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ATTACHMENT 1 – Appendix A
On-Bill Financing Report

I. EXECUTIVE SUMMARY

Pursuant to the Legislature’s “Resolve, Regarding On-Bill Financing Programs for Energy Efficiency,” the Maine Public Utilities Commission (the Commission) has conducted an examination of the options for, and the feasibility of an on-bill financing program in Maine for small business and residential electricity customers. Based on its examination, the Commission concludes that on-bill financing appears to be a viable mechanism to increase the penetration of energy efficiency measures, especially for small business customers by providing a simple and attractive financing vehicle and also, as an avenue to produce net savings to the customer at the outset. There are numerous options and variations on how an on-bill financing mechanism can be implemented and the decision to implement on-bill financing mechanisms on a broad scale would not be costless. Therefore, it is the Commission’s recommendation, at this time that an on-bill financing program for small business customers be rolled out on a pilot program basis. Based on the results of the pilot program, the Commission can assess whether the program should be expanded and what modifications, if any, should be made if the program is in fact expanded.

II. BACKGROUND

On May 18, 2009, Governor Baldacci signed a “Resolve, Regarding On-Bill Financing Programs for Energy Efficiency” (the Resolve).\(^1\) Under the terms of the Resolve, the Public Utilities Commission was directed to examine options for, and the feasibility of, establishing an on-bill financing program for the purchase and installation of energy efficiency measures for small businesses. The Resolve states that this examination must include:

a. Consultation with the Maine Small Business Development Centers;

b. A review of on-bill financing programs that have been established in other states;

c. An analysis of how on-bill financing could be integrated with the existing energy efficiency programs administered by the commission; and

d. An analysis of relevant policy and program implementation issues, including, but not limited to, participant eligibility requirements, incentives for participation, efficiency measures and technologies covered by the program, loan terms and conditions, risks for ratepayers and utilities, credit and collection issues, administrative costs and options for tying the loan to the property or electricity meter.

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\(^1\) Resolves 2009, ch. 49.
The Resolve also states that the Commission may also consider on-bill financing options for residential electricity customers. The Resolve directs the Commission to submit a report of its findings and recommendations to the Joint Standing Committee on Utilities and Energy (U&E Committee) by January 15, 2010. Pursuant to the requirements of the Resolve, the Commission solicited and examined information from other states that have adopted on-bill financing programs; consulted with representatives of the Maine Small Business Development Centers and with Efficiency Maine field program providers; and conducted interviews with representatives of Maine’s three investor-owned utilities (IOUs): Central Maine Power Company (CMP), Bangor Hydro-Electric Company (BHE) and Maine Public Service Company (MPS).

III. ON BILL FINANCING OBJECTIVES, OPTIONS AND OBSTACLES

A. Objectives

At its most basic level, on-bill financing provides a vehicle for repaying the proceeds of a loan which has been used to purchase some type of energy efficiency measure which provides a benefit to the borrower in terms of decreased energy costs. The objective of on-bill financing programs is to remove one or more barriers, real or perceived, which may prevent consumers from investing in cost effective energy efficiency measures. Within the overall on-bill financing umbrella, there are a number of variations and options to choose from in designing the program. These options are set out and discussed below. Regardless of the program design, as a general matter, on-bill financing programs share the common objective of removing the barrier that customers face in raising the up-front capital needed to make energy efficiency investments and also of taking the complexity out of financing by providing a more convenient means of repayment through the customer’s utility bill. In addition, most on-bill programs share the common objective of providing a mechanism which allows consumers to fund the repayment of the loan for the energy efficiency measure with the savings from the efficiency measure which thus removes the barrier created by customers’ requirements for fast pay backs from efficiency investments.

B. Options

1. Class of Customers Eligible for the Program

As the Resolve recognizes, there is a fundamental choice to be made at the outset as to what class of customers, residential, small business or both, should be eligible for the program. One of the most significant differences between a program for residential consumers and small business customers is the lending and collection laws which would be applicable to a residential loan program. Specifically, the following laws would likely be applicable to a residential on-bill program but not to a small business program:

• Truth in Lending Act (TILA) 15 USC §§ 1601, et seq. sets out formal disclosure requirements of loan terms, particularly how the interest rate is computed. While the TILA does not apply to utility service generally, it does apply to the financing of durable goods and home improvements. 12 CFR §226.3(c)

• Federal Fair Credit Reporting Act 15 USC §§ 1681, et seq. establishes requirements for lenders who make use of credit reporting to screen loan applicants. Where a credit application is denied or terms offered other than requested by the consumer, the lender must provide a disclosure stating that the consumer’s credit report was considered in making the loan decision, and inform the applicant the he/she has a right to request a free copy of the report and dispute/correct errors, with contact information for the credit reporting agency.

• Fair Debt Collection Practices Act (FDCPA) 15 USC § 1692 et seq. regulates collection practices of a “debt collector,” which is a business whose principal purpose is debt collection or who regularly collects debts. The “debts” covered by the law are those created when credit is extended to a natural person (a “consumer”) for “consumer” purposes (personal, family or household). The Federal FDCPA exempts original creditors, so long as they collect debts in their own name (15 USC § 1692a).

• Maine Consumer Credit Code, 9-A M.R.S.A. §1-101 et seq. provisions on finance charge and fee calculations, right to cancellation and registration.

In addition, there would be significant differences in the types of measures that would be financed for the two different classes. Specifically, as discussed in section VI below, there appears to be significant opportunity for savings for small business customers from an on-bill financing lighting program while such a program would make little sense for residential customers. Most of the savings measures for residential customers would seem to come from cross-fuel type measures which generally can be seen as adding both complexity and controversy to the program. Finally, the residential market may be seen as more risky, which if true, could add costs in terms of the number of defaults and in the interest rate if set to reflect market conditions.

