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# *MEMO*

**Date:** February 13, 2008
**To:** Board of Directors
**From:** Philipp Degens, Evaluation Manager
Spencer Moersfelder, Business Sector Manager
**Subject:** Staff Response for the 2004-2005 New Buildings Program Impact Evaluation

The evaluation has shown that the New Buildings (NB) program is running smoothly in the realm of delivering the predicted electric savings. Realization rates above 100% were estimated for electric measures in both 2004 and 2005. For lighting measures assumed hours and wattages tended to be quite similar to those found from the site visit and metering. As a result future evaluations will focus fewer resources to validate these numbers.

In the area of gas savings the results vary a bit more, as the realization rate for gas measures was just over 100% in 2004 but only 42% in 2005. No specific overarching reason for this lower realization rate was determined as savings came from a variety of custom HVAC measures from a diverse group of buildings. With the small number of gas incentives high year to year variances are not unexpected. Lower gas realization rates were also estimated in the Existing Buildings (EB) program and the Boiler Tune-up portion of the Building Tune-Up and Operations (BTO) program (now part of the EB program). Staff believes that we are still learning how best to calculate gas energy savings. Knowledge of the commercial gas market in the area of sizing of gas furnaces/boilers, their system control parameters, and how systems are actually are operated and maintained is still a growing field. Evaluation expects to focus more on gas projects in the future to firm up many of the operating assumptions and system parameters that are used to estimate savings. For example evaluation of the BTO program indicated that gas boiler systems' hours of operation and loads were much lower than expect.

Participant satisfaction with the program was high in 2004 and decreased in 2005. Comparisons with prior evaluations could not be made due to different wording of the satisfaction question. What the exact reasons for this decrease in reported satisfaction with the overall program will be researched more in the current process evaluation. However, the program did manage to provide incentives to buildings representing nearly 20% of all of Oregon's nonresidential new construction completed in 2005.

The evaluation estimated a free rider rate of 23% and 21% for 2004 and 2005. This falls within the range of other studies of commercial new construction programs around the nation and not that much more than the EB program. Additionally participants representing 5% of the savings reported that the NB program had influenced them to install additional

energy efficiency measures. A later review of modeled energy consumption showed that buildings generated an average 9% additional savings from measures that did not receive program incentives. Spillover will receive a greater emphasis in the evaluation of 2006 and 2007 participants.