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# Washington Water Power Distribution Charge & Market Transformation Programs

## Profile #126

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Washington Water Power's Distribution Charge represents one of North America's leading strategies for funding energy efficiency and stands as a powerful model for the future. As such, it was selected for inclusion in the Series 4 Profiles by The Results Center Board of Advisors. The Results Center salutes Washington Water Power for its success with the Distribution Charge and commends the utility for developing a successful portfolio of market transformation programs. In particular, we wish to recognize Bruce Folsom and Bill Johnson of Washington Water Power and Jim Nybo of the Northwest Power Planning Council for their assistance in developing this Profile.

This Profile is part of a collection of Profiles researched and published by The Results Center over the past four years. It is intended to provide a thorough understanding of the program and its unique elements. This Profile can also be used to compare this program with other programs documented by The Results Center. For a complete listing of the Profile Library see the Appendix. For additional information please contact The Results Center.

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# Executive Summary

Washington Water Power's Distribution Charge, formally known by its regulators as "the DSM Tariff Rider," is the most sophisticated model of its kind and a powerful harbinger of what may well become the future predominant energy efficiency services funding mechanism in a competitive utility environment. As similar structures have been proposed by states across the nation, Washington Water Power (WWP) has not only implemented the first "non-bypassable systems benefits charge" but is also the first utility to provide results on the success of the model's implementation.

Concurrent to the introduction of the Distribution Charge was a complete overhaul of WWP's approach to energy services. WWP has refined its focus on maintaining efficiency through market transformations, developing a constructive response to regional and national pressures. Its staff and advisors created new efficiency program designs to maximize effects while minimizing costs through an emphasis on becoming technical consultants and customer-focused energy service providers.

An enabling aspect of the Distribution Charge's evolution has been the corporate culture within WWP. Despite projected excess capacity well past the year 2000, WWP's management is committed to efficiency as a customer service and in this regard has responded to competition proactively. It developed the prototype Distribution Charge long before many others were aware of the concept. It was the first utility in the Northwest to propose that its largest customers gain direct access to their choice of suppliers. The Distribution Charge provides a pay-as-you go mechanism for continuing efficiency in a direct access environment and in the future will make WWP's power prices easily comparable with competitors' rates.

The DSM Issues Group, known as "DIG," was formed at the request of WWP's regulatory commission and was comprised of WWP staff along with representatives from seven key regional agencies. The utility's openness in DIG's extensive meetings over a 30-month period have been credited with shaping WWP's progressive energy services posture. Now its initiative to open up its territory to retail wheeling fills out the model as the cost of all kilowatt-hours sold within its service territory will include the Distribution Charge.

The Distribution Charge has increased electric rates by approximately 1.55% and gas rates by 0.52%. Thus typical monthly residential electricity bills have increased by 81¢ and gas bills by 16¢,... well within the bounds confirmed acceptable by a telling customer survey conducted by an independent market research firm. Thus WWP's pioneering efficiency model provides a win-win result for utility and customers alike.

## **WASHINGTON WATER POWER Distribution Charge and DSM Programs**

**Sector:** *Prototype Distribution Charge cost collection mechanism finances extensive portfolio of electric and gas DSM programs for all retail customers*

**Mechanism:** *Flat 1.55% surcharge with a mean impact of 0.72 mills per kilowatt-hour applied to retail electric sales; 0.52% surcharge applied to all retail gas sales*

**History:** *Distribution Charge formally adopted January 1995 in Washington, March 1995 in Idaho; Charge plus new roster of "market transformation" programs approved through year-end 1996*

### **PROJECTED 1995-96 PROGRAM DATA**

*Energy savings: 94,783 MWh*

*Gas savings: 993,488 therms*

*Nominal Cost: \$11,031,654*

*Levelized Cost: \$9,413,310*

*Nominal Charge Revenue: \$9,606,177*

*Levelized Charge Revenue: \$8,196,951*

### **CONVENTIONS**

All Series 4 Profiles will report nominal dollar values except where expressly stated as levelized. Levelized figures, used for comparative purposes, are based on 1990 U.S. dollars. Inflation and exchange rates were derived from the U.S. Department of Labor's Consumer Price Index and the U.S. Federal Reserve's foreign exchange rates.

The Results Center uses three conventions for presenting program savings. **ANNUAL SAVINGS** refer to the annualized value of increments of energy and capacity installed in a given year, or what might be best described as the first full-year effect of the measures installed in a given year. **CUMULATIVE SAVINGS** represent the savings in a given year for all measures installed to date. **LIFECYCLE SAVINGS** are calculated by multiplying the annual savings by the assumed average measure lifetime. **CAUTION:** cumulative and lifecycle savings are theoretical values that usually represent only the technical measure lifetimes and are not adjusted for attrition unless specifically stated.

# Program Manager's Perspective

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## **ROGER CURTIS, ENERGY SERVICES MANAGER**

Washington Water Power has forged a new path for demand-side management by developing and implementing a non-bypassable Distribution Charge for funding energy efficiency programs, what's referred to in our region as "the DSM Tariff Rider." Through this model, WWP has addressed competitive considerations and continues to provide customer-valued demand-side management. There are four items about the Distribution Charge and the 1995-96 programs that are particularly important to Washington Water Power:

First and foremost, by continuing to deliver DSM we are continuing to provide customer service. Our customers have clearly stated that they want WWP to pursue energy efficiency. Moreover, by assisting our customers in improving their own efficiency, WWP achieves one of its primary corporate objectives, notably customer satisfaction.

A second advantage brought forth by the Distribution Charge is that it provides DSM with an external source of funding, alleviating its struggle for budget dollars. DSM funding no longer "competes" with revenue producing or system reinforcement projects. Removing DSM funding from the internal capital budgeting process and avoiding the stigma of regulatory asset creation has been viewed favorably by the Company and the financial community. While a shift from capitalizing DSM to expensing may seem to be a subtle accounting change, we have found that it is a significant improvement in the eyes of financial analysts.

A third benefit of the model is realized by the DSM Implementation Group. The stable, predictable funding brought by the Distribution Charge has given staff the capability to improve its administrative efficiencies and to plan programs further into the future without the concerns of budget cuts, know-

ing that, if successful, the program will be continued. This reliability has also empowered our staff to take on new responsibilities and acquire additional training, allowing the staff to develop into a "self-directed team."

Lastly, the flexibility built into the target-oriented programs has allowed DSM offerings to evolve to meet customer needs. Previous DSM programs were very specific and detailed. Any changes to the programs generally required regulatory approval. The 1995-96 programs are broader in scope. Under a menu of offerings, WWP can creatively provide energy efficiency within the regulatory guidelines of cost-effectiveness, non-discrimination, etc. This ability to do "adaptive management" assists WWP in bringing energy savings while satisfying customers.

I would like to respond to one criticism I have heard in regard to the Distribution Charge concept. This criticism, stemming notably from outside WWP's service territory, is that the Distribution Charge is akin to a three letter word starting with "t" and ending with "x". To WWP, this non-bypassable charge is simply a change in accounting treatment. The previous accounting treatment placed DSM in the ratebase with carrying costs accruing until the time of the next rate case. Now, DSM is expensed in the year incurred. Thus, if DSM is a service that should be offered by a utility, then the Distribution Charge is the superior accounting mechanism given the current changes in the electric industry.

Our eighteen months of experience have demonstrated that the Distribution Charge and programs it has funded have been successful. Based on this success, WWP is seeking regulatory approval for a three-year extension to carry WWP's DSM programs through 1999. My colleagues and I believe that WWP's Distribution Charge and DSM programs are a good response, for customer benefit, to the unknown structural future of the electric industry environment.

# Program Context

## WASHINGTON WATER POWER OVERVIEW

Founded in 1889, Washington Water Power Company (WWP) is an investor-owned utility headquartered in Spokane, Washington which has a service area of 30,000 square miles in eastern Washington and northern Idaho. WWP serves 287,000 retail electric customers and 217,000 natural gas customers in this region known as the "Inland Northwest." Additional gas customers are served in regions of Oregon and northern California by WWP's operating division, WP Natural Gas.[R#3]

WWP has been actively pursuing customer growth and added nearly 17,000 electric and over 16,000 natural gas customers to its system in 1995. In 1994, WWP purchased the rights to serve electricity in northern Idaho properties including Sandpoint from PacifiCorp, which contributed significantly to the 6% growth in WWP's retail electric customer base for 1995. The Company also owns Pentzer Corporation, a private investment firm with interests in businesses ranging from electronic development to consumer product promotions.[R#3]

As its name suggests, historically WWP's primary resource has been hydroelectric generation. However, this has changed as its system has grown. WWP owns and operates nine hydroelectric projects for a total peak capacity of 908 MW, along with a wood-waste-fueled generating station and two gas-fired combustion turbines, and holds ownership in two coal-fired plants and contracts with five natural gas pipelines. WWP's electric supply is also supplemented by purchases from sources including Bonneville Power Administration and Canadian utilities. The WWP system has a total resource availability of 3,855 MW to meet its peak demand of 2,545 MW including wholesale activities. Firm load for WWP's retail needs is 1,600 MW.[R#2,3]

WWP's electric rates are among the lowest in the country with an average residential rate of 4.98¢/kWh, and 5.41¢/kWh and 3.66¢/kWh for commercial and industrial respectively. In 1995, WWP's revenues from electric sales totaled \$487 million, 22% of which resulted from wholesale transactions. Natural gas contributed another \$174 million. Total operating revenue for 1995, including non-utility earnings, was a record \$755 million.

WWP has become aggressive in the wholesale market; analysts observe that WWP responds to every wholesale power RFP posted. In 1995, WWP sold 3,909 GWh to wholesale customers for a total sales revenue of \$109 million at an average price of 2.79¢/kWh. WWP enjoyed a 20% increase in wholesale power sales in 1995 and expects to double its wholesale revenue by 1997 as it markets power across the country.[R#3,5]

## WWP 1995 STATISTICS

<i>Number of Customers</i>	287,089	
<i>Electric Sales Revenues</i>	\$487.0	million
<i>Gas Sales Revenue</i>	\$174.2	million
<i>Electric Sales</i>	11,492	GWh
<i>Gas Sales</i>	657,171,000	Therms
<i>Peak Demand</i>	2,545	MW
<i>Generating Capacity</i>	3,855	MW
<i>Reserve Margin</i>	51	%
<b><u>Average Electric Rates</u></b>		
<i>Residential</i>	4.98	¢/kWh
<i>Commercial</i>	5.41	¢/kWh
<i>Industrial</i>	3.66	¢/kWh

To improve its competitive edge, in mid-1994 the boards of directors for WWP and Sierra Pacific Power Company (SPPC) proposed merging the two utilities to form Altus Corporation. After two years of negotiations and still no FERC approval, WWP reconsidered the competitive advantages of the merger and exercised its option to back out.[R#1,29]

As is the case with other hydroelectric utilities, environmental issues are a substantial concern. This is especially true in the Pacific Northwest where several indigenous species of fish, including the Snake River Sockeye, Chinook Salmon, Kootenai River White Sturgeon, and Bull Trout have been listed or petitioned as either endangered or threatened under the Federal Endangered Species Act in the past five years. While none of these listings have impacted WWP's hydro generation, they do affect some of the power purchases WWP makes from Columbia River dams. To strengthen its stewardship of river ecosystems, WWP has teamed up with Trout Unlimited to protect trout and salmon.[R#3]

## DSM HISTORY

Over a seventeen-year period, from 1978-1995, WWP spent a total of \$119,332,832 on electric demand-side management and \$7,495,788 on gas DSM. The total DSM expenditure was \$126,828,620 with \$62,696,364 of that spent before 1992 suggesting a significantly increased emphasis in more recent years. Overall, WWP's efforts through 1995 have resulted in total annual electricity savings of 559.3 GWh and 2.71 million therms of natural gas.

