



# UTILITY BILL AFFORDABILITY IN COLORADO

REFORMS TO PROTECT  
LOW-INCOME CONSUMERS  
FROM INCREASING RATES

By John Howat, Karen Lusson,  
and Olivia Wein

National Consumer Law Center®

**October 2020**

## Table of Contents

|                                                                                     |     |
|-------------------------------------------------------------------------------------|-----|
| Executive Summary .....                                                             | iii |
| Authors and Disclaimer .....                                                        | vi  |
| Introduction .....                                                                  | 1   |
| Utility Bill Affordability Challenges in Colorado .....                             | 2   |
| Income and Poverty .....                                                            | 2   |
| Self-Sufficiency Standard .....                                                     | 3   |
| Employment .....                                                                    | 6   |
| Colorado Electric Utility Arrearage Scenarios .....                                 | 7   |
| Summary of Affordability Challenge Findings .....                                   | 8   |
| The Need for Utility Reporting of Key Credit and Collections Data .....             | 9   |
| SB 20-30 Data Reporting Provisions .....                                            | 10  |
| Key Data Points .....                                                               | 10  |
| Utility Reaction to Requests for Data Reporting .....                               | 11  |
| Why Zip Code Level Reporting? .....                                                 | 11  |
| Affordability Program Design .....                                                  | 12  |
| Critical Program Design Features .....                                              | 12  |
| Program Eligibility Guidelines, Participation and Enrollment .....                  | 13  |
| Program Benefits .....                                                              | 13  |
| Incorporation of Arrearage Management into an Affordable Current Bill Program ..... | 13  |
| Program Funding .....                                                               | 14  |
| Program Administration .....                                                        | 14  |
| Predominant Program Models .....                                                    | 15  |
| PIPP .....                                                                          | 15  |
| Straight Percentage Discount .....                                                  | 15  |
| Tiered Discount .....                                                               | 16  |
| Summary .....                                                                       | 16  |
| Quantification of Affordability Program Costs and Benefits .....                    | 16  |
| The Colorado PIPPs .....                                                            | 17  |
| Program Eligibility Guidelines .....                                                | 18  |

|                                                                                                        |    |
|--------------------------------------------------------------------------------------------------------|----|
| Program Bill Payment Benefits .....                                                                    | 18 |
| Treatment of Arrearages .....                                                                          | 18 |
| Program Outreach and Administration .....                                                              | 19 |
| Program Participation .....                                                                            | 19 |
| Program Funding .....                                                                                  | 20 |
| Summary .....                                                                                          | 22 |
| Analysis of Program Participation under Expanded PIPP Funding .....                                    | 23 |
| Program Costs and Benefits.....                                                                        | 23 |
| Burden Reductions.....                                                                                 | 24 |
| Bill Impact Analysis .....                                                                             | 26 |
| Colorado Case and Statutory Law Impacting the Establishment of Low-Income Rates.....                   | 30 |
| Recent State Actions to Protect Consumers during the Covid-19 Pandemic – California and Illinois ..... | 32 |
| Illinois Settlement Summary.....                                                                       | 32 |
| California Settlement Summary.....                                                                     | 33 |
| Procedural Background.....                                                                             | 34 |
| Summary of the Protections in the CPUC Phase I Decision 20-06-003 .....                                | 34 |

## Executive Summary

This report focuses on the utility bill affordability challenges faced by low-income Colorado residents and the enhancements to bill payment assistance program design that are needed to reach more struggling customers. These improvements are necessary to ensure secure access to affordable home energy services in the face of the Covid-19 pandemic and in light of current and planned utility capital initiatives, which will likely exert upward pressure on electric rates in the short- and middle-terms.

The report examines income, poverty, employment, and cost of living dynamic, concluding that over 17% of Colorado families lived at or below 200% of the federal poverty level in 2019. “Self-sufficiency” budget review demonstrates that for many of these households, this income is simply insufficient to pay regular monthly bills without incurring debt or foregoing necessities. For example, a single parent with a preschool aged child needs an income of 337% of the federal poverty guidelines to pay for the most basic necessities.

Further, the heightened level of unemployment experienced due to the Covid-19 pandemic is placing even more Colorado households in economic distress, which will likely persist for some time, making utility bill affordability challenges even more daunting for many. In the spring of 2020 as the Covid-19 crisis struck, the unemployment rate in Colorado spiked 388%, from 2.5% to 12.2%. While unemployment moderated somewhat after the initial spike, the rate in August, 2020 was 6.7%, 168% higher than the February, 2020 baseline of 2.5%.

NCLC examined different electric utility arrearage scenarios, and flagged the potential for major utility debt problems should the current economic downturn persist. Under a fairly modest scenario where 20% of Colorado’s residential electric utility customers have accounts 60 days past due, over 465,000 customers will carry arrearage values at just over \$77 million. Under a more extreme scenario where 40% of customers have 60-day overdue accounts, nearly 931,000 customers will owe a total of about \$154 million.

The challenges posed by the Covid-19 crisis have highlighted not only the importance of sustained, affordable access to essential home energy service for all households, but also the necessity to collect customer, billing, credit and collections data in order to properly assess the effectiveness of this service. Yet, in most states there is currently only limited capacity to gain a clear, data-driven understanding of the number of households that lose access to home energy services or otherwise struggle with utility affordability and security. Without the data, home energy affordability challenges and their often-dire consequences remain invisible, and the effectiveness of utility credit and collections practices cannot be assessed.

However, understanding affordability and the home energy security challenges that stem not only from utility bills, but also from credit and collection protocols, requires more than raw service disconnection numbers. Getting a clearer picture requires obtaining monthly data at the



zip code level for both general residential customers and identified low-income residential customers.

Following is a list of data points that regulators can and should request:

- number of customers;
- dollar amount billed;
- number of customers charged a late payment fee;
- dollar value of late fees collected;
- number of customers with an arrearage balance by vintage
  - 60 – 90 days<sup>1</sup>
  - 90+ days;
- dollar value of arrearages by vintage
  - 60 – 90 days
  - 90+ days;
- number of disconnection notices sent;
- number of deferred payment agreements entered into;
- average repayment term of new deferred payment agreements;
- number of successfully completed deferred payment agreements;
- number of failed deferred payment agreements;
- number of disconnections for nonpayment;
- number of service restorations after disconnection for nonpayment;
- average duration of disconnection;
- number of security deposits collected; and
- dollar value of security deposits collected.

Collecting this data is imperative to be able to assess whether low-income bill assistance programs are meeting the goal of ensuring home energy security for low-income residents. In order to meet this goal, utility affordability programs should meet the following key objectives:

- serve residential electricity customers who are income-eligible to participate in HEAP;
- lower program participants' energy burdens to an affordable level;
- promote regular, timely payment of utility bills by program participants;
- comprehensively address payment problems associated with participants' current and past-due bills;
- be funded through a mechanism that is reliable while providing sufficient resources to serve all income-eligible customers and meet policy objectives over an extended timeframe; and
- be administered efficiently and effectively.

A well-designed and implemented percentage of income payment plan (PIPP) is the ideal “hold harmless” mechanism for meeting these objectives and protecting low-income energy consumers

---

<sup>1</sup> Information regarding arrearage aged less than 60 days may not be a valid indicator of serious affordability problems.

from the rate impacts associated with new capital investments or other initiatives. Since PIPP payments are capped at a predetermined percentage of participants' household income, home energy burdens do not increase as rates increase. The existing Colorado PIPPs include laudable features, including valuable bill reduction benefits, treatment of participants' debt, and well-coordinated administrative functions. PIPPs operating in Colorado lower participating households' electricity expenditures and burdens, making them far more affordable for families and households struggling to get by.

However, Colorado PIPPs are under-funded and lack the capacity to serve much of the income-eligible population. Residential ratepayer contributions to the Colorado PIPPs are capped at 31 cents/month. This report recommends raising that contribution to \$1/month, which would greatly expand participation in Colorado PIPPs.

This report also provides a legal rationale for a low-income utility rate in Colorado, and concludes with case studies from Illinois and California in order to highlight regulatory actions that have been implemented to protect consumers through the Covid-19 public health emergency and resulting economic crisis.

## Authors and Disclaimer

John Howat has been involved with energy programs and policy issues since 1981. Areas of expertise include: design and analysis of low income energy affordability and efficiency programs, utility rate design, low-income utility consumer protections, energy expenditure and burden analysis, prepayment and advanced metering, utility credit reporting, development and analysis of utility arrearage and customer service data, and analysis of program participation and outreach efforts. At National Consumer Law Center over the past 21 years, John has managed a range of projects across the country in support of low-income consumers' access to affordable utility and energy-related services and testified in over 60 regulatory proceedings in 22 states. He is a contributing author of NCLC's [\*Access to Utility Service\*](#). He is primary author of *"Reversing Energy System Inequity: Urgency and Opportunity during the Clean Energy Transition"* *"Home Energy Costs: The New Threat to Independent Living for the Nation's Low-Income Elderly,"* *"Rethinking Prepaid Utility Service: Customers at Risk,"* *"Tracking the Home Energy Needs of Low-Income Households through Trend Data on Arrearages and Disconnections,"* and *"Public Service Commission Consumer Protection Rules and Regulations: A Resource Guide."*

Karen Lusson is a staff attorney at the National Consumer Law Center, who focuses on energy and utility issues that affect low-income customers. Previously she was the assistant bureau chief in the Public Utilities Bureau of the Illinois Attorney General's Office. Her duties included representing Illinois residential ratepayers in litigation involving utility rate increase requests, rate design, ratepayer-funded energy efficiency programs, mergers, rulemakings and low income customer affordability issues. Prior to that, Karen was a staff attorney at the Illinois Citizens Utility Board and an assistant public counsel at the Illinois Office of Public Counsel. She received her degree in Journalism and Political Science from Indiana University and her law degree from DePaul University College of Law.

Olivia B. Wein has been a staff attorney in the Washington office of the National Consumer Law Center since December 1999. Olivia represents the interests of low-income clients at the federal and state level on energy and utility issues. She regularly submits testimony to Congress on the importance of the Low Income Home Energy Assistance Program (LIHEAP), as well as comments to various federal agencies and state public utility commissions on behalf of low-income consumers. Olivia is on the board of the National Low-Income Energy Consortium, and co-chairs the LIHEAP Coalition, which is comprised of a broad array of national, regional and local groups and organizations. She was a member of the National Drinking Water Advisory Council's Small Systems Affordability Work Group and serves on the steering committee for the Campaign for Safe and Affordable Drinking Water. Olivia co-edits NCLC's quarterly Energy & Utility Update newsletter as well as co-authors NCLC's [\*Access to Utility Service\*](#) and is a contributing author to several other NCLC publications including [\*Unfair and Deceptive Acts and Practices\*](#).

### Disclaimer

This report was prepared by the National Consumer Law Center under contract with the Colorado Department of Regulatory Agencies. The views and opinions of the authors expressed herein do not necessarily state or reflect those of the Colorado Department of Regulatory Agencies.

## Introduction

This report begins with the premise that all residential electric utility customers, including those with low incomes, should have access to reliable and secure sources of electricity. This must remain true even while the electric power sector is in the midst of a sweeping shift away from fossil fuel usage. This transition entails rapid changes in the economics and technologies of electric generation and storage. Utility grid and infrastructure capital investments, along with pollution reduction and de-carbonization imperatives, can increase the rate and expenditure burdens on residential customers, particularly those with low incomes. Without affordable, reliable electricity service, residents cannot participate effectively in present-day society or be secure from threats to health and safety.

The bulk of this report focuses on assessment of home energy affordability challenges in Colorado and bill payment assistance program design and the enhancements needed to effectively address these. Improvements are needed in the face of current and planned clean energy and grid modernization initiatives – including those related to building end-use electrification, transportation electrification, deployment of advanced metering infrastructure and other distribution system investments – as they will likely exert upward pressure on electric rates, at least in the short- and middle-terms.

Identification of short-term rate and bill impacts of such initiatives is not to question the advisability of and urgency behind decarbonizing the electric power, building, and transportation sectors. Rather, it is required to assess the need for and inform the design of programs and policies that effectively mitigate harms from bill increases for those who can least afford them.

The costs and benefits of the electric power grid and distribution systems are currently not evenly distributed. As illustrated in this report, low-income households in Colorado devote a relatively high proportion of income to maintain essential electric service, and because of insufficient income to pay for basic necessities, they face elevated risk of involuntary disconnection of essential service.

Adoption and implementation of enhancements to affordability programs and consumer protections would be appropriate in light of these transitional initiatives alone, but are now even more critical with the onset of the Covid-19 pandemic, the resulting economic and financial fallout, and heightened health and safety concerns.

Secure, affordable access to home energy services for low-income households requires comprehensive program design, policy development, and an efficient implementation approach. Programs must ensure that monthly bills are reduced to an affordable level and that non-punitive regulatory consumer protections, which minimize involuntary service disconnections while providing reasonable opportunities to pay down debt, are in place. In addition, programs must include low-income energy efficiency programming that provides whole-house, deep retrofit improvements in order to secure low-income access to affordable service. High-quality low-income energy efficiency programs, while reducing energy usage, carbon emissions and

pollution, provide financially-strapped households with reduced bills, enhanced cash flow, and improved indoor comfort. While National Consumer Law Center has long advocated for low-income energy efficiency program models that do not require upfront expenditures or financing repayments, the scope of this report is limited to discussion of bill assistance programs and debt management.

## Utility Bill Affordability Challenges in Colorado

This section provides income, poverty, employment and cost of living context for the report's recommendations regarding the utilities' reporting of key credit and collections data, the expansion of bill affordability programming. In addition, a range of electric utility arrearage scenarios will be presented to highlight the dire nature of the Covid-19 economic downturn and the need for enhanced low-income programs and policies.

### Income and Poverty

The tables below reflect family income and poverty in Colorado. American Community Survey statistics show that of the 1.42 million family households in Colorado, nearly 116,000 lived at or below 125% of the federal poverty level in 2019. Family households living at or below 185% of the poverty level numbered well over 212,000, and those below 300% of poverty numbered nearly 424,000, about 30% of all family households in the state.

Table 1

POVERTY STATUS IN THE PAST 12 MONTHS OF COLORADO FAMILIES

| < / = 50% |      | > 50% - 125% |      | 125% - 150% |      | 150% - 185% |      | > 185% - 200% |      | > 200% - 300% |       | Over 300% |       | All Families |        |
|-----------|------|--------------|------|-------------|------|-------------|------|---------------|------|---------------|-------|-----------|-------|--------------|--------|
| #         | %    | #            | %    | #           | %    | #           | %    | #             | %    | #             | %     | #         | %     | #            | %      |
| 34,806    | 2.4% | 81,104       | 5.7% | 39,526      | 2.8% | 57,137      | 4.0% | 31,278        | 2.2% | 180,136       | 12.7% | 997,857   | 70.2% | 1,421,844    | 100.0% |
| 34,806    | 2.4% | 81,104       | 5.7% | 39,526      | 2.8% | 57,137      | 4.0% | 31,278        | 2.2% | 180,136       | 12.7% | 997,857   | 70.2% | 1,421,844    | 100.0% |

Table 2

POVERTY STATUS IN THE PAST 12 MONTHS OF COLORADO FAMILIES - CUMULATIVE COUNTS

| < / = 50% |      | > 50% - 125% |      | > 125% - 150% |       | > 150% - 185% |       | > 185% - 200% |       | > 200% - 300% |       | Over 300% |        |
|-----------|------|--------------|------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|-----------|--------|
| #         | %    | #            | %    | #             | %     | #             | %     | #             | %     | #             | %     | #         | %      |
| 34,806    | 2.4% | 115,910      | 8.2% | 155,436       | 10.9% | 212,573       | 15.0% | 243,851       | 17.2% | 423,987       | 29.8% | 1,421,844 | 100.0% |

Survey/Program: American Community Survey  
Table ID: S1702  
2019: ACS 1-Year Estimates Subject Tables

## Self-Sufficiency Standard

Over the past 20 years, a number of alternatives to the traditional poverty measurements have been developed by analysts interested in overcoming shortcomings of the traditional, federal poverty measurement. These shortcomings include the inability to account for locational price differences, family or household composition, and the true cost of a basic necessity “basket of goods.” One alternative measure is the “Self-sufficiency Standard,” developed primarily by Diana Pearce of the University of Washington.

