2021 PAYS® Status Update

(Version: December 30, 2021)

State	Program	Utility	Number of Customers	Inception (yr)	Active (Y/N)	Source of Capital	Program Operator	Project Type	Projects Completed	Percent of Customers	Adoption Rate (%)	Copayments and Incentives ($)	Utility Investment ($)	Upgrade Costs ($)	Average Project Term (yr)	Uncollectables (%)	Progress Through
AR	HELP PAYS®	Ouachita Electric	6,916	2016	Y	Na:. Rural Utilities Coop. Finance Corp. USDA RESP	EEtility	**TOTAL** SF Not solar MF Not Solar Commercial Solar - Res Solar - Com	**409** 295 83 9 18 4	5%	90% w/no copay MF: 100%	NA	**$3,399,771** $1,733,175 $472,798 $759,765 $251,861 $182,172	**$3,399,771** $1,733,175 $472,798 $759,765 $251,861 $182,172	**11** 11 12 8 10 10	0%	6/30/21
CA	Water Upgrades $ave	Regional Program	NA	2021 Mid May	Y	Joint Powers Authority	EEtility	SF, MF	13 SF 0 MF	NA NA	NA NA	NA NA	$5,501 NA	.≥$5,501 NA	10 NA	NA NA	6/30/21
	Green Hayward PAYS®	City of Hayward	NA	2015	N	Utility Operations	Frontier Energy	MF	6 MF Bldgs 162 Units	1.2%	23%	NA	$173,115	≥$173,115	3-10	NA	6/30/21
	Windsor Efficiency PAYS®	Town of Windsor Water Utility	7,846 NA	2012	N	Utility Operations	Sonoma Cnty Energy Independence	SF MF	242 SF 5 MF Bldgs 233 Units	3% SF NA	NA	$354,464	$207,240	$561,704	10-15	<0.1%	6/30/21
GA	Income Qualified Tariff-Based Energy Efficiency Pilot	Georgia Power	(Pilot Max : 500) 2.2M	2020	Y	Utility Capital	EEtility	SF MF	11 0	0.20% NA	85% NA	>$0 NA	$24,858 NA	>$24,858 NA	12 Yr NA	NA	8/5/21
	SOUL Pilot	City of LaGrange	(Pilot Max: 25) 11,319	2020	Y	City Budget	EEtility	SF	10	0.09%	67%	NA	$47,000	≥$47,000	12	NA	8/5/21
HI	Solar Saver Pilot	Hawaiian Electric Hawai'i Electric Light Maui Electric	304,261 85,029 70,872	2007	N	Conservation Budget	Utility	SF	484	NA	NA	$484,128	$2,900,000	$3,384,128	10	<0.1%	12/31/08
KS	How$mart®	Midwest Energy	29,706	2008	Y	Various	Utility	Residential	2,475	8.3%	70%	$5,089,880	$14,123,202	$19,213,082	10-15	<0.1%	7/31/21
KY	How$mart® KY	Big Sandy RECC Grayson Electric Co-op Fleming-Mason Energy Jackson Energy Co-op Farmers RECC Licking Valley RECC	12,500 15,000 23,730 51,000 20,000 17,000	2011	Y	Various	Mountain Association	SF, Renters Commercial	320	0.23%	78%	$826,506	$1,651,562	$2,478,068	10-15	2% (Pilot) 0.36% (Post Pilot)	6/30/21
MO	Ameren PAYS®	Ameren Missouri	1,068,394	2021	Y	Utility Capital	EEtility	SF, MF	14 SF	0.001%	NA	>$0	$54,827	>$54,827	12	NA	8/5/21
	Evergy PAYS®	Evergy	546,638	2021 Q3	Y	Utility Capital	EEtility	SF, MF	NA	NA	NA	NA	NA	NA	NA	NA	8/5/21
	Spire PAYS®	Spire	1,101,378	2021 Q4	N	Utility Capital	EEtility	SF, MF	NA	NA	NA	NA	NA	NA	NA	NA	8/5/21
NC	Upgrade to $ave	Roanoke Electric	12,150 2,073	2015	Y	USDA EECLP	EEtility	SF Commercial	654 1	5% 0.05%	63% overall, 90% w/no copay N/A	>$0 NA	$4,497,558 $8,421	>$449,7558 ≥$8,421	11 NA	NA	8/5/21
NH	Smart$tart	Eversource	236 Municipalities	2002	Y	Conservation Budget & Repayments	Utility	Municipal	696	NA	NA	>$0	$14,900,000	>$14,900,000	8	<0.0%	6/30/21
	Smart$tart	New Hampshire Electric Co-op	84,000	2002	Y	Utility Capital	Utility	SF & Commercial Retail	76 CFLs	NA	NA	NA	$1,530,597	≥$1,530,597	5-10	<0.1%	7/3/21
TN	U-Save Advantage	Appalachian Electric Co-op	40,233	2019	Y	USDA RESP	EEtility	SF	71	0.18%	86%	>$0	$425,693	>$42,5693	12	NA	8/5/21
Totals									**Projects Completed** **5,867**			**Copayments and Incentives** **$6,754,978**	**Utility Investment** **$ 43,949,345**	**Upgrade Costs** **$50,531,208**			

Prepared by: LibertyHomes & Energy Efficiency Institute, Inc.

