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Attorneys for Intermountain Gas Company

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF INTERMOUNTAIN
GAS COMPANY'S APPLICATION FOR A
DETERMINATION OF 2022 ENERGY
EFFICIENCY EXPENSES AS
PRUDENTLY INCURRED

Case No. INT-G-23-06

INTERMOUNTAIN GAS COMPANY'S
REPLY COMMENTS

Intermountain Gas Company (Intermountain or Company) respectfully submits the following Reply Comments in response to comments filed by the Idaho Public Utilities Commission Staff (Staff) and the City of Boise (City).

COMPANY REPLY COMMENTS

- 1. The Company has used, and will use, data collected through a billing analysis when that data becomes available for particular offerings. Billing data is not currently available for the rebates approved in Order No. 34980.**

The Company's energy efficiency program is, by necessity, an iterative and cyclical process. Energy efficiency offerings must be proposed; implemented for a number of years, preferably at least two full cycles; studied and evaluated, typically through an EM&V study; and revised based upon the evaluation.

Each step of the process must be carried out with the data available at the time. Proposal and implementation must be accomplished using projected or simulated data; this is the best, and

indeed only, data related to particular offerings at this stage in the cycle. Real-world data regarding the offerings are collected during the implementation phase. This data, including billing data, is used to conduct a billing analysis during the evaluation phase. The billing analysis can then be used to revise the offerings, as needed.

This cycle takes several years to complete for each offering. To obtain valid and reliable data, each particular offering must be implemented for at least two full annual cycles. Otherwise, the analysis of each offering would be unduly influenced by, among other things, the particular rate of uptake during a given year and the weather during the year. In short, implementing a particular offering for at least two full annual cycles is necessary to ensure that the data used during the evaluation phase—including a billing analysis—is accurate.

In this proceeding, Staff takes issue with three offerings: Furnace; Whole Home Tier I; and Whole Home Tier II. Staff Comments at 5. Staff contends that the Company failed to evaluate the cost-effectiveness of these offerings using billing data, in violation of prior orders from the Commission.

It's true that the Company has not evaluated the cost-effectiveness of these offerings using a billing analysis. That is because billing analysis is *not yet available* for these offerings. As explained in more detail below, these offerings are still in the implementation phase. They will be evaluated, including through a billing analysis, by the EM&V study that will flow from the Request for Proposals (RFP) issued during this proceeding.

The Furnace, Whole Home Tier I, and Whole Home Tier II offerings were approved in their current form by the Commission in Order No. 34980, issued in March 2021.¹ See Case No.

¹ The positions of the Company and Staff in this case appear to flow from a different understanding of the offerings. Staff's position appears to be based on an understanding that these offerings existed in their current form before 2021. While a version of these offerings did exist before 2021, they were significantly altered in Order No. 34980.

INT-G-20-06, Order No. 34980 at 4-5 (March 30, 2021). The Company began implementing these offerings on April 1, 2021. The tariffs approved in Case No. INT-G-20-06 are specific to the revised offerings; for example, the tariffs reflect the amount of the rebate approved by the Commission. In addition, the Company's supplement in that case clearly identified the basis for the annual therm savings for each rebate, leaving no doubt as to the therm savings and other information approved by the Commission in that case. *See* Case No. INT-G-20-06, Supplement to Application and Exhibits, Exh. 7 at 9 (filed Dec. 7, 2020).²

In July 2021, the Company filed Case No. INT-G-21-03. Because implementation of the new offerings had just begun, this filing included the old program offerings, which were evaluated using simulated and billing data. In Order No. 35313, filed in February 2022, the Commission ordered that the Company evaluate its energy-efficiency offerings using the most accurate evaluation method “*when the Company has sufficient data to fully evaluate the portfolio-wide and individual measures.*” Case No. INT-G-21-03, Order No. 35313 at 4 (Feb. 8, 2022 (emphasis added)).

In July 2022, the Company filed INT-G-22-03. This case evaluated the cost-effectiveness of both the old offerings and the new offerings that began in April 2021. The old offerings were evaluated using both simulated therm savings and a billing analysis. Because a billing analysis was not available for the new offerings, the Company evaluated them using the estimated therm

From the Company's perspective, the Whole Tier I and Whole Tier II offerings approved in Order No. 34980 are significantly different from the prior offerings, such that their cost-effectiveness must be based on data *specific to those offerings*. The Furnace offering approved in Order No. 34980 significantly revised the data points collected to allow for more robust billing analysis in the next EM&V review. The Company believes this position makes sense – why would you revise offerings and then evaluate the revised offerings based on data for the *pre-revision* offerings? This would assume that, after revision, the offerings would be just as cost-effective as before the revisions. And the whole point of revisions is to make offerings more cost-effective. The Company agrees that offerings should be evaluated using the best data possible; this is data based on implementation of the particular approved offerings.

² Exhibit 7 to the Supplement is attached for reference.

savings used in developing the rebates. The Company filed a supplement in that case, which contained a schedule for EM&V studies related to the various offerings.³ Case No. INT-G-22-03, Supplement 1 – 2021 Cost-Effectiveness (filed July 12, 2022) at 4. According to the schedule, an EM&V study evaluating the new offerings would be completed using data for the year ending 2023, meaning that the data from 2023 would be used in an EM&V study conducted in 2024, such that the results of the EM&V study would be available for use in the prudency case filed in 2024. *Id.* at 23 (EM&V schedule indicating that an EM&V study for Furnace, Whole Home Tier I, and Whole Home Tier II offerings would be conducted using data at the end of the year 2023).

The Commission issued Order No. 35663 in January 2022. Order No. 35663 ordered the Company to, among other things, “submit an RFP for a third-party contract to conduct an impact evaluation with billing analysis for the Whole Home and Furnace measures to be included in its 2023 prudency filing.” Order No. 35663 at 9. Submitting the RFP for Staff’s review during the 2023 case is consistent with the schedule provided by the Company in INT-G-22-03, which contemplated conducting an EM&V study using data from the end of the year 2023, such that the results from this study could be used in the prudency case filed in 2024. *See* Supplement 1 at 9.

The Company filed this case in October 2023 and simultaneously submitted the RFP to Commission Staff. The Company issued the RFP shortly after conversations with Staff made it clear that Staff had expected the RFP to be issued prior to this case, such that its results would be used in this case.⁴ The EM&V study will analyze data from implementation of the new offerings,

³ This Supplement is attached to these comments, as well.

⁴ The Company believes the Commission’s direction was clear: *submit* the RFP to the Commission in this proceeding, so it could be reviewed and *issued* with Staff input in time for the study’s results to be used in the 2024 case. In any case, any misunderstanding has now been cleared up.

including billing analysis, to be used for evaluating and potentially revising the offerings in the prudency case filed in 2024.

Looking back, it may seem like this cycle took a long time. But it is not outside the norm. Implementation of these offerings began in April 2021; the offerings were implemented for two full yearly cycles, 2021-2022 and 2022-2023; and they will be evaluated using actual data, including a billing analysis, in 2024. While Staff may desire a quicker turn-around time, offerings must be in place for an adequate period of time to ensure sufficient and accurate data to use during the evaluation phase.

The Company recognizes the Commission's direction to use the most accurate information to evaluate the efficiency of its offerings. The Company also recognizes the Commission's view that a billing analysis may provide the most accurate source of information, and that the Commission will likely use the billing analysis to evaluate the cost-effectiveness of its offerings unless the Company persuasively argues otherwise. A billing analysis is *not* available, however, for the offerings approved in Order No. 34980. Billing data for these incentives will be obtained during the EM&V study that will flow from the RFP issued in this case. When that billing data is available, the Company will use that data as part of evaluating the cost-effectiveness of these revised incentives. And the Company recognizes that the billing data will be an important part of the Commission's decision regarding whether to adjust or alter these offerings, on a going-forward basis, in the next prudency filing.