The Self-sufficiency Standard entails a calculation of the amount of income required to meet basic needs. Self-sufficiency budgets are calculated for a range of family compositions, from one adult with no children, to one adult with one infant, to one adult with one preschooler, up to two-adult families with six teenagers.

The self-sufficiency budget includes the cost of only the most basic necessities, including food, housing (including home energy service), health care, childcare, transportation, and clothing. There is nothing for entertainment, vacations, or other “non-essential” items. The Standard is calculated county-wide using publicly-available data sources, including HUD Fair Market Rents, USDA Low Cost Food Plan, the National Household Travel Survey and other sources. The Self-sufficiency Standard has thus far been calculated for counties in 39 states. Calculations of the Standard incorporate geographic variations in costs and cost variation by family composition.

A Self-sufficiency Standard report was prepared for the Colorado Center on Law and Policy in 2018.<sup>2</sup> The report author updated report tables in 2020.<sup>3</sup> The following table, based on the 2020 cost updates, reflects the income needed by various family types in Colorado counties in 2020.<sup>4</sup>

---

<sup>2</sup> Diana M. Pearce, “The Self-Sufficiency Standard for Colorado,” December 2018.  
[http://www.selfsufficiencystandard.org/sites/default/files/selfsuff/docs/CO18\\_SSS\\_Web.pdf](http://www.selfsufficiencystandard.org/sites/default/files/selfsuff/docs/CO18_SSS_Web.pdf).

<sup>3</sup> <http://www.selfsufficiencystandard.org/node/45>.

<sup>4</sup> Calculated by National Consumer Law Center using 2020 Self-sufficiency Budgets and U.S. Health and Human Service Poverty Guidelines by household size. <https://aspe.hhs.gov/poverty-guidelines>.

Table 3

**% of Poverty Income Needed to Make Ends Meet in Colorado Counties  
by Selected Family Composition**

| County         | Single Adult | 1 Adult, 1<br>Preschooler | 1 Adult, 1<br>Teenager | 2 Adults, 1<br>Preschooler, 1<br>School-aged | 2 Adults, 1<br>Infant, 1<br>Preschooler |
|----------------|--------------|---------------------------|------------------------|----------------------------------------------|-----------------------------------------|
| Adams          | 249%         | 348%                      | 241%                   | 305%                                         | 346%                                    |
| Arapahoe       | 260%         | 360%                      | 255%                   | 318%                                         | 359%                                    |
| Boulder        | 287%         | 401%                      | 279%                   | 370%                                         | 398%                                    |
| Broomfield     | 275%         | 383%                      | 272%                   | 334%                                         | 380%                                    |
| Denver         | 237%         | 346%                      | 233%                   | 304%                                         | 352%                                    |
| Douglas        | 303%         | 411%                      | 295%                   | 356%                                         | 397%                                    |
| El Paso        | 206%         | 305%                      | 194%                   | 277%                                         | 306%                                    |
| Jefferson      | 257%         | 363%                      | 254%                   | 322%                                         | 363%                                    |
| Larimer        | 226%         | 324%                      | 217%                   | 286%                                         | 328%                                    |
| Mesa           | 193%         | 274%                      | 195%                   | 246%                                         | 265%                                    |
| Pueblo         | 168%         | 243%                      | 153%                   | 226%                                         | 245%                                    |
| Weld           | 202%         | 292%                      | 189%                   | 267%                                         | 300%                                    |
| Arapahoe       | 260%         | 360%                      | 255%                   | 318%                                         | 359%                                    |
| Boulder        | 287%         | 401%                      | 279%                   | 370%                                         | 398%                                    |
| Broomfield     | 275%         | 383%                      | 272%                   | 334%                                         | 380%                                    |
| Denver         | 237%         | 346%                      | 233%                   | 304%                                         | 352%                                    |
| Douglas        | 303%         | 411%                      | 295%                   | 356%                                         | 397%                                    |
| El Paso        | 206%         | 305%                      | 194%                   | 277%                                         | 306%                                    |
| Jefferson      | 257%         | 363%                      | 254%                   | 322%                                         | 363%                                    |
| Larimer        | 226%         | 324%                      | 217%                   | 286%                                         | 328%                                    |
| Mesa           | 193%         | 274%                      | 195%                   | 246%                                         | 265%                                    |
| Pueblo         | 168%         | 243%                      | 153%                   | 226%                                         | 245%                                    |
| Weld           | 202%         | 292%                      | 189%                   | 267%                                         | 300%                                    |
| <b>Average</b> | <b>238%</b>  | <b>337%</b>               | <b>231%</b>            | <b>301%</b>                                  | <b>336%</b>                             |

Table 3 illustrates that the amount of income needed for a range of family and household types to pay for basic necessities far exceeds 2- to 3-times the federal poverty guidelines. While there are considerable cost-of-living disparities across Colorado counties, the table indicates that for a single adult, the statewide average income needed to make ends meet for a single adult is 238% of poverty. A single adult with a preschool-aged child needs income of 337% of the poverty guidelines to get by.

It should be reiterated that, based on data from Table 2, nearly 30% of Colorado families live below 300% of the poverty level. Thus, for many family types, particularly those with young children, basic economic survival presents a great challenge. For these families and households, enhanced programming to limit home energy bills would be a welcome relief.

It should further be noted that 60% of the FY 2021 State Median Income (SMI) for a family of 2 in Colorado is \$41,410, equal to 238% of the federal poverty guidelines. Sixty percent SMI is



the income-eligibility ceiling for participation in the federal Low Income Home Energy Assistance Program (HEAP), as delivered in Colorado. However, participation in the state's ratepayer-funded energy assistance programs is currently capped in statute and the PUC's rules at 185% of the federal poverty level.<sup>5</sup> (Colorado percentage of income payment plan programs, and recommendations for program reforms, are discussed in greater detail below.) Tables reflecting current federal poverty guidelines, Colorado SMI, and the Colorado minimum wage are attached below.

Table 4

***FY 2020 POVERTY GUIDELINES FOR THE 48 CONTIGUOUS STATES  
AND THE DISTRICT OF COLUMBIA***

|                | Ratio of Income to Poverty |          |          |          |          |
|----------------|----------------------------|----------|----------|----------|----------|
| Household Size | 50%                        | 75%      | 100%     | 125%     | 150%     |
| 1              | \$6,380                    | \$9,570  | \$12,760 | \$15,950 | \$19,140 |
| 2              | \$8,620                    | \$12,930 | \$17,240 | \$21,550 | \$25,860 |
| 3              | \$10,860                   | \$16,290 | \$21,720 | \$27,150 | \$32,580 |
| 4              | \$13,100                   | \$19,650 | \$26,200 | \$32,750 | \$39,300 |
| 5              | \$15,340                   | \$23,010 | \$30,680 | \$38,350 | \$46,020 |
| 6              | \$17,580                   | \$26,370 | \$35,160 | \$43,950 | \$52,740 |
| 7              | \$19,820                   | \$29,730 | \$39,640 | \$49,550 | \$59,460 |
| 8              | \$22,060                   | \$33,090 | \$44,120 | \$55,150 | \$66,180 |

Source: U.S. Department of Health and Human Services

<https://aspe.hhs.gov/poverty-guidelines>

Table 5

| <b><i>CO Minimum Wage</i></b>     |          |
|-----------------------------------|----------|
| Hourly                            | \$12.00  |
| Annual (40 hours/week x 52 weeks) | \$24,960 |

Source: <https://www.dol.gov/whd/minwage/america.htm>

<sup>5</sup> C.R.S.A. § 40-3-106(1)(d)(II)(A), 4 CCR 723-3:3412(c), 4 CCR 723-4:4412(c).

Table 6

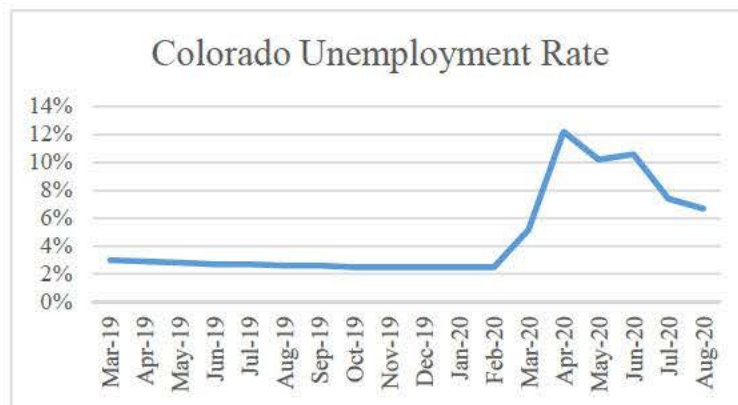
| <b><i>FY 2021 CO STATE MEDIAN INCOME</i></b> |             |              |              |
|----------------------------------------------|-------------|--------------|--------------|
| <b>Household Size</b>                        | <b>60%</b>  | <b>80%</b>   | <b>100%</b>  |
| 1-Person                                     | \$31,437.12 | \$41,916.16  | \$52,395.20  |
| 2-person                                     | \$41,110.08 | \$54,813.44  | \$68,516.80  |
| 3-Person                                     | \$50,783.04 | \$67,710.72  | \$84,638.40  |
| 4-Person                                     | \$60,456.00 | \$80,608.00  | \$100,760.00 |
| 5-person                                     | \$70,128.96 | \$93,505.28  | \$116,881.60 |
| 6-Person                                     | \$79,801.92 | \$106,402.56 | \$133,003.20 |
| 7-Person                                     | \$81,615.60 | \$108,820.80 | \$136,026.00 |
| 8-Person                                     | \$83,429.28 | \$111,239.04 | \$139,048.80 |
| 9-Person                                     | \$85,242.96 | \$113,657.28 | \$142,071.60 |
| 10-person                                    | \$87,056.64 | \$116,075.52 | \$145,094.40 |
| 11-person                                    | \$88,870.32 | \$118,493.76 | \$148,117.20 |
| 12-person                                    | \$90,684.00 | \$120,912.00 | \$151,140.00 |

Source: [https://www.acf.hhs.gov/sites/default/files/ocs/comm\\_liheap\\_smimattachment\\_1\\_fy2019.pdf](https://www.acf.hhs.gov/sites/default/files/ocs/comm_liheap_smimattachment_1_fy2019.pdf)

## Employment

It is likely that poverty in Colorado has increased since 2019, as the unemployment rate spiked beginning in March, 2020 during the onset of the Covid-19 pandemic and economic downturn.

Figure 1



U.S. Bureau of Labor Statistics – Local Area Unemployment Statistics

Bureau of Labor Statistics data shows that the Colorado unemployment rate increased from 2.5% in February 2020 to 12.2% in just 2 months. This 388% increase preceded a moderation in the unemployment rate over the following four months, but the rate of 6.7% in August, 2020 remained 168% higher than unemployment in February, 2020.

While the drop in the Colorado unemployment rate between April and August, 2020 was encouraging, a great deal of economic uncertainty remains. In remarks before the National Association for Business Economics on October 6, 2020, Federal Reserve Chair Jerome Powell stated as follows:

There is a risk that the rapid initial gains from reopening may transition to a longer than expected slog back to full recovery as some segments struggle with the pandemic's continued fallout. The pace of economic improvement has moderated since the outsize gains of May and June, as is evident in employment, income, and spending data. The increase in permanent job loss, as well as recent layoffs, are also notable.

A second risk is that a prolonged slowing in the pace of improvement over time could trigger typical recessionary dynamics, as weakness feeds on weakness. A long period of unnecessarily slow progress could continue to exacerbate existing disparities in our economy.<sup>6</sup>

Utility bill payment challenges existed prior to the Covid-19 outbreak. These challenges, magnified by the economic uncertainty going forward as well as the upward pressure on rates from the capital investment initiatives noted above, provide rationale for implementing programs and policies that will effectively minimize threats to the retention of affordable home energy services for low-income households.

### Colorado Electric Utility Arrearage Scenarios

A great deal of uncertainty remains with respect to the depth and duration of economic upheaval associated with controlling the spread of Covid-19. Without knowing how long it will take for full economic recovery even after the virus is under control, or the extent to which meaningful federal utility bill assistance will be forthcoming, there is increased risk that the number and dollar value of past due residential utility accounts will continue to elevate in the coming months during the post-disconnection-moratorium period. Rather than attempt to forecast the precise number and dollar value of residential arrearages in the midst of great uncertainty, what follows is a presentation of a range of Colorado utility residential arrearage scenarios drawing from actual revenue, sales and customer data provided by electric utilities to the U.S. Energy Information Administration.

The data in Table 7, below, is a compilation of information filed in 2018 by Colorado's two investor-owned utilities, as well as 27 cooperatively-owned and 11 municipally-owned electric utilities. This data was then used to calculate arrearage scenarios encompassing ranges of numbers of customers with past due accounts and the average vintage of those past due accounts.

---

<sup>6</sup> Jerome H. Powell, "Recent Economic Developments and the Challenges Ahead," At the National Association for Business Economics Virtual Annual Meeting, October 6, 2020.  
<https://www.federalreserve.gov/newsevents/speech/powell20201006a.htm>.

The scenarios depicted in Table 8 range from 20% of residential customers with accounts past due by an average of 60 days to a more extreme 40% of customers with account balances 90 days past due.

Table 7

**Colorado Electric Utility Residential Sales, Revenues, and Customers**

| 2018 Revenue from Sales (\$ x 1,000,000) | 2018 Daily Revenue from Sales (\$ x 1,000,000) | 2018 Number of Residential Customers | 2018 Residential Price per kWh | 2018 Usage per Residential Customer (kWh) | 2018 Electricity Expenditure per Customer |
|------------------------------------------|------------------------------------------------|--------------------------------------|--------------------------------|-------------------------------------------|-------------------------------------------|
| 2,343                                    | \$6.42                                         | 2,326,974                            | \$0.1215                       | 8,288                                     | \$1,007                                   |

Source: U.S. Energy Information Administration, 2018 Form 861

Table 8

**Colorado Electric Utility Residential Arrearage Scenarios (% of Customers, Average Vintage in Days)**

| 20% of Customers | 60 Days Past Due | 30% of Customers | 60 Days Past Due | 20% of Customers | 90 Days Past Due | 30% of Customers | 90 Days Past Due | 40% of Customers | 60 Days Past Due | 40% of Customers | 90 Days Past Due |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| # of Customers   | \$ of Arrears    | # of Customers   | \$ of Arrears    | # of Customers   | \$ of Arrears    | # of Customers   | \$ of Arrears    | # of Customers   | \$ of Arrears    | # of Customers   | \$ of Arrears    |
| 465,395          | \$77,030,137     | 698,092          | \$115,545,205    | 465,395          | \$115,545,205    | 698,092          | \$173,317,808    | 930,790          | \$154,060,274    | 930,790          | \$231,090,411    |

Calculated by National Consumer Law Center from U.S. Energy Information Administration, 2019 Form 861

In the event that 20% of residential electric service customers carry average arrearages of 60 days, the dollar value of those past due accounts will be about \$77 million. If 30% of residential customer accounts are 60 days past due, the revenue of those accounts will exceed \$115.5 million. Under more dire circumstances where 40% of Colorado’s residential electricity customers have accounts 60 days past due, the total past due balance will be about \$154 million.

Even under the most “moderate” arrearage scenarios, the heightened levels of debt pose extreme disconnection risk to those low-income customers lacking means to pay off their past due balances. At the same time, they add financial risk to utility companies, potentially impeding their ability to deliver reliable, reasonably-priced service. Thus, effective, systematized approaches to debt management – through “arrearage management programs” and a revamped deferred payment agreement structure – are needed to secure the home energy security of vulnerable customers as well as the financial security of utilities charged with providing reliable service to all customers. Descriptions of and recommendations regarding effective debt management structures are addressed later in this report.

### Summary of Affordability Challenge Findings

U.S. Census Bureau data confirms that over 17% of Colorado families lived at or below 200% of the federal poverty level in 2019. Nearly 30% had income at or below 300% of poverty. Self-

sufficiency budget calculations demonstrate that for many of these households, income is simply insufficient to pay regular monthly bills without incurring debt or foregoing necessities. For example, a single mother with a preschool aged child needs an income level of 337% of the federal poverty guidelines to pay for the most basic necessities.

Further, with heightened levels of unemployment that may persist for some time, utility bill affordability challenges for many have become even more daunting. In the spring of 2020 as the Covid-19 crisis struck, the unemployment rate in Colorado spiked 388%, from 2.5% to 12.2%. While unemployment moderated somewhat after the initial spike, the rate in August, 2020 was 6.7%, 168% higher than the February, 2020 baseline of 2.5%.

