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Energy-Efficient Water Heating Program for the Residential Sector

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Water Heating Efficiency Program
Draft Program Description
Bonneville Power Administration

The Water Heating Efficiency Program is a residential energy conservation program which will create energy savings through improving the efficiency of residential water heating in the Pacific Northwest.

In order to achieve this purpose Bonneville wants to accomplish the following objectives:

- ô Increase consumer awareness of water heating energy use and potential for energy efficiency.
- ô Help develop an infrastructure that could be used to acquire cost-effective water heating energy savings at levels identified in Bonneville's 1990 Resource Program.
- ô Increase the installation of energy-efficient water heaters as less efficient water heaters are replaced.

What Is Happening?

We are in the design phase of the Program. This is the first draft of the program description, and we would like your help in designing a program you can use. Specifically, we are considering three options, two of which are well-defined. The third option will allow a utility to design a program or adapt an existing program to our program offer.

How You Can Be Involved

We would like you to review and comment on this document as the first step in the design process. The document is broken into three main sections:

- Section 1: Program Development Background...a brief description of the beginnings of the water heating efficiency program
- Section 2: Program Overview...a brief overview of the program as it has been proposed
- Section 3: Details of the Program...a more detailed explanation of those topics in Section 2 which need additional explanation.

Please send your written comments by October 31, 1990, to:

Public Involvement Manager
Bonneville Power Administration
P.O. Box 12999
Portland, OR 97212

If you have any questions about the public review process for this document, please contact Bonneville's Public Involvement Office:

Portland - (503) 230-3478
Toll-free in Oregon - (800) 452-8429
All other toll-free - (800) 547-6048

Be assured your comments will receive our full consideration. Your ideas are important to us.

If you have questions regarding the contents of the document, or if you have questions about the Water Heating Efficiency Program generally, please contact one of the customer service field offices listed on the next page:

BONNEVILLE POWER ADMINISTRATION

Customer Service Field Offices
serving as points of contact
for the Water Heating Efficiency Program

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Section 1

BACKGROUND ON PROGRAM DEVELOPMENT

During the power surplus period of the late 1980's, Bonneville sponsored market research which provided an understanding of the market environment in the water heating end-use. The major areas of investigation included market trends, consumer purchasing practices, unit price, and availability of energy-efficient models.

In 1988, Bonneville conducted a series of meetings with utilities operating water heater programs. Discussions focused on utility program concerns and the appropriate role for Bonneville as the region seeks efficiency in residential water heating. The design of the Program is based to a large degree on the experiences gained by regional utilities operating water heater incentive programs. In addition, an analysis of incentive programs operated outside the region has been helpful in the development of a regional program.

Bonneville is a member of the Appliance Efficiency Group (AEG), formerly the Northwest Appliance Efficiency Group, and participates in discussions on water heating issues as they relate to the Pacific Northwest. The work done with the Appliance Efficiency Group has provided additional input in the development of the Program.

This Program has been developed using a Public Involvement Process. A draft program strategy was made available to the public for comment during April 1990. The comments received were considered in the development of this document.

Section 2

PROGRAM OVERVIEW

Simplicity and Flexibility

The major aim of this program is to provide a simple, yet flexible vehicle for saving energy by encouraging the installation of energy efficient water heaters in the residential sector in the Pacific Northwest.

We have designed an incentive-based program to be implemented by utilities. The Program provides a flexibility which allows an incentive to be applied to a variety of program approaches. Utilities will be asked to select a program delivery option that best fits their needs and circumstances.

In addition to flexibility, a primary consideration in developing a water heating program is simplicity of implementation. This Program provides options that minimize administrative complexity for program operators.

Options

Briefly, here are the options--our idea of how this program might operate in the future.

Option I: This is the preferred alternative, due to the ease of operation of this program option. The utility distributes rebate coupons. The buyer gets his/her coupon validated by the utility, and sends the coupon to a clearinghouse. The clearinghouse then sends the buyer a rebate check.

Option II: The utility will distribute rebate coupons. The buyer will take or send the coupons to his/her utility. The utility will give them a check or credit the consumer's account, whichever is preferred. The utility will receive payment from Bonneville for each eligible water heater installed.

Option III: This will be a utility designed option. Utilities will be paid the incentive directly by Bonneville for each eligible water heater installed. The method of achieving this objective would be left to the utility, subject to contract negotiations.

PROGRAM ADMINISTRATION

Form of the Agreement

Under this program Bonneville will be acquiring energy savings through the replacement of water heaters with energy efficient water heaters. Therefore, all three options will be offered under a power acquisition contract.