As noted, Staff contends that the Company's failure to use billing data for these revised incentives violates prior orders from the Commission. Staff Comments at 5. The Company strongly disagrees. Billing data for these revised incentives is not available and therefore cannot be used. The Commission's orders acknowledge that the most accurate method should be used to

evaluate the cost-effectiveness of offerings, and that a billing analysis is often the most accurate data. It is not accurate to evaluate the cost-effectiveness of the *new offerings* based on a billing analysis of *the old offerings*.

The Company's approach in this case does not reflect a rejection of the Commission's guidance; it reflects only the reality that a billing analysis of the new offerings must be based on the real-world information related to those offerings. The Company recognizes the importance of billing data and will continue to collect and use it. But Intermountain can't be expected to analyze the cost-effectiveness of offerings using a billing analysis, when a billing analysis isn't reasonably available for the offerings at issue.

2. Billing data related to rebates that are no longer in use cannot be used to evaluate the cost-effectiveness of the rebates that are currently in use. Regardless, rebates within a Commission-approved tariff must be adjusted prospectively rather than retroactively.

Staff recommends disallowance of approximately \$706,000 in expenditures related to the Furnace and Whole Home rebates. Staff Comments at 2. Staff does not dispute that the Company's expenditures were consistent with Commission-approved tariffs; there is no dispute that the expenditures *were*, in fact, consistent with the tariffs. Staff recommends the disallowance because it perceives the Company's filing in this case to be out of compliance with other orders due to the use of projected savings versus a billing analysis. Staff Comments at 5. To calculate the disallowance, Staff uses the billing analysis provided in Case No. INT-G-21-03—which related to the *old offerings* and applies them to the *new offerings*.⁵ See Staff Comments at 8 n.2. Specifically, Staff calculates its disallowance by using the results of the EM&V Study in INT-G-21-03, which used data through the end of the year 2020; assumes that an EM&V Study on the

⁵ As noted above, in INT-G-21-03 the Company proposed, and the Commission approved, use of the CPA therm savings for the Furnace offering to collect additional billing data as recommended in the EM&V study.

new offerings with data through the end of the year 2022 would result in *the same ratio* of estimated savings when compared to savings measured using billing data, and then applies that ratio to the estimated therm savings in the Commission-approved tariffs. *Id.*

This recommendation is problematic for several reasons.

First, information related to old offerings cannot be used to evaluate new offerings. The Commission has indicated a strong preference for the use of the most accurate information to evaluate the cost-effectiveness of energy-efficiency measures. *See* Order No. 35313 at 4 (directing the Company to use “the best available data” and to “use the most accurate evaluation method”). Billing data based on offerings that were revised due to their lack of cost-effectiveness is not accurate as applied to the revised offerings. The new offerings must be evaluated using data that relates to those offerings. This is particularly true when the old offerings were revised *because those old offerings were not cost-effective*. In addition, Staff’s attempt to use billing data for year-end 2020 to guess at the outcome of a billing analysis using year-end 2022 data is unsupported and does not reflect the best available data or information. It would be arbitrary to apply billing data from offerings that are no longer in effect to the offerings that are in effect, and to use data from year-end 2020 to presume the outcome of a billing analysis through year-end 2022.

Second, Staff recommend disallowance of expenditures that were made consistent with tariffs approved by the Commission. The Commission specifically approved the design and amount of the Furnace and Whole Home offerings. Order No. 34980 at 7. Two conclusions flow from this: 1) at the time the expenditures were incurred, they were approved by the Commission in a proceeding to determine their prudence; and 2) the Company was legally obligated to

expend these amounts in compliance with the terms of the tariff. It would be arbitrary to disallow expenses that were incurred in accordance with a Commission-approved tariff.

Staff argues for the disallowance based on its position that in this filing the Company did not comply with the Commission's orders. Staff Comments at 5. As set forth above, the Company disagrees. But even if it were true, it would not be grounds for an after-the-fact disallowance. Expenditures by the Company made in compliance with a Commission-approved tariff are just, prudent, and reasonable. The Company's actions in this filing cannot *retroactively* convert those expenditures from just, prudent, and reasonable to unjust, imprudent, or unreasonable. If Staff is concerned about the cost-effectiveness of the offering, that is a fair position to make in the case. But that would provide, at most, a basis to *prospectively* adjust the tariffs to make the offerings cost-effective.

Stated another way, Staff recommends a disallowance of past expenditures, which were consistent with Commission-approved tariffs, based on a perception of the Company's current conduct. Disallowances are not equivalent to fines; they are not intended to be punitive. Expenditures that were consistent with the tariffs in effect at the time should not be disallowed on this basis. If any adjustment to the offerings are appropriate, the adjustments should be made on a prospective basis by revising the tariffs.

3. The Company is administering an energy efficiency program as directed in its 2016 general rate case. If the program, or components of it, are not cost-effective, then the Company is amenable to sunseting them on a prospective basis if and as authorized by the Commission.

The Commission authorized Intermountain Gas to create an energy efficiency program in Order No. 33757. *See* Case No. INT-G-16-02, Order No. 33757 at 37-38 (April 28, 2017). The Company has administered the program on an iterative basis since then. The Company has no objection to sunseting all or portions of the program if and as authorized by the Commission.

The Company submits that administering the program will become difficult if there is a risk of large disallowance of expenditures made in conformance with Commission-approved tariffs. If all or portions of the program are to be retired, the Company requests that the Commission do so on a prospective basis with clarity as to what, if any, specific offerings are to be allowed on a going-forward basis.

4. The Company believes that its internal controls are adequate, but is open to exploring the possibility of in-house audits with the understanding that labor costs will necessarily rise.

Staff expresses concern regarding the Company's internal process controls, recommending that the Company should develop a schedule for regular internal audits. Staff Comments at 4. Elsewhere, Staff recommends that "the Company reduce labor costs wherever possible." *Id.* at 3.

The Company does not agree that its internal controls are lacking. In prior cases, Staff has indicated that its internal controls were adequate. *See* Order No. 35313 at 1 ("Staff . . . verified that expenses were well documented and that internal controls appeared to be in place to prevent improper payment of incentives and to properly record expenses."); Order No. 35663 at 2 ("Staff verified that expenses were well documented and internal controls appeared to be in place to prevent improper payment of incentives and to properly record EE Program expenses."); Order No. 34980 at 3 ("Staff's audit of the Company's EE Program 'verified that expenses were well documented and that internal controls appeared to be in place to prevent improper payment of incentives and to properly record EE Program expenses.'" (quoting Staff comments)); Order No. 34536 at 2 ("Staff verified the Company had sufficiently documented the expenses and had internal controls to prevent improper incentive payment and to properly record EE Program expenses."). The Company's internal controls have not changed.

In any case, the Company's energy efficiency program is audited as part of the EM&V study process, which will occur in 2024. To clarify, there are two types of EM&V studies: an impact analysis, which evaluates the cost-effectiveness of offerings, and a process analysis, which reviews a company's implementation of the program, including the company's internal controls. The Company has confirmed that the 2024 EM&V study will include both an impact analysis and a process analysis. Accordingly, the Company's internal controls will be reviewed by a third party this year, with the results to be presented in the 2024 prudency filing. The Company will address any internal-controls issues identified in the course of the EM&V study.

That said, the Company is open to exploring the possibility of developing the capacity for internal audits. This will, however, require an increase in labor costs, which is inconsistent with Staff's recommendations in this and prior energy efficiency cases. The Company requests that the Commission recognize the inevitable rise in labor expenses if it orders the Company to develop capacity for internal audits.