WWP's DSM history is divided in three distinct periods: Early efforts benefitted from the support of the Bonneville Power Administration (BPA). On a dollar-for-dollar basis, WWP's most concentrated DSM initiative was the result of its 1992-94 DSM Plan. The most recent period is the subject of this Profile and involves the combination of the model Distribution Charge and set of market transformation programs.[R#13]

**Early efforts:** WWP's DSM efforts began in 1978 with residential weatherization, a program which has remained in its DSM portfolio ever since. Additional residential programs funded through BPA's Conservation Buy-back provision were added to WWP's services with BPA-funded streetlighting and water heater programs joining the roster in 1982. With the availability of BPA programs and support, WWP's DSM efforts flourished in the early eighties. BPA's contribution elicited savings of 78.2 GWh. WWP continued these BPA programs through 1984 after which Residential Weatherization remained the only DSM program available from WWP. In 1987, WWP expanded its range of qualified customers for this program by adding a limited-income version, and in 1989 Residential New Construction was added. A fuel-switching pilot was conducted in Coeur d'Alene, Idaho in 1991.[R#13]

**The 1992-94 DSM Plan:** In 1992 WWP developed a comprehensive DSM plan which offered choices and services for all electric and gas customers. The approved set of programs, formally known as "the 1992-1994 DSM Tariff," included 12 DSM programs for electric customers and addressed its gas customers for the first time with six similar programs. The total expenditure over the three-year horizon was \$59,639,966, greater than the combined total of all prior DSM efforts.[R#13]

The thrust of the 1992-94 plan was fuel switching from electricity to gas, providing needed relief for WWP's retail electric system load. In fact, WWP implemented one of the largest such programs in the country with nearly two-thirds of the total expenditure devoted to a set of fuel switching programs collectively known as Energy Exchanger. The largest fuel switching initiative involved converting residential electric space heating to natural gas. Fully 73% or 213.6 GWh of the total plan's savings involved fuel switching. Much of the fuel switching incorporated energy efficiency opportunities that created a significant part of the gas DSM savings of two million therms during this period, but gas use was certainly increased.[R#1,13]

Total DSM savings from 1992-94 reached 34 aMW while load growth for WWP during that period was 23 aMW. With

achieved savings exceeding growth and surplus power available to meet demand, WWP made the decision to ramp-down its DSM efforts in 1994. Annual expenditures dropped from \$29 million to \$20 million with a corresponding drop in savings of nearly 50%. This cutback was not only related to its surplus capacity but also to increased competition and thus increased concern about DSM's rate impacts in light of the electric industry's shift towards competition.

**The 1995-96 DSM Plan:** By the close of its 1992-94 Plan, WWP realized that large DSM expenditures were neither compatible with WWP's resource needs nor the electric industry's newly competitive environment. Thus WWP significantly scaled back its DSM efforts and added a revolutionary mechanism for funding DSM expenditures. This experimental treatment took shape as the "1995-96 DSM Tariff Rider," the subject of this Profile, and what will be referred to as WWP's Distribution Charge throughout.

<i>DSM OVERVIEW</i>	<i>ANNUAL ENERGY SAVINGS (GWh)</i>	<i>ANNUAL DSM EXPENDITURE Nominal</i>	<i>ANNUAL DSM EXPENDITURE Levelized</i>
<b>1978</b>	1.34	\$158,202	\$317,132
<b>1979</b>	2.45	\$536,000	\$964,948
<b>1980</b>	8.77	\$2,856,000	\$4,530,087
<b>1981</b>	65.30	\$10,929,728	\$15,715,241
<b>1982</b>	41.44	\$9,671,821	\$13,099,554
<b>1983</b>	59.51	\$14,202,603	\$18,637,352
<b>1984</b>	24.86	\$8,030,366	\$10,101,721
<b>1985</b>	19.81	\$3,860,848	\$4,689,710
<b>1986</b>	15.03	\$5,323,035	\$6,347,816
<b>1987</b>	7.00	\$1,575,760	\$1,812,956
<b>1988</b>	1.46	\$382,705	\$422,819
<b>1989</b>	2.85	\$560,876	\$591,181
<b>1990</b>	4.18	\$805,669	\$805,669
<b>1991</b>	11.48	\$3,802,752	\$3,642,728
<b>1992</b>	50.92	\$11,027,977	\$10,245,904
<b>1993</b>	153.61	\$28,796,051	\$25,953,016
<b>1994</b>	89.16	\$19,815,938	\$17,402,208
<b>1995</b>	0.13	\$4,492,289	\$3,833,290
<b>Total</b>	<b>559.29</b>	<b>\$126,828,62</b>	<b>\$139,113,33</b>

# Preparing for Competition

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## **COMPETITIVE STRATEGY**

Washington Water Power is clearly an example of a utility that has turned the threat of competition into an exciting opportunity. WWP staff have been busily preparing for what it considers the inevitable, far more competitive utility environment. While the utility's Board of Directors has traditionally been proactive, its addition of General Norman Schwarzkoff to the Board was symbolic of its aggressive stance.

Jim Nybo of the Northwest Power Planning Council commented that WWP has forged a highly constructive response to industry pressures and has effectively turned the tables of competition. Bolstered by enviably low power rates, WWP is poised to benefit from direct access, building load while many other utilities fear the erosion of customers, load, and thus revenues. It is in the midst of an aggressive growth period and has experienced steady growth in both electric and gas retail sales as well as in the electric wholesale market. WWP's sales and service network now covers the entire Northwest region and is spreading throughout the West. [R#3,5]

As an entrepreneurial company, WWP has also begun to advance into the national energy services market. In May of 1996 it established WWP Energy Solutions, an unregulated subsidiary which will market WWP's energy services nationally. The Company seeks to form partnerships through energy services that will later lead to energy sales as the market opens to full competition. [R#1,2]

WWP has taken an additional bold step to advance the transition to retail wheeling in the Northwest by proposing a plan to its Washington commission for opening WWP's system up for large industrials. The commission approved the filing on June 26, 1996, marking the first incident of open competition in the retail market in the Northwest. [R#20]

## **DSM IN A COMPETITIVE ENVIRONMENT**

Intent on maintaining its commitment to DSM, Washington Water Power has met the challenge of supporting DSM in a

restructured market despite surplus capacity which is anticipated to last well past the year 2000. WWP strategists recognize the values of DSM to the utility and its customers as DSM not only supports the Company's desire to promote efficiency and resource diversity, but also provides customers with energy options and services. Many efficiency advocates welcome WWP's resolution to maintain and enhance the quality of energy efficiency services for its customers despite surplus, and applaud the utility for taking such a bold and progressive, long-term position. WWP has exhibited a leadership role in the region while many other regional utilities are slashing their DSM spending.

WWP's goal has been to find a means to, "more cost-efficient acquisition of DSM," striking a balance among the many issues that surround DSM acquisition in the face of the changing utility environment including possible retail wheeling. To reach this goal, WWP has tempered its DSM programs to fit a competitive market and developed a revolutionary mechanism for funding DSM which has caught the industry's attention. [R#4]

## **THE 1995-96 DISTRIBUTION CHARGE**

Competition in the electric utility industry is acutely felt in the Pacific Northwest despite the lowest power rates in the country. WWP's remedy for competitive pressures to DSM has been to form a Distribution Charge that all customers will pay regardless of their eventual choice of suppliers. (Other names are also being used to describe this mechanism including "wires charges" and "systems benefits charges." See Transferability section for a complete discussion of various permutations of this new class of surcharges.) The Distribution Charge is attached to the distribution portion of WWP's energy service. Distribution charges may ultimately be used to fund a number of activities, but at WWP the surcharge has been solely used to fund DSM.

The Distribution Charge features two very important aspects related to competition: First, it allows the utility to collect revenues to pay for DSM costs up front, providing ongoing re-

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covery of DSM costs at a stable rate. This enables the utility to move away from its practice of capitalizing (or “ratebasing”) DSM costs, thereby avoiding the accumulation of “regulatory assets” and the need for complex and potentially controversial cost recovery. WWP learned the hard way that capitalizing DSM can provide for shareholder incentives, but also creates a future burden on the utility as well as concern among financial rating agencies. By expensing rather than capitalizing its DSM costs, as is the case with the Distribution Charge, WWP customers will experience lower DSM costs. In fact, on a dollar-for-dollar basis, expensing reduces program costs by at least 15% by eliminating the income tax effects and shareholder returns associated with capitalizing DSM over time.

Second, the Distribution Charge is and will be applied to all electricity distributed over WWP’s system. Thus in a direct access environment WWP will not suffer competitively from the rate impacts of its DSM offerings because the same charge will be levied on all other power sales in its territory. In this way, DSM can be maintained and refined in the region for the benefit of all and delivered by WWP as a new form of energy service.[R#1,2,5]

Bruce Folsom of WWP’s Rates and Tariffs Administration and his colleagues identified several seemingly conflicting concerns which had to be appropriately addressed when designing WWP’s new DSM strategy. These included the harmful accumulation of regulatory assets; the desire to continue DSM; the business perspective of a utility entering competition; regulatory concerns; and shareholder obligations. Some of these concerns have led many utilities to abandon DSM altogether. WWP, however, looked not only at the added costs of DSM but the added value in its decision to continue to provide such services. In order to develop a strategy, WWP called on all available information resources to help define its needs and direction for the new market.[R#1]

## DESIGN CONSIDERATIONS

**Learning from the 1992-94 DSM Plan:** WWP’s 1992-94 DSM Plan tested a robust portfolio of programs which were

supported by WWP’s largest DSM budget. Over the three-year period, however, the utility witnessed a dramatic industry shift toward competition. With the need to keep operating costs lean and given WWP’s surplus power, DSM efforts were ramped down in the final year of the plan, a decision which received a negative response from DSM advocates.