Finally, while numerous uncertainties make it unfeasible to reliably assess the number of past due residential electric utility customer accounts or the dollar value of such accounts that will be outstanding in the months to come, scenario analysis based on historical utility customer, sales and revenue data may be used to construct a range of arrearage scenarios. Under a fairly modest scenario where 20% of Colorado's residential electric utility customers have accounts 60 days past due, over 465,000 customers will carry arrearages values at just over \$77 million. Under a more extreme scenario where 40% of customers have 60-day overdue accounts, nearly 931,000 customers will owe a total of about \$154 million.

Based on these income, poverty, and cost of living findings, it is not surprising that many lower-income utility consumers fall behind on their payments. The data presented above highlights the extent to which many late-paying utility customers fall behind on their bills not because of any lack of financial management skills or to "game the system," but simply because household income is insufficient to pay for all necessities. The Covid-19 crisis has already exacerbated utility affordability challenges as employment income has fallen. A protracted economic downturn threatens to bring utility arrearage scenarios that will be untenable for customers and utilities alike.

To address these challenges, as well as those posed by new initiatives likely to exert upward pressure on bills, it is appropriate to rethink existing affordability programs and low-income debt management tools to ensure that essential home energy services are available to all Colorado residents.

## The Need for Utility Reporting of Key Credit and Collections Data

In addition to tracking federal data sets, gaining a clear understanding of the extent to which customers face threats to maintaining basic service requires utility-specific reporting of key credit and collection metrics. This section is devoted to a discussion of such reporting.

The challenges posed by the Covid-19 crisis have heightened the importance of sustained, affordable access to essential home energy service for all households in Colorado and across the nation. Yet, in most states there is currently only limited capacity to obtain and track data

pertaining to the number of households that lose access to home energy services and otherwise struggle with utility affordability and security. Without the data, home energy affordability challenges and their often-dire consequences remain invisible, and the effectiveness of utility credit and collections practices cannot be assessed. Questions regarding trends in average customer bills, the number, dollar value, and vintage of past due accounts, the number and effectiveness of deferred payment agreements, the level of late payment fees paid by customers, the number, and the duration of service disconnections for non-payment can only be answered through regular, systematic reporting of key customer, billing, credit, and collections information. Similarly, development and implementation of effective programs and policies to address service access and affordability challenges is thwarted by lack of data. There is a pressing need to step up utility collection and public reporting of data reflecting service disconnections and restorations, as well as other measures of home energy security.<sup>7</sup>

### SB 20-30 Data Reporting Provisions

Unfortunately, most states do not require electric or gas service providers to report the key data points needed to determine the extent to which residential customers are affordably accessing and retaining essential utility service. However, Colorado Senate Bill 20-030, amending Title 40 of Colorado Revised Statutes, was signed into law on June 29, 2020. Among other things, the legislation adds new language directing the PUC to adopt standard practices regarding utility reporting of service disconnections and delinquencies information.

Understanding affordability and home energy security challenges that stem not only from utility bills, but also from credit and collection protocols, requires more than raw service disconnection numbers. Getting a clearer picture requires obtaining monthly data – separately for both general residential customers and identified low-income residential customers – at the zip code level.

### Key Data Points

Following is a list of data points that regulators can request:

- number of customers;
- dollar amount billed;
- number of customers charged a late payment fee;
- dollar value of late fees collected;
- number of customers with an arrearage balance by vintage
  - 60 – 90 days<sup>8</sup>
  - 90+ days;
- dollar value of arrearages by vintage

---

<sup>7</sup> “Home energy security” as used here refers to sustained, affordable access to necessary service without foregoing (1) other necessities such as food and medicine, (2) maintenance of healthy indoor temperatures, (3) lighting and refrigeration necessary for health, safety well-being, or (4) access to and operation of essential communications services.

<sup>8</sup> Information regarding arrearage aged less than 60 days may not be a valid indicator of serious affordability problems.



- 60 – 90 days
  - 90+ days;
- number of disconnection notices sent;
- number of deferred payment agreements entered into;
- average repayment term of new deferred payment agreements;
- number of successfully completed deferred payment agreements;
- number of failed deferred payment agreements;
- number of disconnections for nonpayment;
- number of service restorations after disconnection for nonpayment;
- average duration of disconnection;
- number of security deposits collected; and
- dollar value of level of security deposits collected;

### Utility Reaction to Requests for Data Reporting

Utilities are generally not thrilled when advocates, regulators, or policymakers propose that comprehensive credit and collections data be collected and reported. They are perhaps understandably reticent about initiating a process whereby they broadcast not only the number of their customers they disconnect, but that their franchised service is unaffordable to some.

Often, when faced with a request to collect and report — either regularly on an ongoing basis, or through response to discovery requests — utilities state that their information technology systems cannot accommodate the task, the cost is too high, they don't track the requested information, or and that the request is unduly burdensome. But the fact is, utilities know which customers are behind on their bills, receive disconnection notices, have service disconnected or restored, and enter into deferred payment agreements. There are sufficient examples of successful reporting that demonstrate the potential for implementation.<sup>9</sup>

### Why Zip Code Level Reporting?

Some national and regional data sets show disparities by race in disconnections and other important energy security metrics — even after controlling for income. These disparities raise profound racial justice concerns, and highlight the importance of obtaining utility-specific credit and collections data at the zip code, or even census tract level. Geographically granular data is needed to flag any disparities, but also to inform targeted and effective energy efficiency and other affordable energy programming. Until recently, there have been no utilities that report regularly on a geographically granular level. However, as discussed later in this report, Illinois utilities began reporting zip code level data as part of a stipulation agreement with consumer advocates and other stakeholders.

---

<sup>9</sup> States that have long received detailed credit and collections data from investor-owned utilities include Iowa, Pennsylvania, Massachusetts, Ohio, California, and New York.

## Affordability Program Design

Ratepayer-funded utility bill assistance programs currently operate in at least 30 states in the U.S.<sup>10</sup> Programs vary widely in funding and benefit levels, eligibility criteria, administrative structures and number of customers served. Programs range in scope from a modest customer charge discount for Supplemental Security Income or Medicaid participants in Alabama, to comprehensive electric and gas percentage of income payment plan with arrearage management offerings in Ohio funded at over \$300 million annually.<sup>11</sup>

To help ensure home energy security for low-income residents, utility affordability programs should meet the following key objectives:

- Serve residential electricity customers who are income-eligible to participate in HEAP;
- lower program participants' energy burdens to an affordable level;
- promote regular, timely payment of utility bills by program participants;
- comprehensively address payment problems associated with participants' current and past-due bills;
- be funded through a mechanism that is reliable while providing sufficient resources to both serve all income-eligible customers and to meet policy objectives over an extended timeframe; and
- be administered efficiently and effectively.

This section outlines affordability program design features and elements needed to best meet these objectives. It also provides a comparison of the predominant affordability program types operating in the U.S., and concludes with a brief discussion regarding quantification of affordability program costs and benefits.

### Critical Program Design Features

As noted above, design features that determine the extent to which identified program objectives will be achieved include eligibility guidelines and enrollment protocols, benefit levels, comprehensive treatment of arrearages and current bills, the program funding mechanism, and administrative structures. Each of these design elements is discussed below.

---

<sup>10</sup> See, LIHEAP Clearinghouse, "2014 State-by-state Ratepayer Funded Low-income Energy Assistance and Energy Efficiency," <https://liheapch.acf.hhs.gov/Supplements/2014/supplement14.htm>.

<sup>11</sup> LIHEAP Clearinghouse, "Ohio Ratepayer Funded Programs," <https://liheapch.acf.hhs.gov/dereg/states/ohsnapshot.htm>.



### Program Eligibility Guidelines, Participation and Enrollment

Unless statutorily prohibited, income eligibility for participation in a ratepayer-funded affordability program should be capped at no less than state-specific HEAP income-eligibility guidelines. All households receiving or eligible for benefits through the federal HEAP should be automatically enrolled in an electric affordability program. In addition, consenting households receiving benefits from other means-tested benefit programs (e.g., SNAP, Medicaid) should also be automatically enrolled in the electricity affordability program. New Jersey is a state with successful automatic enrollment experience.<sup>12</sup>

### Program Benefits

Participants in a low-income affordability program should receive benefits in the form of discounted rates or fixed credits on their bills. Benefit levels should be set such that the home energy burden of low-income participants is reduced substantially, ideally as close as possible to the energy burden of a median-income household. The Nevada percentage of income payment plan programs are required by statute to reduce participants' electric and gas burdens to the same percentage as that of a median income household.<sup>13</sup>

### Incorporation of Arrearage Management into an Affordable Current Bill Program

To sustain participants' affordability and home energy security, program design must be comprehensive in its approach to dealing with both current bills and arrearage balances. A program that is intended to promote regular, timely payments through the reduction of home energy burdens to an affordable level is rendered less effective by a requirement that participants pay off an arrearage in addition to the affordable current bill. Simultaneous payment of pre-existing arrears *and* the discounted electric bill therefore runs counter to the policy objectives of promoting affordable, regular, timely payments by program participants.<sup>14</sup>

There are two basic models of low-income utility arrearage management that have been implemented in the United States. One entails the write-down of customer arrears over time after a series of timely payments on current bills. The other model entails the retirement of arrearage balances in full on a one-time basis. The one-time "forgiveness" model is

---

<sup>12</sup> In New Jersey, some applicants for SNAP, Pharmaceutical Assistance to the Aged and Disabled ("PAAD"), Lifeline Energy Assistance, and Medicare Part D are automatically screened for Universal Service Fund ("USF") benefits and do not have to fill out a separate application. In general, this is done for applicants who pay for heat, and who live in a household that includes only members who are considered in determining eligibility for the USF program. <https://www.lsnjlaw.org/Utilities/Help-with-Utility/Pages/NJ-EA-Programs.aspx>.

<sup>13</sup> NRS 702.250(7) provides as follows: "... if a household is eligible to receive assistance pursuant to this section, the Division: (a) Shall, to the extent practicable, determine the amount of assistance that the household will receive by determining the amount of assistance that is sufficient to reduce the percentage of the household's income that is spent on natural gas and electricity to the median percentage of household income spent on natural gas and electricity statewide."

<sup>14</sup> Colorado, Ohio and Massachusetts provide 3 examples of states that comprehensively provide benefits that include reduction of current bills and opportunities for low-income utility customers to have past due balances reduced through timely payment of current bills over a predetermined number of months.

administratively straightforward, but entails a large initial outlay of program cash resources.<sup>15</sup> More gradual write-downs over a period of months may provide customers with an enhanced incentive to keep up with current bills (as long as they are affordable), while placing less strain on program cash flow. For states with a protracted arrearage write-down period, such as Colorado which allows retirement over 24-months, it is essential to provide considerable flexibility in allowing participants to make up for missed payments. For households lacking income sufficient to pay for all monthly necessities, it is unrealistic to assume that there will be 24 consecutive timely payments, even if current bills are reduced.

### Program Funding

Funding for an affordability program needs to be sufficient and reliable. Program funding should be sufficient to provide meaningful energy burden reduction and energy security for all HEAP-eligible utility customers. In addition to participant benefits, program administration costs of 3% to 7% of program benefits are required to ensure effective program intake and outreach, and to cover utility billing and information technology systems costs.

A sustainable affordability program with set benefit levels and participation rates also requires funding that is predictable and reliable. A uniform volumetric charge to all customer classes, approved prior to program implementation, is the optimal funding source for an effective program. However, in most states with extensive, high-participation program offerings, the largest commercial and industrial customers pay less on a volumetric basis than residential ratepayers.<sup>16</sup>

### Program Administration

Affordability program design should foster efficient, streamlined administrative procedures. With limited program resources available, funds should be devoted to participant benefits rather than administrative costs to the greatest extent feasible. Minimizing administrative costs while delivering an effective affordability program requires that agencies, organizations and individuals work together cooperatively and efficiently.

Non-profit and community-based organizations with sufficient support from program administrative funds are ideally suited to conduct program intake and outreach functions. The agencies that certify HEAP eligibility could then simultaneously certify low-income rate and arrearage management eligibility using the same procedures that currently apply to HEAP. In addition, “auto-enrollment” of participants in other means-tested benefit programs can dramatically increase affordability participation while minimizing added administrative cost.

---

<sup>15</sup> In New Hampshire, the Energy Assistance Program has from time to time provided a full, one-time arrearage forgiveness to participants.

<sup>16</sup> For example, AEP Ohio customers using less than 833,000 kWh/month pay a volumetric charge of \$0.0036634 through a Universal Service Rider. The volumetric charge for usage over 833,000 kWh is \$0.0001756. Ohio Electric Distribution Utility Universal Service Fund riders from Stipulation Agreement approved by the Ohio Public Utilities Commission in Case No. 19-1270-EL-USF.

Utilities should be responsible for collecting program-related charges, assigning qualified customers to a tariffed, low-income rate, tracking arrearage write-down for participating customers with pre-program arrears, and reporting program activities and financial transactions. All program costs, including bill credits or discounts, approved startup and ongoing administrative expenses, and approved arrearage retirement amounts should be recoverable through volumetric charges, as described above.

### Predominant Program Models

There are three predominant ratepayer-funded utility affordability program types currently operating in the U.S. These are percentage of income payment plans (PIPPs), flat percentage discounts, and tiered discounts. Each of these program types is described below.

#### PIPP

A PIPP entails participating customers paying a predetermined, "affordable" percentage of income for natural gas or electric service. PIPPs therefore target benefit levels to a household's particular income circumstances based on a predetermined affordability goal. However, since a separate billing and payment arrangements must be developed for each participating customer, PIPPs may entail a somewhat higher level of administrative complexity than straight discount rates. In addition to the Colorado program, utilities have implemented a PIPPs in Ohio, Illinois, Pennsylvania, New Jersey, Nevada and Maine.<sup>17</sup>

***A well-designed and implemented PIPP is the ideal "hold harmless" mechanism for protecting low-income energy consumers from rate impacts associated with new capital investments or other initiatives. Since PIPP payments are capped at a predetermined percentage of participants' household income, home energy burdens do not increase as rates increase.***

#### Straight Percentage Discount

A straight discount entails reducing the total utility bill by a specified percentage or dollar amount. Under this model, the discount may be achieved through a set customer charge reduction and/or a usage charge reduction. California and Massachusetts are two states that have adopted straight discount rates that are available to utility customers who participate in HEAP.

The straight discount model reduces the energy burden of participants at a relatively low administrative cost. However, this model does not differentiate the benefit level within the broad participant group. The benefit level is the same for a household living at 50% of the federal poverty level as it is for a household living at the upper limit of the income eligibility guideline. Further, barring adjustment of the percentage discount each time residential rates increase, utility

---

<sup>17</sup> National Consumer Law Center, Access to Utility Service (6<sup>th</sup> ed. 2018), pp. 159 – 176.

customers participating in a straight discount are not held harmless from the financial impacts of those rate increases.<sup>18</sup>

#### Tiered Discount

A tiered discount represents a hybrid of PIPP and straight discount design elements. In a tiered discount, a series of income tiers is established (e.g., 0 – 75% of the federal poverty guidelines, 76% - 125%, 126% - 150%, 151% - program income eligibility ceiling) and a distinct discount rate is applied to each tier. Tier-specific discounts are set to achieve a predetermined target burden level (e.g., 5% of household income) at the income tier midpoint. Like a PIPP, the tiered discount is designed to reduce a customer's bill to a predetermined, affordable level. Households in the lower income tiers receive a steeper discount than those in higher tiers. Thus, benefits are targeted according to a household's income circumstances, but determination of each participant's monthly bill or fixed credit is not required. A tiered discount entails somewhat higher administrative cost than a straight discount, but less than a PIPP. The tiered discount model provides more precise targeting of benefits than a straight discount, but less precise than a PIPP. Tiered discount programs currently operate in New Hampshire and Indiana.<sup>19</sup>

#### Summary

If well-designed and adequately-funded, each of the program models referenced above hold the potential to achieve key program objectives, including those related to burden reduction, broad participation, comprehensiveness in treating current bills and past due balances, utilization of adequate and reliable funding sources, and application of administrative efficiency measures. However, among the three models, despite somewhat higher administrative complexity, PIPPs are best suited to protecting low-income households from the ill-effects of increasing rates.