5. Energy Efficiency Stakeholder Committee

The Energy Efficiency Stakeholder Committee (EESC) has been an important part of the Company's energy efficiency program since its inception. The current rebates resulted from a collaborative effort between the Company and the EESC, and the Commission has recognized the importance of the EESC in continuously improving the program. *See* Order No. 34536 at 5 (“We encourage the Company to collaborate with Commission Staff and appropriate advisory groups to tailor its EE Program incentives to attract customers and developers and offer cost-effective energy efficiency measures for the Company.”); Order No. 34980 at 8 (We direct [the] Company to continue to work with the EESC to update its avoided cost method and, when complete, present the results to the Commission as part of its next EE Program prudency case.”); Order No. 35313 at 4 (“We commend the work the Company and its EE Stakeholder Committee


(“EESC”) are putting into vetting programs that deliver cost-effective savings to customers and implore the continuation of these efforts to ensure relevant and effective programs are being offered. The Company and its EESC are clearly working to provide a valuable DSM program.”); Order 35663 at 10 (“The Commission commends the Company for continuing to adjust its EE Program to deliver cost effective energy savings to customers, and the collaborative efforts of the Company, its EESC, and Staff to provide and maintain a DSM program that has value.”).

Commission Staff has been a consistent and valuable participant in the EESC. The Company believes that the EESC provides a forum to increase all stakeholders’ understanding of the program and avoid, or at least reduce, issues such as those addressed in these comments, including the timing, scope, and use of EM&V studies related to the Company’s program. The Company believes that it is unfortunate that these issues were not raised or discussed during EESC meetings.

These and other issues indicate the possibility that EESC may not be serving its intended purpose from Staff’s perspective. The Company requests that the Commission confirm the scope of EESC meetings, specifically whether the EESC is the appropriate forum to discuss concerns with the program and proposed changes to the offerings.

Dated: March 15, 2024.

GIVENS PURSLEY LLP

By 

Preston N. Carter
Attorneys for Intermountain Gas Company

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT on March 15, 2024 I caused a true and correct copy of the foregoing to be served upon the following parties as indicated below:

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**INTERMOUNTAIN GAS COMPANY'S
REPLY COMMENTS
CASE No. INT-G-23-06**

Attachment 1
Exhibit 7 from Supplement

EXHIBIT NO. 7

CASE NO. INT-G-20-06

INTERMOUNTAIN GAS COMPANY

Proposed Residential Energy Efficiency Program Revisions

(9 pages)

Intermountain Gas Company

Proposed Residential EE Program Revisions

Based on the recommendations from the EM&V study (see Exhibit No. 5) performed by ADM Associates, Inc. (ADM), input from the Energy Efficiency Stakeholder Committee (EESC) (see Exhibit No. 4), and other resources such as the 2019 Idaho Residential Energy Code Field Study (see Exhibit No. 8), the ADM “Residential Whole Home Modeling Results” memorandum (see Exhibit No. 8), the Idaho Code Collaborative, and upcoming energy code changes, the Company plans to update its Residential Energy Efficiency Program (EE Program) by retiring, adding to and revising its current set of rebates. Following is an outline of the proposed program in detail.

No changes:

- **Furnace** -The only rebate offering that remains unchanged is the furnace rebate of \$350 for a natural gas furnace with a 95% AFUE minimum efficiency rating. The EM&V impact evaluation of the furnace rebate found savings of 134 therms per rebate based on the Equivalent Full Load Hours for Heating (EFLH) approach recommended by ADM (see Exhibit No. 5, page 84). The EM&V study recommended that additional information be required on the furnace rebate application to determine the efficiency of the equipment being replaced as well as the reason for replacement, such as replace-on-burnout, early retirement, or new construction. The EM&V study also identified HVAC sizing as an area for contractor training as over-sizing, a common practice in Climate Zone 5, negatively affects program savings (see Exhibit No. 5, page 32). Additionally, the EESC suggested collecting the size of the equipment being replaced (see Exhibit No. 4, page 10). Collecting these additional data points should help provide a more complete picture from which to evaluate savings attributed to the furnace rebate in the future. The billing analysis conducted by ADM provided measurable savings, “However, the observable energy savings through billing analysis are much lower than expected equipment savings. Billing analyses include any changes in household behavior, equipment, or occupancy, and therefore may include factors other than the impact of improved equipment efficiency” (see Exhibit No. 5, page 32). Because of the large variation in therm savings between the Billing Analysis approach and the EFLH approach, the Company has decided to collect the additional information noted above to help provide a more refined EM&V analysis in the future. In the meantime, Intermountain will use the 2019 Conservation Potential Assessment (CPA) annual therm saving estimate of 87 therms as a conservative therm savings estimate for this rebate. The furnace

rebate has shown consistent growth year-over-year, and the amount of furnace rebates year-to-date for 2020 has already exceeded the 2,066 rebates issued in 2019. The cost-effectiveness tests were based on an estimate of 2,500 rebates for 2021.

Retirements:

- **70% Fireplace** -The 70% FE Fireplace rebate had very low participation over the life of the offering with 13 and 14 units installed in 2018 and 2019, respectively. While some customers may use a fireplace insert as a substitute heat source, fireplace inserts are designed to be a decorative feature and are therefore not normally rated for energy efficiency, or if rated, there is not a standard efficiency rating applied to all fireplace inserts. Based on the findings of the CPA, updated annual therm savings were reduced from 56 therms to 10 therms, and to be cost-effective only a minimal incentive could be offered which would make this an ineffective offering. When presented to the EESC in the October 27 meeting, the Committee had no objections to Intermountain's proposal to retire this rebate (Exhibit No. 4, Page 13).

Additions:

The Company proposes the addition of three new rebates to its Residential EE Program. Unless specifically stated, all rebate inputs for cost-effectiveness testing were based on the 2019 CPA.

- **Smart Thermostat** – The smart thermostat has consistently been the most frequently requested appliance rebate by HVAC contractors, customers, and members of the EESC. It was also included as a recommended program addition in the Company's EM&V study (see Exhibit No. 5, Page 143). The proposed rebate is \$100 for a wi-fi enabled smart thermostat with estimated annual savings of 44 therms per appliance. Discussions with the EESC at the September 16 committee meeting revealed the CPA estimated useful life (EUL) of 8 years for the appliance was far too low, and ADM recommended an EUL of 11 years (see Exhibit No. 4, Page 11). The Company believes the smart thermostat will complement other space heating rebates, and therefore the Company used a participation estimate of 2,500 thermostat rebates in 2021 for cost-effectiveness testing.
- **Boiler** – Based on customer and HVAC contractor feedback, the addition of a residential boiler rebate will provide a high-efficient space heating option for those customers that do not have a forced air furnace, and cannot utilize the combination space and water heat system rebate because water used for domestic purposes cannot also be used for space heat. The EESC

supported adding this equipment rebate when it was presented at the October 27 meeting (see Exhibit No. 4, Page 13). The proposed rebate is for \$800, requires a minimum efficiency of 95% AFUE, and has an estimated annual savings of 159 therms. As a first time offering, the Company estimated 25 rebate applications in 2021 for cost-effectiveness testing.

- **Tankless Water Heater – Tier II** – One of the recommendations of the EM&V study was to explore opportunities to add a tankless water heater at a lower price point than the current offering (see Exhibit No. 5, Page 143). An additional tankless water heater rebate will provide customers another high-efficient water heating option at a slightly lower estimated incremental cost of \$1,152 for an 0.87 UEF tankless water heater compared to the 0.91 UEF tankless water heater with an estimated incremental cost of \$1,800 that is currently included in the Company's program. The proposed rebate is for \$300, requires a minimum efficiency of 0.87 UEF, and has an estimated annual savings of 58 therms. The Company estimated a participation level of 200 rebates in 2021 for cost-effectiveness testing.

Revisions:

Intermountain proposes to revise the following four rebates.

