this committee’s recommendations, the idea of “market transformation”(MT) emerged as another potential cost-effective method to get customers to invest in efficiency on their own. The philosophy driving market transformation held that through undertaking MT activities now, market prices of efficiency equipment or practices could drop in the future, making them more rapidly attractive for end-use consumers. Regional utilities created the Northwest Energy Efficiency Alliance (“Alliance”), with PSE as a major funding provider. The Alliance has pursued notable recent efforts such as accelerating consumer adoption of compact fluorescent lamps and horizontal-axis washing machines.

The PSPL merger with WNG in 1997 provided PSE the opportunity to offer “fuel-blind” conservation/energy efficiency programs. Instead of being sent to the “other” company, customers now benefit from a one-stop, comprehensive conservation service. PSE is indifferent to whether a customer upgrades efficiency of an electric heating system or converts to natural gas.

Initially, Puget’s cost-recovery of cost-effective conservation resources were added to rate base, and amortized over 10 years. Rates allowed for a premium of plus two percent on the allowed rate of return for all unamortized conservation balances. To an industry facing deregulation, this financing method, which often created outstanding debt, could be an obstacle. Washington State passed legislation to allow conservation investments to be financed using bonds, and in 1995 PSE became the first utility to issue and obtain favorable financing terms for over $200 Million in conservation bonds. Two years later, PSE offered a second bond offering of $35 Million. WNG, by comparison, relied on a “tracker” mechanism; whereby costs spent on conservation were collected as an expense in the year following the year of expenditure. After the merger, PSE retained the “tracker” mechanism for gas conservation and added a similar “rider” mechanism to allow for cost-recovery of electric conservation. The rider recovers costs for conservation in the same year as expended.

In 1999, PSE submitted a three-year, joint electric and gas conservation program. The Commission approved the program effective April 1 of that year. The program was extended beyond March 31, 2002 for an additional period during the course of the General Rate Case. Three-year savings and costs for that program were 31.6 aMW and 5,084,019 therms, for a combined electricity and natural gas cost of $30,484,713.

No one accurately predicted the events and electricity wholesale price escalations of 2000. Price impacts hit the recently deregulated California market, complete with rolling blackouts. The Pacific Northwest had close electricity interties with California, making a regional energy crisis inevitable. BPA and many of the region's utilities immediately sought to raise rates, and quickly imposed significant rate increases, mostly in the form of surcharges. This included the three large public utilities adjoining PSE's service territory. Rate increases of this magnitude, particularly hitting in the middle of winter (peak load periods for the Northwest), were packaged with dramatic near-term increases to conservation efforts to help manage utility and customer costs. More broadly, a societal need existed to heavily encourage conservation as a means to manage energy costs throughout the region, and PSE joined others to ramp up its efforts. One of the most successful efforts was a broadly promoted, time-limited 10 percent bonus to commercial conservation grants. This effort in conjunction with daily news headlines of the energy situation no doubt aided customer readiness to adopt efficiency measures.

PSE had another tool at its disposal. Having installed new metering throughout the service territory, and with a new billing system in place, the Company worked with the Commission to launch a Time-of-Use pilot program to over 300,000 residential customers. Subsequently, an additional 20,000 business customers were added to the pilot. While the program set out to reward customers who used energy efficiently, the Company determined in fall 2002 that further analysis and restructuring of the program was needed to enhance customer value. The WUTC recently approved PSE's request to terminate the program.

Exhibit D-1 provides a detailed look at PSE's existing electric conservation programs and Exhibit D-2 provides a list of gas conservation programs.