Southern Environmental Law Center

Review of National Consumer Law Center's Tariff On-Bill Recommendations in the Context of the Pay As You Save® System's Built-In Consumer Protections

INTRODUCTION

The National Regulatory Research Institute (NRRI) published an Insights Brief in January 2020 that presented its audience of utility commissioners and staff with general background information on utility tariff on-bill (TOB) programs.[1] NRRI arranged for the National Consumer Law Center (NCLC) to publish a reaction to the Insights Brief in which NCLC presented seven consumer protection recommendations to consider for tariff on-bill programs.

Most of the 18 utilities in 8 states that have gained experience with tariff on-bill programs have based their programs on a system developed by Energy Efficiency Institute, Inc.: Pay As You Save® (PAYS®).[2] The PAYS system includes a number of consumer protections that distinguish these utility programs from loan-based on-bill programs, including those using a tariff to facilitate debt collections.

This memo considers the seven recommendations from NCLC in reaction to the NRRI Insights Brief in the context of the PAYS system. As set forth below, programs based on the PAYS system resolve many of the consumer protection concerns raised by NCLC, which may yet apply to other types of on-bill programs (such as loan-based programs) that are not addressed here.

I. Overview of the PAYS System

The Energy Efficiency Institute's PAYS system allows a utility to invest in energy efficiency upgrades and recover its cost for those upgrades over time through a charge on participating customer's electric bill that is less than the estimated savings. PAYS has proven to be a successful and replicable model for paying for energy efficiency, one that can meet the needs of renters and homeowners of various income levels, governments, and businesses.

PAYS has three main essential elements: (1) a utility tariff that links bill-payment responsibility for program cost recovery to a specific meter, not to an individual customer; (2) on-bill payment, securing the utility's investments on the same terms as regulated utility service (allowing for disconnecting service for non-

[1] Tom Stanton & Scott Sklar, *Utility Tariff On-Bill Financing: Provisions and Precautions for Equitable Programs*, NRRI Insights (Jan 2020) (https://pubs.naruc.org/pub/0E0B2716-947E-B0A8-2899-3DCA0F0C8F16).

[2] Pay As You Save® and PAYS® are registered trademarks and the intellectual property of the Energy Efficiency Institute (http://www.eeivt.com/).

payment); and (3) independent certification that efficiency measures are appropriate and that savings estimates exceed payments in both the near and long terms. In addition, there are three minimum program requirements: (1) the offer to the customer will not be burdened with customer risk; (2) the utility collecting PAYS cost-recovery charges agrees to pay the capital provider regardless of collections, the same way it treats all other utility investments; and (3) PAYS offers will not be forced to compete with other rebate options.[3]

Under PAYS, the utility invests in cost-effective, energy-efficiency upgrades at a participating customer's residence or business. The customer pays nothing upfront and does not take on debt. Instead, participating customers pay a tariffed service charge on their monthly utility bill, set to be no more than 80% of the annual estimated savings. The tariffed charge remains on the utility bill at that meter until costs for the upgrades at that location are recovered, set for a term not to the exceed 80% of the estimated life of the upgrades or the length of a full warranty (but in no case longer than twelve years), allowing customers to enjoy net annual savings that are at least 25% above program services charges. Subsequent homeowners, tenants, or commercial occupants contribute a proportional share of the cost recovery while they benefit from the resulting energy savings. Because the cost-recovery tariff runs with the meter, PAYS is ideally suited to benefit renters as well as owner-occupants. As set forth below, the PAYS tariff also requires that the Program Operator monitor and evaluate subsequent bills to make sure the estimated net savings are being realized. The tariff also provides for suspending the cost-recovery charge in the event of equipment malfunction until repairs or replacement can be made, unless the utility or program operator determines that the occupants removed, damaged, or failed to maintain the upgrade.

This model of inclusive financing solves several problems that have slowed the adoption of loan-based or property-assessed energy efficiency programs. Many customers do not know how long they will remain at any given residence, making it difficult to invest in measures with longer payback periods. Customers who rent are frequently limited in their ability to participate in energy efficiency programs. Renters have the added disincentive of not wanting to pay directly for investments in property that belongs to someone else. Likewise, landlords have little incentive to make efficiency investments because the tenant typically pays the utility bills. By limiting cost-recovery to the meter where the upgrades have been installed and avoiding debt obligations for participants, PAYS allows renters as well as low-income residents to participate. In addition, PAYS allows customers who might not otherwise be financially able to take advantage of utility rebates for more efficient appliances (because they cannot afford the out-of-pocket upfront expense for those appliances in order to qualify for those rebates). The PAYS Model Tariff

[3] Energy Efficiency Institute, Inc. ("EEI"), *PAYS® Essential Elements & Minimum Program Requirements* (http://www.eeivt.com/pays-essential-elements-minimum-program-requirements-2/).

also requires the suspension of the cost recovery charge during any period in which the upgrades are malfunctioning or not delivering estimated savings.