- **Storage Water Heater** – Based on the 2019 CPA, annual therm savings for this rebate have increased from 22 therms to 38 therms while EUL has decreased from 16 years to 13 years. The Company proposes to increase the 0.68 UEF (previously 0.67 EF) water heater rebate from \$50 to \$115 and anticipates that this increase will encourage more participation from the 2019 level of 8 rebates. The Company estimated 50 rebates in 2021 for cost-effectiveness testing. The efficiency rating will be updated from Energy Factor (EF) to Uniform Energy Factor (UEF) to be consistent with the Department of Energy's industry standard for measuring energy efficiency in water heaters. This new standard required new testing procedures that resulted in consistent standards for measuring energy efficiency performance, a better reflection of real-world results that impact energy efficiency ratings, apples-to-apples-comparison of water heaters, and a simplified water heater selection process.
- **Tankless Water Heater-Tier I** – Based on increased estimated annual therm savings (from 58 to 65 therms) and increased EUL (from 18 years to 25 years) identified in the CPA, the Company proposes to increase this rebate from \$150 to \$325. Due to offering an additional tankless water heating option, the number of rebates estimated for 2021 is lower than the number of

rebates paid in 2019 or during 2020. The Company estimated 100 rebates will be paid in 2021 for cost-effectiveness testing. The efficiency rating will be updated from EF to UEF for the reasons outlined above.

- **Combination Boiler for Space and Water Heat** - This equipment rebate, with a requirement of “90% or greater efficiency condensing tankless combo system for space and water heat,” has had low participation, 3 and 11 rebates in 2018 and 2019, respectively, and has been one of the more misunderstood offerings, both from an equipment standpoint and application standpoint. Intermountain has received applications where HVAC contractors have installed two tankless appliances, negating the minimum requirement of one appliance serving both space *and* water heat. The Company has also received applications where a boiler was installed, negating the tankless requirement. Since a combination system can be served by either a tankless water heater, or a combination boiler, the Company proposes to clarify this rebate by requiring a combination boiler, designed for both space and water heat. The proposed rebate is for \$800, requires a minimum efficiency of 95% AFUE, and has an estimated annual therms savings of 155 therms. The Company estimated a participation level of 25 rebates in 2021 for cost-effectiveness testing.
- **Whole Home** - The new construction rebate, Whole Home, is the Company’s most revised rebate offering proposal. Restructuring of the rebate was based on EM&V recommendations to increase efficiency requirements to keep up with code improvements and to isolate the therm saving features in new construction. The Company also considered therm saving opportunities identified in the evaluation of current building practices in the 2019 Idaho Residential Energy Code Field Study (see Exhibit No. 8), the energy code requirements that will become effective January 2021, and feedback from the EESC. In addition, Intermountain commissioned a follow-up study by ADM to identify potential therm savings of a variety of therm saving requirements (see Exhibit No. 8). One of the more significant changes to the rebate is the retirement of the Energy Star Certification. The EM&V study recommended removing the ENERGY STAR certification requirement as it “seems to be a barrier to builder participation” (Exhibit No. 5, p. 12). Due to code improvements to be implemented in January 2021, therm savings for the proposed offering are reduced from the estimated 274 therm savings identified in the EM&V study (see Exhibit No. 5, Page 85). Subsequently the rebate amounts have also been reduced from \$1,200 to \$900 for the proposed Tier I rebate and \$700 for the proposed Tier II rebate.

Under the current program, new construction and appliance rebates are mutually exclusive. The Company proposes to allow Whole Home participants to layer on the smart thermostat and/or water heating rebates to capture additional therm savings. The Company proposes the following two-tiered new construction offering with specific requirements:

Whole Home Tier I - \$900 (Estimated annual therm savings of 161)

- HERS rated
- Air sealing at or below 3 ACH at 50 Pa
- Ceiling insulation at or above R-49
- Ducts and air handler located inside conditioned space or duct leakage to outside of less than 4 CFM25/100 ft² CFA
- Furnace efficiency at or above 97% AFUE

Whole Home Tier II - \$700 (Estimated annual therm savings of 128)

- HERS rated
- Air sealing at or below 4 ACH at 50 Pa
- Ducts and air handler located inside conditioned space or duct leakage to outside of less than 4 CFM25/100 ft² CFA
- Furnace efficiency at or above 95% AFUE

Both tiers of the rebate will require the home to be HERS scored, but no specific HERS threshold is required. Since the EM&V evaluation found a lower HERS score did not correlate with more therm savings and lower HERS scores could be achieved by implementing non-energy saving measures, setting a specific HERS threshold requirement appeared to not be directly related to therm savings (see Exhibit No. 5, Page 74). While the HERS score threshold is not related to exact therm savings, requiring that the home be HERS scored is important. The HERS score is a way for builders to quantify and certify a home's energy performance, and it is a simple, transparent way for consumers to easily compare homes based on energy efficiency performance, much like comparing cars based on a miles-per-gallon formula. Builders having homes HERS scored, one indication of energy efficient home building, is not yet a common building practice in Idaho. According to RESNET, in 2019 only 14% of all new home starts received a HERS score. Intermountain believes the requirement to have the home HERS scored

will help to educate both customers and builders on energy efficient building. Requiring a HERS certificate will also provide an efficient and reliable process for the Company to verify compliance with the proposed program requirements that do affect therm savings. A HERS score can only be obtained by a certified home energy rater, who is subject to certification, quality control, and quality assurance by the governing body RESNET. In addition, the specific requirements added to the proposed rebate are all components of a HERS score and will not require additional tests be conducted or additional documentation be provided by the builder to enable Intermountain to verify that the rebate requirements have been met.

The proposed specific requirements will be an above-code stretch for builders since the 2018 amended IECC Idaho code will require 5 ACH, R-38 insulation, and 4 CFM25/100 ft² CFA. Standard equipment efficiency for furnaces is still 80% AFUE. While not a building code requirement, the 95% and 97% AFUE furnace requirements proposed by Intermountain are significant high-efficient equipment upgrades from the standard. In the Residential Whole Home Modeling Results Memo by ADM, evaluators found “the individual component that contributes the largest magnitude of savings is the movement of ducts and air handler to conditioned space” (Exhibit 8, page 9). The EESC and the 2019 Idaho Residential Energy Code Field Study (Field Study) identified ACH and duct leakage as energy saving opportunities for Idaho residential building. Due to some of the builder challenges inherent in moving HVAC systems to conditioned space, and current building practices of locating the furnace in the garage rather than in conditioned space, the Company and the EESC agreed it was important to provide builders with an option for reducing duct leakage to outside. When moving the entire HVAC systems into conditioned space is not an option, an alternative energy saving route is provided by setting an above code duct leakage target of “less than 4 CFM25/100 ft² CFA for duct leakage to outside.” It is important to specify duct leakage to outside (LTO) versus total duct leakage (TL). Idaho code currently only tests for total duct leakage. Minimizing total duct leakage allows for management of static pressures and controlling designed air flows, which are essentially comfort issues. While homeowner comfort is important, leakage to outside keeps unconditioned air outside and conditioned air inside, which is an energy saving and cost issue.

The duct leakage requirement will not only incent energy and cost savings for homeowners, as much as 22 therms per home based on statewide annual measure-level savings according to the Field Study (Exhibit No.8, p. 58), but also promote improved building practices in general. In

addition to the highest total energy and cost savings potential, the Field Study found “reductions in duct leakage represent a significant area for improvement and should be given increased attention in future training and enforcement” (Exhibit No 8, Page 54) as the majority of observations did not meet code requirement.

Increased air sealing measured by Air Change per Hour (ACH) was the second largest incremental savings identified by ADM and contributes 10 to 30% of total household energy savings (Exhibit No. 8, Page 9). Tier I will require a more energy efficient air change target of 3 ACH and Tier II will require 4 ACH. Both proposed ACH requirements are above the 2021 building code requirement of 5 ACH.