WWP’s 1992-94 DSM filing also provided for capitalizing DSM investments to earn shareholder incentives and the deferral of amortization of those assets until the utility’s next rate case. By capitalizing and deferring its DSM costs, WWP accumulated nearly \$60 million in regulatory assets and about \$8 million in carrying costs associated with this investment which were accrued through Allowance for Funds Used to Conserve Energy (AFUCE). As part of the commission approval of the 1995-96 Tariff filing, WWP began amortizing its \$68 million DSM investment in January of 1995 and accelerated the amortization period from 21 to 14 years in Washington and 15 years in Idaho. This action has halted the collection of further AFUCE charges. At the time of its next rate case, WWP may incorporate recovery on the balance of this debt into its rates. Thus while WWP’s practice of capitalizing DSM expenses and deferring its amortization seemed prudent at the launch of the 1992-94 Plan, given the major competitive shifts in the industry overall, its regulatory assets had quickly become unattractive.[R#1,2]

**The DSM Issues Group:** In 1992, at the request of its regulators, the Washington Utilities and Transportation Commission (WUTC) and the Idaho Public Utilities Commission (IPUC), WWP established the DSM Issues Group (DIG) to serve as an advisory committee for its DSM activities. DIG members were comprised of representatives from WWP and seven external agencies: WUTC, IPUC, the Public Council, Washington State Energy Office, Northwest Power Planning Council (NWPPC), Spokane Neighborhood Action Program, the Northwest Conservation Act Coalition, and the Washington Industrial Customers for Fair Utility Rates (WICFUR). Most of these agencies had one representative participate in DIG. WWP sent 7-8 representatives to each meeting including non-managerial staff who were encouraged to speak freely.

## Preparing for Competition (continued)

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The DIG approach was reinforced by WWP's distinctive corporate culture and not only helped to refine the 1992-94 program offerings but also set the stage for the design for both a new cost collection mechanism and a new set of programs appropriately tailored for industry competition. DIG met 24 times over a period of 30 months and primarily focused on the economics of DSM in an increasingly competitive utility environment. [R#1,2,5]

DIG's initial activity was to review 10 points submitted by the WUTC related to WWP's 1992 DSM filing. The Commission felt it was necessary to address these issues in a separate forum because they had not been adequately addressed in the Integrated Resource Planning (IRP) context. DIG enabled agencies to talk directly with program managers and their staff as well as representatives from WWP's Rates Department about issues related to DSM. Input from DIG members resulted in a number of programmatic adjustments to the 1992-94 Plan along with harsh criticism when WWP ramped down its DSM efforts in 1994. While the exchange provided WWP with helpful insights to DSM-related matters, it also led to strenuous modification of the DSM programs and exposed the utility to conflict over its DSM pursuits. [R#1,2,6]

Latter meetings of the group addressed concerns with proposals for the utility's future DSM activities. As WWP was determining what steps to take in regards to DSM once the 1992-94 Plan was concluded, it was apparent that expenditures and thus DSM acquisition were going to be rolled back considerably. Several members of DIG expressed objection to the major cuts in DSM acquisition proposed by WWP. In fact, this matter was never resolved before the dissolution of the Group. DIG was disbanded in 1994 although there were a few informal group meetings in 1995 and 1996. To assist in the development of its 1997-1999 DSM Plan, WWP established a new advisory group, the DSM Opportunity Group or "DOG" which began meeting in May of 1996. [R#1,2]

While WWP's DSM cutback toward the end of its 1992-94 Plan and reducing the expenditure level even further for its

1995-96 Plan was criticized by some DIG members, this reaction to competition was hardly unique to WWP. DSM savings projections for the Northwest region overall have fallen from 120 aMW in 1994-95 to 70 aMW for 1997-98, reflective of concerns associated with competition, the loss of BPA support for efficiency, and utilities' wariness about incurring additional long-term debt. [R#1,2,5]

**Corporate considerations:** Recognizing its mission to operate a prosperous utility while focusing on customer satisfaction, loyalty, and retention, WWP outlined certain corporate objectives for continued acquisition of DSM. Considerations for future DSM activities included maintaining continuity in the promotion and support of energy efficiency; providing long-term resource diversity; recognizing the timing of resource needs; promoting the transformation of consumer markets to energy-efficient choices; and providing customer service value. These corporate objectives provided direction for the 1995-96 DSM Plan which fundamentally called for the conversion of DSM programs from the provision of cash incentives to the promotion of market transformations and enhanced customer service. To their credit, the visionary architects of the Distribution Charge were able to accomplish multiple and seemingly conflicting objectives and to provide a model structure well suited for a competitive environment. [R#4]

**The Customer Survey:** While WWP officials were quite confident in their decision to fund DSM through the implementation of a Distribution Charge, to ensure that their assumptions were indeed in line with their customers' desires, a survey was carried out by an independent research firm. It conducted a telephone survey using a random sampling of 300 residential gas and electric customers who were called in July and August of 1994. The survey had a confidence level of 95% with a sampling error range of +/-5.7%. [R#4]

The survey found that 83% of the customers queried would be willing to pay up to \$1 more a month for WWP to be able to offer new energy efficiency programs to all customers. Ad-

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ditionally, 69% of those surveyed indicated that they would rather pay \$1 a month starting immediately rather than paying \$1.50-1.75 six months later. (The latter being, of course, how WWP's capitalized and deferred DSM expenditures had functionally performed.) Of those surveyed, 65% had never participated in any previous WWP energy efficiency programs. These findings provided the assurance that a relatively small surcharge would be acceptable – even to those that had historically been program non-participants – and that expensing DSM costs was favorable to capitalization costs which functionally postponed costs but also increased the DSM rate impact.[R#4]

### **DETERMINING DSM ACQUISITION AND BUDGET**

As the 1995-96 DSM Plan was being designed, WWP had enough capacity to meet demand projections through 2006 and enough energy through 2010. Load forecasts showed a compound demand growth rate of 0.8% over the next 20 years adding 75 aMW to the system and 14 aMW during 1995-96. Given the excess in WWP's power supply, the system's projected growth was not a problem and from a system capacity standpoint there was no operational need for large-scale DSM programs. Nevertheless, WWP's executives recognized DSM as an important strategic tool with customer service value and societal benefit and the strength of these aspects was enough to maintain WWP's commitment to DSM.[R#1,4]

WWP strategists then grappled with setting savings goals for the upcoming filing. It was clear that WWP's DSM goals and expenditures needed to be reduced from previous levels in order for the utility to maintain its competitive edge. In the end, a DSM acquisition level of 11 aMW was set for the 1995-96 Plan, 5.7 aMW and 5.3 aMW in each of the two years respectively. This was a noticeable decrease from the previous DSM effort which had set a DSM goal of 28 aMW over a three-year period and which actually achieved 34 aMW savings. However, the proposed levels were higher than those specified in WWP's 1993 IRP which included savings targets of approximately 4 aMW of DSM annually.[R#4]

Identifying realistic levels for DSM acquisition was only half of the question as determining a reasonable price to pay for DSM acquisition was equally important. Staff members from several different utility departments worked together to derive a budget which could realistically achieve acceptable DSM goals. WWP concluded that \$5 million in Distribution Charge revenues annually would allow the utility to create a respectable level of savings and keep the average rate impact under a dollar a month for residential customers. Staff were concerned that any higher level of expenditure might lead to customer objections.

When considering this overall level of expenditure on a per kilowatt-hour basis, the funding for DSM was equal to 1.55% of the rate for electricity and 0.52% for gas. WWP strategists agreed that this was an acceptable increment to be added to customers' bills. In fact, the Distribution Charge would have less rate impact than the cost of the 1992-94 programs. And, at the proposed levels, WWP's overall DSM expenditure would be equivalent to 1.2% of its revenues, consistent with an Oak Ridge National Laboratory study which revealed that the average 1992 utility DSM expenditure was 1.3% of total revenues.[R#4]

One element which was not factored into the equation was lost revenues created by efficiency programs. While staff suggested that it would be preferable to collect lost revenues through the Distribution Charge, WWP did not want to complicate the approval process and elected not to factor lost revenues into the equation. Thus, in a departure from the regulatory reforms initiated in the early 1990s that were intended to promote DSM – capitalizing costs, allowing for collection of lost revenues, and the provision of shareholder incentives – WWP appeared to have come full circle as it had found a simple funding mechanism to pay for valued customer energy efficiency services. Staff and management agreed that providing customer value in a time of increased competition – essential to retaining customers in the future – was enough of a shareholder incentive for DSM.

# Program Design and Delivery

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## THE 1995-1996 DISTRIBUTION CHARGE

**1995-96 DSM filing:** WWP filed its 1995-96 DSM Plan with the Washington and Idaho regulatory commissions on October 25, 1994. The DSM Plan included a savings goal of 5.7 aMW for 1995 and 5.3 aMW savings for 1996 and a budget of \$5.7 million in 1995 and \$3.7 million in 1996. Additionally, WWP proposed to pursue gas savings of 198,500 therms in 1995 and 174,000 therms in 1996 at a budgeted cost of \$475,000 and \$378,000 respectively. Submitted with the Plan was WWP's landmark proposal for an experimental accounting treatment, the Distribution Charge which would be associated with the utility's distribution system for the purpose of funding the proposed DSM activities.[R#4]

**Commission Approval:** The filing was approved by the WUTC on December 14, 1994 and put into effect in Washington on January 1, 1995. The Idaho PUC approved the DSM programs outlined in the filing December 20, 1994 but did not approve the Distribution Charge until March 3, 1995. For this reason, the Charge did not take effect in Idaho until March 10, 1996. Both the WUTC and IPUC responded to the filing with a list of modifications and clarifications required for approval. These considerations were shared by both the Idaho and Washington commissions. They included a number of provisions: WWP was required to assume all responsibility for under collection of revenue. WWP was required to assume any risk due to adverse tax treatment. WWP agreed that its DSM expenditures would be subject to prudence reviews. In Washington, WWP was required to begin amortizing its post-1991 DSM expenditures over a 14-year period starting January 1, 1995. (A 15-year amortization schedule was established in Idaho.) Finally, the Distribution Charge was approved for a two-year period only from 1995 to 1996 at the end of which it would be evaluated. Additionally, the WUTC clarified that the Distribution Charge was approved on an experimental basis only and was not to set a precedent for cost recovery mechanisms indiscriminately.[R#7,8,9]

**Application of the Distribution Charge:** The Distribution Charge is applied to retail electricity distributed over WWP's distribution system and to company-owned and customer-owned street and area lighting rates. Similarly, WWP's retail gas customers are subject to the Distribution Charge. Customers holding special contracts with WWP for electricity and gas are exempt from the Charge. Additionally, WWP's recent acquisition of the Sandpoint region from PacifiCorp is not subject to the Charge in keeping with WWP's transfer agreement with PacifiCorp to decrease Sandpoint's rates by 1%.

**The Amount of the Distribution Charge:** The 1995-96 Distribution Charge as designed by WWP is actually a set of charges which vary for electricity and gas sales in two states. There is no cross-subsidization between fuels or states and WWP's calculations for determining the amount of Distribution Charge on a per kilowatt-hour or per therm basis were based on 1993 actual sales which were weather normalized. [R#4]

The Charge levies a 1.5481% assessment to all electric customers in Washington and Idaho, and given the different rates in those states, the actual rate impact varies. The Charge's rate impact in Idaho ranges from 0.46 mills to 1.08 mills for various customer classes for a mean impact of 0.71 mills. In Washington, impacts range from 0.47 mills to 1.03 mills for a mean impact of 0.73 mills. The total projected 1995 revenue from the Distribution Charge on electric rates was \$4,650,000.[R#4]

For gas customers, the surcharge adds a 0.52% increase to gas rates. The rate impact for Idaho ranges from 0.189¢/therm to 0.258¢/therm for a mean impact of 0.243¢/therm. In Washington, the rate impact ranged from 0.134¢/therm to 0.192¢/therm for a mean of 0.174¢/therm. The total projected 1995 revenue from the Charge on gas rates was \$427,000.[R#4]

**The Charge's impact on customer bills:** In Washington the Distribution Charge results in an approximate 81¢ increase in typical monthly residential electric bills and a 16¢ increase to gas bills. In Idaho the bill increases are approximately 78¢ and 18¢ for electricity and gas respectively. Of course the stated impacts reflect only bill increases resulting from the Distribution Charge but do not include any bill reductions resulting from the ensuing DSM programs. Program participants, as in other DSM programs, will experience positive cash flow despite the surcharge.

