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505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

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TO PARTIES OF RECORD IN RULEMAKING 18-07-006:

This is the proposed decision of Commissioner Rechtschaffen. Until and unless the Commission hears the item and votes to approve it, the proposed decision has no legal effect. This item may be heard, at the earliest, at the Commission's July 16, 2020 Business Meeting. To confirm when the item will be heard, please see the Business Meeting agenda, which is posted on the Commission's website 10 days before each Business Meeting.

Parties of record may file comments on the proposed decision as provided in Rule 14.3 of the Commission's Rules of Practice and Procedure.

/s/ ANNE E. SIMON
Anne E. Simon
Chief Administrative Law Judge

AES:mph
Attachment

Decision **PROPOSED DECISION OF COMMISSIONER RECHTSCHAFFEN**
(Mailed 6/4/2020)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Establish A Framework and Processes for Assessing the Affordability of Utility Service.	Rulemaking 18-07-006

DECISION ADOPTING METRICS AND METHODOLOGIES FOR ASSESSING THE RELATIVE AFFORDABILITY OF UTILITY SERVICE

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DECISION ADOPTING METRICS AND METHODOLOGIES FOR ASSESSING THE RELATIVE AFFORDABILITY OF UTILITY SERVICE

Summary

This decision defines affordability as the degree to which a representative household is able to pay for an essential utility service, given its socioeconomic status. This decision also adopts three metrics and supporting methodologies to be used by the Commission for assessing the affordability of essential electricity, gas, water, and communications utility services in California. The three metrics are: 1) the hours at minimum wage required to pay for essential utility services, 2) the vulnerability index of various communities in California, and 3) the ratio of essential utility service charges to non-disposable household income – known as the affordability ratio.

The methodologies for calculating these metrics are necessarily complex and require assumptions regarding the cost of essential utility services and non-discretionary household income using data with known limitations. As a result, this decision seeks to use all three metrics in concert so that together they may better inform the Commission by providing a more complete picture regarding the affordability of essential utility services. These metrics account for California's geographic and economic diversity by relying on data with small geographic granularity.

This decision does not adopt an absolute definition of what constitutes affordable essential utility services. Rather, this decision adopts metrics and methodologies for assessing affordability across utilities over time, in a way that is feasible for staff to implement and maintain. This will allow Commission decision-

makers and stakeholders to consider the relative impact on the affordability metrics of proposals before the Commission.

While ensuring the affordability of utility services is a longstanding priority for the Commission, its importance has been magnified this year by COVID-19, which has placed great financial stress on millions of Californians. This proceeding is particularly timely and important in these circumstances.

1. Procedural and Factual Background

On July 12, 2018 the Commission instituted the instant rulemaking to develop a common understanding, methods and processes to assess, consistent with Commission jurisdiction, the impacts on affordability of individual Commission proceedings and utility rate requests. Comments on the Order Instituting Rulemaking (OIR) were filed by several parties on August 13, 2018.

A prehearing conference (PHC) was held on October 12, 2018 to discuss the issues of law and fact and determine the need for hearing and schedule for resolving the matter. After considering the comments on the OIR and discussion at the PHC, an Assigned Commissioner's Scoping Memo and Ruling (scoping memo) was filed on November 19, 2018.

On January 22, 2019, a workshop was held in this proceeding to explore definitions and metrics for affordability. Commission Staff from various industry divisions made presentations on different approaches the Commission has previously taken to address and measure affordability. Experts on affordability issues also made presentations regarding defining and measuring affordability. Participants were invited to participate in one of the three smaller breakout discussion groups: 1) defining affordability and essential service, 2) identifying

metrics and data sources to measure affordability and determine essential service, and 3) usefulness/application of the affordability framework.

Subsequently, rulings were issued by the assigned Administrative Law Judge (ALJ) seeking comment from parties on presentations made at the January 22, 2019 workshop and on a staff proposal to address the issues within the scope of the proceeding as identified by the scoping memo. Party comments on the workshop presentations and the staff proposal were received in May and September 2019, respectively.

On November 8, 2019, an Amended Assigned Commissioner's Scoping Memo and Ruling (amended scoping memo) was filed to address the impending statutory deadline for resolving this proceeding, revise the schedule for the remainder of the proceeding, and clarify the nature of the services within the scope of this proceeding.

A revised staff proposal on affordability metrics and methodologies was submitted for party review on January 27, 2020. Opening comments on the revised staff proposal were submitted by the Utility Reform Network (TURN), Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), Southern California Gas Company (SoCalGas), AT&T Corp. (AT&T), National Diversity Coalition (NDC), the Public Advocates Office of the California Public Utilities Commission (Cal Advocates), the Center for Accessible Technology (CforAT), California Water Association (CWA), California Cable and Telecommunications Association (CCTA), the California Community Choice Association (CALCCA), the Utility Consumers' Action Network (UCAN), Southern California Edison Company (SCE), and the Small Local Exchange Carriers (LECs)[1]

[1] Consisting of Kerman Telephone Co., Winterhaven Telephone Company, Cal-Ore Telephone Co., The Ponderosa Telephone Co., Foresthill Telephone Co., Sierra Telephone Company, Inc., Volcano

Footnote continued on next page.

on February 21, 2020. Reply comments were filed by SCE, UCAN, NDC, AT&T, PG&E, TURN, SDG&E, SoCalGas, CforAT, the Small LECs, CCTA, Cal Advocates, CWA, and the Greenlining Institute (Greenlining) on March 6, 2020 and upon that date the record of the first phase of the proceeding was considered submitted.

2. Jurisdiction

The Commission is generally charged with making certain levels of energy, water, and communications service affordable under various sections of the Public Utilities Code, including Section 739(d)(2), Section 382, Section 739.8(a), and Section 871.5. This rulemaking and decision help to advance the Commission's analysis and understanding of the affordability of these services, and are therefore properly within the scope of the Commission's lawful authority.

In particular, the amended scoping memo in this proceeding confirms that communications services, such as broadband internet access, are proper subjects of the Commission's affordability analysis. The amended scoping memo finds that Pub. Util. Code Sections 709, 280, 281, 275.6, and the Moore Universal Telephone Service Act (Section 871) all demonstrate that the Legislature contemplated a significant role for the Commission in closing the digital divide in California and in bringing advanced communications services, including broadband internet access, to all Californians. This proceeding may assist in that goal and therefore this decision affirms that the Commission has jurisdiction to consider metrics to assess the affordability of communications services, including broadband service, in this proceeding.

Telephone Company, Ducor Telephone Company, Happy Valley Telephone Company, Hornitos Telephone Company, Pinnacles Telephone Co., The Siskiyou Telephone Company, and Calaveras Telephone Company.

3. Issues Before the Commission

The amended scoping memo held that the following issues are within the scope of this proceeding:

1) Identification and definition of affordability criteria for Commission-jurisdictional utility services.
2) Methods and processes for assessing affordability impacts across Commission proceedings, programs, and utility services.
3) Other issues relating to the Commission's consideration of the affordability of utility services.

The amended scoping memo also reiterated that certain issues as defined by the original scoping memo were outside the scope of this proceeding. Those out-of-scope issues are:

1) Affordability issues related to customer classes other than residential customers.
2) Evaluation of the effectiveness of existing affordability programs or creation of new customer programs to assess affordability.
3) New approaches to disconnections and reconnections.
4) Pacific Gas and Electric Company's Essential Usage Study.

4. Affordability Metrics

The first issue for resolution in this decision is the identification and definition of affordability criteria for Commission-jurisdictional utility services. This decision refers to these criteria as "metrics" for measurement of the relative affordability of essential utility services.

A metric in this sense is a system of measurement rather than the measurement itself. Defining the affordability metrics to be used to assess the relative affordability of essential utility services does not mean that a particular

methodology for calculating the metric's value should be used or that a given value of the metric defines an essential utility service as affordable or unaffordable.

Definitions of the methodologies that should be used for calculating the value of the metrics are considered and adopted later in this decision. This decision expressly avoids setting a metric value that should be used to determine if an essential utility service is affordable. The reasons for this are described in Section 8.4 of this decision.

4.1. Statutory Background

Various sections of the Public Utilities Code[2] refer to the desirability of affordable utility services. Section 739(d)(2) states that it is "desirable" that residential electric and gas rates are "low [and] affordable." Section 382 states that "all residents of the state should be able to afford essential electricity and gas supplies." With respect to water, Section 739.8(a) states that "access to an adequate supply of healthful water is a basic necessity of human life, and shall be made available to all residents of California at an affordable cost." Finally, Section 871.5(a) and (d) specify that it is a goal of the state to provide telephone service at an affordable rate.

None of these statutory provisions define affordability. However, in order to fully implement the law, this decision holds that the Commission should define metrics to measure the relative affordability of essential utility services. This will allow Commission decision-makers and stakeholders to consider the impact of Commission decisions on the relative affordability of these services, and help the Commission to meet the statute's requirements to consider affordability as a goal when designing rates for essential utility services.

[2] All references hereafter to "section" refer to sections of the California Public Utilities Code.

4.2. Defining the Nature of Affordability

The revised staff proposal noted that the Commission has not previously defined or quantified affordable essential utility service.[3] In order to clarify what affordability should mean, the revised staff proposal defined affordability as "the impact of essential utility service charges on a household's ability to pay for non-discretionary expenses."[4]

SCE dislikes this definition of affordability as compared to a previous definition used in the original staff proposal in this proceeding. SCE believes that the revised definition places too much emphasis on the contribution of utility bills to a household's ability to pay, without focusing on other variables that impact affordability – such as housing costs. SCE also argues that not enough emphasis is placed on the value of utility services as compared to their costs.[5] PG&E also objects to the definition of affordability recommended by the revised staff proposal, arguing that the new definition "does not account for the wide range of other factors that impact a household's ability to pay for non-discretionary expenses."[6] SoCalGas and SDG&E concur with SCE's arguments.[7]

NDC expresses support for the definition of affordability appearing in the revised staff proposal. It claims that the new definition refines the original definition and appropriately focuses on the impact of utility expenses on the ability of a household to pay for other non-discretionary expenses.[8]

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[3] Revised staff proposal at 6.

[4] *Id.*

[5] SCE opening comments at 11-12.

[6] PG&E reply comments at 3-4.

[7] SoCalGas and SDG&E reply comments at 1-3.

[8] NDC reply comments at 5.

Upon review and consideration of the party comments received on the revised staff proposal's definition of affordability, this decision adopts a revised definition as follows: the degree to which a representative household is able to pay for an essential utility service charge, given its socioeconomic status.

Based on party comments, this decision concludes that defining affordability in terms of non-discretionary expenses, as was done in the revised staff proposal, is unclear and approaches the issue too narrowly.[9] Ultimately, the ability to pay for a utility service is determined by the numerous financial variables that comprise a household's socioeconomic status. While income after non-discretionary expenses is one way to characterize a household's socioeconomic status, it is not the only way of doing so. The revised staff proposal's definition considered affordability in a way most directly applicable to the Affordability Ratio metric, while the revised definition adopted in this decision is applicable to all three affordability metrics. We are focusing on the affordability of essential utility service charges rather than non-discretionary expenses, and additionally considering socioeconomic status.

The definition this Decision adopts also clarifies that the Commission should consider affordability for a representative household, rather than households in general. This recognizes that households will have a wide variety of experiences that cannot be perfectly captured by depicting a single household. The affordability framework is not designed to characterize utility expenses for every household in the state; it is intended to help the Commission make informed decisions about utility charges by allowing for aggregate spatial and temporal comparisons of affordability. Considering affordability for a representative household will allow the

[9] SCE comments at 12; PG&E reply comments at 3; NDC reply comments at 5.

Commission to consider household-scale impacts and affordability concerns for a given geographic area as a whole.

For these reasons, it is reasonable for the definition of affordability to be assessed by the metrics adopted by this decision to be: the degree to which a representative household is able to pay for an essential utility service charge, given its socioeconomic status.

A "representative household" is defined based on the local distributions of income and housing cost data, as well as the specific portion of the income distribution that is of interest to the Commission for a given analytical purpose (*e.g.* the lowest-earning 20% of Californians). Affordability is experienced by individual households but for the purposes of our calculations, affordability metrics are presented at a community-scale using community-level data. "Essential utility service charge" refers to the costs borne by a representative household for the quantity of utility services that enables health, safety, and full participation in society, and values for specific utility services are defined in Section 5. "Socioeconomic status" refers to the social and economic standing of a given household.

4.3. The Three Proposed Metrics

The revised staff proposal recommended that three different metrics of affordability be adopted. It is hoped that the use of three independent, but related, metrics will create a more complete picture of affordability than any one metric on its own that provides limited insight into the affordability of utility costs. The revised staff proposal proposed three different metrics to be used to assess relative affordability: 1) the hours at minimum wage required to pay for essential utility services, 2) the socioeconomic vulnerability index of communities in California, and

3) the ratio of essential utility service costs to non-disposable household income – known as the affordability ratio.

4.3.1. Hours at Minimum Wage

The Hours at Minimum Wage (HM) metric seeks to describe the hours of work necessary for a household earning minimum wage to pay for essential utility service charges.[10] Thus, the metric allows the Commission and stakeholders to conceive of essential utility bills in terms of something most people can relate to – hours of labor. While this metric does not specifically consider household income data, the use of the minimum wage in this metric accounts for the lowest wages legally available in a given location, and as a result implicitly considers the impact of utility bills on lower-income customers. While the HM metric provides a sense of the gross impact of essential utility services, it does not indicate the economic trade-offs an economically vulnerable household may make.[11]

An example calculation of the HM metric was described by the revised staff proposal. Its example calculation for the San Jose Water Company found an HM of 5.78 hours or 4.62 hours for essential water services depending on whether the household was located in an area where the minimum wage was $12/hour or $15/hour, respectively.[12] This example shows how the cost of essential utility services can be converted into an easily relatable figure such as hours of labor, and also demonstrates how other policy settings and financial variables, such as minimum wage rates, can impact the affordability of an essential utility service.

[10] Revised staff proposal at 29.

[11] *Id.*

[12] Revised staff proposal at 31, figures revised to reflect accurate calculations.

Parties generally supported or did not oppose using HM as an affordability metric. TURN called it "an easy-to-interpret benchmark of affordability by translating utility bills into an associated number of minimum-wage work hours needed to pay the bills."[13] Noting the limitations of HM, PG&E nevertheless proposed using HM alongside other metrics to provide a holistic view of affordability.[14] NDC offered that the use of HM should be placed in the context of the total number of California households that depend on the minimum wage.[15] CalCCA noted that analyzing trends and patterns in the HM metric could be useful in the Commission's evaluation of affordability.[16] Cal Advocates recommended adopting the HM metric and testing it out.[17]

UCAN did not support the use of the HM metric, arguing that it was a crude measure and should only be used in conjunction with other metrics.[18]

Notwithstanding the methodological issues resolved later in this decision, a review of the revised staff proposal and party comments reveals that the HM metric quantifies the impact of the cost of essential utility services in an easily-relatable form that highlights the impact of essential utility service prices on low-income households. For this reason, this decision holds that it is reasonable to adopt HM as an affordability metric.