The next largest contributor of therm savings is ceiling insulation (see Exhibit No. 8, Page 9). Only the highest therm saving rebate offering, Tier I, will require the installation of R-49 ceiling insulation. Currently, Idaho Code only requires R-38 ceiling insulation and only in Climate Zone 6. ADM’s analysis found the R-49 ceiling insulation upgrade, as part of an integrated energy efficient home design, contributed an estimated 10 therms to total savings. For those builders that do not want to invest in a ceiling insulation upgrade, the Tier II rebate will still provide a rebate opportunity for energy efficient home building.

This two-tiered approach will provide two rebate options for new construction of energy efficient homes. The Tier I whole home rebate has an estimated annual therm savings of 161 therms, while Tier II has 128 as calculated by ADM (see Exhibit No. 8, page 10). The EUL of 25 years and \$2,117 estimated incremental cost of energy efficient new construction provided by the CPA will be used in cost-effectiveness calculations. High level calculations estimate that retiring the ENERGY STAR certification requirement and instead implementing the specific rebate requirements outlined here, are equitable incremental costs. For cost-effectiveness testing, an estimate of 600 rebates each was used for Tier I and Tier II participation. It is anticipated that alleviating a market barrier to participation by retiring ENERGY STAR certification will result in an increase in participation. The estimate of 1,200 total homes in 2021, is conservatively greater than 2019 participation of 1,079 homes, but less than 2020 year-to-date participation numbers.

Conclusion

The resulting proposed Residential EE Program, including cost-effectiveness, can be seen on Exhibit No. 7, Page 9. As proposed in the Commercial EE Program filing, the Company estimates that its program delivery and administration costs will be approximately \$848,000 to be split 80% to the residential program and 20% to the proposed commercial program (which is currently before the Commission as Case No. INT-G-20-04). The Company estimates that 2021 rebate costs will be approximately \$2.2M as seen on Exhibit No. 7, Page 9, Column (h). Intermountain measures the cost-effectiveness of the proposed program using the Utility Cost Test (UCT). As seen on Exhibit No. 7, Page 9, Column (i), all proposed rebates, as well as the proposed Residential EE Program in total, are cost-effective with UCT ratios of 1 or greater.

INTERMOUNTAIN GAS COMPANY
Proposed Residential Energy Efficiency Program

Line No.	Rebate	Rebate Type	Minimum Efficiency Rating	Forecasted Rebates	Annual Therm			Estimated UCT	
					Savings per Rebate	Total Annual Therm Savings	Proposed Incentive		
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
1	Whole Home Tier I	New Construction	TIER I ^[1]	600	161	96,600	900	\$ 540,000	1.0
2	Whole Home Tier II	New Construction	TIER II ^[2]	600	128	76,800	700	420,000	1.0
3	Combination Boiler for Space and Water Heat	Space Heating	95% AFUE	25	155	3,875	800	20,000	1.0
4	Furnace	Space Heating	95% AFUE	2,500	87	217,500	350	875,000	1.1
5	Boiler	Space Heating	95% AFUE	25	159	3,975	800	20,000	1.1
6	Storage Water Heater	Water Heating	.68 UEF	50	38	1,900	115	5,750	1.0
7	Tankless Water Heater Tier I	Water Heating	.91 UEF	100	65	6,500	325	32,500	1.1
8	Tankless Water Heater Tier II	Water Heating	.87 UEF	200	58	11,600	300	60,000	1.0
9	Smart Thermostat	Thermostat	Wi-Fi Enabled	2,500	44	110,000	100	250,000	1.1
10	Total			6,600		528,750		\$ 2,223,250	1.0

NOTES

^[1] Tier I requirements:

- HERS rated
- Air sealing at or below 3 ACH at 50 Pa
- Ceiling insulation at or above R-49
- Ducts and air handler located inside conditioned space or duct leakage to outside of less than 4 CFM25/100 ft2 CFA
- Furnace efficiency at or above 97% AFUE

^[2] Tier II requirements:

- HERS rated
- Air sealing at or below 4 ACH at 50 Pa
- Ducts and air handler located inside conditioned space or duct leakage to outside of less than 4 CFM25/100 ft2 CFA
- Furnace efficiency at or above 95% AFUE

**INTERMOUNTAIN GAS COMPANY'S
REPLY COMMENTS
CASE No. INT-G-23-06**

Attachment 2
Supplement 1 from INT-G-22-03

2021

ANNUAL REPORT

SUPPLEMENT 1: 2021 COST-EFFECTIVENESS



Introduction

Intermountain's Energy Efficiency Program (EE Program) offers individual customers a way to lower their usage and monthly energy bills. It additionally benefits all customers by ensuring resources are used efficiently which delays the need for expensive system upgrades and additional supply contracts, thereby keeping costs low for everyone. Cost-effectiveness testing is vital to ensuring the Company's EE Program is in fact a least-cost resource, and is integral to the design, implementation, and success of the EE Program.

Cost-Effectiveness and Methodology

Intermountain's objective is for all rebates to have benefit/cost ratios greater than one for the Utility Cost Test (UCT). The UCT measures cost-effectiveness from the utility company's perspective and takes into consideration avoided supply costs, program administration costs and incentives paid by the utility. Rebates undergo cost tests at several stages: preliminary design, implementation, and an annual review. For a different perspective, cost-effectiveness of rebates is also evaluated based on the customer's perspective using avoided supply costs, program administration costs and net participant costs, or the Total Resource Cost Test (TRC). However, the TRC is not the primary cost test used for decisions regarding the inclusion or exclusion of rebate offerings. In calculating the UCT and TRC, Intermountain relies on the calculations outlined in the *California Standard Practice Manual* and the National Action Plan for Energy Efficiency's (NAPEE) *Understanding Cost Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers*.

Rebate characteristics such as estimated useful life, deemed therm savings, and incremental cost used for cost-effectiveness testing are provided by the CPA study for all rebates, except for Whole Home rebates. Estimated therm savings for Whole Home rebates are based on the EM&V impact evaluation. The rebate count used in the cost-effectiveness calculation is the actual number of rebates paid for the program year.

Cost-effectiveness of EE Program rebates are reviewed annually. The results are reported in the annual report and reviewed with the Energy Efficiency Stakeholder Committee (EESC). Rebate performance, cost-effectiveness, market insights, and lessons learned are taken into consideration when deciding whether to continue, revise or retire a rebate.

Assumptions

In calculating cost-effectiveness for each rebate and for the Program as a whole, the Company relied upon several assumptions as well as studies provided by independent third-party sources. The section below discusses the key inputs used in calculating cost-effectiveness and the assumptions and sources used.

Energy Savings

Energy savings for each rebate are calculated by multiplying each rebate's gross annual therm savings by the total number of rebates issued. The energy savings are then valued based on the Company's Avoided Cost. The Avoided Cost is used both to economically evaluate the present value of the therms saved over the life span of the measure and to track the performance of the EE Program. A more in-depth discussion of the Avoided Cost calculation and its components can be found in Case No. INT-G-22-03, Exhibit No. 1 which was originally filed as Exhibit No. 5 in Intermountain's Integrated Resource Plan (Case No. INT-G-21-06).

Rebate Costs

Total rebate costs are calculated by multiplying the value of each rebate by the number of rebates issued for the year.

Equipment & Installation Cost

The incremental equipment and installation costs are inputs to the TRC cost test and were provided by the CPA. These costs represent the incremental purchase and installation costs the participant will pay between a base case measure and a higher efficient alternative. These costs are not offset by the amount of the rebate received by the participant.

Program Delivery & Administration

Program delivery and administration costs are direct assigned to their respective program, either residential or commercial, when they can be specifically identified. For example, the expense of a residential builder mailing list is charged to Residential Program delivery and administration costs. After all direct costs are assigned, the remaining pool of program and administration costs, are split between the residential program and commercial program based on a respective 80/20 split. This ratio is based on program uptake estimates from the 2019 CPA and is intended to divide costs considering the newly

formed commercial program. Within each program, expenses are allocated to each rebate based on the rebate count as percentage of all rebates. This method ensures that costs are allocated in alignment with the overall processing and payment work involved for that rebate. Any cost incurred solely for a particular rebate will be directly assigned to that rebate.

