The Regulatory Assistance Project

System Benefits Charge Case Studies

THE REGULATORY ASSISTANCE PROJECT

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Washington Water Power DSM Tariff

Washington Water Power (WWP) proposed a two-year experimental rate rider (system benefits charge) to the Washington Utilities and Transportation Commission (WUTC) and the Idaho PUC in October 1994 to provide stable, predictable funding for DSM. They believe that this approach protects DSM from retail wheeling and reduces their risk of losing customers to competition because of DSM's rate impacts. The charge was approved by the WUTC in late 1994 and by the Idaho PUC in early 1995.

The charge applies to WWP's electricity and natural gas sales and is assessed by customer class. There is a 1.55 percent increase for electricity customers, a 0.55 percent increase for gas customers in Washington and a 0.6 percent increase for gas customers in Idaho. The lower gas assessment matches gas revenues with planned gas expenditures. Actual charges for electricity range from .046› to .108› per kWh and .097› to .197› per therm for gas customers. The charges will yield $4.7 million for electric DSM and $426,000 for gas DSM. All DSM expenditures funded through this mechanism are subject to a prudence review at WWP's next general rate case.

Assessing a fixed percent across customer classes protects prior cost allocation and rate design decisions. A fixed charge would have shifted costs from large to small consumers, and a flat volumetric charge might have been unacceptable to large users.

Critique: Although there was some argument as to whether the resource goals were set at appropriate levels, tying goals to resource needs is a good practice. The percent surcharge may be a reasonable compromise between those who want a fixed customer charge and those who prefer a volumetric charge. However, the resource potential is greater and generally more cost-effective for commercial and industrial customers than it is for residential customers. A volumetric charge would place more of the cost on large users who would presumably be targeted for the most savings. This experimental program relies primarily on utility-designed and -delivered programs. Opening up program design and service delivery to competition could stimulate more innovation in some market segments.

More information:

Washington Water Power Application for DSM Tariff Revisions, to the Washington Utilities and Transportation Commission, October 1994.

Idaho PUC Order No. 25917, March 7, 1995.

Thomas Dukich, Washington Water Power Company, (509) 482-4724.

United Kingdom Energy Saving Trust

Many in the US have watched with interest the restructuring that has occurred in the United Kingdom. Most attention has been paid to the privatization of generation, the creation of local distribution companies, the operation of the pool and the price and cost of electricity. Less attention has been paid to the UK's experience with energy conservation in a competitive market. After initially neglecting DSM in its restructuring proposals, the UK government announced in 1992 that its commitment to CO_2 reduction made at the Rio Convention would be met in part through increased efficiency of electricity. Investments in efficiency would be funded with money raised via a system benefits charge.

A fixed system benefits charge of œ1 ($1.60) per year is assessed on all franchise customers of distribution utilities. Franchise customers have a demand less than 100 kW and tend to be residential or small commercial customers. The œ1 charge is equal to 0.0337›/kWh or a 0.3 percent increase on an average rate of 12› per kWh. Each of the 12 distribution utilities in England and Wales receive an energy savings target and an allowance to implement programs to meet targets. Some utilities feel that the allowance is too low, but others think it is adequate. Energy efficiency advocates complain that both the revenue collected and the energy savings targets are too low to make meaningful investments.

An independent government corporation, the Energy Saving Trust, was set up to advise the UK regulator and oversee utility performance. The Trust determines targets, allots monies, reviews the programs proposed by the utilities, verifies the savings estimates and tracks funds that have been allocated to each utility to insure that savings are achieved.

Non-franchise customers have a demand greater than 100 kW. These medium to large commercial and industrial customers neither pay a system benefits charge, are served by resulting utility energy efficiency programs nor are responsible for contributing to CO_2 reductions. Instead, delivery of energy efficiency has been left to what has turned out to be an unresponsive marketplace. Citing a customer focus on the lowest unit price of electricity, energy suppliers are not offering energy efficiency services. Suppliers are also cautious about making any energy efficiency investments with long paybacks because contracts with non-franchise customers are seldom longer than one year.

The system benefits charge will end in April 1998. At that time, there will be no more franchise customers, and all consumers will choose their own suppliers. This move will leave markets as the sole provider of energy efficiency.

