

December 19, 2013

**To:** Chairman Robert Weisenmiller  
Commissioner Andrew McAllister  
Commission David Hochschild  
Commissioner Karen Douglas  
Commissioner Janea Scott



**From:** International Window Film Association

**Docket:** 13-CCEJA-1

**RE:** California Energy Commission (CEC) Business Meeting - Agenda Items #5:

The International Window Film Association (IWFA) strongly supports the adoption of Proposition 39: California Clean Energy Jobs Act – 2013 Program Implementation Guidelines (Agenda Item #4). There is one edit IWFA suggests to improve the accuracy of Appendix F: Effective Useful Life for Energy Measures in Years. Window films have made significant technological strides in the past fifteen years. These improvements include National Fenestration Rating Council (NFRC) testing of Solar Heat Gain Coefficient (SHGC), U-Factor and Visible Light Transmission (VLT) as well as manufacturers offering ten year minimum warranties (includes film, installation and glass). The CEC's 2013 Building Energy Efficiency Standards now require window film to be NRFC labeled and require a minimum ten year warranty.

The edit IWFA suggests for Appendix F is to list window film separately with a 15 year Effective Useful Life. The sources for Appendix F are the 2008 and 2011 Databases for Energy Efficiency Resources (DEER). Unfortunately DEER cites window film references from the early 2000s. IWFA is asking DEER in their current revision(s) to update the database to 15 years based on technological improvements as well as warranty and NFRC requirements. The Department of Energy's Weatherization Assistance Program (WAP) requires analysis to determine cost effective improvements to buildings. The WAP software, the National Energy Audit Tool (NEAT), is in the eighth family of revisions. In NEAT v8 and subsequent software versions, window films have been assigned a 15 year EUL (see following tables).

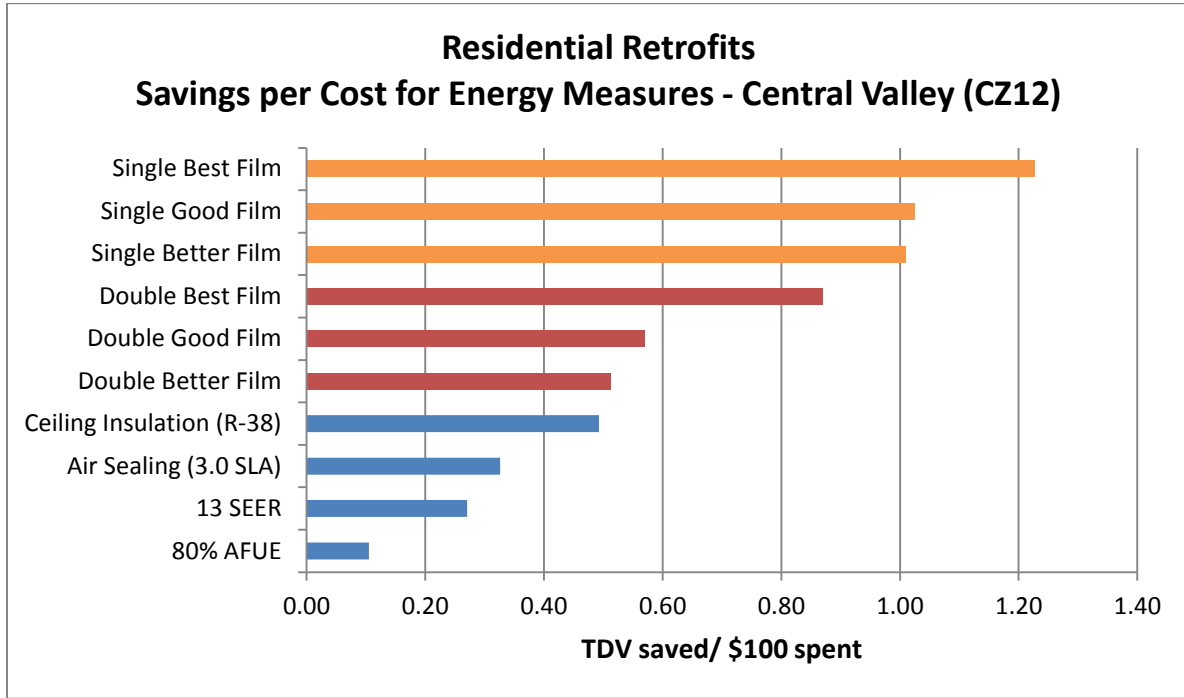
Newer technology window films have been demonstrated to be very cost effective in the California market. The ConSol study Energy Analysis for Window Film Applications in New and Existing Homes and Offices (February 7, 2012) shows for existing buildings window film outperforms ceiling insulation, HVAC upgrades and air sealing. IWFA wants schools to be given accurate information so Prop. 39 monies can be used in the most cost effective manner.