2. Obligation to the Customer vs. Obligation to the Meter

Another fundamental design question is whether the obligation will be assigned to the customer or to the meter. Under the customer obligation model, the customer who contracted for the energy efficiency measure is liable for repayment of the obligation and, thus, follows customary lending practices. This type of financing provides that the efficiency measure will be paid for by the contracting customer regardless of whether or not the customer stays at the premises. Should the customer fail to make the agreed upon payments and default on his/her obligation, traditional credit and collection methods may be relied upon including late fees, increased interest rates, and collection through the courts. As a general matter, disconnection is not incorporated as a remedy for late or non-payment under this model. To secure payment, a security interest in the property financed or other collateral may be required as part of the financing. Given the nature of obligation, the credit
worthiness of the customer needs to be considered in deciding whether to extend credit under this approach. The customer obligation approach is generally seen as straightforward and flexible since, within certain parameters, the length of repayment obligation and the monthly obligation can be negotiated at the time of the financing.

As the name suggests, under the meter obligation approach the obligation of repayment runs with the meter rather than the customer. The obligation under this model is secured through a utility tariff and thus the model is also referred to as a tariff installation program, or TIP. The Pay As You Save®, or PAYS®, is a type of TIP which requires that certain program elements be included in order for participants to be allowed to use the PAYS® name. Under a TIP, the repayment obligation would be incorporated into the overall charge that the customer is obligated to pay the utility and rules regarding payment allocation would need to be established. Since the obligation would not be considered a debt of the customer, typical enforcement for non-payment of this type of obligation would be disconnection. When a customer moves prior to the obligation being repaid, the obligation will be passed on to the successor customer who assumes the obligation for as long as that entity is a customer at that location, or until the obligation is repaid. As such, it is imperative that any successor customer be provided notice of the obligation prior to the customer entering a rental or purchase agreement for the property. In addition, since subsequent customers will be obligated under this approach, it also is seen as essential that the repayment obligation be designed in a manner to guarantee overall savings on a monthly basis over the life of the asset. Therefore, certification of savings by an independent third party is often required as part of a TIP.

One of the arguments made by proponents of the TIP model is that it is superior to the customer obligation model in addressing the “split benefits” barrier to investments in energy efficiency measures. The split benefits barrier arises in landlord/tenant situations where the owner of the property and the entity responsible for the utility bill are different. This split in interests results in the owner of the property having little financial incentive to make efficiency investments in measures that will not reduce his or her costs and the tenant of the property having no incentive to make improvements in the property which will not provide him or her with a payback on his/her investment. This barrier is overcome by a TIP, proponents argue, since the tenant is not obligated to pay for the improvement after vacating the property. While successor tenants are bound to pay for the obligation, their overall energy costs should be equal to, or lesser than, what they would have been pre-investment.

The meter obligation approach is not without drawbacks, however. First, as noted previously, rules on payment allocation methodologies including changes to the utility’s billing system would need to be addressed. Second, since successor tenants will likely resist taking responsibility for repairing or correcting failed measures, rules would need to be established to address such situations. In addition, problems may arise when the property is vacant for prolonged periods of time and in the case of small businesses when the use of the property

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changes and making the efficiency measure unneeded. Finally, some may see assessing credit and credit worthiness as a problem in this model, since the customer responsible for payment may be different than the customer who initiated the financing.

3. **How Should the Programs be Financed?**

There are two essential questions to be answered here: first, is what entity would be the source of the funds for the customer loan; and second, what should the terms of the loan be? There are a myriad of options to choose from in answering these questions.

With regards to the question of who should be the source of the funds, the options include traditional financing sources such as commercial banks, a state financing agency such as the Finance Authority of Maine, the T&D utilities, and finally Efficiency Maine through a portion of the system benefits charge or ARRA funds. To the extent a traditional source of financing is relied upon, additional complexity may be added to the transaction since the banks may have their own documentation and credit requirements. In addition, arrangements would need to be made on how defaults are to be handled where the loan originates from a bank or from a T&D utility. Utilities may resist being the source of funds on the grounds that they are not experienced at being banks, that this funding is outside their business model, and will add to their costs of doing business.

Regarding the terms of the loan, interest rate options include market rates, subsidized low interest rates, and 0% financing. If traditional lending sources, or T&D utilities are relied upon, and zero percent financing or below market rates were incorporated as part of the program, the lender would need to be compensated for the difference between the market rate and the subsidized rate.

With regards to contract length, contracts can generally be put into two broad categories, short term (up to 5 years) and long term (up to 20 years). The short-term program is well-suited for less capital intensive measures which have a shorter pay back period. Shorter term loans would lower the risk of default and, to the extent a revolving loan fund is being used as a source of the financing, decrease the period of time needed to replenish the fund. In addition, it might be possible to minimize the split benefits barrier that continues to exist under the customer obligation model by utilizing a shorter repayment period since the shorter repayment period would more likely coincide with the borrowers’ occupancy expectations. However, a shorter term program may also limit the measures available to be financed by eliminating capital intensive investments with longer pay back periods.

4. **Fuel Neutrality**

Under a fuel neutral program, a customer would be authorized to finance energy efficiency measures without regard to fuel type. For example, an old oil furnace could be financed to purchase a more efficient gas furnace or an electric heat storage unit. A fuel

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4 An example of this might be a small business location where new refrigeration units were installed and the use changed from a grocery store to a hardware store.
neutral program can improve energy efficiency on an overall societal basis and lower customers overall costs. On the other hand, a fuel-neutral program may be controversial since it creates winners and losers by industry. Specifically, some may argue that it is unfair to use electric ratepayer monies to promote other industry, others may argue that it is inappropriate to use ratepayer provided funds to subsidize a customer’s switching from a fossil fuel source to an electric source. In addition, a fuel neutral program would likely be more difficult to administer since, although the customers’ overall cost would be reduced, the customers’ electric bill would increase. This phenomenon may both be a source of customer confusion and could increase the likelihood of default.