**Excess and shortfalls in Distribution Charge revenues:** WWP staff determined the cost of the Distribution Charge such that the revenue collected closely matches the anticipated DSM costs. The approved filing calls for the extension of DSM programs until any remaining balance is fully expended to avoid additional rate fluctuations. In the case of revenue shortfalls, WWP originally proposed that the Distribution Charge be continued until a zero balance is reached. However, the WUTC specified that WWP assumes the responsibility for any DSM expenses which are not met by the Charge.[R#1,4]

CUSTOMER CLASS	WASHINGTON		IDAHO	
	RATE INCREASE	% INCREASE	RATE INCREASE	% INCREASE
<b>ELECTRIC CUSTOMERS</b>	<i>(mills/kWh)</i>		<i>(mills/kWh)</i>	
<i>Residential</i>	0.73	1.5481%	0.7	1.5481%
<i>Small Commercial</i>	1.03	1.5481%	1.08	1.5481%
<i>Large Com'l/Small Ind'l</i>	0.75	1.5481%	0.71	1.5481%
<i>Large Industrial</i>	0.47	1.5481%	0.46	1.5481%
<i>Pumping</i>	0.61	1.5481%	0.76	1.5481%
<i>Street &amp; Area Lighting</i>	NA	1.5481%	NA	1.5481%
<i>Average</i>	0.73	1.5481%	0.71	1.5481%
<b>GAS CUSTOMERS</b>	<i>(¢/therm)</i>		<i>(¢/therm)</i>	
<i>Residential</i>	0.192	0.52%	0.258	0.52%
<i>Small Commercial</i>	0.149	0.52%	0.215	0.52%
<i>Large Commercial/Industrial</i>	0.134	0.52%	0.189	0.52%
<i>Average</i>	0.174	0.52%	0.243	0.52%

**Keeping its customers informed:** WWP has placed significant effort on keeping its customers informed of its progressive new funding mechanism for DSM and of its program offerings. The first billing cycle in 1995 included a notice to customers explaining the Charge's purpose and magnitude. Similarly, the Distribution Charge was fully explained in a customer brochure titled, "How To Calculate Your Bill." The Distribution Charge, however, is included in the regular rate and does not appear as a separate line item on customers' bills. [R#6]

#### THE 1995-96 DSM PLAN

**Designing a new portfolio of programs:** In rethinking DSM WWP not only considered the funding of DSM programs but the programs themselves. The Distribution Charge was only half of the formula presented by WWP as the changing face of the electric utility industry called for a new means of delivering energy efficiency services to the market. Maximizing the effect while minimizing expenditures became an important part of the equation. WWP made some notable adjustments to its DSM portfolio, relying less on incentives and rebates and more on market transformation and education.

The 1995-96 DSM Plan continues several programs that were previously implemented. In some cases, these programs were included only to complete existing activities and commitments

and were scheduled to "sunset" in 1995. These existing commitments represent the bulk of WWP's programs which rely on large incentives. Some of these programs have been or will be redesigned or replaced to target the same markets using smaller or no cash incentives at all.

The Plan also includes three C/I pilot programs reflecting WWP's heavier concentration on those customer classes. This uneven emphasis on the commercial and industrial sectors is intentional, offsetting the heavy residential focus of the 1992-1994 Plan. WWP's aim is to even out the expenditures for the collective five-year period of the two DSM plans in order to nullify any concerns of class cross-subsidization. [R#4]

#### THE 1995-96 DSM PROGRAMS

##### CARRYOVER PROGRAMS

**MAP Energy Efficiency:** WWP began the Manufactured Home Acquisition Program (MAP), a BPA-administered program, in 1992 and continued it through July of 1995. (See Profile #30) This market transformation program for manufactured homes provided incentives for manufacturers of energy-efficient, electrically heated manufactured homes meeting BPA specifications. Manufacturers of qualifying homes received a payment of \$1,500, an incentive which was reduced from \$2,500 as the program was able to rely less on cash and

## Program Design and Delivery (continued)

<i>PROGRAM</i>	<i>NEW PROGRAM</i>	<i>CASH INCENTIVES</i>	<i>MARKET TRANS.</i>	<i>SUNSET</i>
<b><i>ELECTRIC PROGRAMS</i></b>				
<i>MAP Energy Efficiency</i>		✓	✓	Jul-95
<i>MAP Fuel Efficiency</i>		✓	✓	Jul-95
<i>Residential New Construction</i>		✓	✓	Mar-96
<i>Non-Residential Energy Code</i>		✓	✓	Mar-97
<i>CFL Rebate</i>		✓	✓	Nov-95
<i>Residential Weatherization</i>		✓		Dec-96
<i>Limited Income Energy Efficiency</i>		✓		Dec-96
<i>C/I Site Specific</i>		✓		Dec-96
<i>Natural Gas Awareness</i>	✓		✓	
<i>Resource Conservation Manager</i>	✓		✓	pilot
<i>C/I Building Commissioning</i>	✓	✓	✓	pilot
<i>C/I Trade Ally</i>	✓		✓	pilot
<b><i>GAS PROGRAMS</i></b>				
<i>Residential Weatherization</i>		✓		Dec-96
<i>Limited Income Energy Efficiency</i>		✓		Dec-96
<i>C/I Gas Efficiency</i>		✓		Nov-96
<i>Resource Conservation Manager</i>	✓		✓	pilot
<i>C/I Building Commissioning</i>	✓	✓	✓	pilot
<i>C/I Trade Ally</i>	✓		✓	pilot

All pilot programs included in the 1995-96 DSM Plan expire at year-end 1996.

more on the transformation created by the program's effect. Originally scheduled to sunset in March of 1996, the program closed in 1995.

WWP is continuing to support efficient manufactured housing through the **MAP Certification program**. This latest rendition of the BPA-administered MAP program replaces incentives with inspection and certification of units which meet program efficiency standards. Those utilities in the region who also participate in BPA's Super Good Cents program (See Profile #7) have attempted to piggyback on its name recognition by calling certifying qualified units "Super Good Cents Manufactured Homes." [#2]

**MAP Fuel Efficiency:** An evaluation of the MAP program revealed that it was significantly influencing fuel choice in manufactured homes. To counteract this situation, WWP of-

fered an additional program to manufactured home purchasers who elected to site a gas space and water heating unit within WWP's electric service territory. The incentive covered the additional costs of installing gas heating up to \$500. This program also closed in July 1995.

**Residential New Construction:** The New Residential Construction program has been implemented to encourage efficiency in new homes through grants for the installation of weatherization materials and efficiency measures for customers building new electrically heated homes. Washington customers receive \$900 for single family homes under 2,000 square feet and \$390 for multi-family units. In Idaho, customers received an incentive of 40¢ per square foot up to \$720 (1,800 square feet) for single family and 20¢ per square foot up to \$255 (1,275 square feet) for multi-family units. The program was extended only to Washington customers that were issued

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building permits prior to July 1, 1995. The cut-off date in Idaho was March 15, 1996.

**Non-Residential Energy Code:** WWP supports the State of Washington's new non-residential energy code. WWP and other participating utilities assist their customers with code compliance by paying all or part of the cost of the standard fee levied on non-residential developers. The fee covers code enforcement training, plan review, and inspection. WWP paid the full fee for buildings permitted from April 1, 1994 through December 31, 1995. For buildings permitted from January 1, 1996 through March 31, 1997 WWP pays half the cost.

**Compact Fluorescent Lightbulb Rebate:** WWP's Compact Fluorescent Lighting (CFL) rebate program was also carried over from the 1992-94 DSM Plan. In an effort to move the market towards CFLs, WWP offered a \$5 point of purchase rebate for up to five bulbs to its customers. To be eligible for the rebates, request forms needed to be postmarked by November 30, 1995. By continuing the program through that date, WWP fulfilled its goal to run a CFL program for three years.

Completion of this program has allowed WWP to begin a new initiative for the lighting market. WWP has joined other utilities in the region in launching **LightSaver**, a manufacturer's rebate program for CFLs. (See also Profile #113) Shifting the incentives "upstream" in the production and distribution channel for CFLs, from consumer to distributor to manufacturer, highlights WWP's efforts to decrease its levels of incentives while continuing to support important market transformations.

**Residential Weatherization:** WWP is continuing its longest running program, offering weatherization rebates at 25¢/kWh for first-year savings up to 50% of the measure cost. The funding level for this program was decreased in this filing from 41¢/kWh and windows are no longer an eligible measure for the rebate. The program also provides a \$25 incentive for water heater blankets. Customers with electric heat wishing to participate in this program must use at least 4,000 kWh annually to heat their home in order to qualify. Applications must be received no later than December 2, 1996. Residential Weatherization is one of WWP's few direct incentive programs; WWP also provides weatherization to gas customers carried over from the previous gas weatherization program.

**Limited Income Energy Efficiency:** The Limited Income Residential Energy Efficiency program combines the weatherization and fuel switching efforts from two previous programs. In collaboration with other agencies WWP provides funding for weatherization and fuel switching installations. A direct in-

centive of 40¢/kWh for first-year savings up to \$1,600 per home is issued by the program to agencies providing weatherization assistance. Customer who heat with gas receive \$4.95 per therm saved up to \$1,000 per home. The program is available to all residential customers with an income at or below 125% of the national poverty level and will run through year-end 1996.

**Commercial/Industrial Site-Specific Measure Funding:** Commercial and industrial customers, as well as developers whose properties were to be purchased by future WWP customers, were eligible for funding of efficiency measures installation regarding HVAC and refrigeration, controls, motors and drives, and other process modifications. Pending approval of the engineering estimate of potential savings, WWP funded up to 50% of the incremental measure cost or the equivalent of the first year's kWh savings at 5¢/kWh, whichever was less. The program expired year-end 1996 and applicants have until December 1, 1997 to complete projects and necessary filings for funding.

**Commercial/Industrial Gas Efficiency:** The Commercial/Industrial Gas Efficiency program is a continuation of an existing program which provided C/I gas customers with funding for gas-saving measures. The amount of funding available was changed for the 1995-96 DSM Plan to the lesser of either half of the total measure costs or an equivalent to the saved energy using a rate which varies according to measure life. The program expires November 30, 1996 and projects must be completed by December 2, 1997.

## NEW PROGRAMS

**Natural Gas Awareness Program:** To promote the use of natural gas as a residential heating fuel, WWP has launched an awareness program. Education on natural gas benefits is delivered using several means including the media and advertising. WWP has already launched a major brochure mailing, targeting natural gas candidates who are currently heating with electricity. To further encourage switching to natural gas, WWP offers zero down, no fee, market-rate financing to residential customers for the installation of gas-heating equipment.