#### Quantification of Affordability Program Costs and Benefits

Utility regulation often entails inquiry into the quantifiable costs and benefits of investments and expenditures that have bearing on customers' rates. In many instances such quantification is limited to reduction of all costs and benefits to dollar terms. As discussed below, projection and quantification of affordability program costs, particularly for a mature program, is a relatively straightforward endeavor. However, similar to quantifying and incorporating non-energy benefits in review of energy efficiency program cost-effectiveness, affordability program benefits are generally more challenging to ascertain and quantify.

Most prospective low-income assistance program costs may be readily identified and quantified by multiplying the projected number of program participants by the sum of the value of the average monthly discount (or revenue loss) per customer and the average arrearage per customer that is retired. Program administration costs must then be added to the value of discounts and retired arrearages to obtain an estimate of total program costs.

---

<sup>18</sup> Id., pp. 152 – 156.

<sup>19</sup> Id., pp. 157 – 158.

Quantifying the entire range of affordability program benefits presents a greater analytical challenge. For example, effective bill payment assistance programming may bring the benefit of reduced uncollectible account write-offs. The extent to which this objective may be achieved is contingent on a number of existing conditions and key program design/implementation elements, including the following:

- The company's existing bad debt profile and the extent to which uncollectible account write-offs are currently concentrated among low-income customers,
- the income and expense circumstances of individual program participants,
- the program benefit levels and reduction of participants' utility burden,
- the effectiveness of outreach and targeting of "payment troubled" customers for participation,
- the extent to which the program incorporates reduction of current bills with effective management of pre-program arrears, and
- the effectiveness of ongoing contact with program participants.

In addition to challenges to quantifying bad debt reduction, the broad range of societal and participant benefits that accrue through effective low-income bill affordability programming – considerations often outside traditional cost-of-service regulatory review – are also challenging to quantify with precision. The value of enhanced home energy security and reduced service disconnections, improved health and safety, and housing security for participants are benefits of utility affordability programs that are difficult to quantify in precise dollar terms. Similarly, societal benefits of reduced public health expenditures and the need for other transfer payments are far more difficult to quantify than direct affordability program costs.

Nonetheless, quantification challenges do not appropriately lead to the conclusion that benefits simply do not exist. Rather, they suggest that decisions regarding adoption and implementation of low-income payment assistance programs should not hinge entirely on the results of overly simplified cost-benefit analysis.

## The Colorado PIPPs

Colorado investor-owned electric and gas utilities, including Atmos Energy, Colorado Natural Gas, Black Hills Energy, and Xcel have implemented PIPPs pursuant to Colorado PUC regulations.<sup>20</sup> Key program design and implementation features of the programs are reviewed below, along with recommendations for reforms of some of the features under the PUC's control.

---

<sup>20</sup> PIPP rules pertaining to investor-owned utilities delivering residential electricity service are at 4 CCR 723-3:3412(c). Parallel rules pertaining to investor-owned utilities delivering residential natural gas service are at 4 CCR 723-4:4412(c).

### Program Eligibility Guidelines

Access to the Colorado PIPP programs is limited to customers of investor-owned utilities with annual household income of 185% of the federal poverty guidelines or less. This income ceiling was initially set in statute and later adopted by the PUC in its program implementation rules. The statutory provision was adopted in 2007<sup>21</sup> followed by a PUC rule in 2011.<sup>22</sup>

Ideally, PIPP income-eligibility should mirror that of the state's HEAP program, currently set at 60% of the SMI. As shown earlier in this report, 60% SMI for a 2-person household is equal to 238% of the federal poverty guidelines. Thus, expanding PIPP eligibility to the HEAP income ceiling would expand the pool of potential PIPP applicants and bring the potential to increase participation levels. It would also bring the administrative efficiency of being able to automatically enroll most or all HEAP participants served by an investor-owned utility directly into the PIPP.

However, it should be noted that the 185% of poverty ceiling is expansive relative to other states with major PIPP offerings.<sup>23</sup> Further, the current Colorado income ceiling is set in statute, perhaps limiting the PUC's ability to permanently raise the guideline.

### Program Bill Payment Benefits

The Colorado regulation limits participant bill payments for utility customers with electric heat at 3% - 6% of household income. For non-heat electric service customers, participant payments may range between 2% - 3% of income.<sup>24</sup> For participants with natural gas service, payments are limited to between 2% - 3% of household income.<sup>25</sup>

These payment guidelines provide meaningful burden reduction benefits to participants, especially those with very low incomes. When combined with the arrearage credit component, the burden reduction benefits are even more substantial. Analysis of burden impacts under existing Colorado PIPP benefit guidelines is included in the next section of this report.

### Treatment of Arrearages

In addition to the benefit of current bill reductions for participants whose bill payment would otherwise exceed the payment guidelines outlined above, Colorado regulations provide that participants receive the added benefit of arrearage reduction through regular, consecutive monthly PIPP payments.<sup>26</sup> The regulations further provide that arrearage reduction may occur over a period of up to 24 months.

---

<sup>21</sup> Ch. 78 (S.B. 07-022), Sixty-Sixth General Assembly, First Regular Session amending C.R.S.A. § 40-3-106.

<sup>22</sup> 4 CCR 723-3:3412(c) (Electric Service Low-Income Program.)

<sup>23</sup> For example, PIPPs in Illinois, Ohio, and Pennsylvania cap income-eligibility at 150% of the federal poverty guidelines.

<sup>24</sup> 4 CCR 723-3:3412(e)(I)(A) - (B).

<sup>25</sup> 4 CCR 723-4:4412(e)(I).

<sup>26</sup> 4 CCR 723-3:3412(e)(VII)(A) - (F), 4 CCR 723-4:4412(e)(VII)(A) - (F).



The arrearage management feature of the Colorado PIPPs is consistent with the affordability program objectives lowering program participants' energy burdens to an affordable level, promoting regular, timely payment of utility bills by program participants, and comprehensively addressing payment problems associated with participants' current and past-due bills.

It should be noted, however, that most PIPP participants lack sufficient income to pay for all monthly necessities, even with reduced home energy bills and payments. It is therefore to be expected that some customers may be unable to make 24 consecutive, timely payments and may from time to time be late in making a PIPP payment. Under such circumstances, flexibility in providing participants the opportunity to make up missed payments is required. Reduction of the arrearage retirement period to 12 months or less is another approach to increasing the likelihood that participants with pre-existing arrears will complete the retirement process successfully. Direct communication with customers who are behind on their payments, and allowance of up to 2 months to make up those payments can also be instrumental in assuring program success.

### Program Outreach and Administration

A recent evaluation of the Colorado PIPPs found that program enrollment and outreach are closely coordinated with administration of the Colorado Low-Income Energy Assistance Program (LEAP). The evaluation further found that many LEAP participants are automatically enrolled in the PIPP, if available. Finally, the evaluation found that affordability program outreach materials are printed in English and Spanish, and that the LEAP office and its nonprofit partners conduct outreach efforts.<sup>27</sup>

The findings of close coordination between LEAP and PIPP administrative functions are consistent with affordability program policy objectives regarding efficient and streamlined administration.

### Program Participation

Participation in the Colorado PIPP programs is currently limited to a relatively low number of customers. For example, in Program Year 2018/2019, only 1,106 Black Hills Energy electric service customers were enrolled in the PIPP. During the same program year, only 10,063 Xcel electric service customers were enrolled.<sup>28</sup> For Xcel, less than 1% of its reported electric service customers were enrolled in PIPP.<sup>29</sup> For Black Hills, 1.3% of reported electric service customers were enrolled in PIPP.<sup>30</sup> As discussed below, participation in the Colorado PIPP programs is tightly restricted by constraints on program funding. While participation enhancement measures

---

<sup>27</sup> Offenstein, et al., ADM Energy Research and Evaluation, "Evaluation of the Percentage of Income Payment Plans," October, 2020, p. 8.

<sup>28</sup> Id., at 97.

<sup>29</sup> Calculated from Public Service Company of Colorado 2019 FERC Form 1, p. 304.

<sup>30</sup> Calculated from Black Hills Electric 2019 FERC Form 1, p. 304.

such as expanded auto-enrollment may be effective in increasing participation levels, it is first necessary to increase available program funds before implementing such measures.

### Program Funding

Colorado rules state that PIPP cost recovery is to be based on a fixed monthly fee on customer bills. The maximum residential bill impact is not to exceed \$0.31 per month.<sup>31</sup>

While the Colorado PIPPs include several laudable program design and implementation features, the existing funding restriction severely limits the capacity of the program to serve large numbers of eligible customers. Further, the \$0.31 residential bill impact limit is far less than the residential bill impacts in states with large-scale, comprehensive bill affordability programs. For example, in Ohio, the average residential monthly electric utility universal service fund charge is \$2.25 per month.<sup>32</sup> Ohio residential charges for PIPP program funding are reflected in the table below.

---

<sup>31</sup> 4 CCR 723-3:3412(g)(II)(B), 4 CCR 723-4:4412(g)(II)(B).

<sup>32</sup> Calculated using Ohio Electric Distribution Utility Universal Service Fund riders from Stipulation Agreement approved by the Ohio Public Utilities Commission in Case No. 19-1270-EL-USF and U.S. Energy Information Administration electric utility consumption data.



Table 9

| Electric Distribution<br>Utility                        | Universal Service Fund Rider <sup>1</sup> |                      | Residential Customers              |                                        |
|---------------------------------------------------------|-------------------------------------------|----------------------|------------------------------------|----------------------------------------|
|                                                         | First 833,000<br>kWh                      | Above 833,000<br>kWh | Monthly<br>Usage/Customer<br>(kWh) | Monthly<br>Universal<br>Service Charge |
| AEP                                                     | \$0.0036634                               | \$0.0001756          | 872                                | \$3.19                                 |
| DPL                                                     | \$0.0019585                               | \$0.0005700          | 872                                | \$1.71                                 |
| Duke                                                    | \$0.0009847                               | \$0.0004690          | 872                                | \$0.86                                 |
| CEI                                                     | \$0.0023743                               | \$0.0005680          | 872                                | \$2.07                                 |
| OE                                                      | \$0.0032881                               | \$0.0010461          | 872                                | \$2.87                                 |
| TE                                                      | \$0.0031912                               | \$0.0005610          | 872                                | \$2.78                                 |
| Average                                                 | \$0.0025767                               | \$0.0005650          | 872                                | \$2.25                                 |
| 2019 Residential<br>Usage (Million<br>kWh) <sup>2</sup> |                                           |                      |                                    |                                        |
|                                                         |                                           | 52,372               |                                    |                                        |
| 2019 Residential<br>Customers <sup>2</sup>              |                                           |                      |                                    |                                        |
|                                                         |                                           | 5,007,479            |                                    |                                        |
| 2019 Average<br>Monthly Usage per<br>Customer (kWh)     |                                           |                      |                                    |                                        |
|                                                         |                                           | 872                  |                                    |                                        |

<sup>1</sup> Ohio Electric Distribution Utility Universal Service Fund riders from Stipulation Agreement approved by the Ohio Public Utilities Commission in Case No. 19-1270-EL-USF

<sup>2</sup> U.S. Energy Information Administration

<https://www.eia.gov/beta/states/states/oh/data/dashboard/consumption>

In Massachusetts, where eligible low-income electric and gas service customers participate in straight discount and arrearage write-down programs, program funding comes from volumetric charges on monthly bills through a “Residential Assistance Adjustment Factor.” The table below depicts monthly RAAF electric bill impacts for residential customers of Eversource.<sup>33</sup>

<sup>33</sup> NCLC estimated RAAF bill impacts using class-specific assessments as proposed by Eversource in D.P.U. 19-122 and usage as reported by the Company in the 2018 FERC Form 1.

Table 10

| Rate Schedule                    | MWH Sales | Avg #<br>Customers | kWh Sales per<br>Customer | RAAF<br>Assessment | Annual Bill<br>Impact | Monthly Bill<br>Impact |
|----------------------------------|-----------|--------------------|---------------------------|--------------------|-----------------------|------------------------|
| <b>Residential (Account 440)</b> |           |                    |                           |                    |                       |                        |
| R-1 Residential                  | 6,408,282 | 1,009,426          | 6,348                     | 0.00481            | \$30.54               | \$2.54                 |
| R-2 Residential Assistance       | 734,459   | 119,048            | 6,169                     | 0.00481            | \$29.67               | \$2.47                 |
| R-3 Res. Space Heating           | 885,614   | 90,398             | 9,797                     | 0.00383            | \$37.52               | \$3.13                 |
| R-4 Res. Space Heating Assist.   | 89,160    | 7,195              | 12,392                    | 0.00383            | \$47.46               | \$3.96                 |

It can be seen that residential electric service customers of Eversource in Massachusetts contribute between \$2.54 and \$3.96 per month toward low-income bill affordability programming. Programs in Massachusetts are typified by reliable, secure funding that adequately supports broad program participation. In light of experience in other states, it would not be unreasonable for the Colorado PUC to consider lifting the existing \$0.31/month cap on monthly residential bills through revision of existing rules. The next section provides projections of program participation capacity under a \$1.00 per month average residential bill impact for Xcel and Black Hills Energy customers.

### Summary

Colorado investor-owned electric and gas utilities, including Atmos Energy, Colorado Natural Gas, Black Hills Energy, and Xcel have implemented PIPPs pursuant to Colorado PUC regulations. Income-eligibility for PIPP participation is capped at 185% of the federal poverty guidelines.

Participant bill payment caps provide meaningful burden reduction benefits to participants, especially those with very low incomes. In addition, participants receive the valuable added benefit of arrearage reduction through regular monthly PIPP payment. However, the 24-month arrearage retirement period will likely be problematic for some low-income households. Flexibility that allows participants to make up missed payments is required. Reduction of the arrearage retirement period to 12 months or less is another approach to increasing the likelihood that participants with pre-existing arrears will complete the retirement process successfully.

Program enrollment and outreach is closely coordinated with administration of LEAP, enhancing administrative efficiency. However, program participation and funding levels are very low. Lifting the current \$0.31 cap on monthly residential program bill impacts is required to expand the reach and benefits of the Colorado PIPPs.

## Analysis of Program Participation under Expanded PIPP Funding

This section provides analysis of how much PIPP participation could expand if the cap on residential customer assessments was increased from the current \$0.31 per month to \$1.00 per month. The analysis uses the Xcel and Black Hills Energy electric PIPPs to illustrate both current and prospective participation. The section also highlights the electric burden reduction benefits that participants experience under current PIPP payment and arrearage retirement parameters. Finally, a non-participant bill impact analysis for each rate class and subclass of both utilities is provided.

### Program Costs and Benefits

The analysis that follows incorporates customers' electricity usage and revenue data from the most recent (2019) FERC Form 1 filings of both companies. It also utilizes income and poverty data from the U.S. Census Bureau's American Community Survey.

The analysis incorporates a number of important assumptions, including the following:

- Participant electric service PIPP payments would be capped at 3% of household income, as is the case for the existing programs offered to non-heat electric PIPP participants;
- The average pre-existing arrearage balance of program participants would be \$300;
- Arrearage balances would be retired over a 12-month period rather than the current standard of 24 months;
- The number of program participants for each utility would be based on revenue made available through a \$1.00 monthly charge to residential customers and a commensurate charge to all other customer classes based on those customers' contribution to total utility revenue from sales; and
- Program administrative cost would be equal to 3% of PIPP benefits, including current bill reductions and arrearage retirement.

These assumptions are reflected in the tables below.

