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Duane Jonlin, Chair  
Energy Code Technical Advisory Group  
Washington State Building Codes Council  
PO Box 41449  
Olympia, WA 98504-1449

Chairman Jonlin and Members of the Energy Code Technical Advisory Group:

Thank you for the opportunity to submit comments pertaining to the Energy Code Proposal EW101-2018, detailing proposed changes to C404.2.1, "High Input-Rated Service Water Heating Systems."

As a local distribution company operating a robust energy conservation program which has saved Washington customers over a half million therms in the last year alone, Cascade Natural Gas appreciates the need for ongoing analysis and innovation to design well-crafted efficiency standards.

However, based on the economic data sheet and associated life cycle cost (LCC) analysis submitted in support of Council's proposed code revisions, the Company does not believe that the proven benefits of the rule have been proven to be greater than its probable costs.

The analysis offered in justification of the commercial code change appears to be flawed. The outcomes have been developed from an ambiguous baseline, and the underlying inputs omit certain costs which significantly impact the conclusions of the analysis.

First, the efficiency of the base case equipment is not specifically stated. While it appears, based on initial capital and carbon costs, that a .62 gas unit and electric heat pump water heater have been referenced, the costs represented are too low to realistically reflect the cost of this equipment.

The analysis further omits the use of a common central boiler system in its comparisons. Use of a boiler as the baseline would have offered a significantly different capital cost, operating cost, and equipment life. Boilers are much more commonly in use in hotels and multifamily facilities than residential water heaters. It therefore seems difficult to justify a commercial code change based on a comparison of a residential 0.62 gas water heater against an electric resistance or electric heat pump water heater. This oversight harms the validity of the analysis.



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Another concern lies with the financial analysis which does not appear to address the present value maintenance cost of a multifamily or commercial facility to maintain the posited 32 water heaters in a 4+ story building versus a single central unit. The maintenance PV of "\$0" invalidates the analysis, especially considering a life-cost analysis of 50 years, which is much longer than the lifespan of the equipment itself.

Additionally, the analysis appears to include the water heater replacements over a 12-year period, but a maintained condensing boiler could last the entire life span. There is no analysis to reflect this option which would have a different LCC.

The State Building Code Council is now required to follow the more rigorous requirements of RCW 34.05.328. These requirements mandate a thorough cost-benefit analysis as well as several other substantive requirements before adoption of a proposed rule. Based on the Company's concerns described above, we do not believe that the requirements of RCW 34.06.328 have been met.

It is for these reasons that Cascade opposes adopting the proposed changes to C404.2.1, "High Input-Rated Service Water Heating Systems."

Thank you again for the opportunity to comment, and for your consideration on this matter.

Sincerely,

A handwritten signature in black ink that reads "Allison Spector".

Al Spector  
Manager, Conservation Policy  
Cascade Natural Gas Corporation