Importantly, PAYS is not designed as an income-qualified program and should not be seen as the only vehicle for deploying energy-efficiency upgrades. There remain good reasons to provide comprehensive efficiency services (as well as critical health and safety repairs) for low-income customers at no cost to those customers. In addition, PAYS is no substitute for bill affordability programs, like percentage of income payment plans that can ensure long-term affordability for essential utility service. PAYS can, however, provide a voluntary option for customers at various income levels to save money on their bills without upfront expense or income eligibility requirements and enjoy improved comfort and indoor air quality. It has also proven to be a viable program for rural electric membership cooperatives, which otherwise often lack resources for zero-contribution efficiency programs and serve under-resourced areas.

II. Response to National Consumer Law Center Recommendations

While we applaud NCLC's commitment to protecting low-income utility customers, experience from PAYS programs to date (mostly from electric cooperatives) suggests that the particular, additional safeguards recommended by NCLC for tariff on-bill programs generally are not specifically required for PAYS. Our principle concern is that with regard to PAYS, the additional recommendations offered in the NRRI Insights Brief could increase the cost of program administration and artificially limit participation without significant counterbalancing benefits. PAYS can be a beneficial option for households without regard to income and can be a way to bring bill-saving efficiency upgrades to a significant number of customers (whether renters or homeowners) who would otherwise not have access to those measures. This is particularly true in the southeastern United States, where too few utilities offer no-cost income-qualified efficiency or affordability programs and government funded weatherization services reach far too few eligible households. We appreciate the opportunity to be in open dialogue with the NCLC and other consumer advocates as we work together to ensure that efficiency measures are widely available to help customers save money on their bills and to make essential utility service affordable for all.

A summary of recommendations made by NCLC are included in italicized bullet points below, followed by a response informed by experience with the PAYS system.[4]

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[4] In addition to reviewing published reports and hearing reports of successful PAYS implementation, SELC received information regarding PAYS program implementation and consumer protections from the Energy Efficiency Institute, Clean Energy Works, and Liberty Homes. *See also* Southeast Energy Efficiency Alliance (SEEA), *Utility Guide to Tariffed On-Bill Programs* (Feb. 2020) (http://bit.ly/SEEATOB) ("SEEA TOB Guide").

- *Zero-contribution programs:*
    - *Avoid Displacement of zero-contribution programs, which provide eligible customers with comparable benefits to TOB but with no out of pocket expenses.*
    - *TOB should be limited to service territories where there is no zero-contribution program offered to low-income utility customers.*

OBSERVATIONS ON FIELD EXPERIENCE:

We agree that all income-eligible customers should be encouraged and allowed to take advantage of any available efficiency or weatherization programs that are provided free of charge. Yet it would be impossible to limit PAYS to service territories where "there is no zero-contribution program." The federal government's Weatherization Assistance Program ("WAP") provides zero-cost efficiency programs to low-income customers across the country. WAP funds and analogous state and ratepayer program funds, however, are insufficient to reach all eligible households.[5] A PAYS program that would otherwise provide residential customers a voluntary opportunity to save money on their bills and improve the health and comfort of their home without any upfront costs should not be removed as an option given existing limitations of zero-contribution programs.[6] Even if the pledge by the incoming Administration to spend historic sums to weatherize an additional two million homes comes to pass, that effort would reach only a fraction of all eligible households in four years.[7]

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[5] WAP is one of the largest, oldest, and most widely available zero-contribution programs available to income-eligible households. Yet many administrators for the program face a daunting waitlist. In 2019, the state of New York reported that all of its federally funded low-income weatherization programs were reaching less than 1% of the eligible households per year. New York State Weatherization Assistance Program, Program Year 2019 State Plan, at 7, 12 (New York State Homes and Community Renewal reported that its allocation of WAP funds would assist about 7,420 homes in 2019-'20; more than 3.5 million people live in about 2.1 million households that are eligible for program services) (https://hcr.ny.gov/system/files/documents/2019/06/2019%20State%20Plan.pdf). In Iowa, WAP funding will allow an estimated 416 eligible households to receive services; approximately 174,166 households in the state are income eligible to receive weatherization services. Iowa Weatherization Program, Draft 2020 State Plan, Department of Human Rights (https://humanrights.iowa.gov/sites/default/files/media/2020%20Draft%20Weatherization%20State%20Plan.pdf).

[6] Arkansas provides a stark example of the gap between the reach of WAP and the potential reach of a utility PAYS program. WAP has reached 0.5% of the single family households in the state since 2010, according to the Department of Energy's program statistics. In southern Arkansas, Ouachita Electric's HELP PAYS program has reached 5% of its residential customers in less than four years. The difference in pace is a factor of 20, and the direct installation programs have continued to have significant waitlists.

[7] https://joebiden.com/clean-energy/

One of the advantages of the PAYS system is that it can provide customers with comprehensive energy-efficiency upgrades with zero upfront contributions that produce immediate net savings.[8] Under PAYS, customers retain at least 20% of the estimated savings over the course of the cost-recovery period in the form of lower bills. Once the cost-recovery term is complete, customers retain 100% of the savings.

With regard to zero-contribution utility programs for low-income customers, there are no reports of any utility dropping or reducing budgets for such programs following the adoption of a PAYS tariff. We agree that it would be important to not consider PAYS a substitute for any existing zero-contribution utility programs. To the extent an income-eligible customer qualifies for an existing utility efficiency program, such upgrades can be paired with a PAYS program (as is the case with existing utility rebates for more efficient appliances, for example), which would lower the overall cost-recovery tariff.