Exhibit D-2
Current Gas Conservation Programs

PROGRAM NAME	DESCRIPTION Sept. 2002 – Dec. 2003 Conservation Programs	EXPECTED ANNUAL ENERGY SAVINGS
Energy Efficiency Information Services – Personal / Business Energy Profile	• Free energy audit survey, analysis, and report providing customers with specific and customized energy efficiency recommendations. • Identifies current energy costs and consumption by end-use, and provides a list of specific recommendations for energy efficiency opportunities with savings estimates. • Home version is available as a mail-in booklet. Home and business versions are available online at pse.com.	• While surveys indicate customers take actions as a result of these programs, no energy savings are currently credited to information programs. Information programs cannot exceed 10% of the total conservation program budget.
Energy Efficiency Information Services – Personal Energy Advisors	• Specially trained and dedicated phone representatives provide customers of all sectors direct access to PSE's array of energy efficiency services and programs through a toll-free number. • Discuss the potential benefits of various conservation programs and related products and services including contractor referrals. • Answer 3,000 customer inquiries per month, including 150 e-mail messages.	• While surveys indicate customers take actions as a result of these programs, no energy savings are currently credited to information programs. Information programs cannot exceed 10% of the total conservation program budget.
Energy Efficiency Information Services – Energy Efficiency Brochures	• Brochures on program participation guidelines and how-to guides on energy efficiency opportunities, including behavioral and low-cost measures, weatherization measures, appliance and equipment upgrades. Includes investment and savings estimates as appropriate. • Available hard-copy through mail, at trade show and publicity events; available for download at www.pse.com.	• While surveys indicate customers take actions as a result of these programs, no energy savings are currently credited to information programs. Information programs cannot exceed 10% of the total conservation program budget.
Energy Efficiency Information Services – On Line Services	• Sections of PSE's web site are dedicated to energy efficiency and energy management information, program details and application instructions. • Online Personal and Business Energy Profile energy audits, calculator "tools", energy libraries are available for registered PSE	• While surveys indicate customers take actions as a result of these programs, no energy savings are currently credited to information programs. Information

Exhibit D-2
Current Gas Conservation Programs

PROGRAM NAME	DESCRIPTION Sept. 2002 – Dec. 2003 Conservation Programs	EXPECTED ANNUAL ENERGY SAVINGS
	customers. • Free, periodic PSE energy efficiency e-newsletters for residential and business subscribers. • An Energy Efficiency e-mail box is available for customer questions, featuring maximum 24-hour turn around.	programs cannot exceed 10% of the total conservation program budget.
Efficient Natural Gas Water Heater	• $25 rebate towards purchase of an energy-efficient gas water heater (EF>=.6), served with PSE natural gas.	• 170,667 therms • 7-year resource
High-Efficiency Gas Furnace	• $150 rebate towards the purchase of a high-efficiency gas furnace (AFUE>=.9),offered to PSE residential customers, for existing homes and new construction. • Rebates not available for conversion from electricity unless installing the high-efficiency furnace.	• 224,667 therms • 15-year resource
Energy Efficient Manufactured Housing	• $150 rebate to the buyers of qualifying Natural Choice/ Energy Star labeled manufactured homes with natural gas heat, sited in PSE natural gas service territory. • Parallel with regional programs.	• 12,720 therms • 20-year resource
Small Business Energy Efficiency Programs	• Rebates for energy-efficient fluorescent lighting upgrades and conversions, lighting controls, programmable thermostats, and vending machine controllers. • Streamlined incentives for small usage commercial businesses receiving electricity under Rate Schedule 24 (<50kW demand) and Schedule 8, (or natural gas under Rate Schedule 31.	• 93,308 therms • 10-year resource
Commercial & Industrial Retrofit Program	• Incentives in the form of grants to commercial and industrial customers, are available for cost-effective energy-efficient upgrades including HVAC, water heating and refrigeration equipment, controls, process efficiency improvements, lighting upgrades, and building thermal improvements. • PSE engineers work with customers to assess energy savings opportunities, approve project proposals, recommend bid specifications, review contractor bids and verify installations prior to grant payment. • Includes an HVAC Premium Service project, using specially trained maintenance contractors to optimize efficiency of packaged roof-top	• 1,406,033 therms • 15-year resource