[13] TURN opening comments at 11.

[14] PG&E opening comments at 12.

[15] NDC opening comments at 13.

[16] CalCCA opening comments at 11.

[17] Cal Advocates reply comments at 5.

[18] UCAN opening comments at 16.

4.3.2. Socioeconomic Vulnerability Index

The Socioeconomic Vulnerability Index (SEVI) describes the relative socioeconomic characteristics of census tracts, referred to as communities for this section, in terms of poverty, unemployment, educational attainment, linguistic isolation, and percent of income spent on housing. This allows for consideration of how the same rate impact may affect one community's ability to pay more than another's.[19] The revised staff proposal used SEVI as a replacement for the ability-to-pay index used in the original staff proposal, and specifically sought party comment on the appropriateness of using SEVI to demonstrate, on a broad scale, the ability of a community to pay for essential utility services.

The goal of the SEVI metric in this context is to highlight communities where uniform changes in rates may have a disproportionate impact, without necessarily analyzing the cost of essential utility services themselves. Thus, the SEVI metric allows for an affordability assessment that is independent of the absolute value of essential utility service charges.[20]

An example of the SEVI metric was demonstrated by the revised staff proposal with regard to the San Jose Water Company's territory. That example SEVI map showed that the territory encompassed census tracts that had SEVI indexes between the 3rd and 91st percentiles statewide, meaning that some households in the territory were more vulnerable than all but 3% percent of Californians while others were less vulnerable than 91% of Californians. This implies that there was high socioeconomic inequity within the territory of the San Jose Water Company. The revised staff proposal asserted that such a map was crucial to understand that within

[19] Revised staff proposal at 7.

[20] Revised staff proposal at 32.

a given utility's service territory, "the same changes in rates will affect these communities differently."[21]

Parties were generally supportive of using SEVI for this purpose. TURN specifically endorsed SEVI as part of a holistic approach to be used alongside the HM and Affordability Ratio metrics to judge affordability.[22] UCAN noted that SEVI allowed for more granular analysis of affordability concerns at the census tract level.[23] Other parties that supported the use of SEVI as a gauge of a community's ability to pay for essential utility services include the Small LECs,[24] SoCalGas and SDG&E,[25] SCE,[26] PG&E,[27] NDC,[28] and CforAT.[29] NDC noted that an advantage of using SEVI rather than the Ability to Pay Index, a methodology from the original staff proposal, is that the SEVI affordability measurements will be more easily aligned with other Commission decisions that use CalEnviroScreen 3.0.[30]

CalCCA recommended that staff further consider whether to adopt the SEVI as a metric, arguing that the variables that constitute the SEVI may not account for all ways in which a community may be vulnerable and impacted by essential utility

[21] Revised staff proposal at 34.

[22] TURN opening comments at 3.

[23] UCAN opening comments at 3.

[24] Small LECs opening comments at 2 (noting some accuracy issues with the underlying data).

[25] SoCalGas and SDG&E joint opening comments at 2-3 (assuming annual updates).

[26] SCE opening comments at 2.

[27] PG&E opening comments at 5-6.

[28] NDC opening comments at 2.

[29] CforAT opening comments at 1-2.

[30] NDC opening comments at 3.

service charges.[31] Methodological concerns raised by CalCCA and other parties supporting SEVI in the abstract are addressed later in this decision.

SCE urged the Commission not to use the SEVI metric to set different rates for different areas, and instead suggested that the metric could be used to refine baseline area boundaries or target communications regarding energy efficiency and other low-income programs.[32]

Cal Advocates originally withheld support for the SEVI metric in light of the need for further analysis of the correlation between SEVI and the Affordability Ratio.[33] However, in reply comments Cal Advocates appeared to endorse the use of SEVI in a general sense.[34]

Review of the revised staff proposal and party comments reveals that the SEVI metric illustrates the potential for disparate socioeconomic conditions within a utility's service territory in an easily understood form (i.e., a map). It also does so in a geographically granular form that can be used to better understand the affordability impacts. The parties broadly support use of the SEVI metric for assessing affordability impacts. For these reasons, this decision holds that it is reasonable to adopt the SEVI as an affordability metric.

4.3.3. The Affordability Ratio

The final metric proposed by the revised staff proposal is the Affordability Ratio (AR). The AR seeks to quantify the percent of a representative household's income that is required to pay for an essential utility service, after non-discretionary

[31] CalCCA opening comments at 5-6.

[32] SCE opening comments at 9.

[33] Cal Advocates opening comments at 7.

[34] Cal Advocates reply comments at 5-6.

costs such as housing and other essential utility services are removed from the household's income.

The AR may be calculated for any given income level in a given area. For example, the AR for a household at the 20th income percentile would be an AR_{20} figure. The AR for a household at the 50th income percentile would be an AR_{50} figure. The AR may also be calculated for a single essential utility service, a combination of services, or all the essential utility services at once.

Unlike the HM and Vulnerability Index metrics, AR can be tailored to answer the affordability question for a household in any given income range. This allows for affordability examinations for households that may be lower-income but still not qualify for low-income assistance program. The revised staff proposal also claims that the AR metric is sensitive to geographic variations in cost-of-living, which can impact the amount of income available to pay for essential utility services.[35] This advantage of the AR metric also presents difficulties, as the data necessary to compute the AR can be challenging to uncover. These data limitations and the proposed methods to mitigate them are discussed later in the decision.

In the abstract, and notwithstanding methodological challenges with computing AR, parties generally supported using AR as an affordability metric.[36] Cal Advocates recommended adopting the AR metric and testing it.[37]

SoCalGas and SDG&E opined that while the AR is useful it may be helpful if a single denominator (income after housing costs) were used for all utility AR evaluations. This would allow for consistent comparisons between utility AR scores

[35] Revised staff proposal at 35.

[36] *See, e.g.*, CforAT opening comments at 5.

[37] Cal Advocates reply comments at 5.

for a given location and allow for summation to a single combined AR if necessary.[38] However, using a common denominator would ignore the reality that the cost of other essential utility services impacts a household's ability to pay for the utility services that are being analyzed. As these costs are highly geographically-dependent, it makes sense to include them in the denominator as an essential expense that impacts affordability, similar to housing costs.

Some parties, such as CCTA, criticized some of the uncertainties inherent in making an AR calculation, and therefore implicitly argue against adopting the AR in its proposed form. The methodological details of the AR metric, and the inherent limitations of the data used to calculate it, are discussed later in this decision.

Because the AR metric quantifies the impact of the cost of essential utility services in a very precise manner that sheds light on affordability for households of given income levels, this decision holds that it is reasonable to adopt AR as an affordability metric even if the particular methodology for determining an AR score is modified over time.

4.3.4. Other Potential Metrics

SoCalGas and SDG&E jointly proposed the use of the energy burden metric in assessing the affordability of essential utility services. They argue that it is easily understood and provides another perspective on affordability, with the advantage that it is currently used by the Commission.[39] SCE also supports this additional metric, as it would remove some uncertainty around housing cost data that the AR metric relies on.[40] NDC opposes the recommendation to use the energy burden

[38] SoCalGas and SDG&E opening comments at 3-4.

[39] SoCalGas and SDG&E opening comments at 14.

[40] SCE opening comments at 3.

metric, arguing that it compounds the inaccuracy of metrics that do not account for other non-discretionary household costs.[41]

The Small LECs recommended utilizing the Area Deprivation Index (ADI), which "has been adapted to rank neighborhoods based on socioeconomic deprivation at the census block group level." The Small LECs claim that the ADI is broader in scope than the SEVI and includes measures of educational attainment and distribution, occupational composition, unemployment, poverty, single-parent households, home values, median rent and mortgage payments, homeownership rate, household crowding, access to several services (telephone, plumbing, motor vehicles), English language proficiency, divorce rate, urbanization, and immigrant population.[42] UCAN also supports the use of the ADI to supplement and inform the SEVI metric.[43]

This decision does not adopt any of the alternative affordability metrics at this time, although this is without prejudice to the use of the alternative metrics in other Commission proceedings. The use of the energy burden or ADI metrics may be useful in particular contexts even though they are not adopted for use in this proceeding.

5. Essential Utility Services

In each of the metrics adopted by this decision, a quantification of the cost of essential utility services is required in order to measure affordability. The revised staff proposal noted that "the notion of essential service can differ greatly across

[41] NDC reply comments at 2.

[42] Small LECs opening comments at 3.

[43] UCAN reply comments at 2.

utilities,"[44] and parties also identified the issue of essential service definition as a thorny one that required reflection. For example, PG&E noted that essential levels of electricity and gas may vary from household to household, and season to season, based on the characteristics of the household. PG&E also noted that certain policy changes currently underway in California around electrification could also change how essential usage is defined in the near future.[45]

In spite of the ambiguities inherent in the term "essential utility services," it is necessary to give the term some definition in order to make the adopted affordability metrics operable. For instance, UCAN supported using Commission-defined "baseline" amounts of service to define essential services generally, where applicable.[46]

5.1. Essential Electricity and Gas Service

The revised staff proposal recommends using the "baseline" amounts of electricity approved by the Commission for households throughout California as a value for essential electricity service until further studies of essential electricity usage are conducted. Baseline amounts of electricity are generally 60% of the average household usage in a given climate zone. Consequently, baseline amounts are higher in summer in areas with warmer weather and larger air conditioning loads and higher in winter in areas with all-electric home heating loads. The revised staff proposal recommends calculating the cost of essential electricity usage by

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[44] *Id.* Notably, the revised staff proposal uses the term "service" is used instead of "usage" in order to distinguish between a communications service that may be essential, the usage within a communications service bundle that may not be. The revised staff proposal states that "service" and "usage" are generally equivalent terms in the electricity, gas, and water sectors.

[45] PG&E opening comments at 1-2.

[46] UCAN opening comments at 7.

multiplying the utility's baseline rate per kilowatt-hour by the number of baseline kilowatt-hours. This would hold true even if the customer was served by a community choice aggregator (CCA) for generation service. Similarly, the revised staff proposal recommends the use of the "baseline" quantity for gas service for essential gas service. This amount is defined as 60% to 70% of average residential gas usage during the winter season.

PG&E does not object to the usage of baseline rates and quantities per se, but does criticize the omission of CCA rates from the calculation of the cost of essential usage. PG&E states that CCAs set their own rates, and using PG&E baseline rates as a proxy for CCA rates may not hold true in the future if CCA rates exceed PG&E's rates. In that case, the affordability measurements as proposed would be inaccurate. PG&E recommends that the affordability methodology use publicly available CCA rate information to calculate essential electricity service charges for CCA customers.[47]

This decision finds that it is reasonable to use baseline prices for electricity and gas as the price for essential electric and gas utility services. PG&E's argument concerning CCA rates is noted; but at this time there is no evidence that CCA rates are higher than PG&E's rates. This means that baseline prices for electricity remain a valid value for essential levels of electricity service. This decision notes that the essential usage study under consideration in PG&E's current General Rate Case (GRC) Phase 2 proceeding (A.19-11-019) may be used to refine the value used for essential electricity service in a later phase of this proceeding.

[47] PG&E opening comments at 3-4.

5.2. Essential Water Service

The revised staff proposal recommends that the definition of essential water service be set at 600 cubic feet per household per month. This amount is intended to cover essential indoor usage adequate for human consumption, cooking, and sanitary purposes.[48] Staff granted that although there were limitations with using a single figure statewide for essential water service where average household sizes may vary, given the limitations of current data it was expedient to adopt a single statewide figure to be used to compare water utilities across California.[49]

The revised staff proposal also noted that the 600 cubic feet per household per month figure aligned with essential water service amounts under development by other state agencies. Staff stated that OEHHA released a draft assessment in August 2019 that found that 600 cubic feet per household per month represented essential water need, given currently available statewide data. Additionally, at an August 2, 2019 workshop in R.17-06-024, the State Water Resources Control Board (Water Board) noted that it was also considering adopting an essential usage quantity of 600 cubic feet per household per month as part of the Statewide Low-Income Water Rate Assistance Program.[50]

Staff stated that they planned to update this figure in the future if warranted by findings in other proceedings, or if more refined data became available concerning regional and water system-specific levels of water usage.[51]

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[48] Revised staff proposal at 19.

[49] Revised staff proposal at 19.

[50] Revised staff proposal at 19.

[51] Revised staff proposal at 19-20.

TURN supported this approach,[52] as did several other parties.[53] UCAN called the figure "defensible" while recommending that the figure be compared against real-world usage patterns to see if the number should be revised downward.[54]

While Cal Advocates supported a household, rather than per capita, approach to setting an essential usage figure, they also believed that it may "be more appropriate to rely on an estimate of median winter water demand that is calculated from the company's actual single-family residential customer data (by district, where applicable)" instead of assigning a single statewide figure for essential water service. Cal Advocates claims to have analyzed data showing that an essential water service quantity of 600 cubic feet could over- or under-estimate actual indoor demand by 200 cubic feet or more for approximately 35% of the single-family residential connections reviewed by Cal Advocates.[55]

CforAT argues against using regional variations in water usage to set an essential service quantity, reasoning that regional variations are likely driven by non-essential outdoor usage rather than essential indoor usage.[56]

CWA continued to recommend a per capita approach to setting essential water service, rather than a household-level amount, in order to maintain consistency with other state standards for water use adopted by the Legislature.

[52] TURN opening comments at 3.

[53] *See, e.g.*, Cal Advocates opening comments at 8.

[54] UCAN opening comments at 4.

[55] Cal Advocates opening comments at 9.

[56] CforAT reply comments at 5-6.

CWA also believes that the definition of essential water service should vary on a regional and local basis rather than be set at a single state-wide figure.[57]

CforAT has concerns about a single defined essential water service amount for all households, including larger households that may have greater indoor water needs. CforAT recommends that staff "continue to explore methods to evaluate essential service levels based on household size, as that is a main factor affecting essential indoor use."[58] CforAT seeks a statement of Commission intent that this refinement to the adopted quantity of essential water service will be pursued.[59]

SCE also objected to a single state-wide figure for residential water use, stating that different customers in different areas of the state use varying amounts of water. As an example, SCE cited customers using their Catalina Island water system as using only 30 gallons per capita per day on average, which is reflected in SCE's water rate structure. SCE's water baseline rates are set at a household usage of approximately 270 cubic feet per month, rather than the 600 proposed by the revised staff proposal. The impact of the larger essential quantity proposed by the revised staff proposal would be, in SCE's view, an overstatement of the cost of providing essential water service.[60]

Despite the objections of the parties to a statewide figure that is per household rather than per capita, the definition of essential water service as recommended by the revised staff proposal is reasonable and should be adopted. It allows for comparisons of costs for water across the state, and uses a reasonably defensible per

[57] CWA opening comments at 5.