C. Obstacles

1. Program Costs

In order to implement on-bill financing, new business processes must be developed and existing processes modified. Most notably, information systems such as customer information and billing systems, voice response applications, and web applications will need to be enhanced to support associated business processes. The following is a list of some areas requiring process development, system modification, and training:

- Eligibility and loan application procedures;
- Denial/Approval procedure;
- Loan installment set-up and management including payback calculations;
- Billing & Invoicing;
- Payment processing & allocation;
- Credit & Collection (Creditworthiness, Defaults, Notifications, Disconnection/Reconnection, etc);
- Customer Service (Inquiries, Complaints, Application of Service/Denial, etc.);
- Energy Savings Certification (i.e., Independent Certification Agent for the meter obligation model);
- Interfaces between utility and lenders; and
- Interfaces between utility and installation contractors.

If Efficiency Maine were utilized as the source of funds, some of these functions could be performed in house. However, the functions and ultimately the costs would not disappear.

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In addition to implementation costs, there would be costs associated with administering the day to day operation of the program which might include additional customer service staffing to administer day to day operations of on-bill financing including but not limited to handling customer, lender, and contractor calls regarding energy efficiency loans administered under the on-bill repayment mechanism. In addition, depending on the source of funding, additional staffing costs associated with overseeing the exchange of information between utilities and lenders, including the maintenance of communication interconnections and exchange of data files, may be needed. Finally, depending on program design, there may be initial transaction costs associated with establishing security interests, if obtaining financing, credit reports and the costs associated with independent energy savings certification.

IV. INFORMATION COLLECTED FROM MAINE STAKEHOLDERS

The Commission solicited input and comments from the following stakeholders: electric utilities (Bangor Hydro-Electric Company, Maine Public Service Company, Central Maine Power Company, and Kennebunk Light and Power), firms experienced in energy efficiency program delivery (Energy & Resource Solutions and North Atlantic Energy Advisors), and representatives from the Maine Small Business Development Centers. The information gathering phase was done through a number of informal meetings and phone conferences.

In gathering information from stakeholders, the Commission asked for input regarding the following areas pertaining to an on-bill financing program:

- customer class eligibility (i.e. residential, commercial, industrial),
- customer size or type limitation
- financing interest rate (0% or higher),
- initial program size (pilot, system wide, or State wide)
- ultimate loan obligation (with the property or with the customer),
- responsibility for customer credit worthiness determination (utility, Efficiency Maine, or other entity),
- responsibility for financing (Efficiency Maine, utility, or other entity),
- receptiveness of customers to on-bill financing program,
- billing or administrative issues (for utilities), and
- potential interest in implementing an on-bill financing program (for utilities).

A. Maine Small Business Development Center (SBDC)

The Maine SBDC provides comprehensive business management assistance, training, resource and information services to Maine’s small businesses. Their business counselors are located throughout the State. The Commission interviewed Mark Delisle, State Director, and Lee Cheever, Business Counselor, as part of the study.
The SBDC representatives were supportive of the on-bill financing concept. They indicated this was an opportune time to test a pilot program due to the limited access to capital and standard financing routes normally utilized by small businesses. The SBDC representatives noted that historically, small business owners often relied on their personal residence as a source of financing through home equity lines of credit. However, given the downturn in the housing market, this tool is now often unavailable.

While the SBDC representatives were very supportive of the concept of an on-bill program for small businesses, they did feel that restricting a program to financing only electric efficiency equipment measures had the potential to limit participation. Their clients are often searching for financing mechanisms for non-electric energy efficiency measures, such as oil heat measures (i.e. furnace or boiler replacements). The SBDC representatives estimated that their small business clientele lease space (55%) more often than own space (45%).

Their advice regarding a financing interest rate was to offer a low interest, but not a “zero interest” rate. In their opinion, a zero-interest financing rate may raise an element of suspicion about an on-bill financing program. In other words, potential participants may wonder “Why are they offering this program for nothing?” They also indicated that the interest rate would not be as important to a potential participant as a monthly payment which reduces the businesses overall energy costs.

B. Efficiency Maine Program Delivery Contractors

The Commission interviewed Bruce Harrington, Director of Energy & Resource Solutions (ERS), and Doug Baston, President of North Atlantic Energy Advisors who are both currently contractors with Efficiency Maine. Mr. Baston and Mr. Harrington were both very supportive of the on-bill concept and were also very familiar with on-bill financing programs delivered in other states and in the Maritime provinces. Both representatives repeatedly emphasized that the enemy of on-bill programs is complexity and anything that could be done to keep things simple should be done.

Mr. Baston and Mr. Harrington noted that 80-85% of the potential energy efficiency improvements for small businesses can be achieved through lighting measures. Their recommendation was to run a pilot program targeted towards small business customers (under 100KW). The pilot program could be delivered as a direct install program by lighting retrofit contractors. They also recommended the program be offered at 0% interest to eliminate the interest costs as a participation barrier. In addition, keeping the interest at 0% would reduce complexity associated with repayment calculations and with lending regulation requirements. Their review of participation rates in similar programs showed a decline in participation with the introduction of an interest component in on-bill financing.

Mr. Baston also recommended against requiring a credit check from a credit bureau as part of the loan application process. On-bill financing programs in Massachusetts and Nova Scotia do not require credit checks and they have extremely low default rates (2-4%). Program loan defaults are covered by the public benefit funds in those
areas, so defaults don’t impact the utilities. In Massachusetts, the loan obligation stays with the customer and is based on a two-year repayment period.