Exhibit D-2
Current Gas Conservation Programs

PROGRAM NAME	DESCRIPTION Sept. 2002 – Dec. 2003 Conservation Programs	EXPECTED ANNUAL ENERGY SAVINGS
	HVAC equipment.	
Commercial & Industrial New Construction Efficiency	• Incentives in the form of grants to commercial and industrial customers, are available for cost-effective energy-efficient building components or systems, including HVAC, lighting, water heating, process and refrigeration equipment, controls, building design and thermal improvements, which exceed requirements of the Washington State Energy Code (NREC) by 10% or more. Also funding toward cost of building commissioning beyond code requirements. • PSE Energy Management Engineers work with designers, developers, commissioning agents, owners and tenants (when available) of new C/I facilities, or major remodels, to propose cost-effective energy efficiency measures. • Funding may be provided using a prescriptive measure approach or a whole building approach.	• 100,000 therms • 20-year resource
Resource Conservation Manager (RCM) Program	• PSE supports customers who employ a RCM to implement low-cost/no cost energy saving activities with building occupants and facility maintenance staff. • Responsibilities include detailed accounting of resource consumption (electricity, gas, water, sewer, recycling, etc.), costs and savings estimates. • PSE provides training, accounting tools, network meetings, review of reports and electronic data downloads.	• 266,667 therms • 3-year resource
PILOT Programs – Residential Duct Systems Pilot	• Participating customers receive the duct diagnostic measurement services and sealing services from the certified contractor at no cost. Targets residences with central forced air electric or gas heating systems. • Because this is a new technique in the industry, this program provides technical support, contractor training and marketing assistance to contractors.	• 10,667 therms • 10-year resource
PILOT Programs – Commercial & Industrial Boiler Tune-up Pilot	• Pilot provides incentives of 50% of the cost of the tune-up, up to $300 per boiler, for customers to have older boilers tuned up for the first time.	• 377,000 therms • One-year resource

Exhibit D-2
Current Gas Conservation Programs

PROGRAM NAME	DESCRIPTION Sept. 2002 – Dec. 2003 Conservation Programs	EXPECTED ANNUAL ENERGY SAVINGS
Public Purpose Programs – Energy Education 6-9th Grade Environmental	• Conservation education program funded by PSE, along with 26 other utilities, cities, and agencies responsible for energy, water, and environmental programs in the Puget Sound area, for over 70 schools with a reach of over 12,000 students. • Provides comprehensive energy and environmental curriculum, teaching students how to apply principles and make informed choices related to energy use, air quality, water conservation, and solid waste.	• 80,756 therms • 10-year resource life
Public Purpose Programs – Residential Low-Income Retrofit	• Funding for installation of home weatherization measures for low-income gas and electric heat customers. • Customers in single family, multifamily, and mobile home residences are qualified by local community action agencies, using federal income guidelines. • Also includes structure audits and energy use education.	• 120,800 therms • 20-year resource life

INSULATION REBATES

Attic, Floor, and Wall Insulation (both fitted/batt type and blown-in): A rebate of 12 cents per square foot is available for the addition of new insulation installed that increases the R-Value by R-10 or greater. Rebates are available if the existing insulation is less than R-22 for attics, R-11 for walls and/or R-11 in floors. As a rebate requirement, attic, floor, and wall insulation must be installed only where such cavities separate conditioned from unconditioned areas of the residence. (Any insulation installed outside the cavity, such as siding applications, will not meet rebate requirements.)

Duct Insulation: A rebate of 75 cents per linear foot of R-10 insulation is available to homeowners installing insulation on heating ducts in unconditioned areas (unheated attics, crawlspaces, etc.).

[Insulation rebates are not applicable to new construction or non-living areas of the residence such as garages, shops, etc.]

ADDITIONAL CONDITIONS

ï The rebates listed are applicable to: existing single- and multi-family residences (up to a fourplex), including manufactured, modular and new construction homes unless otherwise indicated. Rebates are not applicable to seasonal or recreational homes; they must be a primary living residence.

ï Homeowners are responsible for complying with all applicable codes and regulations.

ï Rebates apply to primary heating system only. Homeowners installing a high efficient furnace and heat pump concurrently are eligible for rebates on the heat pump system, but not both.

ï Natural gas rebates shall not exceed 30% of the actual measure cost.

ï Electric rebates shall not exceed 50% of the actual measure cost.