To ensure that no low-income eligible customers miss an opportunity to benefit from a zero-contribution program, utilities can and should include a notification requirement in the terms of their tariff. For example, the City of Minneapolis proposed a tariff on-bill program that assured any prospective participant would be notified of the availability of income-qualified programs and provided contact information to engage them.[9] Midwest Energy in Kansas has reported that it engages local administrators of the WAP program in order to leverage the combination of funding and utility investment to achieve greater benefits for income-qualifying customers and greater impact for the zero-contribution program.[10]

Ultimately, it is up to each household whether to pursue qualification for an income-eligible program. It would be wrong to deny low-income households an option that is available to any other customer, forcing them to wait for a set of upgrades from zero-contribution services that are theoretically available (and that are usually limited with a per-project cost cap) but not accessible. By the same token, we agree that PAYS should not be viewed as an income-eligible program or offered as a substitute for zero-contribution efficiency programs for low-income households.

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[8] SEEA TOB Guide at p. 10 (showing average savings experienced by PAYS participants in Kentucky, Tennessee, North Carolina, and Arkansas).

[9] *In the Matter of the Application by CenterPoint Energy Resources Corp. for Authority to Increase Natural Gas Rates*, Minnesota P.U.C. Docket No. G-008/GR-19-524, Direct Testimony of Kim Havey on Behalf of the City of Minneapolis, Schedule A2 (July 15, 2020) (Under the first paragraph of the proposed PAYS tariff, "Eligibility," the utility is required to "ensure that customers who are interested in participating are notified that if they are income qualified, they may also be eligible for free energy improvements through other programs and provide contact information")

[10] Local Energy Rules Podcast, *A Kansas Electric Cooperative Offers Energy Savings with $0 Down*, Institute for Local Self Reliance (Apr. 6, 2016) (https://ilsr.org/a-kansas-electric-cooperative-offers-energy-savings-with-0-down-episode-32-of-local-energy-rules/).

- *Avoid Disconnection of Essential Utility Service by addressing laws that prohibit the disconnection of utility service for non-utility charges on the bill.*
  - *TOB implementation should include establishment of a loan loss reserve that could be tapped in the event of customer's non-payment.*
  - *Implementation of TOB should not result in service disconnection for non-payment of the energy improvement portion of a low-income utility customer's bill.*

OBSERVATIONS ON FIELD EXPERIENCE:

The cost-recovery charge for a PAYS tariff is a utility service charge, and thus, any existing consumer protections relating to disconnections for nonpayment would apply equally to the PAYS tariff as to the rest of the customer's regular utility bill. The security in the terms of service under a PAYS tariff are identical to all other essential utility services, which typically include the right of the utility to disconnect service for non-payment through protocols approved by the state public utilities commission or utility oversight boards. It is for this reason that disconnection for nonpayment is an element of the PAYS tariff; it is the same security used to assure cost recovery for regular utility services. If disconnections for nonpayment were to be prohibited or limited as a collections method by a public utilities commission or utility oversight board for low-income customers, such protections would apply equally to the PAYS tariff.

The NAACP's landmark report on disconnection for non-payment[11] suggests solutions for reducing the vulnerability of low-income customers to disconnection for non-payment. The NAACP calls for maximizing use of available zero-contribution programs and then using tariff on-bill investments (referred to as "inclusive financing" in the NAACP report) to make energy efficiency upgrades widely available and reduce energy burdens: "inclusive financing models have the express potential to reduce and eliminate utility disconnections and provide critical services to vulnerable populations." By limiting the utility to investments in upgrades that can produce positive cash flow for the customer from the outset, PAYS programs make essential utility service more affordable than it would otherwise be.

Under the PAYS tariff, there are no loans extended to participating customers, and thus, there is no need for a loan-loss reserve fund. The tariff allows the cost recovery term to be extended in case of missed billing cycles (during a period of vacancy, for example), provided that the upgrades are still working.

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[11] L. Marcus Franklin, Caroline Kurtz, et al., *Lights Out in the Cold: Reforming Utility Shut-Off Policies as If Human Rights Matter*, NAACP Environmental and Climate Justice Program, pp. 24-25 (March 2017).

In more than 5,000 projects, there are zero reports of disconnection for non-payment of the cost recovery charge for the energy-efficiency upgrades in any PAYS program by any customer, regardless of income level. Unpaid charges from existing PAYS programs are processed in the same manner as unpaid charges for other essential utility services, and they are applicable to charge-offs from any customer account, without regard to income. Utilities with experience making PAYS investments have reported an average cost recovery rate of 99.9%, resulting in a charge-off rate for cost recovery for energy efficiency upgrades that is lower than the risk of losses those same utilities have reported for regular unpaid bills.[12]

Some utilities may nevertheless be concerned about the risk of charge-offs for unpaid bills where the utility has capitalized site-specific efficiency upgrades. The North Carolina Sustainable Energy Association developed the Energy Solutions Reserve Fund ("ESRF") to help those utility decision-makers concerned that their investment portfolios in energy efficiency upgrades would have a worse cost recovery performance than a utility's electricity service.[13] Utilities in three states have subscribed to the ESRF, and to date, it has never been used. It currently has capacity to support more PAYS programs where utility executives or their utility consumer advocates think that it would be beneficial.

