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INT-G-20-06 Comment

Intermountain Gas Company's (IGC) initial and supplemental filings in this case attempt to show the Commission that its costs for providing energy efficiency programs in 2019 were cost-effective and otherwise prudent. However, I believe the more than 450 non-confidential pages included in this filing are not only insufficient to prove cost-effectiveness, but that a glaring omission in them suggests that the programs were almost certainly not cost-effective, even by Utility Cost Test (UCT) benefit/cost (B/C) standards. Obtaining a B/C ratio above 1.0 indicates cost-effectiveness and the UCT is usually the easiest of the standard B/C tests for a utility to pass because it allows utilities to not count most or at least much of the costs of energy efficiency upgrades.

I previously commented in Case Nos. INT-G-17-03 and INT-G-19-04 that IGC's B/C ratio calculations were incomplete because they did not include net-to-gross (NTG) estimates to account for customers who would have installed efficiency upgrades even if they had not received an IGC rebate. The absence of NTG adjustments results in overstated B/C ratios.

IGC's Exhibit 6, pp. 2-3, says it "...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." But the California Standard Practice Manual states on pages 18 and 23: "*The avoided supply costs should be calculated using net program savings, savings net of changes in energy use that would have happened in the absence of the program*." And The National Action Plan for Energy Efficiency's "Understanding Cost-Effectiveness of Energy Efficiency Programs," in Section 4.7 states: "*A key requirement for cost benefit analysis is estimating the NTG. ... Establishing the NTG is critical to understanding overall program success and identifying ways to improve program performance.*"

In its Exhibit 6, on p. 4, IGC tries to explain its lack of NTG adjustments by saying that accurately estimating net savings is difficult, so instead of doing that, it just used a 100% NTG ratio. However, by not including NTG adjustments in its efficiency programs' therm savings estimates in its Energy Efficiency 2019 Annual Report and its 2019 Energy Efficiency Cost-Effectiveness (Exhibit 6), IGC once again failed to follow nationally recognized best practices for estimating cost-effectiveness.

I don't have data to tell the Commission what NTG ratios should be used for IGC's programs, but, for an example of such an adjustment, I found Cadmus Group's evaluation of Northern Indiana Public Service Company's (NIPSCO) energy efficiency programs that contained an estimated 65% NTG ratio for that company's gas HVAC efficiency program. For a closer-to-home example, in AVU-G-13-02, Avista Utilities used net therm savings that are equal to 66.5% of gross savings for its gas efficiency portfolio (see Lori Hermanson's testimony, p. 6).

Again, it's important to remember that the UCT is the easiest B/C test to pass and with that in mind, for illustration purposes only, application of Cadmus Group's 65% NTG ratio for NIPSCO's efficient furnace program would reduce IGC's purported 1.5 UCT B/C ratio for its efficient furnace program to a 0.98 UCT B/C ratio. For comparison, IGC's final purported TRC B/C ratio for that program is just 0.5 without an NTG adjustment. Coincidentally, I estimate that the average Participant Cost Test B/C ratio is also roughly 0.5, although IGC has not provided Participant Cost Test results.

Application of Avista's 66.5% NTG ratio for its portfolio of programs would reduce IGC's purported 1.3 UCT B/C ratio for its total portfolio to a 0.86 UCT B/C ratio. For comparison, IGC's final purported TRC B/C ratio is just 0.6 for its portfolio, even absent an NTG adjustment.

Finally, it's also worth noting that IGC's various estimates of even gross therms saved as a result of its programs has been highly variable, so apparently NTG ratios are not the only difficult aspect of IGC's cost-effectiveness calculations. Using the 2019 95% Efficient Furnace program as an example, IGC originally estimated that each furnace rebate would result in 112 therms saved each year. That number was later reduced to 86 therms following completion of the Conservation Potential Assessment (CPA); both numbers are shown in the 2019 Annual Report filed with the original Application. More recently, in Exhibit 5 filed with Supplement to Application, IGC's consultant used three different methods to estimate furnace savings, i.e. Method 1's Billing Analysis with Matched Control Group showed 49 therms saved per furnace, Method 2 without a control group showed 21 therms saved, and Method 3's Equivalent Full Load Hours (EFLH) showed 133 therms saved. Obviously, those gross savings numbers result in vastly different B/C ratios. It's not too surprising that IGC purports that the calculation method showing the highest gross savings and B/C ratio, i.e. EFLH, is the most accurate one. However, it's worth noting the EFLH method is strictly an engineering calculation void of real world factors and is based on operating at full load with a constant thermostat setting, thus overstating savings, at least in part, because average households do not run their furnaces at full load with constant thermostat settings. By definition, the EFLH method excludes therm changes due to behavior changes that are influenced by program participation.

The National Renewable Energy Laboratory's (NREL) Uniform Methods Project, in Chapter 5, Residential Furnaces and Boilers Evaluation Protocol, p. 5-13, states: "*The approach [EFLH] presented above is limited in that it does not contain (1) an analysis of pre-versus-post changes in consumption resulting from a furnace or boiler replacement or (2) actual measurement of actual efficiencies. That is, the approach is not grounded in any measurement of change in consumption resulting from the purchase of a new unit; instead, it relies on the post-consumption data and the ratio of baseline to high-efficiency AFUEs. The post-only billing analysis also does not capture any potential "take-back" effect. In this instance, take-back could occur when participants purchase a more energy-efficient model than the baseline unit that participants otherwise would have, and then they "take" some of the actual or perceived savings to increase their comfort through higher thermostat settings*."

In conclusion, IGC's estimates of cost-effectiveness for its 2019 energy efficiency programs are incomplete due to lack of any NTG (net-to-gross) savings adjustments and are further biased by selection of gross savings measurement methods that show dubiously large savings, all of which result in greater than 1.0 UCT B/C ratios that simply are not credible. Allowing these methods will be a disservice to IGCs customers and will set poor precedents for Idaho's other utilities.

Thank you for considering these comments,

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