Eligible Participants

This program is offered to all full and partial requirements customers, excluding DSI's. The Bonneville Cost Sharing Principles will apply to this Program. The Program is available to consumers with electric water heating equipment, or new homes where an electric water heater will be installed.

Administrative Payment

Bonneville is seeking comment on the need for and amount of an administrative payment to participating utilities. At this time Bonneville contemplates a small payment or no payment, but we have no established position yet.

Forms and Financial Reporting

Reporting forms will be required of utilities under all options. Under option I utilities will have to fill out a request for payment, if there is an administrative payment. In that case the utility will report the number of coupons validated that month (or quarter). Also included in the payment request will be a line item for advertising. The clearinghouse will provide other reports as needed. Under options II and III the utility will provide the number of units, administrative expenditures (if they are allowed under the Program), and advertising costs on a monthly or quarterly basis.

Qualifying Equipment

Electric resistance water heating models listed in the Gas Appliance Manufacturers Association (GAMA) Consumers' Directory of Certified Efficiency Ratings, that meet the efficiency qualification outlined in the next section, are considered eligible for the Program. Energy efficient shower heads will also be eligible for the Program.

Energy Efficiency Qualification Level

Bonneville will adopt the efficiency guidelines set by the Northwest Appliance Efficiency Group for water heaters. The efficiency levels that qualify for the Program incentive are as follows:

0.95 Energy Factor for 59 gallons capacity or less.

0.93 Energy Factor for 60 gallons capacity or more.

Energy efficient shower heads will qualify for the Program incentive. The Appliance Efficiency Group will recommend a standard that shower heads will be required to meet.

Program Availability and Effective Dates

The Program involving incentives will begin in FY 1992. Utilities will begin operating the program December 1, 1991. This is a tentative date at this point. We will try to start earlier, if possible.

Length of the Program

There are two factors which will influence the length of the program. These include a perception by manufacturers and distributors that this is not a short term (1-2 years) program, and movement of the market to more efficient water heaters.

INCENTIVES

The amount of the incentive has yet to be determined. Bonneville is considering an incentive amount equal to the incremental cost of purchasing an energy efficient water heater which meets the Program standards. Another part of the incentive will reflect an amount paid for the savings from the energy efficient shower head part of the program package.

We may also add more components to the Program in succeeding years. One addition might be water heaters in the commercial sector.

PROGRAM EVALUATION

Evaluation of this program will consist of a process and an impact evaluation designed to minimize the burden on participating utilities and their consumers, while answering key questions for Bonneville.

PROGRAM PROMOTION

Marketing

Marketing will be a major factor in the success of this program, and we intend to commit adequate funds in this area to insure the success of the program. There will be three separate marketing efforts connected with the Program. The first consists of the production of camera ready advertising for utilities to use in existing programs. This effort will be made at the local level.

Once Bonneville's Water Heating Efficiency Program is in place, we propose to continue the use of the camera ready materials with appropriate changes to reflect our program.

The second effort that we propose to make will be in the form of cooperative advertising for utility participants, also at the local level. This will be funded on a 50/50 matching basis.

Regional advertising is the third area we are considering. One of our goals is build the image of the utility as the energy expert. In terms of regional marketing, at this time we are considering an ad campaign in the Yellow Pages. As other ideas arise, we will consider them for the regional marketing approach.

Trade-Ally Participation

Bonneville will provide orientation materials for utilities to use to capture trade-allies to participate in the program. This material will be used to convince retailers to actively participate in the Program.

Section 3

DETAILS OF THE PROGRAM

This section is an expansion of Section 2. It provides a more detailed description of our proposed program, and puts forward what we think are the principal unresolved issues.

This discussion is presented in the same sequence as Section 2, with an expansion of each topic that requires further explanation. The issues are added at the end of each major subsection. When you submit comments, please add any issues we have overlooked and your suggestions for their resolution.

Options

Within each option there will be 6 major components of the Program. They are (1) promotion, (2) trade-ally participation, (3) rebate coupon distribution, (4) rebate processing, (5) installation verification, and (6) financial reporting. Utilities may choose an option with a level of participation commensurate with activities in their service areas.

There are four major links that need to be addressed to make each option successful. These are the consumer, the retailers/installers, distributors, and manufacturers. Components 1-3 above address these links, either directly or indirectly. Failure to influence any one of those links will reduce the effectiveness of the Program.

As a member of the Appliance Efficiency Group, we are working with the water heater manufacturers to assure an adequate supply of qualified water heaters for the Northwest. We feel that we have a good start at convincing manufacturers to provide sufficient numbers of water heaters for the region.