Real Discount Rate

The real discount rate is used to account for the time-value of money and accurately compare costs. The real discount rate is based on the Company's tax-affected weighted average cost of capital. The calculation of the real discount rate can be found in Case No. INT-G-22-03, Exhibit No. 1, Page 11.

Inflation Rate

An inflation assumption is used in cost-effectiveness testing to convert nominal, forward-looking costs into real dollars. The company assumes an inflation rate of 2.0%.

Net-to-Gross

Net-to-gross (NTG) is a ratio that adjusts the therm savings of rebates and/or programs, so they solely reflect energy efficiency gains that are the direct result of energy efficiency programs. The NTG deducts therm savings resulting from free-ridership, or savings that would have occurred regardless of the program. It also increases therm savings to account for spillover, or savings that occurred but were not counted by the program, as well as therm savings resulting from market transformation. Unfortunately, estimates of net savings require making sweeping assumptions to model a theoretical scenario where the EE Program did not exist. Because of the difficulty in accurately calculating NTG percentages, the Company used an NTG of 100% for all rebate and program cost-effectiveness analysis. Intermountain also performs a sensitivity analysis for each rebate that determines the minimum allowable NTG ratio where the rebate would remain (or become) cost effective under the Utility Cost Test.

Results

The Company performed cost-effectiveness testing at the program level and the individual measure level. The Residential Program was found to be cost-effective with a UCT of 1.5. The Commercial Program remains in an awareness-building mode since its launch on April 1, 2021. The UCT of the Commercial Program was 0.4.

EM&V Schedule

The Company prepared a revised EM&V schedule through 2024. The dates on the schedule indicate the final year of data that will be included in the study. For example, the initial study that was conducted in 2020 used data through the year ended 2019.

The schedule was amended based on the amount of data available for analysis. The impact evaluation for residential water heating measures was moved to year end 2023 due to the limited number of both storage and tankless water heater rebates. The Company updated both the storage and water heater rebates effective April 1, 2021, and uptake has already increased. The impact evaluation planned for year-end 2022 for commercial kitchen rebates, fryer, griddle, and steamer, was also postponed. Due to the slow uptake in the Commercial Program, the Company plans to conduct a process evaluation for all commercial measures for year-end 2023. The Company consulted with the EESC on the revised EM&V study timing. In the interim years between formal, third-party evaluation, the Company will monitor, evaluate, and update program incentives with the best data available.

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

2021 UCT Results

Rebate	Therm Savings	Annual Therm Savings	UCT Benefits	UCT Costs	UCT Ratio
Whole Home	274	461,690	\$ 3,619,083	\$ 2,194,169	1.6
Combi Radiant Heat System	113	339	\$ 2,382	\$ 3,307	0.7
70% Fireplace	10	-	\$ -	\$ -	-
.67 EF Water Heater	38	152	\$ 751	\$ 609	1.2
Tankless Water Heater	65	8,710	\$ 68,276	\$ 33,792	2.0
Whole Home Tier I	161	-	\$ -	\$ -	-
Whole Home Tier II	128	33,664	\$ 263,884	\$ 233,723	1.1
Furnace - 95% AFUE	87	235,248	\$ 1,599,739	\$ 1,222,688	1.3
Combination Boiler - 95% AFUE	155	465	\$ 3,367	\$ 2,707	1.2
Boiler - 95% AFUE	159	477	\$ 3,739	\$ 2,707	1.4
Storage Water Heater	38	456	\$ 2,253	\$ 2,606	0.9
Tankless Water Heater Tier I	65	9,230	\$ 72,352	\$ 60,659	1.2
Tankless Water Heater Tier II	58	232	\$ 1,819	\$ 1,609	1.1
Smart Thermostat	44	26,224	\$ 113,436	\$ 119,284	1.0
		776,887	5,751,082	3,877,857	1.5

INTERMOUNTAIN GAS COMPANY

Commercial Energy Efficiency Program

2021 UCT Results

Rebate	Therm Savings	Annual Therm Savings	UCT Benefits	UCT Costs	UCT Ratio
Condensing Unit Heater	409	-	\$ -	\$ -	-
Boiler Reset Control	1,212	-	\$ -	\$ -	-
High-Efficiency Condensing Boiler	1,036	4,145	\$ 32,492	\$ 42,204	0.8
Fryer - Energy Star Certified	508	2,032	\$ 9,428	\$ 37,318	0.3
Steamer - Energy Star Certified	1,054	2,108	\$ 9,781	\$ 19,259	0.5
Griddle - Energy Star Certified	76	-	\$ -	\$ -	-
Energy Saving Kit	53	318	\$ 1,163	\$ 51,535	0.0
		8,603	\$ 52,864	\$ 150,317	0.4

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

Whole Home Tier I - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests			
Energy Savings	Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)	-	Utility Cost	\$ -	\$ -	
Lifetime Energy Savings (therms)	-	Total Resource Cost	\$ -	\$ -	
Present Value of Energy Savings	S \$ -				
Costs		Equations & Assumptions			
Rebate Costs	Value	Utility Cost Test	$= S \times NTG \div (R + A)$		
Rebate Amount	\$ 900	Total Resource Cost Test	$= S \times NTG \div (I \times NTG + A)$		
Rebate Count	-				
Total Rebate Costs	R \$ -	Real Discount Rate			4.68%
		Inflation Rate			2.00%
Equipment & Installation Costs		Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$ 2,117	Net-to-Gross Sensitivity ^[2]			
Total Equipment & Installation Costs	I \$ -				
NOTES					
Program Delivery & Administration					
Overhead Expenses ^[1]	\$ -	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs	\$ -	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A \$ -				

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

Whole Home Tier II - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests			
Energy Savings	Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)	33,664	Utility Cost	\$ 263,884	\$ 233,723	1.1
Lifetime Energy Savings (therms)	841,600	Total Resource Cost	\$ 263,884	\$ 606,394	0.4
Present Value of Energy Savings	S \$ 263,884				
Costs		Equations & Assumptions			
Rebate Costs	Value	Utility Cost Test	$= S \times NTG \div (R + A)$		
Rebate Amount	\$ 700	Total Resource Cost Test	$= S \times NTG \div (I \times NTG + A)$		
Rebate Count	263				
Total Rebate Costs	R \$ 184,100	Real Discount Rate			4.68%
		Inflation Rate			2.00%
Equipment & Installation Costs		Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$ 2,117	Net-to-Gross Sensitivity ^[2]			89%
Total Equipment & Installation Costs	I \$ 556,771				
		NOTES			
Program Delivery & Administration					
Overhead Expenses ^[1]	\$ 25,854	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs	\$ 23,768	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A \$ 49,623				

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

Furnace - 95% AFUE - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests			
Energy Savings	Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)	235,248	Utility Cost	\$ 1,599,739	\$ 1,222,688	1.3
Lifetime Energy Savings (therms)	4,704,960	Total Resource Cost	\$ 1,599,739	\$ 3,810,416	0.4
Present Value of Energy Savings	S \$ 1,599,739				
Costs		Equations & Assumptions			
Rebate Costs	Value	Utility Cost Test	$= S \times NTG \div (R + A)$		
Rebate Amount	\$ 350	Total Resource Cost Test	$= S \times NTG \div (I \times NTG + A)$		
Rebate Count	2,704				
Total Rebate Costs	R \$ 946,400	Real Discount Rate			4.68%
		Inflation Rate			2.00%
Equipment & Installation Costs		Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$ 1,307	Net-to-Gross Sensitivity ^[2]			76%
Total Equipment & Installation Costs	I \$ 3,534,128				
		NOTES			
Program Delivery & Administration		^[1] Allocated based on percentage of portfolio rebate count.			
Overhead Expenses ^[1]	\$ 265,817	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Direct Costs	\$ 10,471				
Total Program Delivery & Administration Costs	A \$ 276,288				