This new program stands as a strong example of how WWP's program shift has worked. The previous DSM plan was dominated by WWP's fuel switching efforts collectively known as the Energy Exchanger program. Through Energy Exchanger WWP was distributing incentives from \$2,700-3,300 per household and the program had 3,000-5,000 participants each year. Given this success, DIG members were upset that WWP was

## Program Design and Delivery (continued)

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discontinuing its fuel-switching incentive. However, the Natural Gas Awareness program succeeded in drawing 1,300 participants in 1995 while eliminating the cash incentive and replacing it with attractive financing using no incentive at all.

**Resource Conservation Manager Pilot:** The Resource Conservation Manager (RCM) pilot market transformation program aims at improving the efficiency in public schools. WWP will guarantee the salary of two RCMs hired from current school district staff who will work with school district faculty, staff, and students to reduce resource consumption in district facilities. Each RCM will have a jurisdiction of 25-40 schools. WWP will assist in funding the training for RCMs as well as the computer tracking system.

**Commercial/Industrial Building Commissioning Pilot:** WWP is offering a pilot DSM program for 6-10 commercial entities that will become WWP customers. The pilot offers funding of the lesser of either \$10,000 per building or the actual cost of commissioning and will expire at year-end 1996.

**Commercial/Industrial Trade Ally Pilot:** WWP will work with C/I customers and trade allies to identify energy-saving projects which are being blocked by market barriers. The program provides a variety of assistance including partial funding of feasibility studies, measurement and evaluation of project savings, and any other service or assistance agreed on by the customer and WWP. The utility will fund projects at 5¢ per kilowatt-hour saved for up to the first year's energy savings.

### MARKETING

As WWP makes its journey from being a "grant dispenser" to technical consultants and customer-focused service providers, marketing becomes an ever more essential element of success. Program leaders recognize that strong marketing and solid communication with customers must compensate for having less incentive dollars available to attract customers to programs. This is the first crucial step toward forming partnerships with customers and building customer loyalty.

WWP's commitment to an emphasis on building customer relations has defined WWP's marketing strategy for its commercial and industrial customers. Marketing and DSM representatives have invested a greater amount of time with WWP's C/I customers, informing them of the added values of energy efficiency and the opportunities available to them at WWP. Technical seminars on subjects such as HVAC, lighting, and indoor air quality have been conducted and have included

vendors and trade professionals. Typically these seminars have attracted 60+ participants, underscoring the interest that WWP has generated in efficiency in its service territory. WWP representatives follow up the seminars with personal calls and visits to the attendees.

WWP has not only concentrated on building relations and partnerships with its customers but building a network with professionals as well. As part of its evolution from incentives to customer assistance, WWP has expanded its services available for customers. Partnering with third-party contractors, engineers, and lenders enables WWP to connect its customers to the technical and financial support they need for implementing energy efficiency. Overcoming customer barriers through third-party partnerships is the central thrust behind the Trade Ally Pilot.

Marketing through the mail has proven quite successful. Through its Natural Gas Awareness program, WWP contacted 25,000 potential fuel switching customers by mailing them a brochure detailing the savings and benefits of switching to natural gas. This program has been quite successful in proving that participation can still be achieved without incentives. Added support for all of WWP's programs is given through basic marketing methods such as bill stuffers, media advertisements, and through the Internet at [www.wwpco.com](http://www.wwpco.com).

### STAFFING REQUIREMENTS

The development of the Distribution Charge and 1995-96 DSM Plan benefitted from the insights and participation of staff from five separate WWP departments. Contributions were made from Rates and Tariff Administration, DSM Planning and Evaluation Department, Electric Power Supply, Gas Supply, and DSM Implementation. This "across the board" representation in the process ensured that the various aspects of the utility were considered in formulating an appropriate approach to energy efficiency. The core planning committee consisted of seven people who participated in the DIG meetings as well. However, as many as five to ten others also participated in the process. These strategists pieced together information from both internal and external parties, drawing from both past experience and customer input to design the Distribution Charge. Implementation of the DSM Plan has been carried out by a full time DSM Implementation staff of five, including Energy Services Manager, Roger Curtis, and support by three evaluation staff members. In addition, there are nine to ten core contractors which Curtis and his staff rely on to deliver programs.[R#1,14]

# Monitoring and Evaluation

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One major change in WWP's DSM posture has been its relaxed emphasis on monitoring and evaluation (M&E) of program savings. For its 1992-94 DSM Plan, each program was fully evaluated with both a process and impact evaluation. This required a corporate commitment of approximately \$1.5 million over the three-year planning horizon. In contrast, the budget for the 1995-96 DSM Plan is only on the order of \$50,000, signifying a fundamental difference in its programs from DSM as a regulated activity to DSM as a desired customer service offering.

In the past, regulators in Washington, Idaho, and for that matter states across the nation have carefully scrutinized DSM program costs to make sure that ratepayers have truly benefitted from and have been treated equitably by comprehensive programs and most importantly from rather lavish incentives. Now as WWP has modified its programs to support more subtle shifts through market transformations and education, and as the utility has reduced its overall expenditures, its emphasis on evaluation has been eased off, suggesting that the ultimate test of its new programs' effectiveness will be consumer response instead of regulatory approval.

Programs in the 1992-94 DSM Plan, including the disproportionately large Energy Exchanger offerings, were carefully evaluated to determine reliable estimates of savings produced by all measures installed. WWP has continued to use findings from these proven methods for quantifying program savings for the carryover programs in 1995-96. Established methodologies for determining program savings include a prescriptive approach using data collected from impact studies, billing analyses, and engineering estimates. Having established mechanisms for calculating energy savings has and will save WWP a considerable amount of M&E dollars for its 1995-96 Plan.

What is different between WWP's previous and current DSM Plans is the fundamental shift toward market transformation programs. Bill Johnson of WWP's DSM Planning and Evaluation Department notes that for these types of programs, the more traditional tests of program cost-effectiveness no longer apply. Because WWP's newer program's focus on providing the customer with information and technical assistance, rather than issuing a set rebate for each unit of equipment installed, their performance is more difficult and perhaps impossible to accurately track. Thus, evaluation efforts for the current DSM Plan have focused on the qualitative impacts of the programs. For example, the CFL Rebate program focused on calculating energy savings based on established savings estimates and units sold through the program. Future evaluation efforts for the LightSaver program will examine penetration and market transformation, relying primarily on store surveys.

WWP's pilot programs will necessarily require monitoring since achievable savings are ambiguous at this point. In the case of the Resource Conservation Manager pilot, tracking program savings is a necessary function of the program, as WWP is responsible for any portion of the RCM's salary which is not recuperated through savings. Thus WWP has contracted an energy service company to determine the baseline consumption and estimated savings for participating schools.

For the Building Commissioning pilot program WWP will investigate numerous methodologies for evaluating program performance. The Building Commissioning pilot will benefit heavily from methodologies developed by the BPA and now defunct Washington State Energy Office, both of which are experienced in implementing commissioning programs. The Trade Ally pilot, on the other hand, will rely on site-specific engineering estimates along with follow-up surveys.

# Program Savings

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## ELECTRIC SAVINGS

Electric savings for the 1995-96 DSM plan through April of 1996 totaled 36,704 MWh, 38.7% of the projected savings for the two-year plan and 38.0% of its originally budgeted savings. These figures however, do not give a just representation of the plan's performance to date since the reported figures do not account for savings which will occur for projects not yet completed nor for projects which are completed but have not yet been monitored for savings. New programs also require a certain amount of time to get started and as such are not expected to produce immediate savings. Thus the overall actual savings do not provide a complete picture of how the current programs are performing. WWP's Bruce Folsom and Bill Johnson, both of whom have heavily participated in the development of the Distribution Charge, have indicated that the 1995-96 DSM Plan is on track for reaching its projected savings. [R#1,2,10,11]

**Carryover Programs:** Of WWP's pre-existing programs, Residential New Construction has been the most successful, achieving near four times its original budget of 613 MWh. With savings of 2,278 MWh to date, the program is projected to save a total of 2,540 MWh for the two-year period. MAP Energy Efficiency has also garnered greater savings than expected as more than the predicted number of qualifying manufactured homes were placed in WWP's territory. MAP has produced a total annual savings of 4,117 MWh as of April 1996 and is expected to save 7,796 MWh by year-end.

In contrast, the MAP Fuel Efficiency and CFL Rebate captured much less than their budgeted levels of savings before closing. Similarly, Residential Weatherization and Limited Income Energy Efficiency have achieved 36% and 46% of their original budgeted savings to date. Projected savings for both these programs have been scaled back somewhat in recognition of the fact that after twelve years of running the program the available market is saturated. WWP's C/I programs have reported low savings levels to date, undoubtedly due to the longer implementation time that larger projects require.

**New Programs:** Over half of the total savings to date achieved by WWP's 1995-96 DSM Plan has been accomplished through the fuel switching effort, Natural Gas Awareness, which has produced an electricity savings of 18,659 MWh. Of course, the electric "savings" represent only a shift from electricity consumption to natural gas consumption, DSM but not thermodynamic efficiency per se. WWP's pilots are still in the process of starting up and, as such, have given no indication of whether they will be successful or not. [R#10]

## GAS SAVINGS

Total gas savings through April 1996 was 196,042 therms, equivalent to 45% of the originally budgeted savings for the gas side of the DSM plan. Based on results to date, the original budget has been increased by 130% to 993,488 therms. Again, these figures do not reflect the performance of the pilot programs which have not reported savings yet. [R#11]

WWP's Gas Residential Weatherization activities included in the table reflect an enormous carryover of participants from the 1992-94 DSM Plan. With sizable obligations remaining from the previous plan, WWP did not include any new efforts for gas weatherization but focused only on addressing these spillover customers. The program's spillover achieved the greatest savings with an annual total of 94,485 therms. High Efficiency Appliance Education was included in the original budget but was cancelled. [R#11]

The C/I Gas Efficiency program has also performed well. Savings to date have totalled 88,336 therms, 46% of its original budget. Based on this level of achieved savings, which does not reflect those projects which are not completed or have not been verified, the program's savings projections have been boosted to 827,046 therms, over four times its original expected savings. [R#11]

## VARIATIONS FROM THE FORMER DSM PLAN

**Electric Programs:** WWP's 1995-96 DSM Plan is expected to achieve a total savings of 94,783 MWh over a two year period, one-third of the 1992-94 DSM Plan savings of 293,690 MWh over three years. Thus, if WWP meets its 1995-96 goals, its savings will be equivalent to half the 1992-94 Plan when taking into account the difference in time. [R#10,13]