Similar efforts will be made in the coming year with the retailers/installers and distributors. Research indicates that these two groups will be much more reluctant than manufacturers to participate in the Program.

This Program will also be tied to the Blue Clue Program because of that program's name recognition. Initially, we will add a list of eligible water heater models as a supplement to Blue Clue's The Top 15% Energy-Efficient Refrigerators and Freezers.

Energy efficient shower heads could be integrated into the Program in a number of ways. They could be provided to the installers to use as a marketing technique to convince potential buyers to purchase an efficient water heater. The utility could also use them as a give-away to encourage participation in the Program.

Option I:

This option offers a full range of program services with minimum work load for participating utilities. Under this option Bonneville will establish a central clearinghouse to process rebates.

The utility choosing this option will maintain customer contact in administering the program. They will promote the rebates, provide information about water heating efficiency, distribute rebate coupons, verify the purchase of an eligible water heater, verify consumer eligibility, and validate the rebate "coupon," redeemable through the clearinghouse.

After verifying consumer and water heater eligibility, the utility will retain the paid receipt and a certification signed by the consumer. This certification will indicate that the water heater has been or will be installed in the utility's service territory within two weeks (or some other specified time period) and that the consumer is a utility customer. The certification will also provide for inspection of the installation by Bonneville. These inspections will be done on a random basis within one year of installation.

The utility will keep the paid receipt and signed certification. At the end of the Program year, they will send that set of documents for all installations for the year to Bonneville. At this point Bonneville may perform inspections. The process described here would relieve the utility of financial liability associated with the installation of water heaters under the Program.

The utility will solicit participation by retail outlets of residential water heaters. Utility staff will develop a working relationship with local water heater retailers and installers to assure that there will be an adequate supply of eligible water heaters. Retail outlets include appliance stores, plumbers, and utilities who offer water heaters on a retail basis. This activity will require the most up-front effort by utilities, except where the utility sells the appliance.

Option II:

This option is similar to option I, the only difference is the handling of the rebates. Under this alternative the utility will take a more active part in the administration of the program. Rather than using the clearinghouse, the utility will make the rebate payment directly to the consumer. Another payment variation would be for the utility to credit an amount to the consumer's account equal to the rebate.

Option III

The description of this option is somewhat sketchy because it will be designed by the utility. There are several possibilities, one being a warranty program. Under the warranty program, the consumer would pay the utility a small monthly fee. The utility would then guarantee to replace the water heater within 24 hours of breakdown.

A second possibility would be a loan program. The utility would install an eligible water heater and allow the consumer to pay it off by making payments with his or her monthly utility bill.

As in options I and II the utility will set up a working relationship with local retailers and installers to assure that they will maintain a supply of eligible water heaters (or possibly sell water heaters).

Depending on the utility's administrative process for the Program, the consumer may be required to provide the paid receipt and sign a certification allowing inspection by Bonneville. Again, this would relieve the utility of financial liability associated with installation verification.

Under this option, at the utility's discretion, the incentive could be paid to the consumer, the retailer, the distributor, the manufacturer, or be retained by the utility.

ISSUES:

1. (a) How should energy efficient shower heads be used in the Program?

(b) Should all participants use this component the same way, or should there be some flexibility in its use?

PROGRAM ADMINISTRATION

Eligible Participants

This program will require cost sharing on the part of utilities. For administrative ease, cost sharing utilities will be expected to reimburse Bonneville at the end of the budget year for their cost via an annual payment based on the activity in that year. We feel that it is better to do this calculation once rather than 12 times.

Administrative Payments

For some of the programs Bonneville promotes, we make administrative payments to cover the utilities' cost of running the program. We will cost share any administrative payment, should there be one for this program.

Qualifying Equipment

We are limiting the Program to installation of new and replacement of existing electric resistance water heaters and the installation of energy efficient shower heads. Encouraging fuel switching is not an objective of the Program. We also will allow the replacement of water heaters before they break down. We feel that few homeowners will change their water heater before they have to.

Length of the Program

The length of the Program is very important. Once the manufacturers and distributors are delivering only water heaters that meet the standards we have set for the program, the need for further water heating incentives to the consumer would disappear. The incentive might then be moved to the distributor/manufacturer levels to encourage them to continue with the Program objective of keeping a supply of eligible water heaters available in the region.

We will continue the energy efficient shower head component of the water heating program. Shower heads will always save energy and energy efficient ones probably will never completely dominate the market. Therefore, a shower head program will run the full six years.

A second factor that would affect the length of the program would be cost-effectiveness. If the average energy factor of non-eligible water heaters began to approach our standard, then the cost-effectiveness of the program would be reduced. This reduction could dictate that the incentives be dropped.