- *Partial payments should preserve service*
  - *Since partial payments are expected to occur with TOB programs, the customer's partial payment should first go toward the payment of the utility service to prevent disconnection of service.*

OBSERVATIONS ON FIELD EXPERIENCE:

PAYS cost-recovery tariff charges are for utility service where a utility is treating watts supplied to the customer and watts reduced because of installed efficiency measures similarly with regard to payment. The same holds true for partial payments, where cost recovery for electricity consumption is treated the same as cost recovery for the more affordable efficiency measures, electricity that was being wasted prior to the upgrades.

According to EEI, utilities with PAYS programs have not reported any disconnections for non-payment of a PAYS cost-recovery charge thus far, so it has not been possible to observe whether treating partial payments for cost-effective efficiency measures the same as partial payments for consumed electricity has increased the risk of non-pay disconnections.

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[12] EEI, *PAYS® and Participant Savings* (June 2020) (http://www.eeivt.com/wp-content/uploads/2020/07/Participant-Savings-June-2020-final.pdf)("*PAYS & Participant Savings*").
[13] https://energync.org/esrf/

- *Monthly net bill neutrality is critical for low income customers.*
  - *Bill neutrality should be guaranteed and include ongoing, verifiable savings monitoring throughout the obligation repayment period.*
  - *Low-income participants should be held harmless in the event of under-performance of installed improvements.*

OBSERVATIONS ON FIELD EXPERIENCE:

There are no PAYS programs with bill-neutral terms. Bill neutrality would assume that once the on-bill charge is taken into account, bills in participating households would be equally likely to include savings as not include savings when compared to bills from before program participation. The result would be some participating customers not saving even as they pay the cost recovery charge. Even if an initial customer was willing to accept that risk, successor customers should not be burdened with a cost-recovery charge equal to the estimated savings (which would result from bill neutrality). That is why the model PAYS tariff includes a provision for immediate estimated net savings, protecting current and successor customers.

The PAYS system does not include a guarantee of measured energy savings or bill neutrality because utility investments in upgrades to a residential property do not impose any restrictions on customer behavior at that location, including behavior changes that result in demand for additional energy services. The model PAYS tariff assures that if the upgrades are not functioning, the recovery charge is suspended until the utility provides repair, replacement, or other corrective remedies.[14]

The PAYS Model Tariff requires evaluation, measurement, and verification after the first year following completion of the upgrades. Utilities that have an automated platform for producing weather-normalized bill data analysis can run EM&V calculations as often as they would like thereafter. The Energy Efficiency Institute established a protocol for actions taken at sites where the actual savings are less than 80% of the estimated savings. Changes in the electric energy usage by a customer do not constitute underperformance of installed upgrades, nor does increased or decreased usage caused by anomalous weather constitute underperformance. Some analytic packages are able to automatically detect the addition of new energy uses at a site, which can help distinguish between causes of increased usage (or the appearance of diminished savings) at a site where upgrades have been installed.

[14] EEI, *PAYS Model Tariff for Cooperatives* (2020), Para. 8 (http://www.eeivt.com/wp-content/uploads/2020/04/PAYS%C2%AE-Model-Tariff-coop-2020.pdf) ("PAYS Model Tariff").

There could be some benefit in pairing a PAYS program with voluntary levelized billing options to account for the potential of reduced savings in those months with little or no cooling or heating needs. The cost-recovery performance has been so high, however, that it may be hard to observe in the data whether a customer's use of budget billing or levelized billing has a statistically significant effect on whether a household misses a monthly payment.

PAYS was not designed to be an income-qualified system and generally does not require customers to disclose income or poverty level prior to participation.[15] Given that many customers may be reluctant to share personal information, requiring income disclosure may inhibit participation. Successor customers who move into an upgraded location are also not required to disclose their income prior to accepting utility service (along with the tariffed cost recovery charge). For these reasons, there is no basis for treating customers differently by income in a PAYS program. By the same token, if a utility or public utilities commission mandates additional protections for low-income customers before they can be disconnected for nonpayment, those protections would apply equally to those customers who participate in the PAYS tariff.

- *Program Administration - TOB should be administered by an independent entity who is certified to conduct audits or assessments under standards that are, at a minimum, equivalent to those that apply to WAP.*
  - *Should include thorough post-installation quality control and verification of installation quality.*
  - *Should include verifiable savings monitoring throughout the obligation repayment period.*

OBSERVATIONS ON FIELD EXPERIENCE:

New Hampshire and Kansas are home to utilities that have operated their own PAYS programs. Hawaii Energy, when it was part of Hawaiian Electric, also operated its own program, although not PAYS in name.[16] Utilities sponsoring PAYS programs in all other states have chosen to retain the services of an independent

[15] Georgia Power is planning an "Income-Qualified Tariff-Based Energy Efficiency Pilot," but it is not yet clear whether this will operate strictly as a PAYS program. "The Pilot will be offered to select zip codes in Atlanta and Athens. These customers will be identified through a marketing and outreach campaign. Customers who do not own their homes are still eligible to participate provided that the owner of the property agrees to participate. The Pilot eligibility criteria will be based on income qualification consistent with the current year's federal guidelines for an income level of 200% of the federal annual poverty level which is the same requirement for participation in other income qualified offerings." Georgia Power, *Compliance Filing Submitted Pursuant to the Order Approving the Income Qualified Tariff Based Energy Efficiency Pilot with Modifications*, Georgia P.S.C., Docket Nos. 42310 and 42311 (June 10, 2020).