[58] CforAT opening comments at 4.

[59] CforAT reply comments at 6.

[60] SCE opening comments at 3.

household figure to do so. However, the parties' recommendations concerning regional and household variation in water usage are noted and staff will further investigate the need for refinements to the definition of essential water service in a later phase of this proceeding.

5.3. Essential Communications Service

The revised staff proposal recommends defining essential levels of communications service as multiple service elements, including residential basic telephone service (basic service) or wireless voice service with 1,000 minutes per month in addition to fixed broadband at a minimum connection speed of 20 megabits per second (Mbps) downstream / 3 Mbps upstream and a minimum capacity of 1,024 gigabytes (GB) per month.

5.3.1. Essential Voice Communications Service

TURN argues that the definition of essential voice communications service should be expanded to include at least one mobile communications account per adult household member, and that unlimited voice minutes should be adopted as the minimum mobile communications service, rather than the 1,000 voice minutes proposed by staff.[61] UCAN argues that the cost of landline telephone service should not automatically be used as a value for essential communications service as many Californians may rely exclusively on mobile telephone services, and instead a proxy value based on mobile telephone rates should be used.[62] However, UCAN also contends that for certain areas of the state without access to mobile telephone service, the price of ILEC landline service may be an appropriate means of gauging affordability.

[61] TURN opening comments at 15-16.

[62] UCAN opening comments at 3.

AT&T disputes that the voice communications services provided by ILECs should be considered essential communications services. AT&T cites evidence that most Americans receive broadband service through their cable provider, rather than through an ILEC, and that landline telephone service is increasingly being replaced by mobile and Voice-over-Internet-Protocol (VoIP) service. AT&T claims that "[n]ationally, the percentage of all households taking ILEC basic service now approaches only 6%. Further, only about 4% of all U.S. voice connections are provided by ILEC basic service."[63] AT&T therefore argues that the proper source of information on the affordability of telephone service should be rates for mobile telephone service.

While there is dispute from the parties on the definition of essential voice telephone service, the position of the revised staff proposal that the figure mirrors the Commission's previous definition of essential voice telephone service remains undisputed.

As noted by the revised staff proposal, Commission decisions have long established unlimited local calling as an essential element of voice telephone service, and it also provides access to services such as 911 for emergencies and 2-1-1 information services. While TURN recommends going beyond 1,000 wireless minutes where landline service is unavailable, it remains that 1,000 minutes per month meets the Federal Lifeline minimum service standards for voice communications.

[63] AT&T opening comments at 2.

For these reasons, the definition of essential voice telephone communications service as contained in the revised staff proposal is reasonable and should be adopted.

5.3.2. Essential Broadband Communications Service

Given existing federal standards, Commission decisions[64] and evolving technology needs, this decision adopts an essential level of broadband communications service of 25 Mbps downstream / 3 Mbps upstream. The Governor's January 2020-21 Budget proposal included a Broadband for All initiative to improve the speeds of 675,000 households that lack the minimum thresholds of quality broadband.[65]

The revised staff proposal recommended an essential level of broadband communications service as fixed broadband at a minimum connection speed of 20 Mbps downstream / 3 Mbps upstream and a minimum capacity of 1,024 GB per month. Staff believed this definition would help satisfy the need to enable members of a household to access telehealth records, complete activities necessary for education, telecommuting, and government assistance programs participation, and contact family and first responders in case of emergencies.[66] This definition aligns with the Federal Lifeline minimum standards.[67] The essential broadband service figures recommended by the revised staff proposal also accord with findings from staff that 82% of residential broadband connections in California subscribe to the

[64] *See* D.16-12-025 at p 11.

[65] Governor's January 10, 2020 Proposed 2020-2021 Budget Summary, at 195. This population estimate is based on a minimum threshold of 100 Mbps downstream.

[66] Revised staff proposal at 22.

[67] Revised staff proposal at 22-24.

proposed essential service quantities of 20 Mbps downstream and 3 Mbps upstream or better.[68]

Since 2015, the Federal Communications Commission (FCC) has used a different speed benchmark of 25 Mbps downstream / 3 Mbps upstream for fixed broadband service to meet the standard of "advanced telecommunications capability," as defined by the federal Telecommunications Act of 1996.[69] The FCC's most recent broadband deployment report states that "[w]hile some commenters argue for increasing the fixed speed benchmark above 25 Mbps/3 Mbps, we conclude that fixed services with speeds of 25 Mbps/3 Mbps continue to meet the statutory definition of advanced telecommunications capability; that is, such services 'enable[] users to originate and receive high-quality voice, data, graphics, and video telecommunications.'"[70]

Although the FCC sets a speed benchmark of 25 Mbps / 3 Mbps, it does not provide context as to whether the specified speed reflects actual connection speed that consumers experience or the advertised speed that they subscribe to. According to the FCC's Measuring Fixed Broadband – Eighth Report,[71] the actual connection speed that consumers experience may differ from the advertised speed that they subscribe to. In the report, the FCC employs a methodology to calculate a median speed to measure against the advertised speed. Of the 17 service providers captured in the survey, only three were able to provide median download speeds

[68] Revised staff proposal at 24.

[69] FCC Order 15-10 at 3. *See also* FCC Order 19-44 at 5, affirming that as of 2019 the FCC "conclude[s] that the current speed benchmark of 25 Mbps/3 Mbps remains an appropriate measure by which to assess whether a fixed service is providing advanced telecommunications capability."

[70] FCC Order 19-44 at 6.

[71] FCC Measuring Fixed Broadband – Eighth Report

that match advertised speeds for at least 80% of the surveyed subscribers. Upload speeds yield better results but still disappointing, as nine service providers were able to provide median upload speeds that match advertised speeds for at least 80% of the surveyed subscribers.

The results from the FCC's report suggest that service providers cannot meet their advertised speeds at all times, an argument echoed by TURN.[72] As such, to best reflect the quantity that a household can rely on for essential broadband communications service, staff elected to recommend minimum connection speed to define essential broadband communications service.

TURN argues that the broadband service definition as proposed in the revised staff proposal should be viewed as a starting point, and should be revised upward on a regular basis as the trends in average speeds increase over time.[73] TURN also opposes the minimum data requirement of 1,024 GB as it believes such caps are artificial constructions.[74]

In general, UCAN strongly believes that broadband service should be considered an essential communications service for the purpose of the Commission's affordability analysis.[75] UCAN supports TURN's argument concerning the definition of minimum essential broadband speeds.[76]

CCTA objects to the revised staff proposal's designation of certain communications services as essential utility services for a number of reasons,

[72] TURN opening comments on Revised Staff Proposal, February 21, 2020, at 16-20.

[73] TURN opening comments at 18.

[74] TURN opening comments at 20.

[75] UCAN reply comments at 3-4.

[76] UCAN reply comments at 10.

including that the definition is arbitrary and unrequired, and that the Commission already determined an essential amount of communications service in a different proceeding.[77]

With respect to the staff's definition of essential broadband service, AT&T avers that the definition misses the mark. AT&T cites evidence that "over 80% of all broadband usage currently is for video viewing – largely for entertainment purposes" and therefore questions why such usage should be considered an essential utility service.[78] As with telephone service, AT&T argues that the price data for broadband service should not be sourced from ILECs. AT&T claims that most broadband customers receive their service from a cable company, and therefore cable broadband rates (including promotions) should be used to estimate the cost of broadband service.[79]

In reply comments, AT&T simply argues that broadband should not be considered an essential service at all in comparison to other services such as water, electricity, and voice communications.[80] TURN rejects AT&T's arguments, claiming that the 20 Mbps /3 Mbps standard recommended by the revised staff proposal "reflects only a fraction of typical speeds used by residential consumers in California" and is therefore a reasonable standard for defining an essential level of broadband service.[81]

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[77] CCTA opening comments at 13-15.

[78] AT&T opening comments at 4.

[79] AT&T opening comments at 5.

[80] AT&T reply comments at 3.

[81] TURN reply comments at 7.

Cal Advocates supports the consideration of broadband service as an essential communications service,[82] but believes that the Commission should include facility-based wireline and mobile service providers when calculating the costs of essential voice, mobile, and/or broadband communications service.[83]

In light of parties' comment on this issue, it is reasonable to set some standard for fixed broadband speeds to enable Californians to engage in essential communications services. AT&T and CCTA each believe that it is not appropriate for the Commission to engage this issue at all; but as discussed below this decision finds that it is reasonable for the Commission to identify a minimum speed for fixed broadband service to be used to assess the affordability of essential communications services.

AT&T's argument that the proposed standard should be lower due to the extensive use of broadband for video entertainment is irrelevant. The video and steaming capabilities of broadband service can be and increasingly are used for education and telehealth services as easily as they can be used for entertainment, and AT&T has offered no evidence that the proposed broadband standard would only allow for entertainment applications to the exclusion of essential communications services.

While the revised staff proposal sets out a workable standard, comments from TURN and UCAN illustrate that higher minimum speeds may be necessary to consider in light the average broadband speeds actually used by Californians. It is also true that at the federal level a higher minimum speed of 25 Mbps / 3 Mbps is used to judge whether a particular broadband service qualifies as "advanced" under

[82] Cal Advocates reply comments at 4.

[83] Cal Advocates reply comments at 2-3.

federal law. Given that the FCC standard has been accepted and used for several years at the federal level to define a standard of advanced communications service, and increases slightly the standard staff proposed as recommended by TURN and UCAN, it is reasonable to use 25 Mbps / 3 Mbps to determine the fixed broadband component of essential communications service for the Commission's affordability analysis.

In addition, at this critical time, when COVID-19 response measures have required more essential services to be provided online, including distance learning and telemedicine, a much higher basic speed has become a necessity. On April 24th, Commission President Batjer sent a letter to the internet service providers urging them to provide a minimum speed of 25 Mbps upstream for their affordable plan offerings.[84] It is likely that this shift to digital dependency will continue long after COVID-19 recovery efforts end. The essential broadband communications service level of 25 Mbps upstream/ 3 Mbps downstream that this decision adopts may be modified in the future given expected advancements in communications technology.

5.3.3. CCTA and AT&T Comments on Jurisdiction

CCTA objects to what it considers to be characterizations by the revised staff proposal of broadband providers as public utilities, arguing that federal and state law preclude application of California public utility law and regulation to broadband services. CCTA argues that this preclusion extends to staff analyses that may be conducted in the future concerning broadband affordability.[85] AT&T largely supports these arguments in its reply comments, stating that the revised staff

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[84] https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2020/CPUC%20Letter%20to%20ISPs%20regarding%20Affordable%20Plans.pdf

[85] CCTA opening comments, *passim*.

proposal must be "corrected" to remove any contention that broadband is a public utility service.[86]

UCAN criticizes the jurisdictional arguments of CCTA and AT&T as irrelevant distractions given that the Commission is not attempting to assert jurisdiction over broadband service in this proceeding.[87] TURN also rejects CCTA's theory that data collection requirements can be considered equivalent to common carrier regulation.[88]

This decision does not attempt to resolve CCTA's and AT&T's broader jurisdictional arguments concerning the applicability of California's public utility law to broadband service providers. Rather, this decision seeks to determine whether as a matter of public policy it is appropriate for the Commission to *analyze* the affordability of broadband service, in the context of a broader affordability analysis. This decision finds that it is appropriate for the Commission to do so, given that Public Utilities Code Sections 709, 280, 281, 275.6, and the Moore Act all demonstrate that the Legislature contemplated a significant role for the Commission in closing the digital divide in California and bringing advanced communications services, including broadband internet access, to all Californians. Investigating the relative affordability of broadband service for Californians of all income and vulnerability levels will assist the Commission and the State in its mission to bring broadband access to all Californians.[89]

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[86] AT&T reply comments at 2.

[87] UCAN reply comments at 1-2.

[88] TURN reply comments at 9.

[89] *See* Governor's January 10, 2020 Proposed 2020-2021 Budget Summary, section titled "Broadband for All", at 195.

The concerns of CCTA and AT&T are therefore misplaced. No Federal statute prohibits the Commission from accessing and analyzing broadband service pricing data. By illuminating and analyzing the costs California consumers bear in accessing essential broadband service, the inclusion of broadband costs in the affordability analysis will provide the Commission with information to help it fulfill its own statutory obligations.[90] Broadband costs comprise a portion of the essential utility costs customers pay and therefore affect the affordability of all the utility services. In any event, no law or federal statute forbids the Commission from accessing and analyzing broadband service prices.[91]

6. Unavailable Data

Essential utility service cost data was unavailable in several different contexts at the time when staff developed the revised staff proposal. Staff found that 160,851 households (1.06%) had no assigned gas essential service charge, 62,044 households (0.41%) had no assigned electric essential service charge, 25,092 households (0.17%) had no assigned communications essential service charge, and 1,413,361 households (9.35%) had no assigned water essential service charge. For these households, the revised staff proposal assumes a charge of $0 for these essential utility services.

Nevertheless, staff believed that customers may use substitutes for these services (*e.g.*, propane, wood, or electricity for space heating needs if a gas network

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[90] TURN reply comments at 9-10 ("[t]he Commission's ability to achieve [its] statutory objectives hinges on information regarding the status of broadband availability and adoption in the state, and this information is best obtained from data collection directly from broadband providers"). S*ee also* Greenlining reply comments at 2-3 ("[m]easuring Californian's ability to pay for services, and creating a minimum services levels is included in [the Commission's] authority does not implicate common carrier regulation because it does not regulate broadband companies – the Commission is merely compiling data around broadband usage to better tailor its proceedings").

[91] TURN reply comments at 12 ("CCTA provides no citation to which federal laws are being violated [by the data collection requirements]").

was absent) and therefore sought party comment on whether substitute or proxy values should be adopted for these services.[92]

TURN recommends adopting a relatively straight-forward approach of using values from the nearest utility as a proxy for each area with unavailable industry-specific data. For landlocked Public Use Microdata Areas (PUMAs),[93] TURN recommends imputing the average industry-specific value of the surrounding PUMAs.[94]

Cal Advocates does not support using $0 as a value where there is unavailable essential utility service data.[95]

UCAN does not support using the essential service costs from nearby utilities, and believes this would introduce error to the affordability calculation. Instead, it recommends that staff develop proxy values other than $0 based on what the households may actually use – private wells, firewood, etc.[96]

In general, SCE believes that all households with unavailable data should be removed from the affordability calculations, with an alternative approach of averaging other like costs where data are unavailable to come up with a proxy value.[97] SCE does not support simply using a value of $0 where the data are unavailable.[98] SoCalGas and SDG&E agree that unavailable values should simply be

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[92] Revised staff proposal at 53-54.

[93] PUMAs are geographic areas defined by the U.S. Census Bureau for the collection of data. More information on PUMAs is provided in Section 7.3 of this decision.

[94] TURN opening comments at 9.

[95] Cal Advocates opening comments at 16, 18.