Table 11

| Xcel Electric PIPP Worksheet                            |                               |                                         |                                                 |                       |                                |                          |                        |                        |                                                                             |                                      |                                       |               |  |
|---------------------------------------------------------|-------------------------------|-----------------------------------------|-------------------------------------------------|-----------------------|--------------------------------|--------------------------|------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------|---------------------------------------|---------------|--|
| Participant Payment as<br>Percentage of Income 3.0%     |                               | Average Pre-<br>program Arrearage \$300 |                                                 | # Participants 68,066 |                                | Annual Expenditure \$822 |                        |                        | Program<br>Administration (% of<br>Arrearage Write-<br>down + Discounts) 3% |                                      |                                       |               |  |
| Income Brackets, Households, Expenditures and Discounts |                               |                                         |                                                 |                       |                                |                          |                        |                        | Program Costs                                                               |                                      |                                       |               |  |
| Selected Poverty Level<br>(2-person Household)          | Annual<br>Household<br>Income | # HH                                    | Average<br>Annual<br>Electricity<br>Expenditure | Target Burden         | Expenditure @<br>Target Burden | \$ Annual<br>Discount    | \$ Monthly<br>Discount | Percentage<br>Discount | Total \$<br>Discount                                                        | Total \$<br>Arrearage Write-<br>down | Total \$<br>Program<br>Administration | Total \$      |  |
| 50%                                                     | \$ 8,620                      | 17,016                                  | \$ 822                                          | 3.0%                  | \$ 259                         | \$ 563                   | \$ 47                  | 68.5%                  | \$ 9,585,504                                                                | \$ 5,104,925                         | \$ 440,712.86                         | \$ 15,131,142 |  |
| 100%                                                    | \$ 17,240                     | 17,016                                  | \$ 822                                          | 3.0%                  | \$ 517                         | \$ 305                   | \$ 25                  | 37.1%                  | \$ 5,185,059                                                                | \$ 5,104,925                         | \$ 308,699.51                         | \$ 10,598,683 |  |
| 125%                                                    | \$ 21,550                     | 17,016                                  | \$ 822                                          | 3.0%                  | \$ 647                         | \$ 175                   | \$ 15                  | 21.3%                  | \$ 2,984,836                                                                | \$ 5,104,925                         | \$ 242,692.83                         | \$ 8,332,454  |  |
| 150%                                                    | \$ 25,860                     | 17,016                                  | \$ 822                                          | 3.0%                  | \$ 776                         | \$ 46                    | \$ 4                   | 5.6%                   | \$ 784,613                                                                  | \$ 5,104,925                         | \$ 176,686.15                         | \$ 6,066,224  |  |
| Weighted Average Discount                               |                               | 42.3%                                   |                                                 |                       |                                |                          |                        |                        |                                                                             |                                      |                                       |               |  |
| Total Participants                                      |                               | 68,066                                  |                                                 |                       |                                |                          |                        |                        |                                                                             |                                      |                                       |               |  |
|                                                         |                               |                                         |                                                 |                       |                                |                          |                        |                        | \$ 18,540,012                                                               | \$ 20,419,700                        | \$ 1,168,791                          | \$ 40,128,503 |  |



Table 12

**Black Hills Electric PIPP Worksheet**

|                                                         |                         |                                     |                                        |                      |                             |                            |                     |                                                                   |                   |                               |                                 |            |              |
|---------------------------------------------------------|-------------------------|-------------------------------------|----------------------------------------|----------------------|-----------------------------|----------------------------|---------------------|-------------------------------------------------------------------|-------------------|-------------------------------|---------------------------------|------------|--------------|
| Participant Payment as Percentage of Income 3.0%        |                         | Average Pre-program Arrearage \$300 |                                        | # Participants 2,982 |                             | Annual Expenditure \$1,041 |                     | Program Administration (% of Arrearage Write-down + Discounts) 3% |                   |                               |                                 |            |              |
| Income Brackets, Households, Expenditures and Discounts |                         |                                     |                                        |                      |                             |                            |                     | Program Costs                                                     |                   |                               |                                 |            |              |
| Selected Poverty Level (2-person Household)             | Annual Household Income | # HH                                | Average Annual Electricity Expenditure | Target Burden        | Expenditure @ Target Burden | \$ Annual Discount         | \$ Monthly Discount | Percentage Discount                                               | Total \$ Discount | Total \$ Arrearage Write-down | Total \$ Program Administration | Total \$   |              |
| 50%                                                     | \$ 8,620                | 745                                 | \$ 1,041                               | 3.0%                 | \$ 259                      | \$ 783                     | \$ 65               | 75.2%                                                             | \$ 583,569        | \$ 223,625                    | \$ 24,215.84                    | \$ 831,411 |              |
| 100%                                                    | \$ 17,240               | 745                                 | \$ 1,041                               | 3.0%                 | \$ 517                      | \$ 524                     | \$ 44               | 50.3%                                                             | \$ 390,804        | \$ 223,625                    | \$ 18,432.89                    | \$ 632,862 |              |
| 125%                                                    | \$ 21,550               | 745                                 | \$ 1,041                               | 3.0%                 | \$ 647                      | \$ 395                     | \$ 33               | 37.9%                                                             | \$ 294,422        | \$ 223,625                    | \$ 15,541.41                    | \$ 533,588 |              |
| 150%                                                    | \$ 25,860               | 745                                 | \$ 1,041                               | 3.0%                 | \$ 776                      | \$ 266                     | \$ 22               | 25.5%                                                             | \$ 198,039        | \$ 223,625                    | \$ 12,649.94                    | \$ 434,314 |              |
| Weighted Average Discount                               |                         | 54.5%                               |                                        |                      |                             |                            |                     |                                                                   |                   |                               |                                 |            |              |
| Total Participants                                      |                         | 2,982                               |                                        |                      |                             |                            |                     |                                                                   |                   | \$ 1,466,834                  | \$ 894,502                      | \$ 70,840  | \$ 2,432,176 |

Using the data sources and incorporating the assumptions stated above, a \$1.00 residential customer assessment, along with a commensurate assessment on all other customers, would generate revenue of about \$40 million, for the Xcel program. This is sufficient revenue to support participation of over 68,000 of Xcel's low-income customers. For Black Hills, the same assessment structure would generate about \$2.4 million and support participation of nearly 3,000 low-income customers.

### Burden Reductions

The tables and charts that follow show the PIPP expenditure and electricity burden benefits that accrue to participants living at various income levels. For comparative purposes expenditures and electricity burdens of nonparticipant households are included as well. The "undiscounted burdens" of the participant households include a \$300 arrearage payoff over a 4-month period.

Table 13

**Electricity Burden Impacts: PIPP Discount (3% Target Burden) - Xcel**

|                                                           | Single, Minimum Wage* Worker (40 hours x 52 weeks) | 2-person Household, 100% 2019 FPL | 2-person Household, 150% 2019 FPL | 2-Person Median Income Household | Upper-income Household (\$100,000) |
|-----------------------------------------------------------|----------------------------------------------------|-----------------------------------|-----------------------------------|----------------------------------|------------------------------------|
| Annual Pretax Income                                      | \$24,960                                           | \$17,240                          | \$25,860                          | \$68,517                         | \$100,000                          |
| Monthly Pretax Income                                     | \$2,080                                            | \$1,437                           | \$2,155                           | \$5,710                          | \$8,333                            |
| Undiscounted Current Annual Electricity Expenditure       | \$822                                              | \$822                             | \$822                             | \$822                            | \$822                              |
| Undiscounted Current Monthly Electricity Expenditure      | \$68                                               | \$68                              | \$68                              | \$68                             | \$68                               |
| Monthly Arrearage Payment (\$300/4)                       | \$75                                               | \$75                              | \$75                              | \$0                              | \$0                                |
| Total Undiscounted Monthly Payment                        | \$143                                              | \$143                             | \$143                             | \$68                             | \$68                               |
| Undiscounted Electricity Burden (During Arrearage Payoff) | 6.9%                                               | 10.0%                             | 6.7%                              | 1.2%                             | 0.8%                               |
| Discounted Electricity Expenditure                        | \$749                                              | \$517                             | \$776                             | \$822                            | \$822                              |
| Discounted Electricity Burden                             | 3.0%                                               | 3.0%                              | 3.0%                              | 1.2%                             | 0.8%                               |

Table 14

**Electricity Burden Impacts: PIPP Discount - Black Hills Electric**

|                                                           | Single, Minimum<br>Wage* Worker<br>(40 hours x 52 weeks) | 2-person<br>Household, 100%<br>2019 FPL | 2-person<br>Household, 150%<br>2019 FPL | 2-Person<br>Median Income<br>Household | Upper-income<br>Household<br>(\$100,000) |
|-----------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|-----------------------------------------|----------------------------------------|------------------------------------------|
| Annual Pretax Income                                      | \$24,960                                                 | \$17,240                                | \$25,860                                | \$68,517                               | \$100,000                                |
| Monthly Pretax Income                                     | \$2,080                                                  | \$1,437                                 | \$2,155                                 | \$5,710                                | \$8,333                                  |
| Undiscounted Current Annual Electricity Expenditure       | \$1,041                                                  | \$1,041                                 | \$1,041                                 | \$1,041                                | \$1,041                                  |
| Undiscounted Current Monthly Electricity Expenditure      | \$87                                                     | \$87                                    | \$87                                    | \$87                                   | \$87                                     |
| Monthly Arrearage Payment (\$300/4)                       | \$75                                                     | \$75                                    | \$75                                    | \$0                                    | \$0                                      |
| Total Undiscounted Monthly Payment                        | \$162                                                    | \$162                                   | \$162                                   | \$87                                   | \$87                                     |
| Undiscounted Electricity Burden (During Arrearage Payoff) | 7.8%                                                     | 11.3%                                   | 7.5%                                    | 1.5%                                   | 1.0%                                     |
| Discounted Electricity Expenditure                        | \$749                                                    | \$517                                   | \$776                                   | \$1,041                                | \$1,041                                  |
| Discounted Electricity Burden                             | 3.0%                                                     | 3.0%                                    | 3.0%                                    | 1.5%                                   | 1.0%                                     |

Figure 2

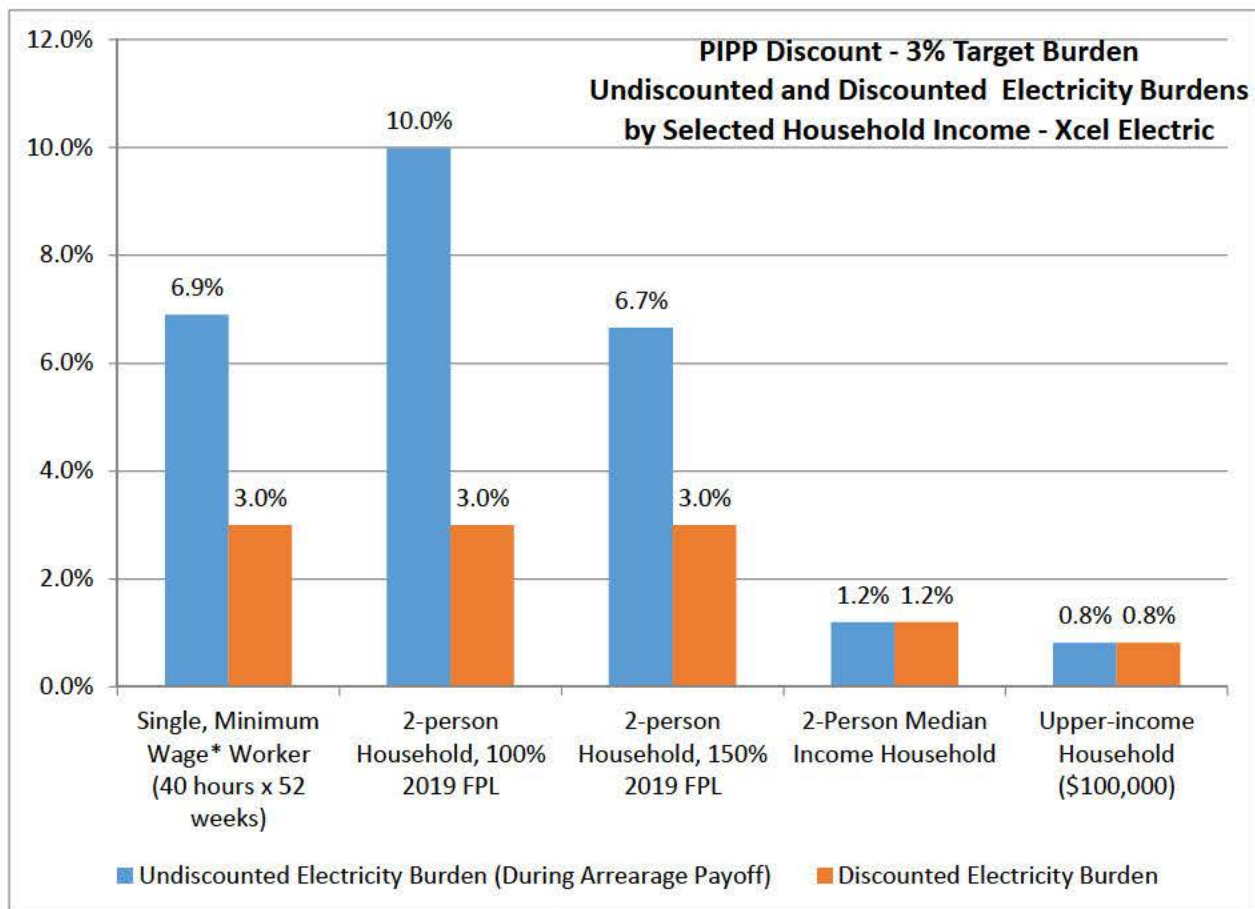
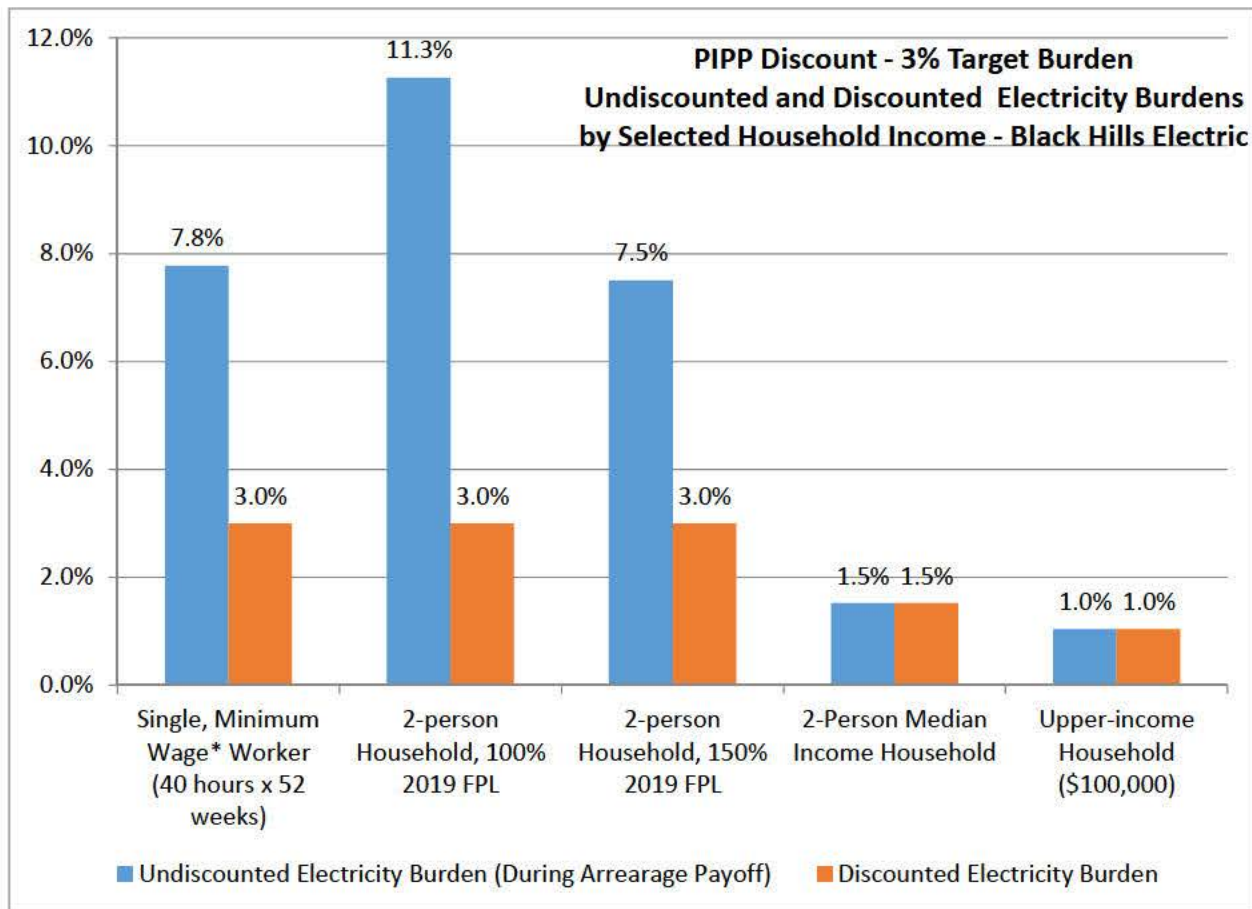


Figure 3



The tables and graphics above portray the dramatic impact a PIPP can have on low-income electricity and home energy burdens. Expanding participation in these programs through increased funding – an additional 70 cents per month for residential customers – could make it easier for more of the most vulnerable customers to stay connected to service. The increased assessment as proposed here would still represent a modest contribution relative to other states.