[16] The Hawaii utility consulted with Energy Efficiency Institute on design and incorporated all of the key features and protections of the PAYS system.

program operator. In those instances, the program operator has an agreement with the utility (i.e. the PAYS Program Operator Agreement) that makes them accountable for program performance.

As noted above, the PAYS Model Tariff requires evaluation, measurement, and verification after the first year following completion of the upgrades. Utilities that have an automated platform for producing weather-normalized bill data analysis can run EM&V calculations as often as they would like thereafter.

The Energy Efficiency Institute established a protocol for actions taken at sites where the actual savings are less than 80% of the estimated savings.[17] The program operator is required to conduct thorough post-installation quality control and verification of installation quality and to use metered usage data to assess whether the upgrades delivered the expected performance and savings after the first year. The program operator is required to investigate any instances where the post-upgrade annual billed utility service exceeded the weather normalized cost during pre-upgrade annual billed utility service.[18] The tariff also provides for suspending the cost-recovery charge in the event of equipment malfunction until repairs or replacement can be made unless the utility or program operator determines the owner, customer (if different), or occupants removed or damaged the upgrade or failed to maintain the upgrade.[19]

Also as previously noted, changes in electric energy usage by a customer do not constitute underperformance of installed upgrades, nor does increased or decreased usage caused by anomalous weather constitute underperformance. Some analytic packages are able to automatically detect the addition of new energy uses at a site, which can help distinguish between causes of increased usage (or the appearance of diminished savings) at a site where upgrades have been installed.

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[17] *PAYS Model Tariff*, Para. 8.1 ("If any instances are identified where actual savings are below 80% of the location's estimated savings, the utility or its Program Operator will investigate to identify the cause and take appropriate action…."); *Pays & Participant Savings* ("If a utility finds repeatedly that participants' annual savings are below 80 percent of the estimates, activity for that program should be stopped until implementation flaws are corrected").

[18] EEI has recently proposed that, in the event that customers are paying more than they are saving on an annual basis because of an error by the program operator during the assessment process, that a utility could either waive charges at that metered location or "require the Operator to correct the assessment error(s) and make sure that the corrected assessment corresponds to post installation usage. The Utility could seek to recover from the Operator the net present value of charges that exceed 80% of the corrected savings estimate and reduce the charge for that location based on the corrected assessment." EEI, *When Participant Charges Exceed Participant Savings* (Sept. 2020).

[19] PAYS Model Tariff, Para. 8. Repairs ("Should, at any future time during the billing of Service Charges, the cooperative determine that the installed upgrades are no longer functioning as intended…the cooperative shall reduce or suspend the Service Charges until such time as the cooperative and/or its contractor can repair the upgrade. If the upgrade cannot be repaired or replaced cost effectively, the cooperative will waive remaining charges").

- *Prohibit abusive marketing of TOB by not allowing marketing to be conducted by contractors, vendors, or others with financial interest in maximizing sales.*

OBSERVATIONS ON FIELD EXPERIENCE:

Under the PAYS system, the Program Operator, not the contractor, conducts the on-site data gathering and assessment and generates a cost-effective scope of work. In other words, contractors, vendors, or others with a financial interest in increasing sales are not in a position to drive the scope or budget of projects under PAYS. As a further consumer protection, the scope of work is generated by certified energy modeler who uses billing data, a calibrated weather normalized building energy model, and pre-negotiated contractor price schedules. All upgrades undergo quality assurance verification in which the program operator crosschecks the time-stamped geo-coded photographs of all upgrades and instrumentation measurements against the scope of work before approving payment. The Program Operator is in the position of enforcing warranties and quality control.

- *Rental Housing - Given the challenge of transfer of repayment obligation from one tenant to the next as occupancy turns over, if TOB is to be implemented in rental housing, financed measures should be limited to those that are less sensitive to changes in occupancy, e.g., refrigerators.*
    - *In the event of measure underperformance, assure net bill neutrality of tenant who elects to participate in a TOB program. Can accomplish this by establishing robust energy auditing, careful measure selection, ongoing monitoring of savings and establishment of a reserve fund.*

OBSERVATIONS ON FIELD EXPERIENCE:

The idea that the benefits of a PAYS program should be more limited for renters than owner-occupied households may be well intentioned, but is misguided in practice because it would result in less opportunity for participation in a program that can provide significant bill savings. One of the chief benefits of PAYS is it bypasses the split-incentive that has otherwise proven to be a stubborn obstacle to investing in bill-saving efficiency improvements in rental housing. PAYS can be deployed to benefit renters on the same footing as homeowners. Too often, renters are entirely shutout from participating in utility-sponsored programs that are made readily available to homeowners. There is no evidence from the field that net-positive energy savings performance in rental housing is more challenging to achieve than in owner-occupied housing. There are no upgrades for single or multifamily homes, including refrigerators, that are not subject to changes in occupancy or behavior.