[96] UCAN opening comments at 10-11.

[97] SCE opening comments at 5.

[98] SCE opening comments at 6.

removed from an affordability metric's calculation rather than substituted with estimated values.[99]

PG&E expresses similar concerns and does not support affordability calculations where data are unavailable. PG&E prefers an approach where the Commission merely notes that affordability measurements may not be made in areas where data are unavailable.[100] PG&E does not support using nearby utility rates as a proxy or using a $0 amount, given that these substitute values may be inaccurate and therefore create misleading affordability measurements.[101]

CalCCA believes that a second phase of this proceeding would be the appropriate venue for ultimately resolving many of issues surrounding unavailable or proxy data.[102] It does not believe that physically proximate utilities are necessarily the best choice for proxy values, but instead recommend using similarly situated utilities.[103] In no event does CalCCA supporting using a value of $0.[104]

In general, this decision agrees with CalCCA and finds that unavailable utility service data should be supplemented by proxy values developed in a future phase of this proceeding rather than using a value of $0. Methods Commission staff recommend for developing these proxy values are outlined below, but this decision does not formally adopt these methods. A decision in a later phase of this proceeding may formally adopt these methodologies after assessing the effectiveness

[99] SoCalGas and SDG&E reply comments at 3-4.

[100] PG&E opening comments at 7-8.

[101] PG&E opening comments at 9.

[102] CalCCA opening comments at 2.

[103] CalCCA opening comments at 9.

[104] CalCCA opening comments at 10.

of these proxy values in ratesetting proceedings. This decision finds that it is reasonable to apply the methodologies described below in ratesetting proceedings as part of the final development of these methodologies in a later phase of this proceeding as this will allow Commission staff and parties to analyze the effectiveness of the proxy values in an actual Commission proceeding.

6.1. Unavailable Gas Service Data

UCAN believes the average values of propane or wood as reported in periodicals should be used as proxy values for gas in rural areas where gas service is not available.[105] UCAN also recommended seeking information from utilities and community-based organizations on the fuels used for heating in areas outside a gas network, and using available data on propane and firewood prices where applicable.[106]

Cal Advocates supports using gas service data from the California Gas Report to compute an average propane service cost that can be used as a proxy for unavailable gas service data.[107] Alternatively, Cal Advocates recommends using data from the nearest gas utility as a proxy.[108]

SoCalGas and SDG&E claimed to have insufficient data to make a determination of the appropriate values, and therefore recommended removing customers with unavailable gas service from the calculation.[109] However, they recommend using proxy utility data from utilities in the same climate zone if

[105] UCAN opening comments at 2-3.

[106] UCAN opening comments at 7-8.

[107] Cal Advocates opening comments at 15.

[108] Cal Advocates opening comments at 16.

[109] SoCalGas and SDG&E opening comments at 7-8.

necessary.[110] They also support the concept of future gas essential service studies, using best practices learned from the electric essential usage studies.[111]

PG&E does not believe that there are sufficient data to determine whether propane or all-electric electricity rates should be used as a proxy for unavailable gas service data, and therefore recommends that no calculations be performed in the absence of such data. If a proxy calculation is eventually required, PG&E believes that the Commission should work with staff from the California Energy Commission (CEC) to estimate costs for households that are not using conventional utility electric or gas service for heating.[112]

CalCCA similarly argues that customers with unavailable gas service cannot be assumed to be all-electric customers, and they recommend that the Commission develop a model to predict whether a customer is using gas or electricity to help account for the gap in the data. Ultimately, CalCCA believes the Commission should model propane usage and costs to help measure affordability.[113]

It is apparent that several parties expressed support for addressing unavailable natural gas essential usage costs through some sort of proxy value, rather than treating the unavailable values as $0. Cal Advocates notes that "applying $0 to energy cost will under-estimate the affordability ratio for low income and poor-insulated house in rural areas."[114] Parties expressed support for

[110] SoCalGas and SDG&E opening comments at 8.

[111] SoCalGas and SDG&E opening comments at 14.

[112] PG&E opening comments at 8-9.

[113] CalCCA opening comments at 8-9

[114] Cal Advocated opening comments at 17.

either using data from a nearby utility[115] or estimating the cost of an alternative fuel such as propane or wood, while recognizing that some of the customers without natural gas service may be all-electric customers.[116] [117]

As no party argued that households without natural gas service go without heat altogether on a regular basis, this decision holds that the Commission's affordability metrics should assume that customers who live in areas without natural gas service use an alternative fuel for heating, most commonly propane, or use electric heating and are on an all-electric tariff with a higher baseline usage level, if such a tariff exists in that electric utility service territory.

As noted previously, this decision does not ultimately define the proxy heating service price that should be used where natural gas service is unavailable. However, the following proposed methodology for determining an essential heating price should be tested and refined in a later phase of this proceeding.

This decision adopts a methodology in principle based on a modification to the AR calculation such that the percentage of all-electric customers in each utility climate zone is taken into consideration and customers who are neither on all-electric service or have natural gas service are assumed to have propane heating. Propane costs would be estimated for each territory without natural gas service using a modified version of the methodology proposed by Cal Advocates in their comments on the revised staff proposal.[118]

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[115] Cal Advocates opening comments at 16.

[116] UCAN opening comments at 7-8.

[117] CalCCA opening comments at 8-9.

[118] Cal Advocates opening comments at 15-16.

Cal Advocates' proposed methodology for estimating propane costs calls for using the California Gas Report[119] to identify the British Thermal Units (BTU) of natural gas usage by a typical residential household, which would then be converted to an equivalent amount of propane. The cost associated with this amount of propane would then be calculated using Energy Information Administration (EIA) data on recent propane costs. This cost would be used as a substitute for the natural gas essential usage cost.

However, it appears that the California Gas Report only contains aggregate natural gas demand figures rather than per household figures. It is proposed that the per household natural gas usage be estimated by using per household figures from the nearest natural gas provider. The "nearest" natural gas provider would be determined by the assigned electric climate zone for the area and the nearest natural gas provider to that electric climate zone. This per household natural gas amount would then be converted from therms of natural gas to gallons of propane (1 therm = 1.1 gallons of propane[120]). Finally, EIA residential propane price data from the previous calendar year for the nearest available area (Rocky Mountain) would be averaged and applied to these propane quantities to estimate the monthly essential usage cost for propane.[121]

This decision finds that it is reasonable in principle to adopt a proxy value for unavailable natural gas price data, even though the exact methodology for determining the proxy value is not adopted at this time. The proposed methodology

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[119] 2018 California Gas Report, prepared by the California Gas and Electric Utilities.

[120] https://www.amerigas.com/amerigas-blog/2012/march/geeking-out-over-propane

[121] Energy Information Administration, Rocky Mountain (PADD 4) Propane Residential Price, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPLLPA_PRS_R40_DPG&f=M

outlined above should be refined in a later phase of this proceeding to determine if it is appropriate to use for calculating a proxy value for unavailable natural gas price data.

6.2. Unavailable Water Service Data

Assuming that cost data on water well service would be helpful, UCAN recommends accessing publicly available data on well servicing and powering costs.[122] Cal Advocates does not recommend using nearby utility costs as a proxy, noting the wide variation in water utility costs in a given geographic area. Cal Advocates recommends greater analysis of the proxy value issue before reaching a conclusion.[123]

As noted previously, this decision does not ultimately define the proxy water service price that should be used where water service is unavailable. However, the following proposed methodology for determining an essential water service price should be tested and refined in a later phase of this proceeding.

In areas that are not served by a water system, Commission staff should make the assumption that a representative household obtains water from a private domestic well. Using UCAN's recommendation as a starting point, Commission staff would calculate the approximate power costs for well pump operation. This approach would estimate the amount of electricity used by a domestic well to pump six hundred cubic feet per month and multiply that amount of electricity by the rate for electricity in a given service area. Residential flow requirements would be estimated as one gallon per minute for every fixture within a house. Commission

[122] UCAN opening comments at 9.

[123] Cal Advocates opening comments at 18-19.

staff would assume that a typical three to four-bedroom household contains 12 fixtures, which would equal 12 gallons per minute.[124]

Pump power would be estimated from a cross-section of commercially available submersible pumps that operate at 12 gallons per minute.[125] The electric rates would be calculated using the standard residential rates assigned to each climate zone, as in the calculation of electric essential service charges. Additional costs for operation and maintenance may be considered as part of the development of this proxy value if such data becomes available.

6.3. Unavailable Communications Service Data

UCAN recommends that if a customer does not have access to ILEC service (i.e., landline telephone service), Commission staff should estimate the cost of a basic package of mobile telephone service as a substitute.[126] Cal Advocates recommends using a proxy value based on the mean ILEC price from across California or the price of the ILEC closest to the area being analyzed, and does not recommend using wireless prices as a substitute as the services are different.[127]

As described further below, there are two forms of communications service that is considered essential in the revised staff proposal: voice telephony and broadband communications. Voice telephony prices are derived from the 14 ILECs who are required to file tariffs with the Commission annually. In a later phase of

[124] https://www.watersystemscouncil.org/download/wellcare_information_sheets/basic_well_information_sheets/WELL%20PUMP_FINAL.pdf

[125] https://www.waterpumpsdirect.com/manuals/LG_SubDW_12Gpm_Spec.pdf; http://documentlibrary.xylemappliedwater.com/wp-content/blogs.dir/22/files/2017/04/HSSPEC-R4.pdf; https://www.aquascience.net/goulds-13gs10422c-13gpm-1hp-230v-2-wire-4-stainless-steel-submersible-well-pump

[126] UCAN opening comments at 9-10.

[127] Cal Advocates opening comments at 19-20.

this proceeding, Commission staff should use this data to impute a voice telephony essential usage price in the event there is unavailable voice telephony data.

As for broadband data, staff obtained price information from the 14 ILECs' public-facing webpages, using the cost of broadband offered at levels closest to 20 Mbps / 3 Mbps. Because, at this time, most ILECs' offered levels of broadband that are closest to 20 Mbps / 3 Mbps are ones offered at 25 Mbps / 3 Mbps or higher, those pricing data were used for the current affordability calculations. Staff also partnered with the Communications Division's Geographic Information Systems (GIS) team to include price data for 20 Mbps / 3 Mbps in its annual data request for broadband deployment and subscription data as of December 31, 2019. The data request asks, "Please state what prices you have for a tier of broadband service around 20/3 (if you have a speed near 20 Mbps download and 3 Mbps upload)." With this effort, staff has obtained price data from at least 75 service providers.

Although this decision adopts 25 Mbps / 3 Mbps for essential broadband communications service, staff will use the price data that the GIS team collected in response to the data request question above at this time. In the next round of the annual data request for broadband deployment and subscription data, scheduled for December 31 of this year, the GIS team will collect price data for 25 Mbps / 3 Mbps for future affordability calculations to be consistent with this decision.

6.4. Unavailable Electric Service Data

SoCalGas and SDG&E claimed to have insufficient data to make a determination of the appropriate values, and therefore recommended removing customers with unavailable electric service from the calculation.[128] However, they

[128] SoCalGas and SDG&E opening comments at 7-8.

recommend using proxy utility data from utilities in the same climate zone if necessary.[129]

Subsequent to the release of the revised staff proposal, unavailable electric service data were uncovered by Commission staff. These new data will be used when calculating the affordability metrics using the methodologies outlined in this decision. Workpapers containing the new data will be released on the Commission's affordability website.

6.5. Exclusion of Low-Income Subsidy Programs

SoCalGas and SDG&E generally opposed the proposed quantification of essential utility services, saying that the value of providing the services was not adequately considered. For example, they pointed to low-income bill reduction programs as a service that is missed by the proposed methodology, and therefore they are concerned that the AR and HM measurements would be larger than if measured in light of those programs. They also argued that level pay programs and Food Bank rates should be considered for inclusion as utility rate benefits.[87] PG&E echoes these concerns,[88] as does SCE.[89] CalCCA also seeks the inclusion of low-income subsidy programs in the estimated cost of essential utility services.[90] CforAT believes that essential utility service could usefully be calculated both including and excluding the benefits of low-income subsidy programs.[91]

NDC responded that it was appropriate to exclude these subsidy programs from the affordability calculations, on the assumption that utility rates would be de facto unaffordable but for the application of the subsidy. Including the subsidy would therefore give an inaccurate picture of whether the rate itself was affordable.[92]

[129] SoCalGas and SDG&E opening comments at 8.

TURN similarly argues that low-income assistance programs are designed to address underlying affordability issues, and by excluding the benefits of this program the Commission is able to make a more honest assessment of the affordability of essential utility services. TURN also points out that level pay plans do not actually change the underlying rate and annual bill impact, and therefore do not address the underlying affordability of rates, making such plans irrelevant to the affordability question.[93]

It is important for the affordability metrics adopted by this decision to measure the relative affordability of the essential utility services in general, rather than assessing whether the services are affordable or not *but for* the existence of with low-income subsidy programs. Removing the effect of low-income subsidy programs on the price of essential utility services simplifies the affordability calculation and comports with the scoping memo's determination that the effectiveness of low-income subsidy programs should not be evaluated in this proceeding. Including the effect of low-income subsidy programs would be a de facto evaluation of their impact on affordability, and would therefore conflict with the scoping memo's ruling on this matter.

For these reasons, it is reasonable to exclude the effect of low-income subsidy programs from the calculation of the cost of essential utility services. This does not mean that parties cannot use the effect of low-income subsidy programs when interpreting the outputs of the affordability metrics as they might be used in other Commission proceedings, or that the Commission itself will not consider the effect of these programs when it evaluating the affordability metrics.

7. Metric Methodologies

Independent of the issues surrounding the definition of essential utility service, the revised staff proposal and parties gave considerable attention to the question of how to calculate the various metrics, the data to be used, and how to forecast metric values for the future. This section considers each of the questions in turn for each of the affordability metrics adopted by this decision.

7.1. HM Methodology

The revised staff proposal sets out a methodology for calculating the HM metric. The components to determine HM are the essential service charges and the minimum wage for a specific area. HM is calculated as the quotient of the division of the essential service charge for any given utility service by the minimum wage for the area in which a household resides.[130]

While straightforward, the HM methodology does have some complexity surrounding the appropriate minimum wage to use in the calculation. Today, California has two statewide minimum wage standards: one for employers with 25 employees or less, and one for employers with 26 employees or more. However, there is no real distinction between these statewide minimum wage standards. By January 1, 2023, both of these standards will be at $15 per hour. In 2019 the minimum wage was $12 per hour for both business sizes.

The complexity arises when considering local municipalities and counties that have their own minimum wage rates. In addition to these localized minimum wages, some California municipalities also have different standards for employers with 25 employees or less and employers with 26 employees or more.

[130] Revised staff proposal at 29.