### Bill Impact Analysis

The tables that follow are based on the FERC Form 1 filings of Xcel and Black Hills Electric. Bill impacts were calculated by dividing the PIPP program cost by the total revenue from sales as reflected in the FERC Form 1. The resulting percent of revenue required for the program was then added to the expenditure of each rate class and subclass to determine bill impacts.



| <i>Xcel 2019 FF1 p. 304</i>       |                   |                         |                  |                  |                  | <b>2019 Average Expenditures</b> |                     | <b>Program Assessment Bill Impacts and Revenues</b> |                                        |
|-----------------------------------|-------------------|-------------------------|------------------|------------------|------------------|----------------------------------|---------------------|-----------------------------------------------------|----------------------------------------|
| sched_num_ttl                     | mwh_sold          | revenue                 | avg_num_cstmr    | kwh_sale_cstmr   | revenue_kwh_sold | Annual Expenditure               | Monthly Expenditure | Monthly Program Bill impact                         | Annual Revenue From Program Assessment |
| R Residential General             | 9,367,554         | \$ 1,043,577,899        | 1,269,676        | 7,378            | \$ 0.1114        | \$822                            | \$68                | \$1.01                                              | \$15,321,418                           |
| RAL Residential Area Lighting     | 2,281             | \$ 865,946              | 4,053            | 563              | \$ 0.3796        | \$214                            | \$18                | \$0.26                                              | \$12,717                               |
| RD Residential Demand             | 31,102            | \$ 3,147,553            | 1,094            | 28,430           | \$ 0.1012        | \$2,877                          | \$240               | \$3.52                                              | \$46,212                               |
| RTDTR Residential Demand Time Dif | 14,277            | \$ 1,347,889            | 1,522            | 9,380            | \$ 0.0944        | \$885                            | \$74                | \$1.08                                              | \$19,787                               |
| RETOU Residential Energy Time of  | 38,422            | \$ 4,308,726            | 5,505            | 6,979            | \$ 0.1121        | \$782                            | \$65                | \$0.96                                              | \$63,232                               |
| Residential Unbilled              | -7,010            | \$ (5,254,005)          |                  |                  | \$ 0.7495        |                                  |                     |                                                     |                                        |
| <b>Total Residential</b>          | <b>9,446,626</b>  | <b>\$ 1,047,994,008</b> | <b>1,281,850</b> | <b>7,370</b>     | <b>\$ 0.1109</b> | <b>\$817</b>                     | <b>\$68</b>         | <b>\$1.00</b>                                       | <b>\$15,382,200</b>                    |
|                                   |                   | \$ -                    |                  |                  | \$ -             |                                  |                     |                                                     |                                        |
| C Commercial                      | 1,271,582         | \$ 137,737,500          | 111,511          | 11,403           | \$ 0.1083        | \$1,235                          | \$103               | \$1.51                                              | \$2,021,843                            |
| CAL Commercial Area Lighting      | 9,514             | \$ 3,307,963            | 6,627            | 1,436            | \$ 0.3477        | \$499                            | \$42                | \$0.61                                              | \$48,580                               |
| NMTR Non-Metered Commercial       | 20,837            | \$ 2,282,752            | 790              | 26,376           | \$ 0.1096        | \$2,891                          | \$241               | \$3.54                                              | \$33,530                               |
| PG Primary General                | 3,624,452         | \$ 251,813,207          | 597              | 6,071,109        | \$ 0.0695        | \$421,942                        | \$35,162            | \$516.24                                            | \$3,698,362                            |
| PLL Parking Lot Lighting          | 4,323             | \$ 966,925              | 847              | 5,104            | \$ 0.2237        | \$1,142                          | \$95                | \$1.40                                              | \$14,198                               |
| PST Primary Standby Service       | 31,289            | \$ 6,028,123            | 5                | 6,257,800        | \$ 0.1927        | \$1,205,878                      | \$100,490           | \$1,475.38                                          | \$88,523                               |
| PTOU Primary Time of Use          | 47,174            | \$ 3,684,052            |                  |                  | \$ 0.0781        |                                  |                     |                                                     |                                        |
| SG Secondary General              | 11,911,794        | \$ 1,095,212,011        | 42,158           | 282,551          | \$ 0.0919        | \$25,966                         | \$2,164             | \$31.77                                             | \$16,072,172                           |
| SGL Secondary Gen Low-Load        | 6,428             | \$ 2,536,334            | 442              | 14,543           | \$ 0.3946        | \$5,739                          | \$478               | \$7.02                                              | \$37,241                               |
| SPVTOU Secondary Photovoltaic Tim | 99,433            | \$ 9,449,667            | 157              | 633,331          | \$ 0.0950        | \$60,166                         | \$5,014             | \$73.61                                             | \$138,687                              |
| SST Secondary Standby             |                   | \$ 87                   | 1                |                  | \$ -             |                                  |                     |                                                     |                                        |
| STOU Secondary Time of Use        | 5,983             | \$ 551,121              |                  |                  | \$ 0.0921        |                                  |                     |                                                     |                                        |
| TG Transmission General           | 2,377,139         | \$ 127,422,139          | 23               | 103,353,870      | \$ 0.0536        | \$5,539,767                      | \$461,647           | \$6,777.86                                          | \$1,870,689                            |
| TST Transmission Standby Svc      | 33,732            | \$ 2,029,617            | 14               | 2,409,429        | \$ 0.0602        | \$145,048                        | \$12,087            | \$177.46                                            | \$29,814                               |
| SM/LG C&I Unbilled                | -28,592           | \$ (10,960,483)         |                  |                  | \$ 0.3833        |                                  |                     |                                                     |                                        |
| <b>Total SM/LG C&amp;I</b>        | <b>19,415,088</b> | <b>\$ 1,632,061,015</b> | <b>163,172</b>   | <b>118,985</b>   | <b>\$ 0.0841</b> | <b>\$10,007</b>                  | <b>\$834</b>        | <b>\$12.24</b>                                      | <b>\$23,972,651</b>                    |
|                                   |                   | \$ -                    |                  |                  | \$ -             |                                  |                     |                                                     |                                        |
| MI Metered Intersection           | 1,815             | \$ 150,105              | 358              | 5,070            | \$ 0.0827        | \$419                            | \$35                | \$0.51                                              | \$2,204                                |
| MSL Metered Street Lighting       | 600               | \$ 55,163               | 132              | 4,545            | \$ 0.0919        | \$418                            | \$35                | \$0.51                                              | \$809                                  |
| COL Customer Owned Lighting       | 8,770             | \$ 717,848              | 69               | 127,101          | \$ 0.0819        | \$10,410                         | \$867               | \$12.74                                             | \$10,545                               |
| SL Street Lighting                | 145,365           | \$ 39,790,243           | 549              | 264,781          | \$ 0.2737        | \$72,471                         | \$6,039             | \$88.67                                             | \$584,139                              |
| SLU Street Ltg Unincorporated     | 3,874             | \$ 1,391,382            | 53,019           | 73               | \$ 0.3592        | \$26                             | \$2                 | \$0.03                                              | \$20,411                               |
| SSL Special Street Lighting       | 7                 | \$ 2,464                | 2                | 3,500            | \$ 0.3520        | \$1,232                          | \$103               | \$1.51                                              | \$36                                   |
| TSL Traffic Signal Lighting       | 20,422            | \$ 1,705,131            | 157              | 130,076          | \$ 0.0835        | \$10,861                         | \$905               | \$13.29                                             | \$25,036                               |
| PS & HL Unbilled                  | 3,220             | \$ (53,899)             |                  |                  | \$ (0.0167)      |                                  |                     |                                                     |                                        |
| <b>Total PS &amp; HL</b>          | <b>184,073</b>    | <b>\$ 43,758,437</b>    | <b>54,286</b>    | <b>3,391</b>     | <b>\$ 0.2377</b> | <b>\$806</b>                     | <b>\$67</b>         | <b>\$0.99</b>                                       | <b>\$642,432</b>                       |
|                                   |                   | \$ -                    |                  |                  | \$ -             |                                  |                     |                                                     |                                        |
| SCS-7 Regional Transportation Dis | 68,138            | \$ 6,519,367            | 50               | 1,362,760        | \$ 0.0957        | \$130,416                        | \$10,868            | \$159.56                                            | \$95,738                               |
| SCS-8 Regional Transportation Dis | 39,154            | \$ 2,508,049            | 3                | 13,051,333       | \$ 0.0641        | \$836,590                        | \$69,716            | \$1,023.56                                          | \$36,848                               |
| OSPA Unbilled                     | 277               | \$ (38,546)             |                  |                  | \$ (0.1392)      |                                  |                     |                                                     |                                        |
| <b>Total OSPA</b>                 | <b>107,569</b>    | <b>\$ 8,988,870</b>     | <b>53</b>        | <b>2,029,604</b> | <b>\$ 0.0836</b> | <b>\$169,675</b>                 | <b>\$14,140</b>     | <b>\$207.60</b>                                     | <b>\$132,031</b>                       |
|                                   |                   | \$ -                    |                  |                  | \$ -             |                                  |                     |                                                     |                                        |
| C IDS Commercial                  | 94                | \$ 12,394               | 28               | 3,357            | \$ 0.1319        | \$443                            | \$37                | \$0.54                                              | \$182                                  |
| PG IDS Primary General            | 271               | \$ 44,858               | 1                | 271,000          | \$ 0.1655        | \$44,851                         | \$3,738             | \$54.87                                             | \$658                                  |
| SG IDS Secondary General          | 3,061             | \$ 333,444              | 5                | 612,200          | \$ 0.1089        | \$66,669                         | \$5,556             | \$81.57                                             | \$4,894                                |
| Interdepartmental Unbilled        | 66                | \$ 2,770                |                  |                  | \$ 0.0420        |                                  |                     |                                                     |                                        |
| <b>Total Interdepartmental</b>    | <b>3,492</b>      | <b>\$ 393,466</b>       | <b>34</b>        | <b>102,706</b>   | <b>\$ 0.1127</b> | <b>\$11,575</b>                  | <b>\$965</b>        | <b>\$14.16</b>                                      | <b>\$5,778</b>                         |

**Total Sales (MWH) and Revenue From Sales (\$)**

**29,156,848      2,733,195,796**

**40,135,092**

**PIPP Discount Program Cost as Percent of Revenues From Sales**

**1.47%**

| Black Hills Electric 2019 FF1 p. 304 |                |                       |               |                |                  |  | 2019 Average Expenditures |                     | Program Assessment Bill Impacts and Revenues |                                        |
|--------------------------------------|----------------|-----------------------|---------------|----------------|------------------|--|---------------------------|---------------------|----------------------------------------------|----------------------------------------|
| sched_num_ttl                        | mwh_sold       | revenue               | avg_num_cstmr | kwh_sale_cstmr | revenue_kwh_sold |  | Annual Expenditure        | Monthly Expenditure | Monthly Program Bill Impact                  | Annual Revenue From Program Assessment |
| CO860- Residential Service           | 605,418        | \$ 83,697,488         | 80,341        | 7,536          | \$ 0.1382        |  | \$1,041                   | \$87                | \$0.88                                       | \$849,723                              |
| CO861- Residential Service -Multi    | 1,243          | \$ 178,857            | 73            | 17,027         | \$ 0.1439        |  | \$2,450                   | \$204               | \$2.07                                       | \$1,816                                |
| CO862 - Residential DLC/IPP Pilot    | 483            | \$ 65,588             | 57            | 8,474          | \$ 0.1358        |  | \$1,151                   | \$96                | \$0.97                                       | \$666                                  |
| CO863 - Residential DLC/IPP Pilot    | 578            | \$ 78,597             | 58            | 9,966          | \$ 0.1360        |  | \$1,355                   | \$113               | \$1.15                                       | \$798                                  |
| CO865 - Residential Service - Oth    | 7,116          | \$ 574,927            | 1,559         | 4,564          | \$ 0.0808        |  | \$369                     | \$31                | \$0.31                                       | \$5,838                                |
| CO864 -                              | 376            | \$ 47,369             | 24            | 15,667         | \$ 0.1260        |  | \$1,974                   | \$165               | \$1.67                                       | \$481                                  |
| CO875- Residential -Net Metering     | 5,884          | \$ 960,610            | 2,079         | 2,830          | \$ 0.1633        |  | \$462                     | \$39                | \$0.39                                       | \$9,757                                |
| CO885- Residential -Net Metering     | 41             | \$ 5,852              | 3             | 13,667         | \$ 0.1427        |  | \$1,950                   | \$163               | \$1.65                                       | \$55                                   |
| COM26 - Mercury Vapor Private Are    | 314            | \$ 68,795             | 300           | 1,047          | \$ 0.2191        |  | \$229                     | \$19                | \$0.19                                       | \$699                                  |
| COPA2 - New Lamp - Cust Owns         | 50             | \$ 23,258             | 67            | 746            | \$ 0.4652        |  | \$347                     | \$29                | \$0.29                                       | \$236                                  |
| COPB2 - New Lamp - Cust Owns         | 3              | \$ 1,353              | 7             | 429            | \$ 0.4510        |  | \$193                     | \$16                | \$0.16                                       | \$14                                   |
| COPC1 - New Lamp - Cust Owns         | 4              | \$ 707                | 1             | 4,000          | \$ 0.1768        |  | \$707                     | \$59                | \$0.60                                       | \$7                                    |
| COPC2 - New Lamp - Cust Owns         | 2              | \$ 588                | 4             | 500            | \$ 0.2940        |  | \$147                     | \$12                | \$0.12                                       | \$6                                    |
| COPD1 - New Lamp - Cust Owns         | 4              | \$ 471                | 1             | 4,000          | \$ 0.1178        |  | \$471                     | \$39                | \$0.40                                       | \$5                                    |
| COPD2 - New Lamp - Cust Owns         | 98             | \$ 13,439             | 97            | 1,010          | \$ 0.1371        |  | \$138                     | \$12                | \$0.12                                       | \$136                                  |
| COPE1 - New Lamp - Cust Owns         | 32             | \$ 5,411              | 14            | 2,286          | \$ 0.1691        |  | \$387                     | \$32                | \$0.33                                       | \$55                                   |
| COPE2 - New Lamp - Cust Owns         | 633            | \$ 57,938             | 840           | 754            | \$ 0.0915        |  | \$69                      | \$6                 | \$0.06                                       | \$588                                  |
| Unbilled Revenue                     | -5,277         | \$ (496,817)          |               |                | \$ 0.0941        |  |                           |                     |                                              |                                        |
| FCA Accrual                          |                | \$ 21,287,811         |               |                | \$ -             |  |                           |                     |                                              |                                        |
| Alt Revenue                          |                | \$ 57,167             |               |                | \$ -             |  |                           |                     |                                              |                                        |
| Note 5: FCA Billed                   |                | \$ (6,622,820)        |               |                | \$ -             |  |                           |                     |                                              |                                        |
| Note 5: Peakview                     |                | \$ 1,054,587          |               |                | \$ -             |  |                           |                     |                                              |                                        |
| <b>Total Residential</b>             | <b>617,002</b> | <b>\$ 101,061,176</b> | <b>85,525</b> | <b>7,214</b>   | <b>\$ 0.1638</b> |  | <b>\$1,182</b>            | <b>\$98</b>         | <b>\$1.00</b>                                | <b>\$1,026,300</b>                     |
| CO710- Small General Service - No    | 50,404         | \$ 6,190,692          | 6,767         | 7,449          | \$ 0.1228        |  | \$915                     | \$76                | \$0.77                                       | \$62,861                               |
| CO711- Small General Service - De    | 143,632        | \$ 15,252,763         | 2,864         | 50,151         | \$ 0.1062        |  | \$5,326                   | \$444               | \$4.51                                       | \$154,906                              |
| CO720- Large General Service - Se    | 366,090        | \$ 31,752,817         | 650           | 563,215        | \$ 0.0867        |  | \$48,831                  | \$4,069             | \$41.32                                      | \$322,328                              |
| CO725- Large General Service - Pr    | 47,154         | \$ 2,916,755          | 28            | 1,684,071      | \$ 0.0619        |  | \$104,244                 | \$8,687             | \$88.22                                      | \$29,642                               |
| CO730- Large Power Service - Seco    | 5,662          | \$ 465,439            | 1             | 5,662,000      | \$ 0.0822        |  | \$465,416                 | \$38,785            | \$393.87                                     | \$4,726                                |
| CO735- Large Power Service - Prim    | 104,525        | \$ 6,355,573          | 4             | 26,131,250     | \$ 0.0608        |  | \$1,588,780               | \$132,398           | \$1,344.54                                   | \$64,538                               |
| CO770- Irrigation Pumping            | 5,287          | \$ 734,047            | 259           | 20,413         | \$ 0.1388        |  | \$2,833                   | \$236               | \$2.40                                       | \$7,452                                |
| CO876 - COE-Net Metering-NonRes <    | 354            | \$ 47,397             | 73            | 4,849          | \$ 0.1339        |  | \$649                     | \$54                | \$0.55                                       | \$481                                  |
| CO877 - COE-Net Metering-NonRes 1(   | 3,642          | \$ 386,693            | 70            | 52,029         | \$ 0.1062        |  | \$5,525                   | \$460               | \$4.68                                       | \$3,928                                |
| CO878 - COE-Net Metering-NonRes to   | 23,540         | \$ 2,348,268          | 39            | 603,590        | \$ 0.0998        |  | \$60,238                  | \$5,020             | \$50.98                                      | \$23,858                               |
| CO879 - COE-Net Metr-NonRes to 14    | 6,288          | \$ 418,147            | 4             | 1,572,000      | \$ 0.0665        |  | \$104,538                 | \$8,712             | \$88.47                                      | \$4,246                                |
| CO888 - COE-Net Metr-NonRes to140    | 1,472          | \$ 125,331            | 1             | 1,472,000      | \$ 0.0851        |  | \$125,267                 | \$10,439            | \$106.01                                     | \$1,272                                |
| CO920 - COE-LGS-STOU                 | 11,070         | \$ 917,006            | 10            | 1,107,000      | \$ 0.0828        |  | \$91,660                  | \$7,638             | \$77.57                                      | \$9,308                                |
| CO925 - COE-LGS-TTOU                 | 195            | \$ 10,772             |               |                | \$ 0.0552        |  |                           |                     |                                              |                                        |
| CO936 - COE-LPS-TTOU                 | 1,616          | \$ 360,407            | 1             | 1,616,000      | \$ 0.2230        |  | \$360,368                 | \$30,031            | \$304.97                                     | \$3,660                                |
| COM26 - COE-Pal Dusk to Dawn Bur     | 573            | \$ 110,802            | 225           | 2,547          | \$ 0.1934        |  | \$493                     | \$41                | \$0.42                                       | \$1,126                                |
| COM46 - COE-Special Contract         | 15             | \$ 3,262              | 23            | 652            | \$ 0.2175        |  | \$142                     | \$12                | \$0.12                                       | \$33                                   |
| COPA1 - COE-New Lamp-Cust Owns       | 13             | \$ 7,249              | 5             | 2,600          | \$ 0.5576        |  | \$1,450                   | \$121               | \$1.23                                       | \$74                                   |
| COPA2 - COE-New Lamp-Cust Owns       | 231            | \$ 66,006             | 93            | 2,484          | \$ 0.2857        |  | \$710                     | \$59                | \$0.60                                       | \$670                                  |
| COPB2 - COE-New Lamp-Cust Owns       | 14             | \$ 5,259              | 10            | 1,400          | \$ 0.3756        |  | \$526                     | \$44                | \$0.45                                       | \$53                                   |
| COPC2 - COE-New Lamp-Cust Owns       | 3              | \$ 690                | 3             | 1,000          | \$ 0.2300        |  | \$230                     | \$19                | \$0.19                                       | \$7                                    |
| COPD2 - COE-New Lamp-Cust Owns       | 174            | \$ 20,236             | 95            | 1,832          | \$ 0.1163        |  | \$213                     | \$18                | \$0.18                                       | \$206                                  |
| COPE1 - COE-New Lamp-Cust Owns       | 182            | \$ 15,081             | 18            | 10,111         | \$ 0.0829        |  | \$838                     | \$70                | \$0.71                                       | \$153                                  |
| COPE2 - COE-New Lamp-Cust Owns       | 1,901          | \$ 137,026            | 451           | 4,215          | \$ 0.0721        |  | \$304                     | \$25                | \$0.26                                       | \$1,392                                |
| Unbilled Revenue                     | 2,299          | \$ 257,489            |               |                | \$ 0.1120        |  |                           |                     |                                              |                                        |
| FCA Accrued                          |                | \$ 26,368,081         |               |                | \$ -             |  |                           |                     |                                              |                                        |
| Alt Revenue                          |                | \$ 81,524             |               |                | \$ -             |  |                           |                     |                                              |                                        |
| Note 5: FCA Billed                   |                | \$ (7,831,301)        |               |                | \$ -             |  |                           |                     |                                              |                                        |
| Note 5: Peakview                     |                | \$ 1,346,051          |               |                | \$ -             |  |                           |                     |                                              |                                        |
| <b>Total Commercial</b>              | <b>776,336</b> | <b>\$ 88,869,562</b>  | <b>11,694</b> | <b>66,388</b>  | <b>\$ 0.1145</b> |  | <b>\$7,601</b>            | <b>\$633</b>        | <b>\$6.43</b>                                | <b>\$902,712</b>                       |