ï Verification of efficiencies for gas space- and water-heating equipment and electric water-heating equipment are according to the Gas Appliance Manufacturers Associations (GAMA) Consumersí Directory of Certified Efficiency Ratings.

ï Rebates do not apply where building codes or regulations require, as a minimum, the installation of specific efficiency measures listed above.

ï Rebates are paid directly to the homeowner.

ï Rebates must be submitted within 90 days of completion of energy efficiency measure.

ï Allow 6 to 8 weeks for processing and payment of rebate.

Residential Energy Efficiency Rebate Agreement Additional Conditions

Disclaimers. AVISTA UTILITIES HEREBY DISCLAIMS ANY AND ALL IMPLIED OR EXPRESS WARRANTIES (INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) AND SHALL NOT BE RESPONSIBLE FOR ANY REPRESENTATION OR PROMISE WITH RESPECT TO THE EQUIPMENT MATERIALS OR LABOR REQUIRED FOR THE INSTALLATION OF THE EQUIPMENT ON THE PREMISES, OR THE COST OF SUCH EQUIPMENT, MATERIALS AND LABOR.

Avista Utilities is providing funding under this Agreement at the request of the Participant. Because of the variability and uniqueness of individual energy use, it is not possible to predict exact energy savings (if any) that may accrue to any particular participant. Avista Utilities, by providing funding, does not warrant that the equipment will achieve any reduction in energy costs to the Participant.

Release. As part of the consideration for this Agreement, participant hereby releases and shall indemnify, hold harmless and defend Avista Utilities from any and all claims, losses, harm, costs, liabilities, damages and expenses (including attorneys' fees) of any nature whatsoever arising directly or indirectly out of or in connection with the installation of space-and/or water-heating equipment, or weatherization measures at the premises or any material and labor required for such installation.

Entire Agreement – Applicability – Assignment. This Agreement contains the entire agreement between the parties and shall not be modified except by a written instrument signed by the parties. Furthermore, this Agreement shall be binding upon the successors and assigns of the parties. Participants shall not assign this Agreement without the prior written consent of Avista Utilities. Avista Utilities may freely assign, without limitation, its interest herein.

Attorneys' Fees. If any action is brought to enforce this Agreement, the prevailing party in such action shall be entitled, in addition to any other relief, to a ward of reasonable attorneys' fees and costs incurred in such action.

Verifications. Avista Utilities shall have the right to verify equipment installed on the Premises.

These Residential Energy Efficiency Programs are ongoing as part of Avista Utilities' continued commitment to energy efficiency. The programs are subject to change without notice.

AVISTA Utilities

www.avistautilities.com 1500/204

Avista Residential Energy Efficiency Program

Residential Rebates

February 2004

AVISTA Utilities

Avista Residential Energy Efficiency Program

Residential Energy Efficiency Rebate Program

Avista Utilities Natural Gas & Electric Customers Washington/Idaho

Program Eligibility and Guidelines

The following rebates are available for residential energy efficiency measures completed after February 1, 2004. Offers apply to residential homeowners in Washington and Idaho who heat their homes primarily with Avista electricity or natural gas.

Natural Gas Furnace/Boiler Rebates

A $150 rebate is available to homeowners who install a high-efficient Natural Gas Furnace of 90% AFUE (efficiency) or greater, or a high-efficient Natural Gas Boiler of 85% AFUE or greater.

Heat Pump Rebates

A $300 rebate is available to homeowners whose primary heat source is electric heat and who install an Air-Source Heat Pump of 8.0 HSPF (heating efficiency) with 13.0 SEER (cooling efficiency) or greater, 7.5 HSPF and 12.0 SEER for manufactured homes. Replacement of an existing heat pump qualifies for a $50 rebate.

Electric to Natural Gas - Water Heater Rebates

A rebate of $60 is available to Avista Utilities electric customers who replace an electric water heater with a new natural gas water heater (storage tank type). [Not applicable to new construction.]

High Efficiency Water Heater Rebates

A $50 rebate is available to homeowners who install high-efficiency electric or natural gas water heaters (storage tank type). Electric water heaters must be 0.91 EF (efficiency) or greater. Natural Gas water heaters must be 0.62 EF or greater for 40-gallon, and 0.60 or greater for 50-gallon water heaters. This rebate can be claimed in addition to the $60 electric to natural gas water heater rebate.