Mr. Baston and Mr. Harrington noted that small business owners have many diverse responsibilities and that in order to be successful, an on-bill financing program should be designed and delivered in such a way as to eliminate hassles for the customer. The goal of the program should be to have cost-effective measures installed and financed with no net monthly utility bill increase. The representatives also noted that a big obstacle to rolling out the program to residential customers is the additional lending and consumer protection laws that are triggered. In addition to a monthly on-bill financing program, they recommended a discounted lump sum payment option for those customers who would prefer paying off the obligation up front.

C. Electric Utility Company Input

In general, comments and concerns from the utilities related to billing, payment hierarchy, credit and collection, loan liability, and compensation for utility incurred expenses from on-bill financing programs. Comments and recommendations from the individual utilities are outlined below.

1. Maine Public Service and Bangor Hydro-Electric Company

Several conference calls were held with representatives from Maine Public Service Company (MPS) and Bangor Hydro-Electric Company (BHE). One of the conference calls was held jointly with representatives from both utilities. In addition, Staff met personally with representatives from Bangor-Hydro on one occasion.

During the interviews, representatives of both companies expressed the view that an on-bill program for small business customers, if properly implemented, would be a positive development from the utilities perspective since the program could provide their business customers with an opportunity to cut their expenses and thus increase the likelihood that they will remain in business and continue to be customers of the utility. Both utilities were generally receptive to the concept of offering an on-bill financing program to their small commercial customers (<50KW), but had concerns and questions regarding billing protocols and potential credit and collection issues. BHE estimated that billing system changes would involve one to two thousand hours of programming, and five hundred to one thousand hours of testing. BHE estimated that the contractor rates for such a programming change would be in the range of $125/hour to $200/hour and that total project costs for implementation would be in the range of $165,000 to $425,000. The BHE representatives noted that the company was scheduled to go out to bid for a new billing system in 2013 and that the on-bill financing functionality could be incorporated much more economically at such time.

Both utilities indicated that expanding the program to residential customers would increase the complexity of the program and increase credit and collection
risks. In addition, interest rates above a 0% level, as well as late-fees would likely result in changing repayment amounts which would also increase the complexity of the program.

They indicated they would support offering a pilot on-bill financing program which as a pilot program would allow them to avoid major billing system modifications. They also suggested an end-date or “sunset clause” be included as part of any pilot program. MPS estimates that they have approximately five to six thousand commercial customers that would be eligible for such a pilot program while BHE estimates that it had approximately 14,000 general service customers (<25kW) and an additional 1,750 M.G.S. customers who might be eligible for the program. As a result of the conference calls, BHE and MPS jointly developed an approach to resolve administrative issues, billing and payment processing protocols, and collection issues that they presented to Staff.

2. Central Maine Power Company

Staff also met with representatives from Central Maine Power Company (CMP). At the outset of the interview, CMP’s representatives questioned the need for, and the benefits of, on-bill financing programs. CMP’s most significant concern pertained to their billing system and the inability to easily integrate an extra billing item into their bill. They indicated that a significant amount of computer programming time would be required in order to accommodate an on-bill financing program. CMP estimated it would take 4,500 hours of contractor programming time at roughly $100 per hour for the basic billing system change and that it would take approximately 18 months to make the change. If the on-bill financing program required changes to CMP’s partial payment allocation methodology, there would be additional costs and additional time would be needed to make such changes. These costs might be justified if there were enough customers who would take advantage of the program.

CMP’s representatives also indicated there was no physical space on the T&D page(s) of the bill. They also indicated that, even if it did fit, CMP would likely object to having this billing item on the T&D page of the bill. An additional page insertion would add additional paper and postage costs to the bill generation process. They estimated that this cost to be about $0.12 per bill. They did feel that an option may be to require a participating customer to utilize the electronic bill or “e-bill” service to accommodate this billing item.

CMP had concerns and questions about how tenant changes would be treated under an on-bill financing program. Under their system, any billing information pertaining to on-bill financing would not appear on the new tenant’s bill. This area may need to be addressed during program design when determining whether the loan obligation stays with the customer or with the premise.

CMP’s representatives stated that it was CMP’s position that utilities role in any on-bill program should be minimized and that they were currently researching the hurdles to on-bill programs. CMP estimated it would take 18 months to implement a pilot offering.
3. Kennebunk Light and Power District

Comments received from Kennebunk Light and Power District (KLPD) mirrored the billing, collection, and payment issues expressed by the other utilities. KLPD was generally receptive to a pilot program and felt any of the issues identified were resolvable. The utility expressed a willingness to work cooperatively to test this concept and a desire to develop a beneficial customer-focused program to include provisions for recovery of an on-bill energy loan.

V. EXPERIENCE OF OTHER STATES

A. Connecticut

1. United Illuminating Company

United Illuminating Company (UI) operates an on-bill loan program that is focused on small businesses with an average peak demand of 150 kW or less and which finances projects if the monthly energy savings exceeds the monthly principal and interest charges. Projects under the program are financed through a combination of both loans and rebates. The program has been in operation since 2000, and by 2008, it had paid out $6.9 million in rebate incentives and had loaned $21 million through on-bill financing.

The UI program starts with a no-obligation energy audit where an energy auditor will do a walk-through of a small business to evaluate the business’s existing lighting, refrigeration, heat, ventilation and air conditioning equipment. UI uses funds from the Connecticut Energy Efficiency Fund (the state’s public benefit fund), to pay up to 30 to 40% of the total project cost. UI then provides the balance of the funds for zero-percent financing (which is guaranteed by the Connecticut Energy Efficiency Fund) for up to 36 months to qualified customers. The payment on the loan is included as a line item on the customer’s monthly energy bill, and is offset by the energy savings. After the loan is paid off, the customer’s bill is reduced by the energy savings amount.

