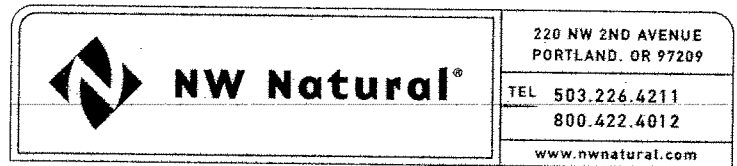


May 28, 2010



Dana Fischer
Reach Code Committee
VIA EMAIL
Oregon Building Codes Division
Dana.c.Fisher@state.or.us

Dear Ms. Fisher:

NW Natural appreciates this opportunity to comment on the development of a Reach Code as outlined in the provisions of Senate Bill 79.

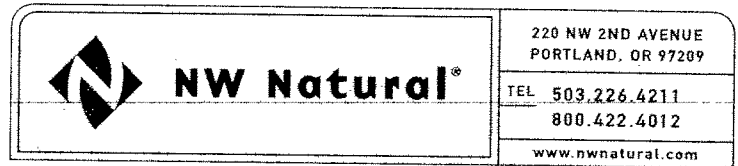
The Reach Code Committee has the opportunity to create an ambitious and rational program for strengthening our state's energy code over time. Once developed, the new energy code can drive energy efficiency through a series of improvements while ensuring the codes are achievable and do not place an unacceptable burden on the building sector and consumers.

A well-defined code can also add greater certainty for builders, architects, developers and consumers by linking future codes to the current ones. This code – in tandem with the development of an energy performance score – will encourage construction of increasingly energy-efficient homes while making energy use more transparent to consumers.

This comment letter includes some general observations and is followed by a chart containing specific comments on the International Green Construction Code (IgCC) for consideration by the Committee.

Increasing efficiency and creating transparency are most valuable if policy makers choose the best metrics available to measure energy use. NW Natural salutes the Committee for adopting the IgCC as a starting point, because this code takes the important step of looking at energy losses beyond the four walls of a building or home.

Many codes prior to the IgCC have only considered "site" efficiency. By doing so they assume that builders and designers cannot reduce the effects of system losses outside the structure itself. We know this is not the case, and IgCC shows that codes can successfully address these system losses. By including a factor for losses associated with transmission and distribution from electricity and distribution of natural gas, for example, the IgCC code rationally recognizes that



renewable generation (either electric or thermal) on your roof is more efficient and of greater value than renewable generation located several states away.

While the IgCC makes the important first step in recognizing “source” efficiency over “site” efficiency, the code only goes part way. Depending on the method of electric generation, the generation point itself can be a much greater source of energy loss.

Electric generation from coal or gas wastes as much energy as it creates. Said another way, when we produce electricity from coal or gas, less than 50% of the energy gets to the wires: This loss occurs – independent of the line losses that are folded into the IgCC. Electric production from wind, hydro and other non-thermal generating sources don’t create the same type of energy loss. Neither does direct use of natural gas in appliances.

While these losses are not simple to build into a code, they are far too large to ignore. Failing to address them misses an important opportunity to make the most of a new code and reduce energy demand substantially.

Just as the IgCC considers regional averages for addressing T&D losses, regional – or better yet, state – averages could be developed that would consider these important energy losses from generation. While this approach clearly adds a level of complexity to the code, the Committee has clearly shown its willingness to tackle complexity in the interest of driving a code towards the most accurate and comprehensive approach toward energy use.

The IgCC draft does include losses in the generation of electricity in the calculation of greenhouse gas emissions, and of course, this is an important and accurate approach. What’s missing in the code, unfortunately, is the same level of accuracy in the measure of energy use. For this reason, among the changes in our attached chart is a suggestion that generation losses be included in the calculation of Total Annual Net Energy Use.

Please see our attached chart for other detailed comments on the IgCC. Thank you once again for this opportunity to comment, and please do not hesitate to call me if you have questions regarding these comments. I can be reached at 503.220.2351.

Bill Edmonds



Director, Environmental Management and Sustainability

Oregon Reach Code Comments

IgCC Reference	NWN Comments	Reasoning
608.3 Pools in conditioned space.	Add the following: 3. Combined heat and power plant.	Provides ability to utilize CHP to operate swimming pool pumps and utilize recovered engine heat to preheat pool water.
611.4 Solar water heating equipment	Add word "domestic" after the word "estimated"	Provides clarification that we are referring to potable water and not hot water used for space heat.
612.1.2.2 Hydronic system balancing	Add additional exception: 3. When system is variable hot water flow and a VSD is controlling hot water pump	Variable flow systems are self-balancing and preclude the need for impeller trimming.
Table 603.1.3	NWPP CO2e rate reflects entire northwestern United States and should be adjusted to reflect states within the Northwest	This adjustment would more accurately reflect the fact that a substantial amount of electricity production in Oregon is from coal fired power plants.
Section 603.1.1.1 TANEU determination	Add efficiency losses due to generation to calculation of Total Annual Net Energy Use (TANEU)	The Total Annual Net Energy Use (TANEU) formula does not include a variable that reflects the inefficiency of the power plant. A component should be added to the formula that reflects the fact that over 50% of the coal or natural gas burned at the power plant is lost to plant inefficiencies.