But energy savings targets may no longer be as important to the UK either . A recently-released government study of greenhouse gas emissions declared that the UK's commitment to meet CO_2 reductions will be met.

Critique: Because UK utilities had little prior experience with energy efficiency programs, and because the energy savings targets were mandated by the regulator, it made sense to establish an independent entity to oversee the program. The market, however, has yet to demonstrate that it will provide a range of energy efficiency services to non-franchise customers. Therefore, rather than eliminating the system benefits charge, it would be prudent to continue it until market activity has been developed for all customer classes, and long-term cost reductions are captured. This could be done by using competitive bidding to promote opportunities for third party providers of energy efficiency services.

More information:

Ed Holt, Energy Efficiency in a Restructured UK Electric Industry, available from The Regulatory Assistance Project, (207) 582-1135.

Simon Green, Energy Saving Trust, 44-171-931-8401.

Craig Mickle, Association for the Conservation of Energy, 44-171-935-1495.

UK NON FOSSIL FUEL OBLIGATION

The Non Fossil Fuel Obligation (NFFO) is a requirement that UK utilities purchase a certain amount of nuclear and renewable energy. Because existing nuclear power plants are uneconomic, and renewable energy is still a developing technology with costs above market prices for power, these required purchases are funded by a surcharge of about ten percent on electricity distribution that is paid by all customers, regardless of size. Most of the revenue (95 percent) is used to subsidize the nuclear plants, but the remaining five percent is sufficient to meet the renewable targets, 1500 MW by the year 2000. This represents about three percent of current capacity.

The NFFO was established as part of the UK restructuring of the electricity supply industry and is administered by the government, not the electricity regulator. When originally conceived, it was only intended to support uneconomic nuclear power plants in the UK. Support for renewable energy was later recognized as a legitimate purpose as well.

The percent of the surcharge varies and is recalculated each year. It is determined by figuring out how much money must be collected to cover the difference between the monthly average pool price and the actual cost, including amortization of capital.

As the revenue from the surcharge is collected by each of the distribution utilities, it is turned over to the Non Fossil Purchasing Agency (NFPA), an organization set up and controlled by the utilities. The NFPA pays the incremental cost above market prices for the renewable energy to the utilities, and the utilities pay this increment, plus the pool price (their cost) to the renewable project owners. The payments to renewables represent about a 0.05 percent increase to the price of electricity.

Renewable capacity is acquired through competitive bidding. The first round of bidding in 1990 acquired 152 MW, in 1991 472 MW were acquired and the third round in 1994 awarded 627 MW. A fourth round of bidding is in process and is expected to be announced in 1995-96. A final fifth round is planned for 1997-98.

It is possible that not all of the 1250 MW acquired to date will come on line because some projects may fail to obtain local planning permission. Successful bids have five years from the time of award to commissioning the project, and payments may extend up to 15 years.

The NFFO support of nuclear power is planned to end in 1996 when the government will try again to privatize the plants. For renewables, the NFFO may continue until 2014, although there are currently no plans to acquire more than the 1500 MW.

Critique: The NFFO has set in motion a renewables industry in the UK where previously none existed. The series of competitive bids has encouraged greater diversity of resource proposals and lower bid prices, although the renewable development industry may still be somewhat concentrated.Clear resource targets set by the government are helpful. The mechanism for payments, and their calculation, however, seems complex and might be difficult to implement without a pool or other means of determining transparent market prices.

More information:

"The UK Non-Fossil Fuel Obligation: Only Helping the Easy Winners?" in *Power in Europe*, July 31, 1992, pp. 129/2-5.

Catherine Mitchell, Support for Renewable Energy in the UK - Options for the Future. University of Sussex, Science Policy Research Unit, July 1995.

Catherine Mitchell, The Renewable NFFO - A Review. University of Sussex, Science Policy Research Unit, July 1995.

Dr Catherine Mitchell, Science Policy Research Unit, University of Sussex, 44-127-368-6758.