To compute HM on an ongoing basis, the staff proposes to access, and refresh on a regular basis, data on the different minimum wages applicable throughout California from the Labor Center at the University of California, Berkeley. In areas with two sets of minimum wage standards, staff propose to use the lower of the two. HM will then be calculated independently for each combination of an essential service charge and minimum wage.[131]

Cal Advocates supported adopting the HM methodology as proposed by the revised staff proposal.[132]

The revised staff proposal's recommended methodology accurately calculates the HM metric across a range of minimum wages and locations, and is unopposed. For these reasons, the revised staff proposal's recommended methodology for calculating the HM affordability metric is reasonable and should be adopted.

7.2. SEVI Methodology

The SEVI metric uses publicly available data obtained from the California Office of Environmental Health Hazard Assessment (OEHHA) that is updated periodically to measure the well-being of California communities. SEVI is constituted of five factors (or "indicators") that can be used to measure the socioeconomic vulnerability of a given census tract in the state. These are: poverty, unemployment, educational attainment, linguistic isolation, and percent of income spent on housing. The SEVI is usually presented as part of a publicly available tool known as CalEnviroScreen 3.0.[133] The Commission and its staff are not involved in the calculation of the raw measurements of the five indicators used for SEVI.

[131] Revised staff proposal at 29-30.

[132] Cal Advocates reply comments at 5.

[133] Revised staff proposal at 32.

OEHHA manages that process and is expected to do so in the future, although the raw scores are freely and publicly available.

The revised staff proposal describes the calculation of the recommended SEVI metric in the following way:

> OEHHA collects data for each indicator and computes a raw score at the census tract scale. Since each indicator is measured on a different scale, the raw scores are put in order from highest to lowest and then ranked by percentile where, for each indicator, 0 is "good" and 100 is "bad." OEHHA collects data and computes these percentiles for a variety of indicators in developing its CalEnviroScreen score, but it specifically considers the five indicators chosen here as its socioeconomic components.
>
> The SEVI is calculated by averaging the percentiles of the five socioeconomic indicators (educational attainment, housing burden, linguistic isolation, poverty, and unemployment). It is presented on a scale of 0 to 100 at the census tract scale, where 0 is considered the least socioeconomically vulnerable and 100 the most.

Thus, the revised staff proposal recommends equally weighting the five SEVI indicators when calculating a total SEVI measurement for a given census tract in California.

TURN supports the methodology for calculating SEVI, arguing that it enhances transparency and accessibility, and ensures that the Commission's preferred measure of economic vulnerability is freely available. TURN also supports the leverage of existing census tract data at a high degree of granularity while applying equal weighting of the five economic vulnerability factors.[134]

[134] TURN opening comments at 2.

The revised staff proposal's recommended methodology for mapping the SEVI affordability metric accurately represents the socioeconomically vulnerable communities that will be most affected by affordability concerns and is unopposed. For these reasons, the revised staff proposal's recommended methodology for calculating and mapping the SEVI affordability metric is reasonable and should be adopted.

7.3. AR Methodology

This proceeding contains substantial discussion and debate concerning the appropriate methodology for calculating the AR metric. In essence, the AR metric takes a household's income, subtracts housing costs, and then divides essential utility service bills by this post-housing income number. The AR metric can also deduct essential utility service costs from income rather than include them in the metric's numerator to refine the AR to give a utility-specific result. The task, then, is to determine some method of reliably calculating these variables.

First, the AR calculation quantifies the essential service charge associated with each of the four utilities (gas, electricity, water, and communications). This entails identifying the relevant rate associated with each utility service for households located in a given geographic area, multiplying the rate by the usage level that has been identified as the essential usage quantity (considered previously in this decision), and adding in any relevant fixed costs if applicable. Where data is unavailable, Commission staff may use proxy values as discussed earlier in this decision.

Once the essential utility services costs variables are determined, the second step is to calculate household income and housing costs. Income and housing costs are assigned at the scale of the PUMA produced by the U.S. Census Bureau.

According to the U.S. Census Bureau, PUMAs are "statistical geographic areas defined for the dissemination of Public Use Microdata Sample (PUMS) data."[135] There are 265 PUMAs in California, and these areas and their corresponding PUMS data are used by staff in their AR proposals in this proceeding. UCAN supports the use of PUMAs as the base geographic unit of AR analysis.[136]

The revised staff proposal recommended that, within each PUMA, household income for the 20th and 50th percentiles of the income distribution be calculated directly from the household-level income data in the PUMS. Staff derived these values using the statistical package R (though the same results could be calculated using any statistical software package), taking into account the sample weights that were provided by the Census Bureau in the PUMS dataset.

The revised staff proposal then recommended calculating the corresponding housing costs for each income level from the same PUMS datasets. The goal was to understand housing costs that a household incurs regardless of whether the property is rented or owned. To that end, staff recommend combining PUMS household-level data on rent, mortgage payments, and property tax payments into a single monthly housing cost variable so that housing costs could be compared on a common basis across all households. The PUMS dataset is central to the AR analysis at this stage because it provides household-level values for income and housing costs, which allows for calculation of AR at different income bands within a given geography. If other applicable sources for income and housing become available, the PUMS may be replaced in future revisions of the AR calculation.

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[135] Available at: <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/pumas.html>. Last accessed March 12, 2020.

[136] UCAN opening comments at 15.

In order to estimate the housing costs associated with households at a particular income level, staff used a regression model that related average housing costs to income level within each PUMA. In the process of developing this model, staff determined that household size is an important variable that explains housing costs. This variable was also incorporated into the staff's regression model. However, rather than determine housing costs for various size households within each PUMA, the average household size for each PUMA was input in the regression model to calculate housing costs. In doing so, the effect of household size was separated from household income within each PUMA while still allowing for inter-PUMA variation in average household size.

Staff tested several regression models, with the final model given by the formula below. The coefficients for this model were calculated for each PUMA separately based on the observed household-level data in the PUMS dataset, thus allowing for variation between PUMAs. Because the focus of staff's work was on lower income households, extremely high-income households were excluded from the coefficient calculation process (defined as households with incomes greater than five times the mean income for the PUMA). This ensured that extremely high-income households would not skew the regression outputs.

$$Housing\ Cost = a + b \cdot \sqrt{Household\ Income} + c \cdot Household\ Size$$

Variables a, b, and c in the formula above are the regression coefficients, which quantify the relationship between housing cost and the predictors of housing cost (the PUMA-specific baseline housing cost, household income, and household size, respectively). These variables indicate how housing costs change as household size and household income increase or decrease, and are estimated for each PUMA individually based on the household-level data in the PUMS dataset.

Staff then used this model to estimate housing costs for households at the 20th and 50th percentiles of the income distribution in a given PUMA. It is worth noting that these estimates are for the average housing cost for households at a given income level. Because staff observed a great deal of variance in housing costs within each PUMA, individual households may have very different costs even at similar income levels. Nevertheless, staff recommended using these estimates in order to illustrate how housing costs vary between PUMAs, and therefore estimate how affordability varies among different parts of California.

Once household income after housing costs is calculated, the AR metric simply measures the ratio between any given essential utility service cost and that household income after housing costs (minus other essential utility services not being measured).

7.3.1. Using a Regression to Estimate Household Income and Housing Costs

As described above, staff recommend using a straight-forward regression to estimate household income and housing costs for a given income level in each PUMA under consideration.

TURN generally supports the approach, but notes that it has not completely validated the analysis presented by the revised staff proposal. TURN expresses concern that the regression model recommended by staff may not adequately account for high housing costs in California. As a result, TURN recommends that any AR figure be viewed alongside HM and SEVI measurements to give a holistic picture of affordability for households with incomes below $100,000 per year.[137]

[137] TURN opening comments at 6-7.

SoCalGas and SDG&E noted that the wide variance in housing costs observed for single income levels in many PUMAs means that the regression's output would vary widely for a given income level. This may mean that AR measurements for a PUMA could vary over time but not in a way that was signaling any real movement in the metric. SoCalGas and SDG&E argued that the "regression model's bias and precision should be evaluated by Staff in more detail to determine the significance of this heterogeneity issue" and that staff revert to the original staff proposal's methodology if necessary.[138]

SCE recommended defining an "essential" level of housing to maintain consistency with the essential utility services being compared. SCE also requested that the "metric calculation be formalized in an open-source statistical programming language that may be published online and distributed freely along with underlying data sources."[139] TURN believes that SCE's argument that an "essential" level of housing should be considered is absurd.[140]

Cal Advocates supports the new regression technique, but seeks two clarifications: 1) details about the factors that went into generating individual-level income estimates, and whether non-wage earnings, capital gains, or public assistance form part of the income total, and 2) the costs and public availability of custom Census crosstabulations for housing costs by income quintile to be used in place of regression outputs. Cal Advocates also recommends validating the

[138] SoCalGas and SDG&E opening comments at 4-5.

[139] SCE opening comments at 3-4.

[140] TURN reply comments at 1-2.

regression results to see if it was even necessary to purchase more refined Census data.[141] NDC supports this proposal.[142]

PG&E does not support the new regression technique and recommends instead that the Commission adopt the original staff proposal's method of calculating household income and housing costs. PG&E argues that there is too much uncertainty introduced by the regression method, and that it will lead to potentially inaccurate measurements of AR.[143]

NDC does not support the new regression method for calculating housing costs at certain income levels. It argues that it is not clear that housing costs are actually correlated to household income, and that household size may not be constant between income levels. Using the regression method as proposed may, in NDC's view, lead to inaccurate affordability measurements.[144]

UCAN does not object to the regression technique in principle, but argues that there are inherent limitations in the data and that the model should be tested against real-world examples of housing costs in areas of the state to test its accuracy.[145] Nevertheless, UCAN ultimately concludes that the "staff's housing cost proposal does a reasonable job of estimating overall housing costs in the state."[146]

CforAT has some concerns about the regression approach, noting that it may not accurately depict the housing cost for customers at the observed income levels.

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[141] Cal Advocates opening comments at 11-13.

[142] NDC reply comments at 6.

[143] PG&E opening comments at 6-7.

[144] NDC opening comments at 10-11.

[145] UCAN opening comments at 5.

[146] UCAN reply comments at 7.

While CforAT does not offer an alternative methodology, it recommends that staff note the potential inaccuracy of the outputs and take into consideration that there may be households at the observed income levels with greater housing cost burdens then reflected in the ratio.[147]

The Small LECs argue that staff's workpapers are insufficient to determine if the regression model is reliable. In particular, they state that the example scatterplot in the revised staff proposal is "far from a perfect fit and other model specifications might fit better."[148] The Small LECs also query whether staff imputed a rent value for occupant-owned housing to defray the investment cost of a mortgage principal payment. Given some limitations of the approach, the Small LECs argue that AR should therefore solely be used as a guideline in Commission decision-making.[149]

CalCCA believes the regression model is an improvement over the previous method, and recommends that any output used by the model evaluate whether to use increased household size and report on errors and correlation coefficients associated with the outputs.[150]

The revised staff proposal's regression approach for calculating housing costs is reasonable and should be adopted. In response to those arguments in favor of reverting to the approach used by the original staff proposal, the housing cost estimation methodology put forward in the original staff proposal does not appear to control for the large degree of variance in housing costs within each PUMA any more than the regression approach in the revised staff proposal. Even though the

[147] CforAT opening comments at 5-6.

[148] Small LECs opening comments at 4.

[149] Small LECs opening comments at 5.

[150] CalCCA opening comments at 6.

original staff proposal's methodology only uses data for a 10% band of the income distribution (thus discarding the data for the remainder of the distribution), there is still a large degree of housing cost variance within that subset of the data for each PUMA. For example, in PUMA 101 in California, households between the 15th and 25th income percentiles display a wide degree of variation in housing costs with a range of approximately $4000/month. A full description of this example in housing cost variance within a PUMA is attached as Appendix B.

Therefore, simply taking an average of those housing costs as recommended by the original staff proposal does not necessarily do a better job of controlling for the variance than the methodology put forward in the revised staff proposal. It is simply another method for approximating average housing costs for households at a given income level, and in contrast to the revised staff proposal's regression approach, it does not utilize the full set of housing cost data in a given PUMA.

The housing cost for a given household's income level in a PUMA is required in order to complete an AR calculation. The record of this proceeding reflects that housing cost data, even for a definite income level in a given PUMA, is variable. In order to complete an AR calculation it is therefore necessary to estimate the housing cost for a given income level given the variance in the data. The observed variance in housing costs in the PUMS data does not discredit the accuracy of the estimated housing cost produced by the regression model, since the estimate is intended to be a characterization of the average value paid by households of a given income level. Since the goal of this metric is to characterize affordability for a representative household of a given socioeconomic status, and the regression model produces an unbiased estimate of the average housing cost, it is justifiable to use these estimates to characterize the affordability for a specific geographic area. The revised staff

proposal's regression approach is a reasonable method of estimating such costs, notwithstanding the limitations granted by staff. Future implementation of the AR metric will seek to refine the estimates provided by the regression approach. For these reasons, the regression approach for estimating housing costs to be used in the AR metric calculation is reasonable and should be adopted.

7.3.2. Aggregation: Solving the Mismatch Between PUMA Boundaries and Utility Boundaries, and Between Utility Boundaries Themselves

One of the issues confronted by staff in their development of an AR methodology was the mismatch in some cases between the boundaries of the area with the underlying income and housing cost data (the PUMA) and the boundaries of the utility service territory where the calculations of essential service charges are made. The effect of this mismatch was to make it difficult to develop consistent variables to use to determine AR.

Staff also noted that:

> To complicate things further, service territory boundaries for the various types of utilities overlap with one another as well. Utility essential service charges are determined by which utility provider serves a given area, as well as the climate zone in which a household is located for electricity and gas service. Therefore, the relevant boundaries for electricity and gas service are utility climate zone boundaries, and the relevant boundaries for water and communications services are service territory boundaries.
>
> Specifically for communications service territory boundaries, the 14 ILECs being examined in the proposal have unique service areas free of other ILECs. The result is an extremely large number of unique combinations of census geographies

and gas, electric, water, and communications essential service charges.[151]

In order to allow for AR calculations that span both small PUMA-sized areas and larger utility service areas, staff proposed that the AR be calculated by employing spatial and population-weighted AR averages within utility service territories and climate zones.[152] This aggregation technique allows for the development of AR scores for both small areas and large areas, and was necessary due to the 526,639 unique combinations of gas, electric, communications, and water essential service charges and census blocks considered in the staff's AR analysis.[153]

The weighting factors used for aggregation are essentially functions of the area of a given census block that is occupied by a utility's territory. A proportional amount of households are then assigned to the utility from the census block. This weighting is done for each utility separately.[154] Once the weighting factors are calculated, staff recommends multiplying the AR of each service territory/census block intersect area by its respective weight and summing those values over the area of interest, thus giving a weighted average AR for the geographic area of interest.[155]

TURN generally supported this approach, noting that it was necessary to use the data available; but also recommended that the Commission update the aggregation technique in the future after evaluating its use in real-world proceedings.[156] UCAN called the aggregation approach "helpful, but somewhat

[151] Revised staff proposal at 40-41.