Because PAYS is a utility investment that is tied to the metered location, there is no transfer of a "repayment obligation" from one tenant to another. Instead, under the PAYS tariff, the landlord must first agree to allow the utility to invest in the upgrades, and in that agreement, the landlord also accepts the obligation to provide notice to any successor tenants that the property is subject to a tariffed charge on the bill to facilitate cost recovery for upgrades that result in bills that are lower than they would otherwise have been without the PAYS investments. It is then that the prospective tenant can decide whether the rental unit with upgrades that will result in lower overall energy costs than would have been present before the installation of those upgrades is worth the cost-recovery charge. Any successor tenant receives the benefits of those investments for a property that has fewer overall cost-recovery charge billing cycles than the original tenant, depending on how many months or years have passed since the upgrades were installed.

- *Consumer Protection Laws*

    - *All TOB obligation and disclosure documents should, at a minimum, clearly identify and provide contact information for the independent program administrator, delineate measure performance assumptions, explain energy bill savings expectations, and provide the term of the obligation.*
    - *Documents should clearly state that the utility customer with a TOB obligation has a right to dispute payment and identify procedures for initiating such a dispute.*

OBSERVATIONS ON FIELD EXPERIENCE:

Utility investment in site-specific energy upgrades under the terms of a PAYS tariff is not a loan. Consumer credit laws are not applicable to a PAYS tariff, and consumer finance laws are not applicable to the program. The term of the obligation ends when the customer no longer takes utility service at that metered location, when the utility cost-recovery is complete, or in the event the upgrades fail and are not repaired, whichever comes first.

While the PAYS tariff is not a loan, it does provide for disclosure to successor customers of the benefits and obligations of PAYS upgrades. This disclosure includes the monthly charge, estimated savings, and contact information to get more information about the PAYS upgrades including the usage assumptions behind the estimated savings

The PAYS Participant Agreement includes the Energy Efficiency Institute's recommendation for a rapid and binding, no or low cost dispute resolution process that is not covered by and does not use protocols of the American Arbitration Association ("AAA"). AAA protocols were not drafted to protect the interests of

consumers. Alternatively, a utility could choose to use the same dispute resolution process that applies to any other customer service concern, which includes recourse for consumers who can file complaints with the utility commission.

CONCLUSION

As noted at the outset, we appreciate NCLC's steadfast commitment to protecting low-income households from unscrupulous programs that risk exposing those households to higher bills. From our assessment of utility experience with the PAYS system, however, we continue to see it as a viable option for making comprehensive energy efficiency upgrades accessible to a much broader segment of the population. Given the lack of available options for too many utility customers in the Southeast, we continue to urge utilities in our region to consider offering PAYS as a voluntary option for expanding affordable energy efficiency measures for customers without regard to income. At the same time, we agree that PAYS should not be seen as a substitute for widely available, zero-cost efficiency and bill-payment assistance programs to help make essential utility service affordable for impoverished households who currently struggle with unaffordable energy burdens.

For further information, please contact:

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December 2020

Table 4 of petition	TOTAL	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
PV	**$ 15,000,000**	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000
Rate	**7.42%**	7.42%	7.42%	7.42%	7.42%	7.42%	7.42%	7.42%	7.42%	7.42%	7.42%	7.42%	7.42%
Nper	**12**	$ 12	12	12	12	12	12	12	12	12	12	12	12
Start per	**1**	1	13	25	37	49	61	73	85	97	109	121	133
Nper mo	**144**	12	24	36	48	60	72	84	96	108	120	132	144
Cumulative Interest Pmt (CUMIPMT)	**$ (7,699,555.71)**	$ (1,085,966.65)	$ (1,024,110.94)	$ (957,506.19)	$ (885,787.78)	$ (808,563.10)	$ (725,409.41)	$ (635,871.50)	$ (539,459.22)	$ (435,644.76)	$ (323,859.84)	$ (203,492.49)	$ (73,883.81)
NPV 3% discount	**($6,704,488.02)**												

Proposal	TOTAL	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
PV	**$ 15,000,000**	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ 15,000,000
Rate	**3.00%**	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Nper	**12**	$ 12	12	12	12	12	12	12	12	12	12	12	12
Start per	**1**	1	13	25	37	49	61	73	85	97	109	121	133
Nper mo	**144**	12	24	36	48	60	72	84	96	108	120	132	144
Cumulative Interest Pmt (CUMIPMT)	**$ (2,880,192.49)**	$ (435,579.94)	$ (403,508.25)	$ (370,461.08)	$ (336,408.75)	$ (301,320.68)	$ (265,165.37)	$ (227,910.36)	$ (189,522.21)	$ (149,966.45)	$ (109,207.56)	$ (67,208.95)	$ (23,932.91)
NPV 3% discount	**($2,519,610.51)**												

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program
Date of Request: 11/1/2021
Requested From: CenterPoint Energy Minnesota Gas
Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