**Gas Programs:** WWP's new DSM Plan is expected to save a total of 993,488 therms of gas, 38% of 1992-94 DSM Plan accomplishments of 2,551,940 therms. C/I Gas Efficiency accounts for 827,046 therms, or 83% of the projected total. During the 1992 Plan, C/I Gas Efficiency only accounted for 4.3% of the total savings. This inversion underlines WWP's shift in concentration from the residential sector to commercial and industrial accounts. The current DSM Plan's Residential Weatherization and Limited Income Energy Efficiency programs outperformed the original budget with a combined total annual savings of 106,442 therms, but still only represent 11% of the total gas savings for the 1995-96 Plan. The previous DSM plan relied heavily on residential programs which garnered an annual savings of 2,441,067 therms. [R#11,13]

<b>SAVINGS OVERVIEW</b>	<b>BUDGETED SAVINGS</b>	<b>PROJECTED SAVINGS</b>	<b>ACTUAL SAVINGS</b>
<b>ELECTRIC PROGRAMS</b>	<b>MWh</b>	<b>MWh</b>	<b>MWh</b>
<i>MAP Energy Efficiency</i>	2,015	7,796	4,117
<i>MAP Fuel Efficiency</i>	526	88	88
<i>Residential New Construction</i>	613	2,540	2,278
<i>Non-Residential Energy Code</i>	9,636	9,636	0
<i>CFL Rebate</i>	1,051	438	438
<i>Residential Weatherization</i>	964	613	350
<i>Limited Income Energy Efficiency</i>	4,205	2,891	1,927
<i>C/I Site Specific</i>	36,704	29,784	8,848
<i>Natural Gas Awareness</i>	37,230	37,230	18,659
<i>Resource Conservation Manager</i>	701	701	0
<i>C/I Building Commissioning</i>	701	701	0
<i>C/I Trade Ally</i>	701	876	0
<i>Future/Regional Programs</i>	1,489	1,489	0
<b>Total Electric</b>	<b>96,535</b>	<b>94,783</b>	<b>36,704</b>
<b>GAS PROGRAMS</b>	<b>Therms</b>	<b>Therms</b>	<b>Therms</b>
<i>Residential Weatherization</i>	21,500	94,485	94,485
<i>Limited Income Energy Efficiency</i>	3,000	11,957	11,957
<i>C/I Gas Efficiency</i>	192,000	827,046	88,336
<i>Resource Conservation Manager</i>	20,000	20,000	0
<i>C/I Building Commissioning</i>	20,000	20,000	0
<i>C/I Trade Ally</i>	20,000	20,000	1,264
<i>High Efficiency Appliance Education</i>	156,000	0	0
<b>Total Gas</b>	<b>432,500</b>	<b>993,488</b>	<b>196,042</b>

#### MEASURE LIFETIME

WWP has supplied average measure lifetimes for all measures installed through the 1995-96 DSM Plan. Residential Weatherization measures are assumed to have lives of 30 years for insulation and 5 years for water-heater blankets. CFLs have been assigned a measure life of 7 years. Manufactured housing's measure life is 30 years. Fuel switching installations are given a 25-year measure life. The C/I Site Specific program has been assigned measure lifetimes ranging from 10-20 years. The Results Center also assumed a measure life of 30 years for new construction and 7 years for showerheads. These values were

used by The Results Center to determine annual weighted average measure lifetimes that were used to calculate the cost of saved energy. Weighted averages for programs with multiple installations were also calculated by The Results Center based on the lifetime assumptions stated above.

# Additional Program Benefits

**Avoided emissions:** WWP has not attempted to quantify the environmental benefits of its past, present and future DSM programs. While emissions are not a concern for the hydroelectric portion of the WWP's power supply, approximately one-third of the utility's daily load is met with thermal generation, where emission reduction benefits of DSM are realized. Transferring WWP's 1995-96 DSM Plan's results to date to other service territories, as the table on the next page suggests, could result in reduced CO<sub>2</sub> emissions of as much as 84 million pounds annually. This does not reflect the added emissions resulting from increased natural gas consumption due to fuel switching programs.

**Additional environmental benefits:** Throughout the Northwest, the ample supply of hydroelectric power has provided low-cost electricity but at a high cost to the river environment. The depletion on fish populations in the Columbia River system has been a major driver of DSM activities throughout the region thanks to the leadership as spelled out in the Pacific Northwest Electric Power Plant and Conservation Act of 1980 and the guidance of the Bonneville Power Administration. While WWP's hydroelectric system does not directly contribute to the "hot spots" of environmentalists' concerns about the Northwest rivers, its system still benefits from the energy efficiency efforts of WWP. Many of the regional conservation efforts have been measured in saved salmon and programs in terms of the cost per saved salmon!

## NON-ENERGY RELATED BENEFITS

WWP's 1995-96 DSM portfolio demonstrates a number of non-energy related benefits which are exhibited by various programs. Numerous programs delivering retrofits in both the residential and C/I sectors have contributed to regional economic development by providing added business for local professionals and suppliers. Limited income programs have provided an obvious benefit of lowering energy bills for those most in need of such relief. In addition, these programs also help to mitigate bill arrearages for WWP. The Resource Conservation Manager pilot contains an educational component, teaching tomorrow's leaders the importance of efficiency.

**Customer Value:** WWP's decision to pursue DSM despite its sufficient resource levels is a clear indication that energy efficiency carries weight in terms of customer value. This assertion has been supported by the customer survey which reaffirmed customers' interests in continuing efficiency programs, while also affirming that DSM is a valuable tool in a competitive arena. WWP has been at the forefront of bringing competition to the Northwest and has taken every opportu-

nity to advance its own competitive edge. Its decision to continue DSM was clearly made with competition in mind, bolstered by the "customer satisfaction" that the utility was confident its programs would support.

## Strategic Advances for the Competitive Market:

Clearly the greatest benefit of WWP's 1995-1996 DSM Plan and Distribution Charge is that it has introduced a new genre of DSM in the Pacific Northwest which works in a competitive market. The Plan and Distribution Charge funding mechanism is a highly proactive and constructive response to both regional and national energy services considerations. WWP's early experiment with the Distribution Charge has given DSM a new home in the competitive market, and has not only solved the problem of how to deliver energy efficiency services in its own territory, but has demonstrated a effective model which can be applied in other territories throughout the Northwest and for other part of the country as well.

### THE ENVIRONMENTAL BENEFIT STATEMENT

The Environmental Benefit Statement is intended to provide approximations of avoided air emissions for the electricity savings from a particular program when applied to another region or service territory. To transfer WWP's program success to your own situation, first determine the representative marginal power plant for your situation by perusing the left hand column of the table. What type of generation will be avoided if you enjoy WWP's level of success with a similar program in your region or service territory? Once you have determined the proxy power plant based on fuel type, heat rate (the efficiency of the power plant), and sulfur content in the fuel, move to the right across the row selected to find approximations of avoided emissions should you achieve WWP's results. Note that the coefficients in each cell of the table contain a 10% credit for transmission and distribution losses avoided through energy efficiency.

- \* TSP = Total Suspended Particulates
- NSPS = New Source Performance Standards
- BACT = Best Available Control Technology

**ENVIRONMENTAL BENEFIT STATEMENT**

➔ **Avoided emissions based on 36,704,000 kWh saved to date**

<i>Marginal Power Plant</i>	<i>Heat Rate BTU/kWh</i>	<i>% Sulfur in Fuel</i>	<i>CO2 (lbs)</i>	<i>SO2 (lbs)</i>	<i>NOx (lbs)</i>	<i>TSP* (lbs)</i>
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<b>Coal</b>	<b>Uncontrolled Emissions</b>					
A	9,400	2.50%	79,134,000	1,877,000	380,000	38,000
B	10,000	1.20%	84,382,000	727,000	245,000	182,000
<b>Controlled Emissions</b>						
A	9,400	2.50%	79,134,000	188,000	380,000	3,000
B	10,000	1.20%	84,382,000	73,000	245,000	12,000
C	10,000		84,382,000	484,000	242,000	12,000
<b>Atmospheric Fluidized Bed Combustion</b>						
A	10,000	1.10%	84,382,000	222,000	121,000	61,000
B	9,400	2.50%	79,134,000	188,000	152,000	11,000
<b>Integrated Gasification Combined Cycle</b>						
A	10,000	0.45%	84,382,000	149,000	24,000	61,000
B	9,010		75,904,000	54,000	18,000	4,000

<b>Gas</b>	<b>Steam</b>					
A	10,400		46,027,000	0	105,000	0
B	9,224		39,971,000	0	250,000	12,000
<b>Combined Cycle</b>						
1. Existing	9,000		39,971,000	0	153,000	0
2. NSPS*	9,000		39,971,000	0	73,000	0
3. BACT*	9,000		39,971,000	0	10,000	0

<b>Oil</b>	<b>Steam--#6 Oil</b>					
A	9,840	2.00%	66,618,000	1,009,000	119,000	113,000
B	10,400	2.20%	70,655,000	1,001,000	150,000	73,000
C	10,400	1.00%	70,655,000	143,000	120,000	38,000
D	10,400	0.50%	70,655,000	420,000	150,000	23,000
<b>Combustion Turbine</b>						
#2 Diesel	13,600	0.30%	88,420,000	176,000	273,000	15,000

<b>Refuse Derived Fuel</b>						
Conventional	15,000	0.20%	104,973,000	271,000	356,000	79,000

# Cost of the Program

WWP's total DSM expenditure for the 1995-96 DSM Plan through April of 1996 was \$5,213,752. Thus far, WWP has expended 51% of its original DSM budget of \$10,289,498. Projected expenditures through year-end 1996 have been raised to \$11,031,654 in expectation of increased participation primarily in the MAP Energy Efficiency program. Electric DSM programs have accounted for \$4,712,126 of the total costs to date with the balance of \$501,626 attributed to gas programs.[R#10,11]

Carryover programs for the 1995-96 DSM Plan account for the 93% of the total expenditures to date with costs totaling \$4,867,567. MAP Energy Efficiency accounted for the largest portion with a total of \$1,881,086. Program costs are expected to reach \$3,528,695, nearly four times its original budget. WWP's direct incentive programs have collectively cost \$2,125,873. All of these programs, except for C/I Site Specific and C/I Gas Efficiency, had reduced incentives from previous years and will be further reduced or replaced for WWP's next filing. [R#10,11]

In sharp contrast, WWP's new programs have cost only \$346,185 through April 1996. The tremendous cost difference between carryover and new programs is the result WWP was hoping to see in its shift toward low-cost DSM. Natural Gas

Awareness, which produced half of the utility's electric savings to date, has had a total expenditure of \$94,407. WWP has also invested \$57,518 in developing regional programs, chiefly, the LightSaver program. The balance of the new program costs is attributed to pilot programs.