According to the utility staff at UI, the program has been popular and has required very little marketing. In 2007, UI had selected 14 contractors to provide energy efficient upgrades to commercial customers. These contractors are also responsible for securing a certain number of business leads each month. Since very little marketing has been required, the utility has been able to reduce its marketing budget and put the extra funds into rebates and loans. While payback periods vary, UI found that by extending the payback period to 36 months, it was able to double the number of program participants.

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6 In developing this section, the Commission relied extensively on the following resources; Alliance to Save Energy Report, supra; NYPSC On-Bill Report; and Enabling Investment in Energy Efficiency, A Study of Programs That Eliminate First Cost Barriers For the Residential Sector, Efficiency Vermont (August 2003).
UI looks at the customers’ payment history as the method of performing a credit check on its borrowers. Total loan defaults over the life of the program (as of 2008) are under $200,000, which is less than one percent of the total loans. In 2006, UI’s total budget for rebates was $1.6 million and $3.2 million in utility funds for loans. The program financed 310 projects that year and saved 5.8 MWh and 1.7 MW of demand savings. From 2000 to 2007, the program financed 2,450 projects, which has saved 670,000 MWh.

2. Connecticut Light and Power

Connecticut Light and Power Company’s (CL&P) program is similar to UI’s program and is also supported by the Connecticut Energy Efficiency Fund. Small business customers with an average 12-month peak demand between 10 kW and up to 200 kW are eligible. CL&P’s program is larger than UI’s and completed 955 projects in 2006. With a budget of $7.5 million that year, the program achieved 32.5 MWh of energy savings and 8.5 MW of demand savings. With this program, if the customer does not qualify for 0% financing or chooses not to participate in the 0% financing offer, the customer may pay the contractor directly for the work.\(^7\)

B. Massachusetts and Rhode Island

1. National Grid

Since 1990, National Grid has offered its on-bill financing program to small businesses in Massachusetts and Rhode Island. Including National Grid’s New Hampshire affiliate, Public Service Company of New Hampshire, 1,625 projects were completed in 2006, at a cost of $9.7 million which resulted in 23,000 MWh in annual energy savings. The program starts with a free energy audit, which results in energy efficiency recommendations. National Grid then pays 70 to 85% of the cost of the installation of energy efficient upgrades. 0% financing is then offered on the balance for a 24 month loan period, or the customer can pay for 85% of the balance owed.

Eligible participants are businesses with an average demand use of 200 kilowatts or less (or 40,300 kilowatt-hours or less) per month. The Small Business Services Program funds energy efficiency measures such as lighting upgrades, energy efficient time clocks, photo cells for outdoor lighting, walk-in cooler efficiency measures, occupancy sensors, and programmable thermostats. The cost of either payment option (0% financing or 15% reduction in bill) appears on the customer’s monthly electric bill.

2. Western Massachusetts Electric

\(^7\) UI and CL&P’s Small Business Energy Advantage Program has been promoted as a model by the Center for Small Business and the Environment, a non-profit organization that helped the California Public Utilities Commission launch an on-bill financing program in that state. The program has also been recognized as exemplary by the American Council for an Energy Efficient Economy.
Western Maine Electric Company (WMECO) will pay 35% of the costs of retrofit lighting and up to 35% for other eligible services. The on-bill program utilizes zero-percent financing and the loan repayment is based on the energy savings resulting from the upgrades. Small customers generally pay about the same per month that they did before they implemented the energy efficiency measures. Typically, the loan repayment period is less than two years.

Businesses with an average 12-month peak demand between 11 kW and 200 kW are eligible. While businesses within that range are all eligible, this program places greatest emphasis on those businesses with loads below 50 kW. Examples of energy efficient measures that the program has funded include lighting upgrades, occupancy sensors, HVAC measures, programmable thermostats and anti-condensation door-heater controls.

C. New Hampshire

Two utilities in New Hampshire, Public Service of New Hampshire (PSNH) and New Hampshire Electric Cooperative (NHEC) ran PAYS® pilot programs from 2002 to 2004. The PSNH program was aimed at financing efficiency measures for municipalities (street lighting) while the NHEC program was broader in scope and addressed lighting, weatherization, water saving devices and heating, ventilating and air conditioning upgrades. A survey evaluation at the end of the pilot program revealed that:

- Overall, 91% of survey respondents said that they would not have installed the efficiency measure without the on-bill financing mechanism.

- 85% of the participants in NHEC’s lighting program stated that they would not have purchased the lighting products in the absence of the financing program.

- Lighting retailers indicated that the program generated additional business and was successful.

The surveys also indicated the following concerns with the program:

- Some participants stated that it was difficult to identify the savings associated with the efficiency investment.

- There was some concern about the property owner’s obligation to maintain the equipment along with the property owner’s duty to disclose the “meter obligation” to potential purchasers.

- Concerns were expressed about disconnection for non-payment.

PSNH has rolled the pilot into a permanent program entitled Smart$tart. NEHC discontinued its residential program in 2003. Reasons cited for discontinuation of the
residential lighting program included high administrative costs and a decrease in the costs of compact fluorescents. The reason for ending the residential weatherization program was low participation rates caused by few projects being able to produce sufficient savings within the relatively short repayment period (5 years) to offset the repayment obligation.

D. California

1. Sempra

Sempra Energy, the parent company of Southern California Gas and San Diego Gas and Electric, launched an on-bill loan program in late 2006, financed from the state’s public benefit fund to cover a rate buydown and the loan program capital. Sempra Energy manages two separate but similar programs for both companies.

Both programs offer on-bill unsecured loan financing at a zero-percent interest rate. Initially, the programs offered business loans with a payment term of three years and government loans for five year terms. However, after looking at the benefits to customers of extending the loan terms, Sempra decided to offer a term of up to five years for business customers and up to ten years for government customers. Along with on-bill loans, the program can also be combined with rebates of approximately ten percent of the total project cost. The loans are capped at $100,000 for businesses and $250,000 for the government sector. The Sempra companies have not extended the program to the residential sector due to restrictions and fees associated with making consumer loans.