Request No.	
CEE 20 - S	In Exhibit D of the Petition, the company explains that it will charge a $475 program operation fee through a fixed monthly service charge assigned to the location where upgrades are installed through the TOB program and that the $475 fee will be paid by customers occupying that location. Please explain whether the $475 fee will incur any financing charges, interest rates, or rate of return. If the $475 fee is subject to financing charges, interest rates, or rate of return, please provide the rate(s) applied to the fee, the term over which the fee will be recovered, and who (ratepayers, the participating customer, or company shareholders) will be responsible for paying the applicable financing charge, interest rate, or rate of return. **Response:** The $475 program operation charge is considered an operations and maintenance expense and is not subject to financing charges, interest rates, or rate of return. TOB pilot participants are responsible for paying this charge. _____ Supplemented 12/27/21: The Company's response to CEE Information Request 20 is corrected as follows: The $475 program operation charge is included in the total project cost used to calculate cost-effective on-bill participant charges. The Company proposes to recover a 2.5% rate of return on any project costs recovered on

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

the TOB participant's bill. The Company would recover the remaining portion of its rate of return (4.92% calculated in the petition) from ratepayers.[1] An upfront co-payment may be required to cover the difference in project costs that do not meet the cost effectiveness test. Upfront co-payments are not subject to the utility's rate of return.

[1]The Company would adjust the ratepayer portion of the rate of return based on approved outcomes of rate cases, and apply that rate of return, less 2.5%, for the duration it is in effect. In the TOB petition, the Company used a total rate of return of 7.42% based on its 2019 rate case proposal.

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State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program
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Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

Request No.	
CEE 16	Please complete participant examples for the following energy efficiency measures in the format provided in the document labeled "TOB Participant Examples_08.06.21" in CenterPoint Energy's August 2, 2021, email to TOB stakeholders, including any updated variables reflecting the September 1, 2021, Petition. Please cite the source for estimated natural gas savings, estimated electric savings, and installed energy upgrade costs. 1. 96% AFUE furnace replacement from a typical 80% AFUE furnace 2. 96% AFUE furnace replacement from a typical 80% AFUE furnace with 16 SEER AC replacing a 13 SEER unit 3. 90%+ AFUE high efficiency condensing boiler replacement from a typical 80% AFUE boiler 4. Attic air sealing (assume air sealing improvement of a 20% reduction in air flow), attic insulation (assume R19 to R50); and wall insulation (assume R9 to R14, including R-2.37 for wall assembly) 5. 0.69 UEF water heater replacement from a typical baseline 0.55 UEF water heater 6. Continuous running ENERGY STAR rated exhaust fan If the company does not expect to include any of the above equipment examples or baselines in TOB, please explain. **Response:** The TOB pilot petition, page. 18, discusses how the program operator will use energy modeling software to perform the cost-effectiveness test to determine eligible TOB payment amounts. Energy modeling inputs and outputs such as natural gas savings, electric savings, and measure cost assumptions will not be known until the Request for Proposals process to select a program operator. The inputs provided in Exhibit O – Example

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Cost-Effectiveness Calculations are intended to be illustrative of reasonable measure savings and costs. Therefore inputs provided in Exhibit O – Example Cost-Effectiveness Calculations and this Information Request are intended to be illustrative of reasonable measure savings and costs.

At the time of this Information Request, staff discovered an adding error in the "TOB Participant Examples_08.06.21" that was provided to stakeholders in an email but was not included in the TOB pilot petition.

Example TOB pilot cost-effectiveness calculations for No. 1-5 of this information request are provided in Attachments 1-5 to this response. No example was provided for No. 6 exhaust fan because the Company could not determine a reference to make electric saving assumptions. However, this measure will be bundled with other TOB pilot project measures, as necessary for health and safety.

The natural gas savings, electric savings, and measure cost assumptions for Exhibit O and the requested measures are provided in Attachment 6 to this information request. Please note the example provided in Exhibit O was updated to correct water heater electric savings assumptions from 245 kwh to 99 kwh to be consistent with Minnesota Technical Resource Manual, pgs. 134-136. An update to Exhibit O is provided in Attachment 7.

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Docket No. G-008/M-21-377
CEE 16, No. 4

	Energy Upgrades	Lifetime (years)	Base	Improved	Estimated Natural Gas Savings (Dth/yr)	Estimated Natural Gas Saving ($)	Estimated Electric Savings (kWh/yr)	Estimated Electric Cost Savings ($)	Energy Upgrade Cost ($)	CIP Incentive ($)
1	On-Site Energy Assessment	0	0	0	0.00	0	0	0	700	250
2	Air sealing + attic insulation	20	R=19	R=50	11.00	77	158	21	1,968	500
3	Wall insulation*	20	R=9	R=14	7.20	50	621	81	3,466	-
	Totals				18	127	779	101	6,134	750

*Does not meet CIP Incentive Requirement; Baseline less than R-5

Energy Cost Assumptions	$/Dth	$ 7.00
	$/kWh	$ 0.13

	Natural Gas	Electric	Annual Total	Monthly Total
Total Energy Cost Savings	127	101	229	19
Allowable TOB Service Charge (x80%)	102	81	183	15
Estimated Utility Bill Savings (x20%)	25	20	46	4

	Years	Months
Allowable TOB Service Charge Term	12	144

TOB Participant Cost Assessment	
On-Site Assessment & Energy Upgrades	6,134
TOB Pilot Program Operator Services	475
CIP Incentives	(750)
Utility Rate of Return - Participant (2.5%)	300
Net TOB Pilot Project Cost	6,159
Total Eligible TOB Pilot Participation Charge	2,195
Participant Upfront Co-payment Required	3,964

Rate of Return recoverd by ratepayers (4.92%)	591