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

Combination Boiler - 95% AFUE - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests				
Energy Savings		Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)		465	Utility Cost	\$ 3,367	\$ 2,707	1.2
Lifetime Energy Savings (therms)		10,230	Total Resource Cost	\$ 3,367	\$ 10,873	0.3
Present Value of Energy Savings	S	\$ 3,367				
Costs		Equations & Assumptions				
Rebate Costs		Value	Utility Cost Test	= S x NTG ÷ (R + A)		
Rebate Amount	\$	800	Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)		
Rebate Count		3				
Total Rebate Costs	R	\$ 2,400	Real Discount Rate			4.68%
			Inflation Rate			2.00%
Equipment & Installation Costs			Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$	3,522	Net-to-Gross Sensitivity ^[2]			80%
Total Equipment & Installation Costs	I	\$ 10,566				
NOTES						
Program Delivery & Administration						
Overhead Expenses ^[1]	\$	295	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs	\$	12	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A	\$ 307				

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

Boiler - 95% AFUE - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests				
Energy Savings		Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)		477	Utility Cost	\$ 3,739	\$ 2,707	1.4
Lifetime Energy Savings (therms)		11,925	Total Resource Cost	\$ 3,739	\$ 3,805	1.0
Present Value of Energy Savings	S	\$ 3,739				
Costs		Equations & Assumptions				
Rebate Costs		Value	Utility Cost Test	= S x NTG ÷ (R + A)		
Rebate Amount	\$	800	Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)		
Rebate Count		3				
Total Rebate Costs	R	\$ 2,400	Real Discount Rate			4.68%
			Inflation Rate			2.00%
Equipment & Installation Costs			Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$	1,166	Net-to-Gross Sensitivity ^[2]			72%
Total Equipment & Installation Costs	I	\$ 3,498				
NOTES						
Program Delivery & Administration						
Overhead Expenses ^[1]	\$	295	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs	\$	12	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A	\$ 307				

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

Storage Water Heater - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests				
Energy Savings		Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)		456	Utility Cost	\$ 2,253	\$ 2,606	0.9
Lifetime Energy Savings (therms)		5,928	Total Resource Cost	\$ 2,253	\$ 5,906	0.4
Present Value of Energy Savings	S	\$ 2,253				
Costs		Equations & Assumptions				
Rebate Costs		Value	Utility Cost Test	= S x NTG ÷ (R + A)		
Rebate Amount	\$	115	Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)		
Rebate Count		12				
Total Rebate Costs	R	\$ 1,380	Real Discount Rate			4.68%
			Inflation Rate			2.00%
Equipment & Installation Costs			Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$	390	Net-to-Gross Sensitivity ^[2]			116%
Total Equipment & Installation Costs	I	\$ 4,680				
NOTES						
Program Delivery & Administration						
Overhead Expenses ^[1]	\$	1,180	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs	\$	46	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A	\$ 1,226				

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

Tankless Water Heater Tier I - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests				
Energy Savings		Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)		9,230	Utility Cost	\$ 72,352	\$ 60,659	1.2
Lifetime Energy Savings (therms)		230,750	Total Resource Cost	\$ 72,352	\$ 270,109	0.3
Present Value of Energy Savings	S	\$ 72,352				
Costs		Equations & Assumptions				
Rebate Costs		Value	Utility Cost Test	= S x NTG ÷ (R + A)		
Rebate Amount		\$ 325	Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)		
Rebate Count		142				
Total Rebate Costs	R	\$ 46,150	Real Discount Rate			4.68%
			Inflation Rate			2.00%
Equipment & Installation Costs			Net-to-Gross (NTG)			100%
Incremental Cost Per Unit		\$ 1,800	Net-to-Gross Sensitivity ^[2]			84%
Total Equipment & Installation Costs	I	\$ 255,600				
			NOTES			
Program Delivery & Administration						
Overhead Expenses ^[1]		\$ 13,959	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs		\$ 550	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A	\$ 14,509				

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

Tankless Water Heater Tier II - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests				
Energy Savings		Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)		232	Utility Cost	\$ 1,819	\$ 1,609	1.1
Lifetime Energy Savings (therms)		5,800	Total Resource Cost	\$ 1,819	\$ 5,017	0.4
Present Value of Energy Savings	S	\$ 1,819				
Costs		Equations & Assumptions				
Rebate Costs		Value	Utility Cost Test	= S x NTG ÷ (R + A)		
Rebate Amount	\$	300	Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)		
Rebate Count		4				
Total Rebate Costs	R	\$ 1,200	Real Discount Rate			4.68%
			Inflation Rate			2.00%
Equipment & Installation Costs			Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$	1,152	Net-to-Gross Sensitivity ^[2]			88%
Total Equipment & Installation Costs	I	\$ 4,608				
Program Delivery & Administration		NOTES				
Overhead Expenses ^[1]	\$	393	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs	\$	15	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A	\$ 409				

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

Smart Thermostat - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests			
Energy Savings	Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)	26,224	Utility Cost	\$ 113,436	\$ 119,284	1.0
Lifetime Energy Savings (therms)	288,464	Total Resource Cost	\$ 113,436	\$ 184,866	0.6
Present Value of Energy Savings	S \$ 113,436				
Costs		Equations & Assumptions			
Rebate Costs	Value	Utility Cost Test	$= S \times NTG \div (R + A)$		
Average Rebated Amount ^[1]	\$ 98	Total Resource Cost Test	$= S \times NTG \div (I \times NTG + A)$		
Rebate Count	596				
Total Rebate Costs	R \$ 58,386	Real Discount Rate			4.68%
		Inflation Rate			2.00%
Equipment & Installation Costs		Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$ 208	Net-to-Gross Sensitivity ^[3]			105%
Total Equipment & Installation Costs	I \$ 123,968				
Program Delivery & Administration		NOTES			
Overhead Expenses ^[2]	\$ 58,590	^[1] Rebates pay the full cost of the individual thermostat up to a maximum of \$100.			
Direct Costs	\$ 2,308	^[2] Allocated based on percentage of portfolio rebate count.			
Total Program Delivery & Administration Costs	A \$ 60,898	^[3] Minimum NTG value where rebate remains cost-effective under UCT.			

INTERMOUNTAIN GAS COMPANY

Commercial Energy Efficiency Program

Condensing Unit Heater - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests			
Energy Savings	Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)	-	Utility Cost	\$ -	\$ -	
Lifetime Energy Savings (therms)	-	Total Resource Cost	\$ -	\$ -	
Present Value of Energy Savings	S \$ -				
Costs		Equations & Assumptions			
Rebate Costs	Value	Utility Cost Test	= S x NTG ÷ (R + A)		
Rebate Amount	\$ 1,500	Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)		
Rebate Count	-				
Total Rebate Costs	R \$ -	Real Discount Rate			4.68%
		Inflation Rate			2.00%
Equipment & Installation Costs		Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$ 2,889	Net-to-Gross Sensitivity ^[2]			
Total Equipment & Installation Costs	I \$ -				
Program Delivery & Administration		NOTES			
Overhead Expenses ^[1]	\$ -	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs	\$ -	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A \$ -				