[152] Revised staff proposal at 36.

[153] Revised staff proposal at 41.

[154] Revised staff proposal at 42-43.

[155] Revised staff proposal at 43.

[156] TURN opening comments at 7-8.

inaccurate" in that the underlying income and housing cost assumptions may be inaccurate. UCAN recommends not relying solely on AR when making affordability determinations.[157]

Some other parties were generally supportive of the aggregation approach,[158] while also noting the inherent uncertainties in the resulting output.[159] Reflecting these concerns, Cal Advocates supported using the aggregation technique for geographic areas the size of a PUMA or larger, but did not support the technique for areas smaller than a PUMA.[160]

PG&E does not support the regression technique and therefore objected in principle to the aggregation approach as well; but PG&E suggests that if aggregation of regression results is required then "[a] more stable approach may be to aggregate numerator and denominator separately (using the same methodology) and then divide to get the AR for the aggregate region of interest."[161]

CalCCA also argues against the aggregation technique, saying that the proposed method underweights denser communities and does not sufficiently account for variation that is possible within the aggregated results. CalCCA instead recommends that the affordability measurements be calculated at much broader scales.[162]

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[157] UCAN opening comments at 6.

[158] *See, e.g.*, SoCalGas and SDG&E opening comments at 5.

[159] *See, e.g.*, Small LECs opening comments at 5.

[160] Cal Advocates opening comments at 14.

[161] PG&E opening comments at 7.

[162] CalCCA opening comments at 6-7.

The aggregation technique is the most reasonable way to account for overlapping boundaries of utility service areas and the PUMAs used as the geographic foundation of the AR methodology. While some parties suggested that aggregation be avoided by simply examining AR at a broader scale than the PUMA, this does not allow for the AR to be calculated at all given that the PUMA-level PUMS data are required to compute the AR. As a result, it is necessary to correct somehow for the mismatched boundaries, and the aggregation technique provides for a reasonable method to do so. The aggregation technique will be further refined during the implementation of the AR affordability metric. For these reasons, the aggregation technique is reasonable and should be adopted.

7.3.3. Top-coding

Before calculating aggregated AR figures, staff recommend discarding AR results that are either too high or too low to be meaningful, which would produce a skewed and inaccurate aggregated AR value if included in the averaging calculation. As an example, staff discovered that some AR calculations lead to values of greater than 1, meaning that essential utility service charges exceeded household income after housing. In other situations, AR values could be negative if housing costs exceed income, which would artificially lower the weighted average AR.

Instead of discarding these outlying values, staff recommends top-coding, which means to replace these outliers with some upper value that retains the contextual meaning of the metric. With this approach, both negative AR and AR greater than 1 are top-coded with an AR of 1. That is, the essential service charge comprises 100 percent of income after other nondiscretionary household expenses,

whether due to negative income after nondiscretionary expenses, or due to the household's essential service charges being greater than available income.[163]

CalCCA opposes top-coding as proposed. CalCCA believes that the proposal to limit AR measurements to a maximum of 1 would not reflect the actual unaffordability of utility services in areas receiving a 1 measurement.[164] The comments of CalCCA notwithstanding, parties offered no arguments opposed to top-coding.

The measurement of the affordability of essential utility services is not affected by top-coding. Instead, top-coding removes absurd or illogical results from the AR calculation results and allows for aggregation and other forms of subsequent AR analysis. If an AR calculation is top-coded at 1, then that result means that all discretionary income would be spent on essential utility service(s). Such a result would be no less informative than a result that indicated the cost of essential utility services exceeded discretionary income levels. For these reasons, the use of the top-coding technique is reasonable and should be adopted.

7.3.4. Definition of Non-Discretionary Expenses

As noted previously, staff recommend that housing costs and essential utility service costs be deducted from income to determine the amount of household income available to pay for any given essential utility service (essentially the denominator in the AR equation). While there may be other household expenses that could be considered non-discretionary, such as food, staff does not recommend including them in the AR equation. Staff explains that there is a great deal of

[163] Revised staff proposal at 41.

[164] CalCCA opening comments at 7.

uncertainty surrounding these costs. In addition, data that do exist are not available for all geographic areas or at the needed granularity.[165]

SCE is concerned about the inclusion of non-discretionary expenses generally in the affordability analysis, noting that such expenses are non-uniform and difficult to quantify.[166]

TURN criticizes this revised staff proposal's treatment of this element of the AR methodology, and claims that other non-discretionary household expenses such as food, healthcare, and taxes should be included in the AR equation.[167] TURN demonstrates that the AR measurement can be directly affected by assumptions about payroll taxes and their impact on household incomes, and is concerned that the lack of these other expenses may create a false impression of affordability.[168] TURN recommends updating the AR methodology either now or in the future to account for these other non-discretionary household expenses.[169] The Small LECs supports TURN's argument that household income should be adjusted to account for tax liabilities before calculating an AR measurement.[170]

UCAN also believes the definition of non-discretionary household expenses is too narrow and recommends at least including healthcare costs as an element of non-discretionary household costs.[171] CCTA concurs that the definition of non-discretionary household costs should include more categories to ensure an accurate

[165] Revised staff proposal at 28.

[166] SCE opening comments at 12.

[167] TURN opening comments at 4-5.

[168] TURN opening comments at 5-6.

[169] TURN opening comments at 6.

[170] Small LECs reply comments at 4.

[171] UCAN opening comments at 2.

assessment of affordability, such as food, clothing, childcare and medical expenses.[172]

CforAT also recommends exploring the addition of healthcare and childcare costs, and at a minimum noting the exclusion of them from the metric so that the significance of the metric's measurement could be put in context. CforAT objects to the characterization of healthcare and childcare as insignificant costs, noting that while these costs may be highly variable, they are likely to be very significant for certain households.[173]

Similarly, NDC criticizes the revised staff proposal for not including other potential non-discretionary expenses such as food, medical costs, and transportation.[174] In order to provide useful data for the Commission on these other expenses, NDC recommends using the United Way Real Cost Measure (RCM) to estimate these amounts.[175] NDC claims that the United Way RCM

> calculates the costs of housing, food, health care, and transportation in counties and neighborhoods all across California, for households with up to twenty members of all possible configurations of adults and children – 1,272 individual household budgets per county. RCM data and workpapers may provide information at a granularity that is sufficient for AR.[176]

CalCCA also believes that other non-discretionary costs should be included, such as food, childcare, and medical costs. They recommend the commissioning of

[172] CCTA opening comments at 18.

[173] CforAT opening comments at 9-12.

[174] NDC opening comments at 6.

[175] NDC opening comments at 7-8.

[176] NDC opening comments at 8.

an "exploratory study that would first evaluate the range of potential non-housing costs to identify a relatively high level of non-housing expense (*e.g.*, reflecting the top 20% of such costs) and add this value to the essential costs in subsequent analyses of affordability."[177]

In spite of the objections lodged by some parties, it is reasonable to exclude other non-discretionary expenses from the AR analysis for the reasons asserted by staff in the revised staff proposal.

With respect to NDC's proposed use of the United Way RCM dataset, Commission staff have examined RCM's methodology of determining other nondiscretionary expenses to derive county level household budgets. In examining RCM's household budgets for all 58 counties in California, Commission staff could not identify sufficient geographical differences in other nondiscretionary expenses besides housing expense, which AR already captures. Differences in these other nondiscretionary expenses are driven mostly by the specific composition of household members and the individual circumstances of each household. The goal of the AR metric is not to characterize the affordability of every individual household in the state, but instead to characterize the general affordability of utility services based on the general economic conditions in various parts of the state. Including additional nondiscretionary expenses would decrease the denominator of the AR calculation but does not necessarily help understand the impact of utility rates on household budgets. It would be more useful to show comparative affordability of different areas of the state but there is little geographic difference between the costs of these additional expenses.

[177] CalCCA opening comments at 3-4.

Since the AR metric represents the percent of a household's income after housing expenses that are spent on essential utility service charges, the remaining percent subsequently represents what a household has left to cover other nondiscretionary household expenses, including food, health care, taxes, transportation, childcare, and other miscellaneous expenses such as clothing. It is reasonable to exclude these other expenses from the AR calculation, with the understanding that the AR figure is showing the percent of a household's income used for essential utility service with only housing is accounted for. It is understood that a household must use its remaining income to cover these other non-discretionary expenses.

8. Implementation

The second issue for resolution in this proceeding is to determine the methods and processes for assessing affordability impacts across Commission proceedings, programs, and utility services. In essence, this issue concerns the implementation of the affordability metrics and methodologies as defined above.

The revised staff proposal and parties recommended several approaches to implementing the affordability metrics and methodologies adopted by this decision. There were a variety of views among the parties concerning the proper pace of implementation. Some parties, such as CWA and the Small LECs, advocated for more workshops and proposals on implementation issues before the Commission determines how to implement the affordability metrics.[178]

This decision determines certain issues related to implementation at this time based on the record of the proceeding. These determinations are ripe for consideration at this time as certain implementation options were proposed by staff

[178] Small LECs reply comments at 3.

and were reviewed by the parties in their comments on the revised staff proposal. Moreover, as mentioned above, implementing affordability metrics is particularly timely and important right now.

It is clear from the record of the proceeding that for some issues further refinement is required before widespread implementation of the affordability metrics. This is particularly true in the area of forecasting costs relevant to the AR metric. For this issue and some other implementation issues, a second phase of this proceeding is created to consider and execute Commission direction.

8.1. Using the Metrics in a Ratesetting Proceeding

The revised staff proposal recommends calculating and presenting the approved affordability metrics to Commission decision-makers in a ratesetting proceeding. Staff also suggest that "[i]n order to provide timely, relevant information to decision-makers, the affordability metrics should be calculated as closely to the projected implementation date as possible using best available data at that time."[179] The revised staff proposal notes some challenges in using the metrics in a proceeding with multi-year rate impacts, particularly around forecasting the various elements of the HM and AR metrics; but nevertheless staff recommend applying the affordability metrics in a ratesetting proceeding such as an electric utility's general rate case.[180]

Several parties agreed that the affordability metrics be tested in a ratesetting proceeding. Cal Advocates also recommended using an electric utility's General Rate Case proceeding. In that pilot proceeding the utility would be required to provide a "baseline" map showing the affordability measurements given the current

[179] Revised staff proposal at 47.

[180] Revised staff proposal at 48.

revenue requirement, and then updated maps showing affordability measurements if the Commission approved the revenue requirement sought by the utility.[181] Cal Advocates also sought piloting the affordability metrics in water and communications proceedings as well.[182]

SoCalGas and SDG&E supported the pilot approach, but wished to see the metrics calculated and presented by staff outside of the pilot proceeding to show the usefulness and effectiveness of each metric.[183] PG&E concurred with this argument.[184] SCE did not object to a pilot approach, so long as it was not their currently pending 2021 GRC application.[185]

We do not believe the use of this methodology should be limited to a pilot. We acknowledge issues around forecasting and expect to address them in Phase 2 of this proceeding as explained in Section 8.8 of this decision. However, it is reasonable to start to apply the affordability metrics in ratesetting proceedings. Commission staff will work with the ALJ Division and Commissioner offices to select ratesetting proceedings to apply the affordability metrics.

8.2. Assessing Affordability Simultaneously Across Multiple Proceedings

CforAT sought a broader application of the affordability metrics to any proceeding with a rate impact.[186] They also note the support of some parties for a

[181] Cal Advocates opening comments at 5.

[182] Cal Advocates opening comments at 6.

[183] SoCalGas and SDG&E opening comments at 15.

[184] PG&E reply comments at 4.

[185] SCE opening comments at 14.

[186] CforAT reply comments at 2 ("the Commission should not be persuaded away from evaluating the affordability of any potential rate change").

much broader approach, where the affordability of the cumulative impact of all rate proposals by a utility that are pending at a given time should be considered. Specifically, CforAT believes that the Commission should require a utility (in their example, PG&E) "to demonstrate, using the affordability metrics, 1) the effect of each individual application on affordability, and 2) the cumulative effect of all of its requests on customer affordability."[187] NDC also supported using the affordability metrics in all proceedings with a rate impact.[188]

CalCCA believes that the metrics should be applied in any utility proceeding that leads to a rate increase, even if not a GRC proceeding, and that the manner in which this occurs should be determined in a second phase of this proceeding.[189]

TURN urges the Commission to apply the affordability metrics in any proceeding with a rate impact, mandating that the utility should have the burden of demonstrating both 1) the effect of the request on the affordability metrics and 2) the cumulative effect of the request and other pending requests for rate increases on the affordability metrics.[190]

UCAN generally supported annual assessments of affordability rather than assessing it each time a rate change is proposed (e.g., via an advice letter).[191]

SoCalGas and SDG&E did not support applying the affordability metrics in every ratesetting proceeding, and instead would prefer an annual affordability

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[187] CforAT reply comments at 3.

[188] NDC reply comments at 8.

[189] CalCCA opening comments at 2.

[190] TURN reply comments at 4.

[191] UCAN reply comments at 6, 8-9 ("[m]easuring affordability in each possible case that affects rates would preoccupy both Commission staff and utility personnel limiting their respective ability to address their other important responsibilities to the Commission and their customers").

assessment. They reason that relying on affordability metrics for decision-making may lead to unintended consequences, including in rate proceedings that affect safety.[192] SCE also opposes the concept of applying the affordability metrics in every ratesetting proceeding, arguing that doing so would "overwhelm the Commission and stakeholders with affordability information that is only slightly changed from assessment to assessment."[193]

CWA does not support using the affordability metrics in a widespread manner at this time, and recommends holding further workshops and soliciting party comment expressly on implementation before applying the metrics to particular proceedings.[194] CWA points out that without adequate forecasting techniques, it would be inappropriate to apply the affordability metrics to ratesetting proceedings considering several outyears.[195]

Cal Advocates referred to concern shared by Commission staff that "we also currently lack a framework to comprehensively analyze the cumulative impact of rate requests and programs across proceedings and industries."[196] Cal Advocates further stated that it supports a prioritization of developing mechanisms to track the cumulative impact of incremental costs on customer rates and bills across Commission processes and proceedings. While not specifically identifying a mechanism or tool, Cal Advocates noted that "[a]ccurately tallying costs and

[192] SoCalGas and SDG&E opening comments at 16.

[193] SCE opening comments at 13. *See also* PG&E reply comments at 5.

[194] CWA opening comments at 2-3.

[195] CWA opening comments at 4.

[196] Cal Advocates opening comments at 4.

tracking rate impacts will strengthen the Commission's ability to make sound decisions."[197]

In the revised staff proposal, Commission staff reference a rate and bill tracker tool that is under development by the Commission's Energy Division and the large electrical corporations that models forecasted revenue requirements and resulting projected residential rate and bill impacts. The revised staff proposal also recommends that the Commission's Energy Division continue to issue quarterly data requests to support the tool.[198] The projected residential rate and bill impacts produced by the tool on a quarterly basis facilitates tracking of costs, rates, and bill impacts and may meet the needs outlined by Cal Advocates for such a tool.