| <b>Black Hills Electric 2019 FF1 p. 304</b> |                |                      |                |                  |                  | <b>2019 Average Expenditures</b> |                     | <b>Program Assessment Bill Impacts and Revenues</b> |                                        |
|---------------------------------------------|----------------|----------------------|----------------|------------------|------------------|----------------------------------|---------------------|-----------------------------------------------------|----------------------------------------|
| sched_num_ttl                               | mwh_sold       | revenue              | avg_num_custmr | kwh_sale_custmr  | revenue_kwh_sold | Annual Expenditure               | Monthly Expenditure | Monthly Program Bill Impact                         | Annual Revenue From Program Assessment |
|                                             |                | \$                   |                |                  | \$               |                                  |                     |                                                     |                                        |
| CO738 - COE- Supplement Service T           | 382            | \$ 95,035            | 1              | 382,000          | \$ 0.2488        | \$95,042                         | \$7,920             | \$80.43                                             | \$965                                  |
| CO710- Small General Service - No           | 30             | \$ 3,689             | 3              | 10,000           | \$ 0.1230        | \$1,230                          | \$103               | \$1.04                                              | \$37                                   |
| CO711- Small General Service - De           | 577            | \$ 59,381            | 5              | 115,400          | \$ 0.1029        | \$11,875                         | \$990               | \$10.05                                             | \$603                                  |
| CO720- Large General Service - Se           | 30,131         | \$ 2,374,640         | 15             | 2,008,733        | \$ 0.0788        | \$158,288                        | \$13,191            | \$133.95                                            | \$24,112                               |
| CO725- Large General Service - Pr           | 8,081          | \$ 657,311           | 4              | 2,020,250        | \$ 0.0813        | \$164,246                        | \$13,687            | \$139.00                                            | \$6,672                                |
| CO735- Large Power Service - Prim           | 179,659        | \$ 10,209,368        | 3              | 59,886,333       | \$ 0.0568        | \$3,401,544                      | \$283,462           | \$2,878.63                                          | \$103,631                              |
| CO737 - FB-Generation Supp Svc Tr           | 664            | \$ 116,712           |                |                  | \$ 0.1758        |                                  |                     |                                                     |                                        |
| CO881-Large Power Service Primary           | 11,921         | \$ 884,265           | 1              | 11,921,000       | \$ 0.0742        | \$884,538                        | \$73,712            | \$748.56                                            | \$8,983                                |
| CO892-Large Power Service Primary           | 27,899         | \$ 1,888,211         | 1              | 27,899,000       | \$ 0.0677        | \$1,888,762                      | \$157,397           | \$1,598.41                                          | \$19,181                               |
| CO 920 - Large Gen Svc - TOU tran           | 88             | \$ 21,014            | 1              | 88,000           | \$ 0.2388        | \$21,014                         | \$1,751             | \$17.78                                             | \$213                                  |
| CO935 - CO935                               | 10,143         | \$ 715,752           | 1              | 10,143,000       | \$ 0.0706        | \$716,096                        | \$59,675            | \$606.01                                            | \$7,272                                |
| CO936- TOU-LPS Transmission                 | 171,237        | \$ 8,971,217         | 2              | 85,618,500       | \$ 0.0524        | \$4,486,409                      | \$373,867           | \$3,796.72                                          | \$91,121                               |
| COM26 - COE-Pal Dusk to Dawn Bur            | 45             | \$ 9,067             | 10             | 4,500            | \$ 0.2015        | \$907                            | \$76                | \$0.77                                              | \$92                                   |
| COPA2 - COE-New Lamp-Cust Owns              | 1              | \$ 234               | 1              | 1,000            | \$ 0.2340        | \$234                            | \$20                | \$0.20                                              | \$2                                    |
| COPD2 - COE-New Lamp-Cust Owns              | 7              | \$ 860               | 2              | 3,500            | \$ 0.1229        | \$430                            | \$36                | \$0.36                                              | \$9                                    |
| COPE2 - COE-New Lamp-Cust Owns              | 19             | \$ 1,573             | 5              | 3,800            | \$ 0.0828        | \$315                            | \$26                | \$0.27                                              | \$16                                   |
| Unbilled Revenue                            | 2,231          | \$ 149,757           |                |                  | \$ 0.0671        |                                  |                     |                                                     |                                        |
| FCA Revenue                                 |                | \$ 14,913,174        |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| Alt Revenue                                 |                | \$ 48,235            |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| Note 5: FCA Billed                          |                | \$ (4,156,844)       |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| Note 5: Peakview                            |                | \$ 754,978           |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| <b>Total Industrial</b>                     | <b>443,115</b> | <b>\$ 37,717,629</b> | <b>55</b>      | <b>8,056,636</b> | <b>\$ 0.0851</b> | <b>\$685,620</b>                 | <b>\$57,135</b>     | <b>\$580.22</b>                                     | <b>\$382,946</b>                       |
|                                             |                | \$ -                 |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| CO784 - COE-Cust Owned Inductn/LE           | 3,993          | \$ 652,601           | 21             | 190,143          | \$ 0.1634        | \$31,069                         | \$2,589             | \$26.29                                             | \$6,626                                |
| COM26 - COE-Pal Dusk to Dawn Bur            | 2              | \$ 380               | 1              | 2,000            | \$ 0.1900        | \$380                            | \$32                | \$0.32                                              | \$4                                    |
| COM28 - COE-CO/Cust Owned St Lig            | 958            | \$ 187,991           | 60             | 15,967           | \$ 0.1962        | \$3,133                          | \$261               | \$2.65                                              | \$1,909                                |
| COM41- Govt Flashers                        |                | \$ 1,437             | 16             |                  | \$ -             |                                  |                     |                                                     |                                        |
| COPA1 - COE-New Lamp-Cust Owns              | 33             | \$ 18,944            | 2              | 16,500           | \$ 0.5741        | \$9,473                          | \$789               | \$8.02                                              | \$192                                  |
| COPA2 - COE-New Lamp-Cust Owns              | 41             | \$ 12,088            | 3              | 13,667           | \$ 0.2948        | \$4,029                          | \$336               | \$3.41                                              | \$123                                  |
| COPB2 - COE-New Lamp-Cust Owns              | 8              | \$ 2,945             | 2              | 4,000            | \$ 0.3681        | \$1,472                          | \$123               | \$1.25                                              | \$30                                   |
| COPC2 - COE-New Lamp-Cust Owns              | 2              | \$ 227               | 1              | 2,000            | \$ 0.1135        | \$227                            | \$19                | \$0.19                                              | \$2                                    |
| COPD2 - COE-New Lamp-Cust Owns              | 21             | \$ 2,437             | 6              | 3,500            | \$ 0.1160        | \$406                            | \$34                | \$0.34                                              | \$25                                   |
| COPE1 - COE-New Lamp-Cust Owns              | 518            | \$ 38,309            | 8              | 64,750           | \$ 0.0740        | \$4,792                          | \$399               | \$4.05                                              | \$389                                  |
| COPE2 - COE-New Lamp-Cust Owns              | 681            | \$ 47,692            | 39             | 17,462           | \$ 0.0700        | \$1,222                          | \$102               | \$1.03                                              | \$484                                  |
| Unbilled Revenue                            |                | \$ -                 |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| FCA Accrued                                 |                | \$ -                 |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| Alt Revenue                                 |                | \$ -                 |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| Note 5: FCA Billed                          |                | \$ -                 |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| Note 5: Peakview                            |                | \$ -                 |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| <b>Total Public Street &amp; Highway L</b>  | <b>6,257</b>   | <b>\$ 965,051</b>    | <b>159</b>     | <b>39,352</b>    | <b>\$ 0.1542</b> | <b>\$6,068</b>                   | <b>\$506</b>        | <b>\$5.14</b>                                       | <b>\$9,798</b>                         |
|                                             |                | \$ -                 |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| CO710- Small General Service - No           | 220            | \$ 29,045            | 44             | 5,000            | \$ 0.1320        | \$660                            | \$55                | \$0.56                                              | \$295                                  |
| CO711- Small General Service - De           | 2,008          | \$ 214,010           | 43             | 46,698           | \$ 0.1066        | \$4,978                          | \$415               | \$4.21                                              | \$2,174                                |
| CO720- Large General Service - Se           | 18,292         | \$ 1,583,799         | 17             | 1,076,000        | \$ 0.0866        | \$93,182                         | \$7,765             | \$78.86                                             | \$16,087                               |
| CO725- Large General Service - Pr           | 286            | \$ 23,786            | 1              | 286,000          | \$ 0.0832        | \$23,795                         | \$1,983             | \$20.14                                             | \$242                                  |
| CO736 - Large Power Service - Tra           | 3,864          | \$ 437,626           | 1              | 3,864,000        | \$ 0.1133        | \$437,791                        | \$36,483            | \$370.49                                            | \$4,446                                |
| CO778 - Large Power Service - Spe           | 30,676         | \$ 1,832,583         | 1              | 30,676,000       | \$ 0.0597        | \$1,831,357                      | \$152,613           | \$1,549.83                                          | \$18,598                               |
| CO780 - Large General Service - S           | 6,133          | \$ 339,446           | 1              | 6,133,000        | \$ 0.0553        | \$339,155                        | \$28,263            | \$287.02                                            | \$3,444                                |
| CO782 - COE-Traffic Lights Metere           | 222            | \$ 29,988            | 59             | 3,763            | \$ 0.1351        | \$508                            | \$42                | \$0.43                                              | \$305                                  |
| CO783 - COE-Traffic Signals-City            | 261            | \$ 40,886            | 109            | 2,394            | \$ 0.1567        | \$375                            | \$31                | \$0.32                                              | \$415                                  |
| CO876 - COE-Net Metering-NonRes <           | 24             | \$ 2,806             | 1              | 24,000           | \$ 0.1169        | \$2,806                          | \$234               | \$2.37                                              | \$28                                   |
| <b>CO877 - COE-Net Metering-NonRes</b>      | <b>53</b>      | <b>\$ 5,916</b>      | <b>2</b>       | <b>26,500</b>    | <b>\$ 0.1116</b> | <b>\$2,957</b>                   | <b>\$246</b>        | <b>\$2.50</b>                                       | <b>\$60</b>                            |
| CO878 - COE-Net Metrng-NonRes to            | 1,060          | \$ 82,032            | 2              | 530,000          | \$ 0.0774        | \$41,022                         | \$3,419             | \$34.72                                             | \$833                                  |
| CO879 - COE-Net Metr-NonRes to 14           | 6,651          | \$ 379,514           | 1              | 6,651,000        | \$ 0.0571        | \$379,772                        | \$31,648            | \$321.39                                            | \$3,857                                |
| CO881 - COE-Net Metrng-NonRes ove           | 21,241         | \$ 1,271,842         | 1              | 21,241,000       | \$ 0.0599        | \$1,272,336                      | \$106,028           | \$1,076.74                                          | \$12,921                               |
| CO920 - COE-LGS-STOU                        | 5,711          | \$ 431,352           | 2              | 2,855,500        | \$ 0.0755        | \$215,590                        | \$17,966            | \$182.45                                            | \$4,379                                |
| CO925 - COE-LGS-TTOU                        | 6,429          | \$ 446,704           | 1              | 6,429,000        | \$ 0.0695        | \$446,816                        | \$37,235            | \$378.13                                            | \$4,538                                |
| CO930 - COE-LPS-STOU                        | 8,712          | \$ 594,844           | 1              | 8,712,000        | \$ 0.0683        | \$595,030                        | \$49,586            | \$503.56                                            | \$6,043                                |
| Unbilled Revenue                            | -194           | \$ 50,418            |                |                  | \$ (0.2599)      |                                  |                     |                                                     |                                        |
| FCA Accrual                                 |                | \$ 4,032,589         |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| Alt Revenue                                 |                | \$ 12,092            |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| Note 5: FCA Billed                          |                | \$ (1,166,947)       |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| Note 5: Peakview                            |                | \$ 211,293           |                |                  | \$ -             |                                  |                     |                                                     |                                        |
|                                             |                | \$ -                 |                |                  | \$ -             |                                  |                     |                                                     |                                        |
| <b>Total Other Sales to Public Aut</b>      | <b>111,649</b> | <b>\$ 10,885,624</b> | <b>287</b>     | <b>389,021</b>   | <b>\$ 0.0975</b> | <b>\$37,930</b>                  | <b>\$3,161</b>      | <b>\$32.10</b>                                      | <b>\$110,548</b>                       |

|                                                      |                  |                    |                  |
|------------------------------------------------------|------------------|--------------------|------------------|
| <b>Total Sales (MWH) and Revenue From Sales (\$)</b> | <b>1,954,359</b> | <b>239,499,042</b> | <b>2,432,304</b> |
|------------------------------------------------------|------------------|--------------------|------------------|

|                                                                     |       |
|---------------------------------------------------------------------|-------|
| <b>PIPP Discount Program Cost as Percent of Revenues From Sales</b> | 1.02% |
|---------------------------------------------------------------------|-------|