## DISTRIBUTION CHARGE REVENUES

Both the electric and gas portions of the 1995-96 DSM Plan are expecting a slight shortfall in their respective Charge revenues. The total revenue for the Distribution Charge is projected to be \$9,606,177 for the two-year period. This falls noticeably short of the projected costs of \$11,031,654. However, this figure includes continued MAP program commitments which will extend into 1997 to cover program expenses for homes manufactured prior to the program's termination date. These costs will be paid through Distribution Charges collected in 1997 provided that WWP's filing for its 1997-99 DSM Plan is approved by the commissions involved. One of WWP's objectives in its 1995-96 DSM plan was to lower and stabilize DSM expenditures. The 1995-96 DSM Plan had an original budget of \$10,289,498 which has since been adjusted to \$11,031,654, compared to the previous DSM Plan which expended \$59,639,962, nearly six times as much. [R#10,11,13]

<b>COST OF SAVED ENERGY (¢/KWh) Levelized</b>	<b>5% REAL DISCOUNT RATE</b>			<b>WWP's CSE Levelized</b>
	<i>budgeted</i>	<i>projected</i>	<i>actual</i>	
<b>1995-96 ELECTRIC PROGRAMS</b>				
<i>MAP Energy Efficiency</i>	2.48	2.51	2.54	4.82
<i>MAP Fuel Efficiency</i>	2.59	0.64	0.64	4.82
<i>Residential New Construction</i>	2.22	1.34	1.29	4.27
<i>Non-Residential Energy Code</i>	0.28	0.28	NA	0.67
<i>CFL Rebate</i>	2.04	2.53	2.56	2.46
<i>Residential Weatherization</i>	2.46	2.17	2.06	4.51
<i>Limited Income Energy Efficiency</i>	1.58	1.52	1.45	2.76
<i>C/I Site Specific</i>	1.04	0.87	1.00	1.98
<i>Natural Gas Awareness</i>	0.90	0.90	0.30	0.17
<i>Resource Conservation Manager</i>	NA	NA	NA	2.50
<i>C/I Building Commissioning</i>	NA	NA	NA	2.50
<i>C/I Trade Ally</i>	NA	NA	NA	2.50
<i>Future/Regional Programs</i>	NA	NA	NA	NA
<b>Total 1995-96 Cost of Saved Energy</b>	0.59	0.64	0.78	1.36
<b>Total 1992-94 Cost of Saved Energy</b>	NA	NA	1.44	NA

<b>COSTS OVERVIEW</b>	<b>BUDGETED COSTS (1/95-12/96)</b>	<b>PROJECTED COSTS (1/95-12/96)</b>	<b>ACTUAL COSTS (1/95-3/96)</b>	<b>ACTUAL COSTS (1/95-3/96) Levelized</b>
<b>ELECTRIC PROGRAMS</b>				
<i>MAP Energy Efficiency</i>	\$900,697	\$3,528,695	\$1,881,086	\$1,605,131
<i>MAP Fuel Efficiency</i>	\$225,174	\$9,202	\$9,202	\$7,852
<i>Residential New Construction</i>	\$224,581	\$560,391	\$484,678	\$413,576
<i>Non-Residential Energy Code</i>	\$477,793	\$477,793	\$290,577	\$247,949
<i>CFL Rebate</i>	\$145,726	\$75,090	\$76,151	\$64,980
<i>Residential Weatherization</i>	\$390,983	\$219,409	\$119,301	\$101,800
<i>Limited Income Energy Efficiency</i>	\$1,097,932	\$726,557	\$461,472	\$393,774
<i>C/I Site Specific</i>	\$4,651,183	\$3,143,346	\$1,077,560	\$919,482
<i>Natural Gas Awareness</i>	\$574,667	\$574,667	\$94,407	\$80,557
<i>Resource Conservation Manager</i>	\$98,000	\$117,416	\$36,759	\$31,366
<i>C/I Building Commissioning</i>	\$200,000	\$214,824	\$51,044	\$43,556
<i>C/I Trade Ally</i>	\$200,000	\$152,961	\$72,371	\$61,754
<i>Future/Regional Programs</i>	\$200,134	\$257,652	\$57,518	\$49,080
<b>Total Electric</b>	<b>\$9,386,870</b>	<b>\$10,058,003</b>	<b>\$4,712,126</b>	<b>\$4,020,857</b>
<i>Distribution Charge Revenues</i>	\$8,606,249	\$8,743,577	\$5,796,330	\$4,946,008
<b>GAS PROGRAMS</b>				
<i>Residential Weatherization</i>	\$75,271	\$309,077	\$309,077	\$263,735
<i>Limited Income Energy Efficiency</i>	\$22,571	\$44,494	\$39,494	\$33,700
<i>C/I Gas Efficiency</i>	\$331,981	\$515,906	\$118,969	\$101,516
<i>Resource Conservation Manager</i>	\$16,667	\$30,930	\$21,965	\$18,743
<i>C/I Building Commissioning</i>	\$16,667	\$16,667	\$2,382	\$2,033
<i>C/I Trade Ally</i>	\$16,667	\$56,577	\$9,739	\$8,310
<i>High Efficiency Appliance Education</i>	\$422,804	\$0	\$0	\$0
<b>Total Gas</b>	<b>\$902,628</b>	<b>\$973,651</b>	<b>\$501,626</b>	<b>\$428,037</b>
<i>Distribution Charge Revenues</i>	802161	862,600	\$630,001	\$537,580
<b>Total Program Costs</b>	<b>\$10,289,498</b>	<b>\$11,031,654</b>	<b>\$5,213,752</b>	<b>\$4,448,895</b>
<b>Total Dist. Charge Revenues</b>	<b>\$9,408,410</b>	<b>\$9,606,177</b>	<b>\$6,426,331</b>	<b>\$5,483,588</b>

## COST EFFECTIVENESS

The Results Center's total cost of saved energy for 1995-96 electric program activities to date was 0.78¢/kWh, levelized to 1990 US\$. If WWP meets its savings and budget projections, its overall cost of saved energy will be 0.64¢/kWh. The Results Center calculated a cost of saved energy of 1.44¢/kWh for the

1992-94 DSM Plan. Based on these figures, even if WWP does not meet its projections it will have improved its cost effectiveness from the previous DSM Plan by nearly a factor of two. WWP own calculation of the cost of saved energy factors in the utility's cost of capital and taxes and equated to 1.36¢/kWh in 1990 US\$. [R#2,4]

# Lessons Learned

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**WWP's corporate culture has helped to cultivate innovation among its staff:** Bruce Folsom places a strong emphasis on the importance of WWP's unique corporate culture which he and others credit with the creation of the progressive Distribution Charge mechanism and WWP's current portfolio of programs. Folsom explains that the culture minimizes hierarchy and encourages free speaking to tap employees' energy and ideas. This empowering approach was evident during the DIG meetings where strong and open communication was fostered and effectively transformed into progressive ideas and actions. By approaching business with this philosophy, WWP has nurtured its staff's creativity and honed its operations, so critical in today's utility industry environment.

**Fundamentally, staff have learned that even a utility with excess capacity and the nation's lowest power rates can create a win-win situation with its customers by funding valued efficiency programs through a Distribution Charge:** By carefully querying its customers of their interests and then communicating its intentions clearly, Washington Water Power has been able to turn the tables on DSM. Staff have taken the negative aspects of DSM – notably its perceived rate impact – and turned it into an effort that customers can be proud to support. Thus the utility has effectively taken a formerly mandated discipline that it believes had turned sour, creating a losing situation from both utility and customer perspectives, to a valued customer service that has clearly created a win-win situation.

**In order to continue to deliver energy efficiency in a competitive age, utilities must learn to get more bang for less bucks,... replacing incentives with more service:** WWP recognized that it could not continue providing costly incentives to its customers to elicit participation in DSM, especially given its lack of resource need. Its program developers understood that there were other viable alternatives for promoting efficiency and transforming markets. WWP's new generation of DSM is less cash oriented and more information and service oriented. This requires more creativity and marketing and more time for customers to adjust. However, by taking advantage of alternatives such as third-party financing, contracting, and outsourcing, WWP looks forward to achieving DSM more cost effectively.

**Programs can indeed continue to be effective without big incentives:** WWP has proven that programs can be highly effective without the attractive incentives that predominated the "past generation" of DSM programs. This point has been proven best by the success with the Natural Gas Awareness program. While previous fuel switching efforts garnered 2,000-5,000 participants annually, these efforts were also quite costly as WWP was providing \$2,700-\$3,300 per home in incentives. WWP's current fuel switching program, Natural Gas Awareness, netted 1,300 participants in 1995 with no incentives at all. Similarly, WWP's MAP program incentive dropped from \$2,500 per home to \$1,500 while program participation levels have continued unabated. This trend will progress even further as WWP replaces the MAP incentive program with the MAP certification program which continues to transform the manufactured home market without the use of rebates.

**WWP has learned that offering consistent services is essential not only for the success of a program but also for the company:** Toward the end of the 1992-94 DSM Plan, many of WWP's programs experienced drastic reductions in program funding, in fact by as much as 80%. This caused fluctuations in participation as customers rushed to "get in before the barn door closed." It also led to external criticism. As WWP shifts to programs which are service and education oriented, without large rebates and incentives, staff believe that long-term stability will be even more crucial for making customers and trade allies familiar with the services. Program consistency provides another benefit to the utility as it allows the administration of a program to become streamlined, thus trimming costs. The Distribution Charge supports this concept by providing a known and stable level of funding for programs.

**Customers want energy efficiency services:** While many utilities in the Northwest and around the country are scaling back if not completely abandoning their DSM programs as a short-term response to competitive pressures, WWP could have easily done the same. The utility has no need to supplement its resources for the next decade. However, WWP chose to continue to deliver energy efficiency services to its customers because of its perceived customer value. WWP reaffirmed this understanding by conducting a customer survey which revealed overwhelming support for paying a little more each month for continued energy efficiency services.

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**WWP's experience is an excellent illustration of the strength and importance of good communication:** WWP is well reputed for communicating with both customers and outside agencies and regulators, establishing good faith on both fronts. Customers trust the utility enough to tell them in a survey that they are willing to pay extra for energy efficiency. Likewise, maintaining strong and thorough communication with regulators has afforded WWP the flexibility to learn, grow, and adapt its DSM programs as needed.

**Precollecting funds for DSM has allowed greater flexibility in implementing programs:** Traditional means of funding DSM recovered costs through rates after the fact. This procedure proved very restricting for utilities which avoided program exceptions or digressions which might risk recovery. By minimizing the concern over cost recovery and paying for program activities up front, WWP has earned itself some latitude for creativity. As long as savings occur and the programs are performing cost effectively, WWP's regulatory commissions will remain satisfied with the utility's new-found emphasis. Regulators maintain the right to review the prudence of any program activities and expenditures, thereby keeping WWP bound to performing cost-effective DSM. This has enabled WWP to submit fairly broad filings, bypassing the need for regulatory approval for any changes or exceptions. Such flexibility enables WWP to run its programs more effectively and efficiently. For example, the Building Commissioning Pilot has very open definitions, allowing WWP to experiment and evaluate building commissioning as a DSM application.

**Including lost revenue recovery in the Distribution Charge will likely be desirable in the future:** WWP purposefully did not include lost revenue recovery in its filing because it wanted the Distribution Charge to be expeditiously approved. Given the big issues in front of both commissions, there was concern that one more potentially contentious issue could "tip the boat" and further delay WWP's new DSM posture. Also, with such a large portion of WWP's electric savings resulting from fuel switching, many of the related revenues are not "lost" but rather "transferred" to gas sales. However, Bruce Folsom recommends to other utilities that they consider including lost revenues in the collection of Distribution Charges to the extent that lost revenues are indeed measurable and real.