INTERMOUNTAIN GAS COMPANY

Commercial Energy Efficiency Program

Boiler Reset Control - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests			
Energy Savings	Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)	-	Utility Cost	\$ -	\$ -	
Lifetime Energy Savings (therms)	-	Total Resource Cost	\$ -	\$ -	
Present Value of Energy Savings	S \$ -				
Costs		Equations & Assumptions			
Rebate Costs	Value	Utility Cost Test	= S x NTG ÷ (R + A)		
Rebate Amount	\$ 350	Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)		
Rebate Count	-				
Total Rebate Costs	R \$ -	Real Discount Rate			4.68%
		Inflation Rate			2.00%
Equipment & Installation Costs		Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$ 612	Net-to-Gross Sensitivity ^[2]			
Total Equipment & Installation Costs	I \$ -				
		NOTES			
Program Delivery & Administration		^[1] Allocated based on percentage of portfolio rebate count.			
Overhead Expenses ^[1]	\$ -	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Direct Costs	\$ -				
Total Program Delivery & Administration Costs	A \$ -				

INTERMOUNTAIN GAS COMPANY

Commercial Energy Efficiency Program

High Efficiency Condensing Boiler - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests			
Energy Savings	Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)	4,145	Utility Cost	\$ 32,492	\$ 42,204	0.8
Lifetime Energy Savings (therms)	103,627	Total Resource Cost	\$ 32,492	\$ 52,164	0.6
Present Value of Energy Savings	S \$ 32,492				
Costs		Equations & Assumptions			
Rebate Costs	Value	Utility Cost Test	$= S \times NTG \div (R + A)$		
Average Rebated Amount ^[1]	\$ 2,022	Total Resource Cost Test	$= S \times NTG \div (I \times NTG + A)$		
Rebate Count	4				
Total Rebate Costs	R \$ 8,087	Real Discount Rate			4.68%
		Inflation Rate			2.00%
Equipment & Installation Costs		Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$ 4,511	Net-to-Gross Sensitivity ^[3]			130%
Total Equipment & Installation Costs	I \$ 18,046				
		NOTES			
Program Delivery & Administration					
Overhead Expenses ^[2]	\$ 34,118	^[1] Rebates are based on the capacity of the unit.			
Direct Costs	\$ -	^[2] Allocated based on percentage of portfolio rebate count.			
Total Program Delivery & Administration Costs	A \$ 34,118	^[3] Minimum NTG value where rebate remains cost-effective under UCT.			

INTERMOUNTAIN GAS COMPANY

Commercial Energy Efficiency Program

Fryer - Energy Star Certified - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests				
Energy Savings		Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)		2,032	Utility Cost	\$ 9,428	\$ 37,318	0.3
Lifetime Energy Savings (therms)		24,384	Total Resource Cost	\$ 9,428	\$ 34,318	0.3
Present Value of Energy Savings	S	\$ 9,428				
Costs		Equations & Assumptions				
Rebate Costs		Value	Utility Cost Test	= S x NTG ÷ (R + A)		
Rebate Amount	\$	800	Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)		
Rebate Count		4				
Total Rebate Costs	R	\$ 3,200	Real Discount Rate			4.68%
			Inflation Rate			2.00%
Equipment & Installation Costs			Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$	50	Net-to-Gross Sensitivity ^[2]			396%
Total Equipment & Installation Costs	I	\$ 200				
NOTES						
Program Delivery & Administration						
Overhead Expenses ^[1]	\$	34,118	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs	\$	-	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A	\$ 34,118				

INTERMOUNTAIN GAS COMPANY

Commercial Energy Efficiency Program

Steamer - Energy Star Certified - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests				
Energy Savings		Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)		2,108	Utility Cost	\$ 9,781	\$ 19,259	0.5
Lifetime Energy Savings (therms)		25,296	Total Resource Cost	\$ 9,781	\$ 18,329	0.5
Present Value of Energy Savings	S	\$ 9,781				
Costs		Equations & Assumptions				
Rebate Costs		Value	Utility Cost Test	= S x NTG ÷ (R + A)		
Rebate Amount	\$	1,100	Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)		
Rebate Count		2				
Total Rebate Costs	R	\$ 2,200	Real Discount Rate			4.68%
			Inflation Rate			2.00%
Equipment & Installation Costs			Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$	635	Net-to-Gross Sensitivity ^[2]			197%
Total Equipment & Installation Costs	I	\$ 1,270				
NOTES						
Program Delivery & Administration						
Overhead Expenses ^[1]	\$	17,059	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs	\$	-	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A	\$ 17,059				

INTERMOUNTAIN GAS COMPANY

Commercial Energy Efficiency Program

Griddle - Energy Star Certified - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests			
Energy Savings	Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)	-	Utility Cost	\$ -	\$ -	
Lifetime Energy Savings (therms)	-	Total Resource Cost	\$ -	\$ -	
Present Value of Energy Savings	S \$ -				
Costs		Equations & Assumptions			
Rebate Costs	Value	Utility Cost Test	$= S \times NTG \div (R + A)$		
Rebate Amount	\$ 200	Total Resource Cost Test	$= S \times NTG \div (I \times NTG + A)$		
Rebate Count	-				
Total Rebate Costs	R \$ -	Real Discount Rate			4.68%
		Inflation Rate			2.00%
Equipment & Installation Costs		Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$ 360	Net-to-Gross Sensitivity ^[2]			
Total Equipment & Installation Costs	I \$ -				
		NOTES			
Program Delivery & Administration		^[1] Allocated based on percentage of portfolio rebate count.			
Overhead Expenses ^[1]	\$ -	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Direct Costs	\$ -				
Total Program Delivery & Administration Costs	A \$ -				

INTERMOUNTAIN GAS COMPANY

Commercial Energy Efficiency Program

Energy Saving Kit - 2021 Cost-Effectiveness Results

Benefits		Cost-Effectiveness Tests			
Energy Savings	Value	Test	Benefits	Costs	Ratio
Annual Energy Savings (therms)	318	Utility Cost	\$ 1,163	\$ 51,535	0.0
Lifetime Energy Savings (therms)	2,862	Total Resource Cost	\$ 1,163	\$ 51,630	0.0
Present Value of Energy Savings	S \$ 1,163				
Costs		Equations & Assumptions			
Kit Costs	Value	Utility Cost Test	$= S \times NTG \div (R + A)$		
Average Kit Cost	\$ 58	Total Resource Cost Test	$= S \times NTG \div (I \times NTG + A)$		
Kit Count	6				
Total Kit Costs	R \$ 349	Real Discount Rate			4.68%
		Inflation Rate			2.00%
Equipment & Installation Costs		Net-to-Gross (NTG)			100%
Incremental Cost Per Unit	\$ 74	Net-to-Gross Sensitivity ^[2]			4431%
Total Equipment & Installation Costs	I \$ 444				
		NOTES			
Program Delivery & Administration					
Overhead Expenses ^[1]	\$ 51,177	^[1] Allocated based on percentage of portfolio rebate count.			
Direct Costs	\$ 9	^[2] Minimum NTG value where rebate remains cost-effective under UCT.			
Total Program Delivery & Administration Costs	A \$ 51,186				

ENERGY EFFICIENCY PROPOSED EM&V SCHEDULE 2018-2024

For Rebates Issued Through the Year Ended

Energy Efficiency Program	2024	2023	2022	2021	2020	2019	2018
Residential Measures:							
Whole Home						I/P	
Whole Home Tier I		I/P					
Whole Home Tier II		I/P					
Fireplace 70% FE						P	
Fireplace 80% AFUE						P	
Combination Boiler for Space and Water Heat		I/P				P	
Furnace		I/P				I/P	
Boiler		I/P					
Storage Water Heater		I/P				P	
Tankless Water Heater Tier I		I/P				P	
Tankless Water Heater Tier II		I/P					
Smart Thermostat		I/P					

Commercial Measures:							
Condensing Unit Heater		P					
Boiler Reset Control		P					
High-Efficiency Condensing Boiler		P					
Fryer		P					
Steamer		P					
Griddle		P					
Pilot: Energy Savings Kit		P/I					

Evaluation Type: I=Impact, P=Process, O= Other	
Program not yet in existence	
Measure offering modified	
Measure Offering retired	