The water heating manufacturing business is very competitive. The manufacturers will cooperate with our Program and produce eligible water heaters only if they perceive our Program as being a long term effort. If they do not have that perception, they will return to making less energy efficient water heaters because those are cheaper to manufacture and, consequently, easier to sell.

The contract will run for six years. This is how long we feel that it will take to acquire the savings projected for this Program in the Resource Program.

In addition to the normal impact and process evaluations, a brief evaluation will be done at the end of the second year to test for program cost-effectiveness. Any decisions to change or drop the Program will take all of the above factors into consideration.

ISSUES:

1. (a) Should there be an administrative payment for this program?
(b) If so, how much should it be?
2. Do you agree that a 6-year program is adequate to acquire the water heating resource?

INCENTIVES

Currently, Bonneville is using \$50 as the incentive for the Program. This is based solely on estimates of the incremental cost of energy efficient water heaters. We intend to do a thorough survey of the market to determine what the actual incentive should be, based on the incremental cost.

At present this description indicates that the consumer, the retailer, the distributor, the manufacturer, or the utility will get the incentive. This fits in with the strategy of influencing all links, consumer, retailer, distributor, and manufacturer, that will make this a successful program.

We will be adding energy efficient shower heads to this program. An incentive structure will need to be created for that element.

The market for this Program in the commercial sector is largely unknown. There are many residential properties which have been converted to commercial use. We are starting research which should tell us what the potential is for that sector.

ISSUES:

1. How much should we pay in incentives for the various program elements (water heaters, shower heads)?
2. Who should these incentives go to?
3. (a) Should we include the commercial sector in this program?
(b) If we do include that sector, when should we bring it on line?

PROGRAM EVALUATION

Evaluation will be a key element in determining the success of the Program. Utilities will be asked to participate in the process evaluation by discussing their experiences and perspectives of the program in confidential interviews with an evaluation contractor. To conduct the impact evaluation, utilities will be asked to provide records for a sample of households that participate in the program. The evaluation requirements will be outlined in the contract signed by the participating utilities.

PROGRAM PROMOTION

Marketing

Prior to offering its water heating program, Bonneville will provide utility customers with marketing materials designed to encourage energy efficiency in the existing residential water heating. The materials are organized as camera ready pieces addressing utility rebate, loan, guarantee, or general information/education programs. The materials are designed primarily to assist utilities that currently operate water heating programs. However, they may be applicable to other utilities as well.

Bonneville proposes to continue the use of the camera ready materials as part of the marketing efforts connected with this program. Since consumer and water heater industry familiarity will have been established, it seems reasonable to continue use of these materials on a local level. We may need to revise the messages slightly to reflect program information.

Bonneville proposes providing cooperative advertising funds to utility participants that will assist in promotion of the Program at the local level. To access the cooperative funding, a utility would fund 100 percent of the initial placement of promotional materials and Bonneville would fund 100 percent of a matching, later placement.

For example, the utility might run a week of radio advertising and Bonneville, through cooperative funds, would fund an additional week of the same radio advertising. The utility marketing piece may be independently designed or may be one of the camera ready items provided by Bonneville. We propose offering cooperative advertising funds in this manner, because it has the potential to create a longer-running campaign and it simplifies record-keeping for all.

Bonneville is not anxious to pursue regional marketing for the Program. We recognize that water heaters are usually purchased in a crisis situation, and we are concerned that a generic regional campaign would not accurately target the Program.

In order to build the image of the utility as the energy expert, we are considering a regional approach through the placement of advertisements in the "Yellow Pages." Although the message would be regional in content (e.g., water heater failure means energy efficient water heater replacement), there would still be a local connection due to placement in the local phone book.

Bonneville also intends to focus on marketing to retailers, distributors, and manufacturers. However, we have not yet determined exactly how this will be done.

Trade-ally Participation

Bonneville will provide an orientation package to assist utilities in making initial contact with appliance dealers, plumbers, and other retailers of water heaters.

The package will include (1) a description of the Program, (2) a discussion on retailer participation and how their participation will benefit consumers, their business, the utility, and the region, and (3) a dealer's kit designed to organize program administrative and in-store promotion materials. This assistance will focus on providing retailers with a clear understanding of the program, and the potential benefits and limitations of participating in the program.

Participating utilities will solicit program participation by water heater retailers . This will include an initial contact to present the Program and provide follow-up information as needed.

ISSUES:

1. (a) Should we market to retailers, distributors, and manufacturers?

(b) If we should, how should we do structure that marketing?

2. How do we allocate available funds to the various marketing efforts?

- END -

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