SDG&E and SoCalGas, in their comments on the revised staff proposal, support the recommendation of quarterly data requests for the rate and bill tracker tool and further note this requirement will provide the Commission the transparency and incremental affordability information necessary to review and assess each request to change, or increase, rates throughout the year.[199] SDG&E and the other two large electrical investor-owned utilities[200] shall submit quarterly rate and bill tracker tool information to the Commission's Energy Division and shall work with staff during a second phase of this proceeding with respect to using the rate and bill tracker tool for evaluating affordability metrics' inputs and other ongoing support of the Commission's work.

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[197] Cal Advocates opening comments at 3.

[198] Revised staff proposal at 48.

[199] SDG&E and SoCalGas opening comments at 16.

[200] Development of rate and bill tracker tools for SoCalGas and the other two large natural gas IOUs (PG&E and SDG&E) has not yet been scheduled.

At this time, this decision seeks to apply the affordability metrics in ratesetting proceedings in as widespread a manner as the current methodology allows. We recognize that certain unresolved issues such as forecasting limit the usefulness of the methodology for proceedings with multi-year rate impacts. We will resolve this and other issues in a further phase of this proceeding as outlined in Section 8.8 below.

8.3. Annual Reporting

The revised staff proposal recommends that the Commission publish an annual Affordability Report that would "provide a detailed summary of prescribed and observed affordability assessments, including the metrics introduced in this proposal as well as information related to utility service disconnections, arrearages and other metrics of observed hardship."[201]

TURN does not necessarily agree that disconnections should be used as a measure of hardship as it relates to affordability, but TURN does propose collecting data on several hardship metrics that could be presented in an annual Affordability Report. These are:

- Households experiencing multiple disconnections within one year
- Number of disconnection notices sent
- Percent of customers receiving disconnection notices
- Customers 60+ days in arrears
- Percent of customers 60+ days in arrears
- Average length of time between disconnection and reconnection

[201] Revised staff proposal at 48.

- Number of customers for whom service is never re-established after disconnection
- Percent of customers for whom service is never re-established after disconnection[202]

The Small LECs do not support TURN proposal to collect these data, as the Small LECs believe that they do not have a sufficient relationship to affordability to be usefully considered in an affordability report.[203]

CforAT argues against using measures of arrearages or disconnections as measures of affordability, primarily because such measurements may be influenced by non-essential usage. In other words, someone may be disconnected because they could not pay a bill that resulted from usage of electricity far beyond what is essential.[204]

UCAN recommends that an annual Affordability Report also attempt to address non-Commission jurisdictional water charges, potential increases to electricity baselines to account for electric vehicles, and the impact of low-income affordability programs.[205] With respect to hardship metrics, UCAN recommends looking at a broad range of household costs that are higher in California than the national average, and a focus on the incidence of arrearages and disconnections for California households.[206]

[202] TURN opening comments at 10-11.

[203] Small LECs reply comments at 2, fn 3.

[204] CforAT reply comments at 4.

[205] UCAN opening comments at 12-13.

[206] UCAN opening comments at 13-15.

Cal Advocates supports an annual Affordability Report as proposed by the revised staff proposal, which should summarize affordability findings over time.[207] However, Cal Advocates does not support examining disconnection rates as a measure of affordability in an annual report, given that there may be many factors that drive disconnections beyond the relative affordability of essential utility services.[208] Like TURN, Cal Advocates argues that disconnection issues should be analyzed in the Disconnections OIR (R.18-07-005), and then reported in future annual Affordability Reports.[209] SCE and PG&E concur that disconnections should not be used as an indicator of affordability.[210]

They suggest instead that the Commission could survey other non-utility expenses faced by customers to determine the trade-offs households may make to cover utility expenses.[211]

NDC supports annual affordability reporting, and recommends including a retrospective assessment of how affordability in California has changed over a five and 10 year period.[212] NDC also recommended that the report describe the percentage of California households that depend upon income earned at minimum wage for one-third or more of their total household income, in order to give context to the HM metric's measurements.[213]

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[207] Cal Advocates opening comments at 2.

[208] Cal Advocates opening comments at 21-22.

[209] Cal Advocates reply comments at 6.

[210] SCE reply comments at 2; PG&E reply comments at 7.

[211] Cal Advocates opening comments at

[212] NDC opening comments at 12.

[213] NDC opening comments at 13.

SoCalGas and SDG&E recommend that the benefits of any applicable low-income assistance programs be included in any evaluation of hardship.[214] They support an annual Affordability Report in general.[215] SCE also supports an annual Affordability Report.[216]

SCE does not support including an analysis of the relationship between affordability and disconnections in an annual report, citing the lack of record development and the existence of a different Commission proceeding examining the disconnections issue.[217] SCE further asserts that there may be many reasons for a disconnection, and simply presuming that disconnections are a measure of hardship may be misplaced.[218]

CCTA objects to the production of a stand-alone Affordability Report, citing questions around due process, resources constraints, and lack of demonstrated need.[219]

PG&E does not oppose an annual Affordability Report, but believes that it should focus on a retrospective assessment of affordability and not seek to draw conclusions about disconnections.[220]

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[214] SoCalGas and SDG&E opening comments at 8-9.

[215] SoCalGas and SDG&E opening comments at 15.

[216] SCE opening comments at 13.

[217] SCE opening comments at 7.

[218] SCE opening

[219] CCTA opening comments at 15-17.

[220] PG&E opening comments at 10 (stating that disconnections are more appropriately addressed in R.18-07-005).

The Small LECs opine that disconnection rates for Small LEC customers may not be an appropriate measure of affordability.[221]

CforAT recommends that an additional measure of hardship be included that would examine deliberate minimization of utility use in an effort to minimize spending on utility bills.[222]

CalCCA supports annual reporting that retrospectively examines affordability to provide some temporal and geographic baselines upon which to measure trends in affordability. This include an analysis of the impact of previous Commission decisions on affordability.[223]

There is widespread support for annual affordability reports and this decision holds that it is reasonable for Commission staff to create such reports as recommended by the revised staff proposal. The reports will analyze of trends in the relative affordability of essential utility services. This necessarily means that any data required by staff to create the annual affordability report shall be provided by utilities upon the request of Commission staff.

8.4. Absolute Definition of Affordability

Some parties, including UCAN, recommended including some conclusive determination of what constitutes affordable essential utility services in the annual Affordability Report.[224]

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[221] Small LECs opening comments at 6.

[222] CforAT opening comments at 7.

[223] CalCCA opening comments at 10-11.

[224] *See, e.g.*, UCAN opening comments at 16.

Other parties, including the Small LECs, CWA, PG&E, SoCalGas and SDG&E disagreed with this approach.[225]

SCE argued that an absolute definition should not be employed, and agreed with the revised staff proposal that this decision should "not set forth criteria to determine in absolute terms whether bills are affordable or not." Instead, SCE agrees with the revised staff proposal that the metrics should be used to describe "the degree to which essential utility services become more or less affordable due to a proposed rate change, how much the affordability of essential utility service charges has changed over time, and the degree to which essential utility services are more or less affordable in particular geographies." SCE believes these would be appropriate topics for an annual Affordability Report.[226]

The Small LECs argued that uncertainties with the data sources underlying the affordability metrics meant they should be used as guidelines rather than absolute measures. They suggested the establishment of "target ranges" of affordability that would account for inherent uncertainties with the data and the methodologies.[227] CWA raised similar concerns and argued that other costs beyond the Commission's control, such as housing and healthcare costs, have more of an impact on affordability than a Commission ratesetting proceeding.[228]

SoCalGas and SDG&E argue against "the use of affordability metrics to determine affordability and recommend the incorporation of historical reference to

[225] *See, e.g.*, Small LECs opening comments at 1-2; CWA opening comments at 6.

[226] SCE opening comments at 9-10.

[227] Small LECs opening comments at 6-7.

[228] CWA opening comments at 6.

provide the necessary context for the comparative use of affordability metrics."[229] Cal Advocates also argued against making an absolute determination on affordability at this time, reasoning that it would be better to measure trends in the affordability metric measurements over time while keeping in mind that affordability will have a different definition for each household, depending on their circumstances.[230]

CforAT took a more nuanced approach, noting that while defining affordability in absolute terms may not be feasible, it may be helpful for staff to "identify a level of affordability that prompts a more substantial analysis."[231] Similarly, NDC argues that the annual Affordability Report could include a recommendation as to acceptable levels of affordability, for instance by highlighting the most extreme examples of unaffordable rates, while not drawing a bright line between utility rates that are affordable and unaffordable.[232]

The scope of this proceeding is not to define in absolute terms what makes for affordable essential utility services. Rather, the objective of this decision is to define metrics and methodologies to track relative affordability of essential utility services over time, and to set out a path of future implementation of those metrics and methodologies. The determination of whether any particular measurement of affordability using the metrics adopted by this decision should be used to find that an essential utility service is affordable is left for a future Commission.

[229] SoCalGas and SDG&E opening comments at 11.

[230] Cal Advocates opening comments at 23-24.

[231] CforAT opening comments at 8.

[232] NDC opening comments at 14.

It is worth noting that, in its Disconnections Rulemaking (R.18-07-005), the Commission is also looking at questions related to affordability. On May 6, 2020, the Commission issued a Proposed Decision in that proceeding that would establish a cap on the bills of the lowest income customers.[233] The cap is measured as a percentage of the household's income. The bills of the lowest income households – those earning 0-50% of the Federal Poverty Line – would be capped at 2% of their income.[234] This is intended to provide ratepayers with additional protections against disconnections.

It should also be noted that as part of the work in creating an annual Affordability Report, Commission staff may explore ways to provide objective context for the affordability metrics, for example by relating them to empirical measures of hardship.

8.5. Data Procurement, Analysis, and Presentation

In order to provide up-to-date affordability information in an annual report or in a given Commission proceeding, the revised staff proposal recommends that there be standing data requests to the utilities for information that is relevant to the affordability metric calculations. In particular the revised staff proposal recommends that the Commission's Energy Division continue to issue quarterly data requests to the large electric corporations for the rate and bill tracker tool that models forecasted revenue requirements and their projected residential rate and bill impacts.

Cal Advocates generally supports the revised staff proposal's approach to data collection, but seeks clarification that Commission staff will provide the

[233] http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=336533906.

[234] A $12 minimum still applies to the customers' bills.

workpapers and the computed metrics of the revised staff proposal based on the Commission's final adopted methods and metrics to the parties involved in this proceeding.[235]

AT&T does not support annual updates to the affordability metrics, including an annual reporting obligation for utilities, and instead proposes updating relevant data every three to five years.[236]

CCTA objects to the revised staff proposal's recommendation that broadband providers be required to provide the official advertised price to the existing Request for Broadband Deployment and Subscription Data that the Commission's Communications Division issues to California broadband service providers annually. CCTA asserts that the recommendation is flawed because there is no information on "where it originates from" nor how the data will be used.[237] The Small LECs agree and argue that due to purported jurisdictional issues, the collection of data on broadband service should not occur.[238]

SoCalGas and SDG&E support the continued use of quarterly data requests to the large electric IOUs for the rate and bill tracker tool that models forecasted revenue requirements and their projected residential rate and bill impacts.[239] PG&E recommends reporting affordability measurements at the climate zone level of granularity, rather than attempting to make the measurements more finely grained

[235] Cal Advocates opening comments at 4-5.

[236] AT&T opening comments at 5.

[237] CCTA opening comments at 11-12.

[238] Small LECs reply comments at 3.

[239] SoCalGas and SDG&E opening comments at 15.

in light of the "complexity and uncertainty associated with calculating and comparing metrics at more granular levels."[240]

As held previously in this decision, it is necessary for Commission to staff to collect data to support the creation of an annual affordability report mandated by this decision. Therefore, the annual data reporting requested by staff to support the annual reporting is reasonable and approved. The utilities shall respond in a timely manner to all staff data requests related to information needed to produce annual affordability reports.

8.6. Forecasting

The revised staff proposal noted that in order to provide useful information to decision-makers and stakeholders, it would be necessary to forecast some of the data used to calculate the affordability metrics. This would especially be the case if the affordability metrics were applied to a General Rate Case where revenue requirements may not take effect for several years after a decision is rendered.[241]

TURN recognizes the potential importance of forecasting, but suggests that the focus of the current phase of this proceeding should be on creating a strong methodological foundation for gauging affordability.[242] TURN suggests delaying detailed forecasting techniques until a later phase of this proceeding after pilots have been conducted.[243]

UCAN supports using publicly available data to forecast many of the variables underlying the affordability metrics, including regional variation in some

[240] PG&E opening comments at 12.

[241] Revised staff proposal at 47-48.

[242] TURN opening comments at 13.

[243] TURN opening comments at 14.

variables such as income and housing. In particular, UCAN supports using the Estimates of Non-labor and Wage Escalation Rates published by Cal Advocates, as well as estimates of potential healthcare cost increases.[244] NDC agrees that forecasting is essential to the operation of the affordability metrics, and argues that income and non-discretionary expenses can be forecasted using rates of inflation, unemployment, and changes to the consumer price index.[245]

In general, PG&E does not support forecasting of any kind.[246] Particularly in the context of a utility's GRC, PG&E argues that "it is inappropriate to assess a utility's GRC based on forecasts of non-utility costs, particularly when [staff] already propose to derive some of these costs for prior years using complex and potentially unreliable statistical analyses (e.g. housing costs for a given level of income)."[247]

The Small LECs do not support forecasting costs for local telephone service as rate cases for Small LECs generally concern rates at issue for a year or two, rather than several years out. In particular, they do not support using the Estimates of Non-labor and Wage Escalation Rates published by Cal Advocates.[248] CWA also argues against forecasting, and opposes the Cal Advocates estimates. CWA claims that not enough data have been provided to allow for a useful assessment of

[244] UCAN opening comments at 17-19. Although in reply comments, UCAN suggests that it would be more appropriate to gauge affordability in utility-specific rate cases (UCAN reply comments at 2).

[245] NDC opening comments at 15.

[246] PG&E opening comments at 14.

[247] PG&E opening comments at 13-14.

[248] Small LECs opening comments at 7-8.

affordability into the future, and that any forecasts currently undertaken would likely be inaccurate.[249]

CalCCA believes that forecasting issues may be addressed in a second phase of this proceeding, which would include an evaluation of Cal Advocates' estimates and potential regional variations.[250]

SoCalGas and SDG&E do not support forecasting efforts, including the estimates provided by Cal Advocates, and believe attempting to do so would compound the potential inaccuracies already present in the affordability metric measurements. They instead propose that proceeding-specific forecasting be employed if necessary.[251] SCE concurs that in general forecasting should not be employed.[252]

It does not appear that forecasting capabilities are sufficiently developed at this time to adopt specific forecasting methodologies in this decision. However, this decision finds that it is reasonable to require some form of a forecasting so that the affordability metrics may be used prospectively in Commission proceedings. For example, some forecasting will be required for the affordability metrics to be usefully applied to a ratesetting proceeding setting rates for several years in the future.