The San Diego program has focused on electric measures, most typically lighting, and these projects typically cost around $9,000. The Southern California Gas program has done gas projects which have tended to be more difficult to finance due to their higher costs and longer payback periods. Problems with Sempra’s on-bill program included difficulties with implementing billing system changes, in particular partial payment allocation and contractor quality issues. Sempra is now moving towards a system of contractor screening and requiring the contractors to go through an education process.

2. Sacramento Municipal Utility District

Sacramento Municipal Utility District (SMUD) had a residential on-bill financing loan program and experienced difficulties with its new billing system and establishing a payment hierarchy. However, SMUD did not completely terminate the program but instead SMUD now sends a separate bill for the loan repayment. Therefore, SMUD’s current program may now not technically be considered an on-bill program.

SMUD works closely with pre-approved contractors, who are also the main salespeople for the program. The contractor walks the customer through the loan application and SMUD denies or approves the loan within 24 hours. SMUD does all of the underwriting, servicing and collections. Unlike other on-bill financing programs, it charges an interest rate of 7.5%. This covers the cost of capital, plus administration and default costs. In 2007, the program received 4,400 applications, of which 3,200 were approved. SMUD’s default rate has been quite low due to the security of the fixture filing that they
place on the property. The highest annual default rate it is has ever experienced was 4% in 1996.

E. Kansas

Midwest Energy, a cooperative utility in Kansas, which serves approximately 40,000 residential customers, initiated a residential TIP in 2007. The proposed tariff was opposed by the Kansas Consumer Advocate due to concern about the program’s disconnection provision as well as the utility’s potentially requesting reimbursement for bad debt. The program, entitled How$mart®, is based on the PAYS model and provides for free energy audits. Based on the audit results, specific improvements are recommended and energy savings are estimated. To be eligible, the repayment obligation, or How$mart® charge, must be less than 90% of the estimated monthly savings. To be eligible, customers must be current on their utility bills but do not have to undergo a formal credit check. As of July, 2008, Midwest had financed 47 projects and had about 120 more projects in the pipeline.

F. Hawaii

In 2007, Hawaii Electric Company initiated a pilot program through all of its subsidiaries (Hawaii Electric, Maui Electric and Hawaii Electric Light Company) aimed at promoting the use of residential solar hot water heaters. The program provides for 0% financing for a term of up to 12 years and uses a meter obligation model. Ratepayers need approval from building owners before proceeding with the project.

During the first year of the project, Maui Electric issued 16 loans out of a program maximum of 50. According to utility personnel, one barrier for customers is the time it takes to attach the payment responsibility to the meter since customers must get a form notarized and then get approval from the Bureau of Conveyances. Due to the wait, some customers have opted for Maui Electric's other financing plan which requires 35% down and uses a standard unsecured loan.

G. Oregon

NW Natural’s on-bill financing program ran from 2000 to 2002. The utility worked with a third party, Questar, to offer customers an unsecured loan at 14% to 16% interest with a 5 year payback. The loans were for improvements that would reduce natural gas consumption. Even with interest rates that could be considered to be exceptionally high, NW Natural and Questar were able to provide loans to 2,000 customers in the two years that the program ran.

Unlike other on-bill financing programs which take advantage of public benefit funds, Questar managed and funded the entire program. The program only lasted for two years because Questar sold this portion of its business to another lender and one of the reasons for the sale was said to be the high default rate of 3.7%. While NW Natural was willing to continue the on-bill financing program, the new lender that took over for Questar
was unwilling to continue the service, largely due to the program’s repayment priority which provided that if the customer paid only part of the bill, the lender was fourth in line to be paid.

H. Canada

1. Manitoba Hydro

Manitoba Hydro is generally seen as an example of a successful program having one of the highest, if not the highest, number of loans issued as well as one of the lowest default rates. Manitoba Hydro’s program was initiated in 2001 and offers customers unsecured loans at 6.5% for a term up to five years. Eligible measures include adding insulation, installing ventilation, sealing air leaks, replacing windows and doors, lighting, electrical service and wiring and improving the efficiency of water heaters and existing heating systems including the installation of geothermal and air-source heat pumps.

To assess credit worthiness, Manitoba Hydro uses bill payment history and/or credit review. Overdue payments are subject to an interest charge of 1.25% per month until paid. If a customer’s arrears on its account are greater than 90 days, the customer is subject to disconnection. The default rate over the life of the program is 0.2%.

2. BC Hydro

BC Hydro’s residential on-bill financing program was canceled in 2002. The program provided for a free audit, a $1,000 rebate for energy efficient upgrades, and a below-market interest rate for financing the balance. The monthly repayment amount would then be added to the monthly utility bill. The program took place from 1990 to 2002, and during that time approximately 1.7% of households in the BC Hydro territory participated in the program. BC Hydro funded the program through conventional rate-based cost recovery.

Upgrades that were financed under the program included draft-proofing and insulation. The free audits, rebates, and on-bill financing led to an extremely expensive program that was not cost effective in terms of the actual energy savings of the measures installed. Additionally, BC Hydro felt that the financing was unnecessary for the residential market since the Company’s residential customer surveys never ranked financing as a top barrier to making energy efficiency upgrades.