## Colorado Case and Statutory Law Impacting the Establishment of Low-Income Rates

This section sets forth a legal analysis regarding establishment of low-income rates in Colorado. A basic tenet of public utilities law is that public utilities are obligated to serve all customers without unjust or undue discrimination.<sup>34</sup> Colorado law, for example, specifically provides that a public utility “shall not make or grant any preference or advantage to a corporation or person or subject a corporation or person to any prejudice or disadvantage.”<sup>35</sup> While Colorado law provides that a “public utility shall not establish or maintain any unreasonable difference as to rates, charges, service, facilities, or between localities or class of service,” the statute also provides specific direction that significantly insulates discount rates from claims of discrimination or unlawful disadvantage. Today, Colorado regulators have specific statutory authority to implement discount rates for low-income customers: “the commission may approve any rate, charge, service, classification, or facility of a gas or electric utility that makes or grants a reasonable preference or advantage to low-income customers,” without it being deemed to “subject any person or corporation to any prejudice, disadvantage, or undue discrimination.” C.R.S. §40-3-106.1(d)(l). In this instance, a low-income customer is defined as someone with a household income at or below 185% of the current federal poverty line who meets certain eligibility criteria set forth in the Rules of the department of human services.<sup>36</sup>

The authority to implement discount rates, however, formally authorized in 2007 in Colorado Senate Bill (S.B.) 07-022, is not unlimited. The same statute provides that “(w)hen considering whether to approve a rate that makes or grants a reasonable preference or advantage to low-income utility customers, the commission shall take into account the potential impact on, and cost-shifting to, utility customers other than low-income utility customers.”<sup>37</sup> Creating a factual record that assesses the impact of the cost-shifting on utility customers, while likewise providing support for the need for a discount for low-income customers is critical.

The presumed need to codify the Commission’s authority to authorize rates that provided specific discounts to low-income customers followed the Colorado Supreme Court’s narrow interpretation decades earlier of the anti-discrimination provisions of Colorado statutes. In 1979, the Colorado Supreme Court issued a decision in *Mountain States Legal Foundation v. Public Utilities Commission*, 197 Colo. 56, 590 P.2d 495 (1979) (“*Mountain States*”), that economist Roger Colton characterized in a 1996 article as “a decision that has stalled the implementation of discount utility rates for the poor ever since.”<sup>38</sup>

---

<sup>34</sup> See *Access to Utility Service – Disconnections, Metering, Payments, Telecommunications, and Assistance Programs*, Sixth Edition, National Consumer Law Center, C. Harak, O. Wein, J. Bosco, J. Howat, 2018, Ch. 7.5.2, p. 219.

<sup>35</sup> See C.R.S.A. § 40-3-106.1(a).

<sup>36</sup> See C.R.S.A. § 40-8.5-105.

<sup>37</sup> C.R.S. §40-3-106.1(d)(l).

<sup>38</sup>

In *Mountain States*, the Colorado Supreme Court affirmed the trial court's ruling that set aside the PUC's establishment of a discount gas rate plan for low-income elderly and low-income disabled persons, holding that the adoption of this special reduced rate exceeded the PUC's authority under Article XXV of the Colorado Constitution, and violated section 40-3-106(1) of the Colorado Revised Statutes. That section of the law prohibits public utilities from granting preferential rates to any person. The Court further noted that section 40-3-102, C.R.S. 1973, requires the PUC to prevent unjust discriminatory rates.

The Court held:

When the PUC ordered the utility companies to provide a lower rate to selected customers unrelated to the cost or type of the service provided, it violated section 40-3-106(1)'s prohibition against preferential rates. In this instance, the discount rate benefits an unquestionably deserving group, the low-income elderly and the low-income disabled. This, unfortunately, does not make the rate less preferential. To find otherwise would empower the PUC, an appointed, non-elected body, to create a special rate for any group it determined to be deserving. The legislature clearly provided against such discretionary power when it prohibited public utilities from granting "any preference." In addition, section 40-3-102, C.R.S. 1973, directs the PUC to prevent unjust discriminatory rates. Establishing a discount gas rate plan which differentiates between economically needy individuals who receive the same service is unjustly discriminatory.

197 Colo. at 59.

In 2000, however, before the passage of S.B. 07-022 that created specific authorization for a low-income discount rate, the Colorado Commission approved the extension of a ratepayer-funded Affordable Payment Pilot Program ("APPP") as part of a merger proceeding. The program provided a discounted rate and arrearage forgiveness.<sup>39</sup> In that instance, the Commission distinguished the 1979 *Mountain States* ruling as prohibiting the Commission from effecting social policy through preferential ratemaking in favor of a narrow group of customers. The Commission concluded that a program or rate that has *an economic justification* is lawful.<sup>40</sup>

However, the APPP was not developed in the name of social policy. Instead the goal of the APPP is to reduce the balance of Public Service's lost and uncollectible accounts, thereby effecting a net reduction to all customers' bills. This economic justification for the APPP prevents Public Service from running afoul of the prohibition against preferential rates found at § 40-3-106(1)(a), C.R.S. Furthermore, nothing in *Mountain States* prevents Public Service from engaging in research and development with the hope of designing a program that can be used to render its service at a cost to ratepayers that is just and reasonable.<sup>41</sup>

Regardless of these rulings, with the passage of S.B. 07-022, the implementation of discounted rates constitutes the kind of "reasonable discrimination" that allows the Commission to approve rates that increase utility service affordability for customers who experience energy insecurity

---

<sup>39</sup> 2000 WL 575936 (Colo. P.U.C.)

<sup>40</sup> *Id.*

<sup>41</sup> *Id.*

due to inability to pay non-discounted rates, and who might otherwise be unable to afford essential utility service.

## Recent State Actions to Protect Consumers during the Covid-19 Pandemic – California and Illinois

This section provides an overview of regulatory actions taken in 2 states to provide enhanced consumer protection and home energy security in the midst of the Covid-19 pandemic.

### Illinois Settlement Summary

On June 18, 2020, the Illinois Commerce Commission (ICC), the regulator of public utilities in the state, adopted consumer protections designed to assist financially struggling investor-owned electric, gas, and water utility customers once the Commission-issued shut-off moratorium ends.

The proceeding, [ICC Docket No. 20-0309](#), began with the ICC's issuance of an [Emergency Interim Order on March 18, 2020](#) that, among other actions, imposed a moratorium on investor-owned utility shut offs, suspended late fees and penalties due to a customer's inability to pay, and required the investor-owned utilities to file more flexible credit and collections procedures, to be in effect for no less than six months, for the Commission's consideration and approval.

The utilities then filed their plans and began a series of negotiations with ICC staff and consumer advocates. The result was an agreement on a host of post-moratorium customer protections and utility obligations and for the utilities to recover certain costs related to the moratorium and the pandemic. The agreement, [which the ICC adopted](#), includes:

- Reconnection of previously disconnected customers. The utilities agreed to reconnect, without fees, all customers previously disconnected for non-payment up to one year prior to the start of the moratorium and who remained disconnected during the moratorium.
- Extension of the moratorium on disconnections through the end of Summer 2020.
- Debt forgiveness totaling \$48 million for customers already enrolled in or eligible for LIHEAP (those at less than 200% of the Federal Poverty Level), with carve-out funding by each utility for undocumented persons. Grant amounts range from \$300 to \$500 for each of the state's large utilities.
- Provision of 24-month deferred payment arrangements (DPAs), with no down payments for customers claiming financial hardship and no income documentation required. DPAs of 18 months are also available for other residential customers who do not claim financial

hardship. A second-chance DPA of the same length will be offered for all customers who default on DPAs.

- Waiver of deposit and late fee requirements for self-certified financial hardship customers (no documentation needed).
- A moratorium on credit reporting.
- Reporting of disconnections, late fees, DPAs, deposits, and other data by zip code to ensure that regulators and consumer advocates can monitor disconnection and other credit and collection practices for disproportionate impacts in communities of color.
- An agreement by gas and electric utilities to engage with stakeholders in a discussion on how to more permanently improve the affordability of utility service for low income customers.

In exchange for these protections, the utilities received cost recovery of the debt forgiveness program through an assumed 50% increase in net-charge offs (uncollectibles) from the 2019 calendar year, or an agreed-upon total capped amount, recovered in a rider tariff. The utilities also received, through the tariff, cost recovery for:

1. all direct COVID-19-related costs, netted with any cost savings and any benefits to utilities (tax-related or otherwise) attributable to federal legislation, including the Coronavirus Aid, Relief, and Economic Security (CARES) Act;
2. waived (but capped) total late fees; and
3. actual foregone reconnection charges.

These consumer protections are offered for about a six-month period, and represent a win-win for financially strapped consumers seeking assistance from unaffordable arrearages, and the utilities seeking more certainty on cost recovery issues.

A separate settlement was agreed to with the small utility companies serving a small percentage of Illinois utility customers.

### California Settlement Summary

On June 11, 2020, the California Public Utility Commission (CPUC) voted unanimously to adopt a Phase I decision (D.20-06-003) in CPUC Rulemaking 18-07-005 (re: new approaches to disconnections and reconnections). This Phase I decision provides a permanent, progressive suite of uniform pro-consumer credit and collection rules, policies and practices for the four large electric and natural gas companies to reduce residential electric and natural gas disconnection rates for nonpayment.

### Procedural Background

On September 28, 2017, California Senate Bill 598 (SB 598) was signed into law to address the rising electric and natural gas residential disconnections for nonpayment. Among other things, SB 598 requires the CPUC to develop rules, policies or regulations with a goal of reducing the statewide disconnection rate of gas and electric customers by January 1, 2024. The law also requires the CPUC to analyze the effect on disconnection rates of any utility rate increases in general rate cases.

The CPUC opened Rulemaking 18-07-005, *Order Instituting Rulemaking to Consider New Approaches to Disconnections and Reconnections to Improve Energy Access and Contain Costs* on July 20, 2018. By December 13, 2018, the CPUC adopted Decision 18-12-013, emergency uniform interim measures (see below for a summary of the interim protections). The development of the record pre-dated the emergence of the COVID-19 pandemic, but the nature of the proceeding is salient to the circumstances residential utility consumers will face once utility-shut-off moratoria are lifted. In California, CPUC Resolution M-4842, provides emergency residential and small business utility service protections in response to the COVID-19 pandemic, including shut-off moratoria, until April 16, 2021. Thus, utilities have several months to make necessary process modifications to implement the robust suite of electric and natural gas utility service protections before the lifting of the shut-off moratoria.

### Summary of the Protections in the CPUC Phase I Decision 20-06-003

- The Phase I Decision makes permanent, with some modifications, the interim rules adopted in D. 18-12-013.
  - Sets caps on the disconnection rate of the four large electric and natural gas investor-owned utilities.
  - Protects medical baseline (seriously ill) customers from disconnection for nonpayment as long as they agree to a 12-month payment plan.
  - Protects low-income customers from disconnection for nonpayment until the utility offers to enroll eligible customers in all applicable benefit programs administered by the utility (customers must enroll within two billing cycles). In the course of discussions with customers before a disconnection, the utilities have a duty to ask customers if they are interested in hearing about the applicable benefit programs.
  - Prior to disconnecting residential customers for nonpayment, the utility must offer the customer a 12-month payment plan.
  - Customers with a LIHEAP pledge pending shall not be disconnected for nonpayment.



- Disconnections for non-payment are prohibited during extreme weather: when the 72-hour Natural Weather Service forecast predicts temperatures above 100 degrees or below 32 degrees.
- Reporting: Companies are required to submit a status report on compliance with the disconnection cap for the previous year within 120 days of the start of the calendar year, starting in 2022.
- Deposits: Establishment of credit deposits and reestablishment of service deposits are prohibited.
- Notices of Disconnection and Call Scripts for IOUs will be modified to notify customers that there may be financial services programs available to them and, where appropriate, notify clear danger of utility disconnection. For customers who opt for electronic notifications, disconnection notices will be sent by email.
- Reconnection fees are eliminated. Fee based revenue from reconnection fees may be addressed in the next GRC and incorporated into base rates.
- The decision establishes a uniform process for “benefit of service” investigations.
- The LIHEAP pledge process is uniform and streamlined across the four large IOUs. LIHEAP providers should also be able to verify CARE discount participation over the phone and assist households in enrolling into the CARE program.
- The Medical Baseline protections (a rate program for seriously ill individuals whose condition requires additional utility service) are enhanced to make it easier for individuals to enroll. The Decision expands the medical professionals who are able to provide a certification to include physician’s assistants and also allows for electronic certifications of eligibility. The IOUs are required to conduct annual trainings to county health workers who perform home visits and provide outreach materials in multiple languages for health workers to take to their patients. IOUs are to report on how they are funding community based organizations to provide outreach and education about the medical baseline program.
- IOUs are to enter into MOUs and Non-Disclosure Agreements with Community Choice Aggregators, as appropriate, to promote sharing of information regarding the disconnection and reconnection status of customers.
- CBOs are able to register as capitation agencies to perform outreach and help ensure eligible households are enrolled in all applicable benefits programs.
- Gas field representatives shall be permitted to collect or contact a customer service agent to arrange for a minimum payment of 20% of past due balances (and customers agrees to enter a payment plan) to allow households to avoid a disconnection or be reconnected within 24 hours.

- Arrearage Management Plans: The Decision established the creation of AMPs for the four large electric and natural gas IOUs. Within 90 days of the decision, companies will file Tier 2 Advice Letters with the CPUC regarding the implementation of their AMP. Within 3 years the CPUC will open a proceeding to reauthorize the AMP. Within 4 years, AMPs will sunset unless the CPUC issues a decision extending, reauthorizing, modifying or rescinding the AMP. There will be a working group to focus on the allocation of proportional recovery where community choice aggregation is involved.
- A percentage of income payment plan pilot (PIPP pilot) will be evaluated in a separate ratemaking phase of this proceeding.
- The IOUs will establish two-way balancing accounts to create more transparency and accurately reflect the cost of uncollectable charges in rates.
- The CPUC Enforcement Branch will establish a citation program designed to ensure compliance with the rules in this decision.



**NATIONAL HEADQUARTERS**

7 Winthrop Square, Boston, MA 02110  
(617) 542-8010

**NCLC.ORG**

**WASHINGTON OFFICE**

Spanogle Institute for Consumer Advocacy  
1001 Connecticut Ave, NW, Suite 510  
Washington, DC, 20036  
(202) 452-6252