Arizona Public Service Company EEASE Fund

The Arizona Corporation Commission approved a settlement agreement with Arizona Public Service Company (APS) which established spending targets for renewable resources and DSM programs for each of three years beginning November 1994. APS must file an implementation plan that requires Commission approval and recovers costs through the Energy Efficiency and Solar Energy Fund (EEASE Fund). The EEASE Fund is created through a system benefits charge based on kWh sales. The spending targets are shown below.

Year	Minimum	Cap
First year	$8 million	$10 million
Second year	$10 million	$12 million
Third year	$12 million	$18 million
Subsequent years until next rate case is decided	$14 million	$18 million

Of the spending targets, at least $9 million over the three year period must be spent on renewables.

The filed plans for DSM and renewables estimate costs for each year and forecast APS retail energy sales. For the first year, November 1994 through October 1995, the projected spending exceeds the $10 million cap. The charge is thus set by dividing the cap by projected sales of 17,600,329 MWh. This yields a charge of $0.00057 per kWh.

One thing that is different about the APS charge is that it includes not only the capital and expensed costs of the projects but also the net lost revenue and a reward or incentive for kW deferrals resulting from DSM.

The amount recoverable through the EEASE Fund is capped at the upper limit of the annual spending target. If APS spends less than the lower limit of the annual spending target, it must bank the shortfall, pay interest on it and use the accumulated money for future DSM and renewable projects. As a further incentive not to underspend the target, the interest that APS would pay on the banked shortfall in spending is not recoverable.

Critique: Using a system benefits charge to support renewable energy and DSM makes good sense. An even better step would base the charge on goals (output) rather than spending (inputs).

More information:

Arizona Corporation Commission, Docket No. U-1345-94-120, Decision No. 58644, May 27, 1994.

Arizona Public Service Company, Plan for Administration of the Energy Efficiency and Solar Energy Fund, July 1, 1994.

David Berry, Arizona Corporation Commission staff, (602) 542-0742.

OSLO EKON FUND

The City of Oslo, Norway and Oslo Energi (the municipal utility), believing that most of the acceptable hydro sites had been already developed and energy conservation would contribute to meeting long term growth in demand, levied a volumetric system benefits charge beginning in 1982 to establish a capital pool – the Ekon Fund – for loans and grants to make investments in energy efficiency. The charge of $.0016 per kWh was 2.9 percent of average electricity rates.

In addition to making loans and grants, the fund administrators provide full services to each customer including a building and equipment audit, an approved list of installation contractors, inspections and sample monitoring and evaluation.

Funds are made available for a comprehensive package of measures with a payback period of at least two years. This payback length is set to avoid cream skimming. Fifteen percent of the fund money is offered as a grant, and the remaining 85 percent is offered through interest-bearing loans. The financed energy efficiency measures have saved all fuels but predominantly electricity since 80 percent of building energy use is electricity.

In the first year customer demand was very high. Since then demand has not kept pace with initial expectations, and as a result, total annual energy savings targets are not being met. Reasons for diminished customer interest include low electric rates, a plentiful supply of clean energy from hydropower and self sufficiency in energy supply (including North Sea oil and gas). Nevertheless, loans from the revolving fund have been made to over 20,000 customers from all customer classes.

The continuing influx of fresh capital, coupled with the lag in making loans, earned interest of over $18 million on the fund balance and interest paid on loans, have made it possible for the fund to become self sufficient. Because of this, the charge was discontinued after ten years in 1991, having raised $149 million and financed $112 million in projects.

The Ekon Fund was administered by the utility until late 1993 when it was brought under the direct control of the City Council. Ironically, the very success of the mechanism in generating funds, and the surplus created by the lag in developing and financing projects, has brought political pressure to appropriate the Ekon Fund for other social programs. However, for the immediate future the City has decided to maintain the fund for energy efficiency retrofits.

Critique: The strength of this example is its simple mechanism, and the establishment of a unit or organization with a clear mission to administer the fund. The fact that it was able to become self-sustaining is also positive, although in hindsight if the charge had been adjusted downwards to keep pace with the funding needs of the projects, the surplus

accumulation would not have been as great, and the political pressure to redirect the money might have been avoided.

More information: The Results Center, *Oslo, Norway Comprehensive Municipal Energy Efficiency*, Profile #79, 1993.