VI. INTEGRATION OF ON-BILL FINANCING WITH THE EXISTING EFFICIENCY MAINE BUSINESS PROGRAM

A. Business Programs

Efficiency Maine’s Business program offers incentives to commercial and industrial customers for the purchase and installation of electric energy efficient equipment. Efficiency Maine utilizes trained contractors and suppliers as Qualified Partners to work with customers interested in installing qualified energy efficient electrical equipment. The
Qualified Partners assist customers with completing the application forms to secure pre-approval for the project prior to installation. The application forms detail the equipment to be installed, the cost of installation, and an estimate of Efficiency Maine incentive. Efficiency Maine reviews the application to ensure the project qualifies for an incentive by screening it for both cost-effectiveness as well as for equipment eligibility. Once the application has been determined to meet the program criteria, the customer is notified of project approval and may begin the project.

The incentives are designed to offset the incremental cost of purchasing premium energy efficient equipment when compared to the cost of standard efficiency equipment. The incentives are not intended to cover the entire cost of the project. There are situations, especially for small business customers, where the customer does not have the resources to finance the remaining balance of an efficiency project even though a project is cost-effective and would pay for itself in a relatively short time period. The integration of an on-bill financing program with the existing Business Incentive Program would eliminate financing barriers for such customers.

A suggested program model for integrating an on-bill financing program into the Efficiency Maine Business program is to deliver the on-site installation of measures through the services of a lighting contractor. The lighting contractor would prepare an estimate for the customer which would include all project costs minus any applicable Efficiency Maine equipment incentives. The contractor would assist the customer with all forms and paperwork associated with the loan and the Efficiency Maine incentive. The customer would then be responsible for the remaining project cost. This would be billed in equal monthly payments on their electric bill for a predetermined payment period (typically 2 to 5 years). For example, the estimate provided by a lighting contractor for a lighting retrofit job is $10,342 and the project would be eligible for an Efficiency Maine incentive of $4,524. This leaves a balance of $5,818 to be financed via the electric bill. The monthly energy savings from the project is 2848 kWh with a corresponding monthly electric energy savings of $427. By financing the project for 18 months at $323 per month, the customer would have a net monthly savings on the utility bill of $104. The obligation would be entirely paid for in 18 months and the customer would see the full monthly energy savings thereafter.

B. Residential Programs

Historically, the majority of Efficiency Maine’s residential programs have been delivered to the consumer through retail outlets. An example is the Residential Lighting Program where consumers purchased discounted Compact Fluorescent Lamps (CFL) at participating retailers throughout Maine. This program delivery model does not fit within an on-bill financing program. With the infusion of ARRA funds, Efficiency Maine is offering a home weatherization program to Maine residents. Following the completion of a home energy audit, the participating homeowner will engage a participating weatherization contractor to install qualified energy efficiency measures. Efficiency Maine will partially subsidize the cost of the installation, and the homeowner will be responsible for paying the balance. This is a fuel neutral program and thus measures and savings are not constrained to electrical efficiency measures. As outlined elsewhere in this report, consumer lending laws and credit issues pose challenges when implementing a residential on-bill financing.
program. However, if those challenges can be addressed, an on-bill financing program may prove to be of significant benefit in delivering a home weatherization program.

VII. FINDINGS AND RECOMMENDATIONS

Based on the information collected during its study, the Commission concludes that an on-bill financing program has the potential to increase the penetration of energy efficiency programs in the state. On-bill financing programs, especially as applied to the small business sector, have proven to be a successful tool in removing some of the barriers associated with customers investing in cost-effective energy efficiency measures. Specifically, an on-bill financing program can serve as a source of the initial capital needed to make the investment in energy efficiency measures which might otherwise not be available to the customer. Second, an on-bill financing program, if properly designed, can remove a great deal of the “hassle” of obtaining needed financing. Finally, through the use of low-interest or zero-percent financing, and by combining the repayment obligation with a utility bill which has been reduced as a result of the efficiency investment, on-bill financing can remove the cash flow barrier which often prevents customers from making cost-effective energy efficiency investments.

In looking both at the on-bill financing programs which have met with the greatest success in other states and the input received from Maine stakeholders, we believe it is imperative that any on-bill program be both simple to administer and simple to understand. In addition, before substantial investments are made implementing an on-bill program, it should be clear that this is a program that Maine ratepayers will take advantage of and that the investments associated with program implementation are warranted. With these principles in mind, the Commission recommends that a pilot program, initially targeted towards small business customers, be implemented at this time.

Lighting and lighting controls are suggested as the first measures to be offered under the pilot program since lighting retrofits are generally straightforward in terms of project costs, installation, and energy savings. By focusing on lighting, Efficiency Maine would be able to utilize its existing contractors in the field and could coordinate the contact, selection, and delivery of services to particular geographic areas which would enable the contractors to be more efficient in the delivery of the program.8

Participant eligibility in the program would be determined using the following criteria:

- Commercial customers under 50KW (billed demand)
- Customers with at least 12 months of continuous service

8 It should be noted, however, that several other programs that initially focused on lighting did have their contractors note if there were other energy opportunities such as refrigeration, at the site. We recommend that this information be collected during the contractor visit and that such information could be used in future program delivery offerings.
• Customers with no history of payment issues with their electric bill

The program would utilize funds from Efficiency Maine and would provide financing to customers, as opposed to meter locations, at a zero percent interest rate. The fund would initially be set at approximately $300,000 and would operate as a revolving loan fund with repayments used to replenish the fund.

