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DOCKET	
10-BSTD-1	
DATE	JUN 30 2011
RECD.	JUN 30 2011



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Your reference: May 31, 2011 Staff Workshop –
2013 Building Energy Efficiency
Standards

Our reference: 29-4

Date: 06-30-2011

Skylight-Specific Concerns re: the Residential Building Energy Efficiency Standards

To Whom it Concerns:

VELUX America Inc. is grateful for this opportunity to suggest vital improvements to the draft revisions being proposed for the residential sections of the 2013 Building Energy Efficiency Standards, in Part 6 of Title 24, California Code of Regulations. The following comments are based on our understanding of the energy efficiency goals of the Commission, and the current state of the art regarding reasonably available certified products that can help reach those goals.

1. The posted documents related to the above subject were reviewed. In the report titled, "Residential Window Efficiency", it was evident that all the analysis performed was focused on windows intended for installation in walls, even though the more general term "fenestration" was used in several instances. The implication was that the discussion covered all fenestration, in conflict with the fact that available skylights, tubular daylighting devices, and even entry doors have substantially different performance characteristics, constraints and measuring rules from windows.

We request that revisions applicable to windows be based on window research, and those applicable to other fenestration categories should consider those differences and be based on research targeted toward them. To facilitate this effort regarding unit skylights and TDDs, we submitted (immediately after the workshop's conclusion) a spreadsheet we extracted from the current NFRC Certified Products Database (CPD) for all "skylight" products – directly to the authors of the above report. That was quickly followed up with a telephone conference to those authors to review the contents and significance of that spreadsheet. (It should be noted the same data was also shared with, and is under review by, U.S. EPA consultants, D&R International, as they work to develop proposed criteria for the 2013 ENERGY STAR qualifying requirements.)



2. The proposed revisions to the Package D fenestration prescriptive U-factor requirements perpetuate and exacerbate serious compliance issues with the current 2008 Standards, as they relate to skylights and TDDs. The main problems we have already encountered, as echoed in verbal comments expressed by others participating in the workshop discussions, is that there is a dearth of reasonably available and affordable products meeting the prescribed 0.40 value, and that there is no feasible way to comply with the requirement using such products when simply replacing skylights. The code does not have specific replacement provisions that will encourage old, inefficient products to be replaced during repairs or renovations, and this is a particular burden for very efficient double-pane glass skylights.

We suggest that something similar to ENERGY STAR qualifying levels for skylights, even those prescribed for the Northern Zone of the U.S., should be considered effective and preferable in California's 2013 standards, even when compared to the essentially prohibitive level in the current code.

3. SHGC for windows does not directly apply for skylight products, as it is a function of U-factor. Also, lowering SHGC too far for skylights will have a negative effect on the available daylight, negating the primary reason skylights are desirable and effective in an efficient building. Therefore, we suggest providing a separate SHGC for skylights that is somewhat higher than the 0.25 proposed for windows. Precedent for this has been set in the 2012 IECC, and justification can be found by seeing what is generally sold in the marketplace. (Please keep in mind that skylights are fully discretionary purchases for residential builders and occupiers, unlike windows which are a code requirement.)
4. The cost effectiveness study detailed in the Windows report is not applicable in the least to skylight products. Levels prescribed for other products should be independently studied for their own cost effectiveness. Certainly the additional costs to comply are not nearly enough, and we would submit that skylights are replaced more frequently than windows, usually on the same replacement schedule as roof coverings. Also, replacement of single or double glazed dome skylights with double-pane, argon-filled glass units warrants a separate cost effectiveness study using U-factors of curb-mounted modern designs, which are uniquely suited to this application.
5. The "relevant national standards" section (4.1) and the "data collection" section (4.2) of the report needs to be expanded to include the criteria, code requirements, and availability data specific and appropriate to other fenestration types. Without this data, intelligent and considered decisions about reasonable proposed changes are not possible.

We plan to submit additional and different comments related to the nonresidential revisions related to skylights in the near future.

We look forward to future developments as the 2013 standards continue to take shape, and stand ready to provide help and feedback at the pleasure of the Commission and its contractor agencies.



Best Regards,

A handwritten signature in purple ink that reads "Roger LeBrun".

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