# Transferability

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Washington Water Power's pioneering efforts with establishing and testing its Distribution Charge has been a major contribution to the electric utility industry as it searches intensely for new and viable structures to support efficiency in a time of industry restructuring. The model and its concept is very much "the talk of the town" as it stands poised to fulfill multiple objectives and to create win-win energy services opportunities for utilities and their customers.

While distribution charges, or what are also known informally as "wires charges" and "systems benefits charges," have not actually been implemented by other utilities, they have been examined and proposed all across the country. Similar structures have been proposed in states including California, Connecticut, New York, Maine, Massachusetts, Rhode Island, Vermont, and Wisconsin. California has been in the forefront of the restructuring debate since its "blue book" proposal in 1994. The California PUC's long-awaited ruling on restructuring in December of 1995 made the industry familiar with the term "non-bypassable public goods charge," a model that closely resembles WWP's Distribution Charge. WWP's charge happens to be the first of its kind to provide empirical evidence on the success of the model's implementation.

## **PERMUTATIONS OF DISTRIBUTION CHARGES**

There are many potential permutations of WWP's Distribution Charge model: For instance, the charges can be levied at a number of points and by a number of different parties. Potentially they can be attached to transmission systems for wholesale transactions and/or distribution systems as is the case with WWP's charge. "Systems benefits charges" are being considered in both California and New York that will be universally applied to all utilities' distribution systems in these states. Note that "systems" in this case is plural, as are "benefits." Ralph Cavanagh prefers the term "Universal Systems Benefits Charges" and advocates multiple purpose charges that are universally applied within a state or region. [R#30]

When considering applying distribution charges, another major option crops up: Who will distribute the funds to implement efficiency programs? In several states discussions are taking place as to whether this function will best be served by the local utility or by an independent referee. David Wooley of the Pace Energy Project commented that it's still unclear in New York as to whether the funds will be best directed to

programs per se, or allocated on a bidding basis. Managing this function could potentially be fulfilled by a state energy office, an independent agency or non-profit organization, or by another existing government or power pooling agency. These options are being explored in the Northwest where establishing an energy efficiency trust is also being discussed. [R#31]

Another issue to consider pertains to what gets funded. In general the types of programs that distribution charges will fund are those that won't take place in the free market. This might include a number of conventional DSM programs as well as intriguing market transformation activities, low-income assistance, investments in renewable energy, and well as a host of research and development on important long-term issues such as the effects of electromagnetic fields. In California, "Competitive Transition Charges" will be used to recover stranded assets. Stranded asset recovery accounts for a major share of the distribution charge being levied in the New Hampshire Retail Wheeling Pilot.

One of the unsavory aspects of distribution charges is that they may become regarded as taxes. In reality, these forms of charges effectively unbundle the costs of beneficial programs from the costs of power generation, transmission, and distribution. While distribution charges explicitly reflect the true costs of beneficial programs, their perception as "taxes" could potentially spell the kiss of death for this mechanism. (It's hard not to remember the public's overt reaction to relatively small 4.3¢/gallon rise in gasoline taxes.) Ashok Gupta of the Natural Resources Defense Council says his organization is concerned about this potential perception as it could lead to unnecessary and politically charged, annual oversight. Given this potential liability, the distribution charge concept must be very carefully communicated. For better and worse, to date, approval of DSM program costs has resided at the state regulatory commission level,... associating distribution charges with taxes could result in funding levels determined annually by state legislatures. [R#27]

## **THE SURCHARGE CONCEPT**

While collecting DSM costs up-front has taken new meaning in today's dynamic regulatory environment, the concept is not new to Europeans. In Oslo, Norway, electric customers have been paying a surcharge to fund energy efficiency since 1982.

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The surcharge equates to about 2.9% of the average electric rate and finances the Oslo Ekon Fund, a revolving fund that has been used to promote a host of energy efficiency projects through grants and loans. (See Profile #79) Originally the Fund was administered by Oslo Energi, more recently it has been moved out of the utility context and is administered by an agency of the city government.

In 1991, electric utility competition was ushered in throughout Norway with the passage of the Norwegian Energy Act. As is the case in the United States, this led to concern about the survival of DSM in a competitive market. Thus the Norwegian government took action to support energy efficiency by imposing a surcharge of 0.03¢/kWh (approximately 1% of rates). Utilities collect the revenue which funds government-established Regional Energy Efficiency Centers. [R#18,22]

In Denmark, the Copenhagen Lighting Department has implemented a similar strategy through which a 0.083¢/kWh surcharge is levied on all electricity sales. (See Profile #80) The surcharge, which is less than a half a percent of Copenhagen's average rate of 28.2¢/kWh, funds efficiency retrofits in both the residential and commercial sectors.

In England and Wales, the energy industry was privatized in 1992 and a similar "levy" has been implemented to fund efficiency programs there. The UK's Office of Electricity Regulation (Offer), a government body, has levied a £1 (~US\$1.50) per year charge for all "franchise market customers" who demand less than 100 kW. Its enabling legislation provided that the charge will be collected for four years ending in 1998 and is will raise approximately £25 million annually. The revenue collected from the charge will be administered by regional electric companies subject to approval by the government's Energy Savings Trust which was established in 1992 in response to the Rio Earth Summit's Agenda 21. [R#18]

In the United States, Washington Water Power is clearly the most advanced of any form of distribution charge and the first explicitly non-bypassable charge to be implemented. However, Arizona Public Service (APS) has implemented the Energy Efficiency and Solar Energy (EESA) charge since 1992 as a means of tracking its energy efficiency expenditures. For APS, the EESA charge was merely a means of unbundling its costs to distinguish its DSM expenditures for accounting purposes. Its model was not established as a competitive tool, nor does it

play an integral part of the utility's corporate strategy of ensuring stable funding for DSM in a restructured, competitive industry. APS' DSM programs have been funded by the surcharge which has been levied at a flat rate of 0.057¢/kWh rather than a flat percentage as is the case with WWP's Distribution Charge. The APS model also differs from WWP's in that the charge provides for the recovery of lost revenues. Renewables have also been funded by the surcharge in order to meet Arizona Corporation Commission requirements. EESA will reportedly be discontinued at year-end 1996 to streamline administration and thereafter DSM will be funded through a traditional rate-embedded mechanism. [R#18,19]

### **APPLICATION TO A COMPETITIVE ENVIRONMENT**

The price of power is unquestionably a, if not the, most important metric of value in the eyes of customers. While it is the amount of the monthly bill, not the price of each kilowatt-hour, that ought to be more important, the latter will likely be of greater and greater importance as the electric utility industry becomes more and more competitive. Distribution charges, fortunately, provide a means for funding public purpose programs without affecting the competitive position of various generators. Use of such charges enables utilities to pursue customer-valued programs without suffering competitively. In the future and akin to various charges itemized on telecommunications bills, such charges will likely appear as line items on customers' bills so that the costs of both the power they purchase, and the costs of transmission and distribution services are readily transparent to consumers. (To date, however, this sort of bill manipulation has not been necessary.) Inversely, past funding mechanisms for DSM do not support viable competitive postures. Embedded and hidden DSM power costs, inflated by the accumulation of stranded regulatory assets which earn shareholder returns, cause utilities' overall rates to be noncompetitive as customers cannot easily identify nor choose the costs they pay for various services.

A second related feature of distribution charges is that they provide for a smooth transition into retail wheeling by attaching the charge to distribution services, not power sales. In the New Hampshire two-year pilot retail wheeling program, funding DSM has been separated from the market-driven portion of electric costs. While customers will have a choice in their cost of power from different suppliers and will thus carefully scrutinize each option's cost per kilowatt-hour, all pilot partici-

## Transferability(continued)

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pants will still be obligated to pay a set “distribution fee” there. This fee will fund DSM and public policy programs and will also cover transmission and distribution costs (the costs of wheeling power across PSNH lines) and partial recovery on stranded assets for the host utility.[R#26]

On April 24, 1996, FERC passed its landmark Order 888 which mandates open access for wholesale electricity. Most investor-owned utilities now support this framework for wholesale open access as the groundwork for direct access in the retail market. Among other things, the ruling includes the provision that utilities must divulge the true costs of wheeling power across their transmission and distribution systems, a cost that will be levied as a surcharge in a direct access environment. The ruling has specified protocols for determining the level of these forms of distribution charges. Coupling these charges with WWP’s Distribution Charge may well become a highly effective cost recovery means in a competitive utility marketplace.

On May 16, 1996 the New York State legislature ruled in favor of full competition in the wholesale electricity market by 1997 and retail wheeling by 1998. To fund efficiency at stable levels (approximately \$100 million per year), the ruling specified that utilities will be required to collect a distribution charge of approximately 1 mill/kWh for DSM and 1 mill/kWh for research and development. The charge will likely be non-bypassable and will be applied to each utility’s distribution system. A second issue, the allocation of the distribution charge revenue, has not yet been determined.[R#27]

Coming full circle, Washington Water Power has recently won approval of its proposal for direct access and competition. Effective July 1, 1996 WWP has opened its system up for limited retail wheeling as a means of encouraging an open power market for the Northwest. WWP’s filing offers its thirty largest customers the opportunity to choose their power suppliers for up to one-third of their load, an equivalent of 37 aMW or 5% of WWP’s total load. The model includes a Direct Access and Delivery Service (DADS) Tariff for WWP’s distribution service.

The DADS Tariff accounts for transmission and distribution services as well as ancillary services such as scheduling, balancing, and forwarding. The DADS Tariff does not provide for DSM, however, since customers serviced by WWP’s sys-

tem are already obliged to pay the Distribution Charge that is the subject of this Profile. With the WUTC’s approval of the proposed DADS Tariff, WWP has added to its progressive track record with implementing distribution charges, collecting for both the costs of an innovative portfolio of DSM programs as well as the rent it requires for the use of its transmission and distribution systems.[R#20]

### CONCLUSION

The industry’s focus on distribution charges does not suggest that efficiency cannot be carried out in the free market. Instead, this class of new funding mechanisms can complement the transition to full use of profitable energy service companies. Most proactive investor-owned utilities are creating energy services divisions and/or unregulated subsidiaries which will ultimately become profit centers. The market has already demonstrated that it can support some programs; distribution charge-funded programs can complement these efforts by filling in with enhanced energy services in market segments that up to this time are not attractive to entrepreneurial energy service companies.

Fundamentally, we as a society have learned that customers value the environment in ways that may not yet be strictly considered “economic.” Utility customers – as WWP’s customer survey clearly found – value efficiency programs, renewable energy, and social programs. Their willingness to pay for “the right thing” – despite some of the lowest power rates in the country – suggests the viability of the model. Akin to Working Assets’ positive experience in New Hampshire, where it is selling green power at a premium price, WWP has shown that the market is ready to continue to support efficiency and green power through these innovative funding mechanisms.

By explicitly stating the costs of its efficiency programs through its model Distribution Charge, WWP has ably demonstrated it has the ability to turn the adverse aspects of DSM – complete with concerns about cross subsidies, free ridership, and rate impacts – into an attractive customer service responding to customer needs. WWP has paved the way for others to implement similar up-front and transparent funding mechanisms, while suggesting a portfolio of programs that clearly illustrates the evolution of DSM as it matures in the marketplace.

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