The terms of the proposed program are summarized in the table below:

<table>
<thead>
<tr>
<th>On-Bill Financing Features</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Class</td>
<td></td>
</tr>
<tr>
<td>Length of Term</td>
<td>Up to 48 months, based on negotiated positive cashflow</td>
</tr>
<tr>
<td>Interest</td>
<td>0.00%</td>
</tr>
<tr>
<td>Prepayment</td>
<td>No-charge, pre-payment encouraged</td>
</tr>
<tr>
<td>Other Fees</td>
<td>None</td>
</tr>
<tr>
<td>Min Amount</td>
<td>None</td>
</tr>
<tr>
<td>Max Amount Loan</td>
<td>$10,000 per customer</td>
</tr>
<tr>
<td>Credit Check</td>
<td>Internal check on customer payment history</td>
</tr>
<tr>
<td>Default Process</td>
<td>Normal collections process. If customer defaults and account uncollected, the account can be assigned for collection or write-off billed as program expense using Efficiency Maine funds.</td>
</tr>
<tr>
<td>Loan With Customer/Account</td>
<td>Customer</td>
</tr>
<tr>
<td>Secured/Unsecured</td>
<td>Unsecured</td>
</tr>
<tr>
<td>Efficiency Measures to be Financed</td>
<td>Lighting</td>
</tr>
</tbody>
</table>
We believe this pilot program meets our objectives outlined above, is appropriately structured for success, and will provide a number of benefits to ratepayers. First, limiting the program to small business customers will significantly reduce the complexity of the program by eliminating credit and collection issues associated with consumer loans. Second, by limiting the program to lighting measures, the amount needed to be financed per customer can be capped at relatively modest levels. This will both help to ensure that the customer’s overall bill, including the loan repayment obligation, does not go up as a result of the financing and that the bill can be repaid in a relatively short period of time. This will minimize defaults and will also encourage those customers who rent to take advantage of the program. A zero percent interest rate should make the program more attractive and would also decrease complexity in terms of calculating the monthly repayment obligation which will appear on the customer’s bill.

In addition, by putting the obligation with the customer rather than the meter, credit worthiness can be verified easily by a customer’s payment history and it will not be necessary to transfer loan amounts and provide notice of the liability to successor customers. The customer obligation feature would also reduce potential costs associated with billing system changes which would likely be necessitated by the meter obligation approach. The customer obligation also eliminates objections which might be raised both by utilities and by consumers since it will not be necessary to include a disconnection for non-payment provision.

The Commission believes that the program should, at least initially, be rolled out on a pilot basis. By doing so, the Commission believes it will be possible to collect information from the field as to what works and what doesn’t in Maine, before making large resource commitments. By keeping this program small at the outset, it will also be easier to assess and modify the business processes which are associated with the program.

Finally, we believe that BHE and MPS will make excellent partners in the pilot program. As noted above, BHE and MPS have been enthusiastic in their support of the on-bill financing concept, and have provided important input on the design of the program. In addition, BHE and MPS have already collaboratively worked on a business model to address the program administration issues. A copy of this model is attached as Appendix A. The Commission believes this model will provide an excellent basis for the pilot program to work off of. Based on the results of the pilot program, the Commission can then determine if and how the program can be improved and whether the results of the program warrant expansion of the program and the investment associated with broad scale deployment.
APPENDIX A

On-Bill Financing Pilot Project
Process Outline Proposal

Submitted by BHE and MPS

Key Assumptions:

This pilot is limited to only Commercial accounts that have demonstrated that they have paid their bills on time in the past. MPS and BHE will assume no liability for credit risk due to customer default, changes in customer energy consumption or business process failures.

Efficiency Maine (EM) solely responsible for:

- Marketing
- Credit risk
- Initial Customer contact
- Measuring effectiveness via consumption data obtained from Customer
- Securitizing of loan against default or early exit via account termination
- Costs: All incremental labor and external costs incurred by BHE and MPS (TDC) to administer this program would be offsets to conservation fund

MPS and BHE will send via email to EM a report package containing information specified below not later than the 5th business day of each month.

Process Requirements

- Credit Check
  - EM send an email to the TDC to a designated email address that contains the following:
    - Customer authorization via signature
    - TDC Customer name as it appears on TDC Account
    - TDC account number and physical location
  - TDC will reply within two business days the customer has been established for 12 months and there have been no payment issues with their electric bill
- Service Initiation (assuming one loan per account)
  o EM send an email to the TDC to a designated email address that contains the following:
    ▪ Customer authorization via signature
    ▪ TDC Customer name as it appears on TDC Account
    ▪ TDC account number and physical location
    ▪ Amount of loan and monthly payment
  o TDC will reply within two business days that it received and processed the information

- Account/Service Activation
  o TDC will enter the information and the loan payment will show as a line item on the next scheduled bill
  o EM will be provided a list showing all new Activations that occurred during the past month that will include:
    ▪ Customer name
    ▪ TDC account number
    ▪ Effective date (next billing date)
    ▪ Amount of payment and/or starting balance

- Billing
  o TDC will create the proper charge using the methods and functionality provided by their billing application
  o There will be no late fees or taxes applied to the loan invoice item
  o EM will be provided a list showing the billings that occurred during the past month that will include:
    ▪ Customer name
    ▪ TDC account number
    ▪ Amount Billed and remaining balance

- Payment Application
  o Loan payment will not be subject to disconnection and will have the lowest priority in terms of payment priority.
  o All payments must go thru TDC payment process in order for the TDC to provide service
  o EM will be provided a list showing all payments applied during the past month that will include:
    ▪ Customer name
    ▪ TDC account number
    ▪ Amount Paid
    ▪ Date paid

- Delinquency
o EM will be provided monthly Arrears information sent via email that contains:
  ▪ Customer name
  ▪ TDC account number
  ▪ Amount Due past 30 days
o TDC will not include EM funds in its collection efforts, however any unpaid amount will appear in the total due amount shown on the customer’s next bill.

- Account Termination
  o TDC will dismiss all remaining unbilled EM charges from the customer account
  o EM will be provided a list showing any terminations that occurred during the past month that will include;
    ▪ Customer name
    ▪ TDC account number
    ▪ Remaining balance
    ▪ Date Account terminated

- Last known phone number used for collections
- Transfer of funds to EM
  ▪ EM will be wired at the beginning of the following month all payments received which is an amount equal to the total shown on the Payment report.
  ▪ EM will email TDC within five business days after receiving the wire that they reconciled that amount