Continued on back flap.

Fill out each section that applies. Be sure to attach invoices. Incomplete forms cannot be processed.

Requests for rebate must be submitted within 90 days of completion of energy efficiency project.

Name ______ Phone (Home) ____/______

Avista Account # ______ Phone (Work) ____/______

Service Address ______ City ______ State ____ Zip ____

Mailing Address ______ City ______ State ____ Zip ____

Check All That Apply

After completing this energy efficiency measure, my primary source of heat is [ ] Electric [ ] Natural Gas [ ] Other (describe) ______

If you switched heat sources, what was your primary source of heat? [ ] Electric [ ] Natural Gas [ ] Other (describe) ______

My home has central air-conditioning [ ] Yes [ ] No. I am: [ ] The homeowner [ ] Other (explain) ______ My home is: [ ] New construction [ ] An existing home [ ] A manufactured home

High Efficiency Natural Gas Furnace/Boiler Rebate

[ ] I installed a new [ ] gas furnace [ ] boiler. Manufacturer/Brand ______ Model # ______ AFUE (efficiency rating) ______

BTU (input) ______ BTU (output) ______ Date Installed ______ Total Cost $ ______ Installed By ______

Heat Pump Rebate

[ ] I installed a heat pump replacing [ ] electric heat [ ] heat pump as my primary heat source. Manufacturer/Brand ______ Model ______

HSPF (heating efficiency ______ SEER (cooling efficiency) ______ Date Installed ______ Total Cost $ ______ Installed By ______

Electric to Natural Gas – Water Heater Rebate

[ ] I replaced an existing electric water heater with a new natural gas water heater. Manufacturer/Brand ______ Model # ______

Capacity in gallons ______ Date Installed ______ Total Cost $ ______ Installed By ______

High Efficiency Water Heater Rebate

[ ] I replaced an existing [ ] natural gas [ ] electric water heater with a high efficiency model. Manufacturer/Brand ______ Model # ______

Capacity in gallons ______ Date Installed ______ Total Cost $ ______ Installed By ______

EF (efficiency) ______

Insulation Rebates

[ ] Attic Insulation Sq Ft ______ R-Value Existing ______ R-Value Added ______ Date Installed ______ Total Cost $ ______ Installed By ______

[ ] Floor Insulation Sq Ft ______ R-Value Existing ______ R-Value Added ______ Date Installed ______ Total Cost $ ______ Installed By ______

[ ] Duct Insulation Ln Ft ______ R-Value Existing ______ R-Value Added ______ Date Installed ______ Total Cost $ ______ Installed By ______

[ ] Wall Insulation: Sq Ft ______ R-Value Existing ______ R-Value Added ______ Date Installed ______ Total Cost $ ______ Installed By ______

I hereby request a rebate for the above listed work. Attached are the original final invoice(s). I have read the "Rebate Agreement Additional Conditions" on the back of this form and agree to the conditions for participation in this program. I also understand that Avista Utilities will make the final determination of any rebate that I may receive. Programs are subject to change without notice. **Request for rebate must be submitted within 90 days of completion of energy efficiency measure.** Please allow 6 to 8 weeks for processing.

Customer Signature ______ Date ______

Be sure to attach the original or a legible copy of your final invoice(s). Mail to: **Residential Rebates MSC 15-Avista Utilities, P.O. Box 3727, Spokane, WA 99220-3727**

For more information and additional conditions see reverse side, call 1-800-227-9187, or visit our website at www.avistautilities.com.

Before the
Manitoba Public Utilities Board

Exhibit of Jim Lazar

Exhibit JL-6
Natural Gas System Benefit Charge

Exhibit JL-6

System Benefit Charge for Gas

			2003 Annual Revenues		2% SBC
Residential			$ 247,000,000		$ 4,940,000
Commercial/Industrial			$ 261,000,000		$ 5,220,000
Transportation			$ 4,000,000		$ 80,000
Total:			$ 512,000,000		$ 10,240,000