Therefore, this decision holds it is reasonable to develop forecasting techniques for the affordability metrics adopted by this decision in a later phase of

[249] CWA opening comments at 7.

[250] CalCCA opening comments at 11-12.

[251] SoCalGas and SDG&E opening comments at 12.

[252] SCE opening comments at 10.

this proceeding. Parties will have the opportunity to comment on staff proposals for forecasting methodologies at that time.

8.7. Broader Criticisms of Uncertainty in Affordability Metrics

In reply comments, CCTA attacks the foundation of the Commission's affordability analysis as uncertain and likely to produce affordability measurements that "ignore reality." CCTA selectively cites from the comments of other parties to assert that there is widely-held skepticism of the revised staff proposal's approach to assessing affordability.[253] The original and revised staff proposals grant that there is inherent uncertainty to making calculations of the affordability of essential utility services. At no point have Commission staff or stakeholders blinded themselves to the idea that the Commission's affordability analysis would rely on data with certain limitations. The Commission staff's transparency on this point is a matter of record, as is their determination to propose a framework that *reasonably* measures the affordability of essential utility services in spite of these limitations.

CCTA mistakes uncertainty for infeasibility. The Commission's holding in this decision is that it is appropriate for the Commission to begin tracking and analyzing the affordability of essential utility services, as defined by the decision, in order to assist the Commission in fulfilling various statutory duties. CCTA is correct that there is dispute among the parties over how to define some of the inputs to the affordability metrics, but this debate and the inherent uncertainty of the measurements to be conducted does not mean that the Commission lacks reasonably reliable information that can assist it in fulfilling its duties.

[253] CCTA reply comments at 8-10.

It is evident that parties have differing views regarding the methodologies that should be employed to measure affordability. This is to be expected with policy analysis that is novel and complex. Throughout this proceeding, we have gathered input on a variety of options for methodologies to calculate affordability. However, reasonable differences of opinion should not be allowed to prevent analysis of the affordability of essential utility services. In this decision the Commission holds that the metrics and methodologies adopted to measure affordability are reasonable in spite of acknowledged limitations with the data used, and that such adoption assists the Commission in executing its statutory duties. Reasonable debate among the parties does not deal a fatal blow to that holding; instead such debate will continue to inform the Commission's analysis of affordability in the future and provide opportunities for consideration of potential refinements.

8.8. Phase 2 Issues

Throughout this decision, reference is made to certain issues related to the calculation of affordability metrics that will continue to be investigated and refined in a second phase of this proceeding. We expect to issue an amended scoping memo to further outline these issues and extend the statutory deadline for this proceeding.

The non-exclusive list below summarizes some of the issues that will be addressed in Phase 2.

- Forecasting of variables used to calculate the affordability metrics.
- Proxy values for essential utility service cost data that is unavailable.
- Procedural pathways for implementation of the affordability metrics generally (*i.e.*, how broadly and in which proceedings to incorporate the metrics as well as the process used to publish information).

- Designing and publishing an annual Affordability Report.
- Refining methodologies for calculating the affordability metrics.
- Interactions between the affordability metrics and the rate and bill tracker tool under development by the Commission's Energy Division.
- Coordination of ongoing data requests for information related to the affordability metrics.
- Developing and maintaining tools for calculating the affordability metrics.
- Making affordability metrics publicly available and accessible.
- Explore overlap between the issues in the Disconnections OIR and this OIR.
- Incorporation of any approved essential usage study from A.19-11-019.

9. Recommendations of the Revised Staff Proposal Adopted Unless Otherwise Modified

To ensure clarity of the record, the recommendations of the revised staff proposal attached as Appendix A are adopted by this decision unless otherwise modified by the findings, conclusions, or orders of this decision.

10. Comments on Proposed Decision

The Proposed Decision of Commissioner Rechtschaffen in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure (Rules). Comments were filed on _____ by _____. Reply comments were filed on _____ by _____.

11. Assignment of Proceeding

Clifford Rechtschaffen is the assigned Commissioner and Patrick Doherty is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. The use of three independent, but related, metrics will create a more complete picture of affordability than any one metric on its own that provides limited insight into the affordability of utility costs.

2. The HM metric allows the Commission and stakeholders to conceive of essential utility bills in terms of something most people can relate to – hours of labor.

3. The use of the minimum wage in the HM metric accounts for the lowest wages legally available in a given location, and as a result implicitly considers the impact of utility bills on lower-income customers.

4. The SEVI metric describes the relative socioeconomic characteristics of communities in terms of poverty, unemployment, educational attainment, linguistic isolation, and percent of income spent on housing, which allows for consideration of how the same rate impact may affect one community's ability to pay more than another's.

5. The SEVI metric allows for an affordability assessment that is independent of the absolute value of essential utility service charges.

6. The SEVI metric illustrates potential inequities and disadvantageous socioeconomic conditions in a utility's service territory in an easily understood form (*i.e.*, a map) and does so in a geographically granular form that can be used to better understand affordability concerns.

7. The AR metric seeks to quantify the percent of a household's income that is required to pay for an essential utility service after non-discretionary costs such as

housing and other essential utility services are removed from the household's income, and it may be calculated for any given income level.

8. Unlike the HM and SEVI metrics, AR can be tailored to answer the affordability question for a household in any given income range, which allows for affordability examinations of households that may be lower-income but still not qualify for low-income assistance programs.

9. The AR metric is sensitive to geographic variations in cost-of-living, which can impact the amount of income available to pay for essential utility services.

10. Essential utility service cost data is unavailable in several different contexts.

11. Baseline amounts of electricity are generally 60% of the average household usage in a given climate zone. Baseline amounts are higher in areas with warmer weather and larger air conditioning loads.

12. The 600 cubic feet per household per month figure for essential water usage aligns with essential water service amounts under development by other state agencies.

13. Commission decisions have long established unlimited local calling as an essential element of voice telephone service, and it also provides access to services such as 911 for emergencies and 2-1-1 information services.

14. 1,000 minutes per month of mobile telephone service meets the Federal Lifeline minimum service standards for voice communications.

15. Since 2015, the FCC has used a speed benchmark of 25 Mbps downstream / 3 Mbps upstream for fixed broadband service to meet the standard of "advanced telecommunications capability" as defined by the federal Telecommunications Act of 1996.

16. The revised staff proposal's recommended methodology accurately calculates the HM metric across a range of minimum wages and locations.

17. The revised staff proposal's recommended methodology for mapping the SEVI affordability metric accurately represents the socioeconomically vulnerable communities that will be most affected by affordability concerns.

18. There is a large degree of housing cost variance within any given subset of data for each PUMA. For example, in PUMA 101 in California, households between the 15th and 25th income percentiles display a wide degree of variation in housing costs with a range of approximately $4000/month.

19. The regression approach recommended by the revised staff proposal averages housing costs for households at a given income level and utilizes the full set of housing cost data in a given PUMA.

20. The housing cost for a given household's income level in a PUMA is required in order to complete an AR calculation.

21. There are overlapping boundaries of utility service areas and census blocks used as the geographic foundation of the AR methodology.

22. It is necessary to correct for the mismatched boundaries between utility service areas and census geographies to allow for the AR to be calculated.

23. Essential service charges may comprise 100 percent of income after other nondiscretionary household expenses, whether due to negative income after nondiscretionary expenses, or due to the household's essential service charges being greater than available income.

24. The measurement of the affordability of essential utility services is not affected by top-coding. Instead, top-coding removes absurd or illogical results from

the AR calculation results and allows for aggregation and other forms of subsequent AR analysis.

25. The AR metric represents the percent of a household's income after housing expenses that are spent on essential utility service charges, and the remaining percent subsequently represents what a household has left to cover other nondiscretionary household expenses, including food, health care, taxes, transportation, childcare, and other miscellaneous expenses such as clothing.

26. A rate and bill tracker tool is under development by the Commission's Energy Division and the large electrical corporations which models forecasted revenue requirements and resulting projected residential rate and bill impacts. The projected residential rate and bill impacts produced by the tool on a quarterly basis facilitates tracking of costs, rates, and bill impacts and may strengthen the Commission's decision-making abilities.

27. It is useful to issue an annual Affordability Report to create an analysis of trends in the relative affordability of essential utility services.

28. Forecasting capabilities are insufficiently developed at this time to adopt specific forecasting methodologies in this decision.

Conclusions of Law

1. The Commission is generally charged with making certain levels of energy, water, and communications service affordable under various sections of the Public Utilities Code, including Section 739(d)(2), Section 382, Section 739.8(a), and Section 871.5.

2. This rulemaking and decision help to advance the Commission's analysis and understanding of the affordability of certain levels of energy, water, and

communications services, and are therefore properly within the scope of the Commission's lawful authority.

3. Pub. Util. Code Sections 709, 280, 281, 275.6, and the Moore Act all demonstrate that the Legislature contemplated a significant role for the Commission in closing the digital divide in California and bringing advanced communications services, including broadband internet access, to all Californians.

4. This proceeding may assist the Commission in closing the digital divide in California and bringing advanced communications services, including broadband internet access, to all Californians, and therefore this decision affirms that the Commission has jurisdiction to consider metrics to assess the affordability of communications services, including broadband service, in this proceeding.

5. The Commission should define metrics to measure the relative affordability of essential utility services as this will allow Commission decision-makers and stakeholders to consider the impact of Commission decisions on the relative affordability of these services, and help the Commission to meet statutory requirements to consider affordability as a goal when designing rates for essential utility services.

6. It is reasonable for affordability to be defined as the degree to which a representative household is able to pay for an essential utility service charge, given its socioeconomic status.

7. The Commission should consider affordability for a representative household, rather than households in general, as this recognizes that households will have a wide variety of experiences that cannot be perfectly captured by depicting a single household.

8. It is reasonable to adopt HM as an affordability metric.

9. It is reasonable to adopt the SEVI as an affordability metric.

10. It is reasonable to adopt AR as an affordability metric even if the particular methodology for determining an AR score is modified over time.

11. In spite of the ambiguities inherent in the term "essential utility services," it is necessary to give the term some definition in order to make the adopted affordability metrics operable.

12. The affordability metrics adopted by this decision should measure the affordability of the essential utility services in general, not the effect of low-income subsidy programs on affordability.

13. Including the effect of low-income subsidy programs would be a de facto evaluation of their impact on affordability and would therefore conflict with the scoping memo's ruling on this matter.

14. It is reasonable to exclude the effect of low-income subsidy programs from the calculation of the cost of essential utility services.

15. Unavailable utility service data should be supplemented by proxy values developed in a future phase of this proceeding rather than using a value of $0.

16. It is reasonable to assess methodologies for estimating proxy values for unavailable essential utility service data in ratesetting proceedings as part of the final development of these methodologies in a later phase of this proceeding, which will allow Commission staff and parties to analyze the effectiveness of the proxy values in an actual Commission proceeding.

17. It is reasonable to use baseline prices for electricity as the price for essential electric utility service at this time, although the essential usage study under consideration in PG&E's current GRC Phase 2 proceeding (A.19-11-019) may be used

to refine the value used for essential electricity service in a later phase of this proceeding.

18. The definition of essential water service as recommended by the revised staff proposal is reasonable and should be adopted.

19. The definition of essential voice telephone communications service as contained in the revised staff proposal is reasonable and should be adopted.

20. It is reasonable for the Commission to set a minimum speed for fixed broadband service to can be used to assess the affordability of essential communications services, in light of the Commission's statutory obligations.

21. It is reasonable to use 25 Mbps / 3 Mbps to determine the fixed broadband component of essential communications service that is used in the Commission's affordability analysis.

22. There is no law that forbids the Commission from accessing and analyzing broadband service prices.

23. The revised staff proposal's recommended methodology for calculating the HM affordability metric is reasonable and should be adopted.

24. The revised staff proposal's recommended methodology for calculating and mapping the SEVI affordability metric is reasonable and should be adopted.

25. The revised staff proposal's regression approach for estimating housing costs to be used in the AR metric calculation is reasonable and should be adopted.

26. The revised staff proposal's aggregation technique to account for overlapping boundaries of utility service areas and the PUMAs in the context of the AR metric calculation is reasonable and should be adopted.

27. The revised staff proposal's use of the top-coding technique is reasonable and should be adopted.

28. It is reasonable to exclude non-discretionary expenses other than housing costs from the AR analysis for the reasons asserted by staff in the revised staff proposal, with the understanding that the AR figure can be contextualized to acknowledge that a representative household at a given income level must use their remaining income to cover these other non-discretionary expenses.

29. It is reasonable to apply the affordability metrics in ratesetting proceedings.

30. It is reasonable to apply the affordability metrics in ratesetting proceeding in as widespread a manner as possible given the current limitations of the methodology.

31. It is reasonable for Commission staff to create an Affordability Report on an annual basis as recommended by the revised staff proposal. That report will include calculations of all three affordability metrics using the most recent data available.

32. The scope of this proceeding is not to define in absolute terms what makes for affordable essential utility services. Rather, the objective of this decision is to define metrics and methodologies to track relative affordability of essential utility services over time, and to set out a path of future implementation of those metrics and methodologies.

33. Annual data reporting requested by Commission staff to support annual affordability reporting is reasonable and approved.

34. It is reasonable to require some form of forecasting so that the affordability metrics may be used prospectively in Commission proceedings.

35. It is reasonable to develop forecasting techniques for the affordability metrics adopted by this decision in a later phase of this proceeding.

36. It is appropriate for the Commission to begin tracking and analyzing the affordability of essential utility services, as defined by this decision, in order to assist the Commission in fulfilling various statutory duties.

37. The metrics and methodologies adopted to measure affordability are reasonable in spite of acknowledged limitations with the data used, and such adoption assists the Commission in executing its statutory duties.

38. The recommendations of the revised staff proposal attached as Appendix A are adopted by this decision unless otherwise modified by the findings, conclusions, or orders of this decision.

O R D E R

IT IS ORDERED that:

1. San Diego Gas & Electric Company, Southern California Edison Company, and Pacific Gas and Electric Company shall each submit quarterly rate and bill tracker tool information to the Commission's Energy Division and shall work with staff during a second phase of this proceeding with respect to using the rate and bill tracker tool for evaluating affordability metrics' inputs and other ongoing support of the Commission's work. The Director of the Energy Division may change the frequency, format, or content of the rate and bill tracker tool.

2. Any data required by Commission staff to create the annual Affordability Report shall be provided in a timely manner upon the request of Commission staff.

3. The affordability metrics as defined by this decision are adopted and shall be used to generate an annual Affordability Report until such time as the Commission concludes that no further annual Affordability Reports should be produced.

This order is effective today.

Dated _____, at San Francisco, California.