IWFA requests that the Prop. 39 Guidelines, Appendix F, list window film as separate line item with a useful life of 15 years. IWFA also suggests that a footnote be added to require window films to be NRFC certified and have a minimum 10 year warranty.

Respectfully,

Michael G. Hodgson for IWFA

From: Energy Analysis for Window Films Applications in New and Existing Homes and Offices  
 Table 8: Residential Retrofits: TDV saved/\$100 spent for Climate Zone 12



NEAT v8.9.0.5 Screenshot of Software Library reflecting industry standards

**Weatherization Assistance Program**

WA 8.9.0.5

Setup Library

Library Name: Your Setup Library

Setup Library Information | Key Parameters | Fuel Costs (1) | Fuel Price Indices | Library Measures | User Defined Measures (0) | NEAT Insulation Types

#	Measure Type	Measure Name	Active	Default Contractor	Default Cost Center	Life (yr)	
17	Doors and Windows	Window sealing	<input checked="" type="checkbox"/>	-	-	10	Costs
18	Doors and Windows	Door replacement	<input checked="" type="checkbox"/>	-	-	20	Costs
19	Doors and Windows	Storm windows	<input checked="" type="checkbox"/>	-	-	15	Costs
20	Doors and Windows	Window replacement	<input checked="" type="checkbox"/>	-	-	20	Costs
21	Doors and Windows	Low E windows	<input checked="" type="checkbox"/>	-	-	20	Costs
22	Doors and Windows	Window shading (awning)	<input checked="" type="checkbox"/>	-	-	10	Costs
23	Doors and Windows	Sun screen fabric	<input checked="" type="checkbox"/>	-	-	10	Costs
24	Doors and Windows	Sun screen louvered	<input checked="" type="checkbox"/>	-	-	15	Costs
25	Doors and Windows	Window film	<input checked="" type="checkbox"/>	-	-	15	Costs
26	HVAC Systems	Thermal vent damper	<input checked="" type="checkbox"/>	-	-	10	Costs
27	HVAC Systems	Electric vent damper	<input checked="" type="checkbox"/>	-	-	10	Costs
28	HVAC Systems	IID	<input checked="" type="checkbox"/>	-	-	10	Costs
29	HVAC Systems	Electric vent damper IID	<input checked="" type="checkbox"/>	-	-	10	Costs

Record: 24 of 45

NEAT

VIEW Site Built (NEAT) Measures Select All UnSelect All Invert Select All Library Measure Costs

Is this measure to be considered when this library is accessed. Inactive measures are not available for manual selection or considerat NUM



The Weatherization Assistant  
Version 8 User's Manual for Administrative Features  
(Current Version 8.9.0.5)

Engineering Science and Technology Division  
Oak Ridge National Laboratory  
Oak Ridge, Tennessee

ORNL/TM-2005/236  
January 2006 – Manual Publication  
February 10, 2012 – v.8.9.0.5 - Update

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Research sponsored by the Office of Weatherization and Intergovernmental Programs,  
Weatherization Assistance Program, U.S. Department of Energy, under  
Contract DE-AC05-00OR22725 with UT-Battelle, LLC.

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is recommended (see "Cost Center" in Section 7.9, *Measures (Audit)*) or when assigned to a specific work order (see "Cost Center" in Section 8.3, *Measures (Work Order)*). Thus an entry here does not commit you to retain the assignment, but may reduce your effort making such assignments later.

The choices available from the combo box will include only those entries made under the Cost Center tab of the Agency Main Menu item for the agency associated with this Setup Library (see Section 5.3, *Cost Centers*). Cost Center assignments need to be made only if you are tracking funds within the Weatherization Assistant. Optional.

**Life** – NEAT and MHEA allow you to change the "Life" of each measure. The lifetimes in the programs as shipped reflect industry standards and will likely be sufficient for your use. However, if you have documented cause to alter them, you may do so on this form. Note that lifetimes for "Lighting retrofits" are in thousands of hours burn time for the replacement compact fluorescent, not years. The maximum lifetime permitted by Program rules is 20 years. Required.

**Costs** – Each measure listed on the Library Measures tab of the Setup Library Main Menu item has its own "Costs" button. Selecting this button for a specific measure will take you to a data sheet view where cost components for implementing the measure can be entered. These costs are those which the audits will use in making their recommendations. Although you may have them initially transferred to work orders, they likely do not represent as accurate or as detailed a costing scheme as you may wish to have for the work orders. Within Setup, the costs components are restricted to three entries: Material (or Insulation), Labor, and Other. Most of the insulation measures and the lighting retrofit measures have multiple materials that may be used in installing the measure—for example blown cellulose, blown fiberglass, or one of the User Types for insulating an attic, as demonstrated below..

Unit Costs for Measure: Attic insulation R30					
Description	Type	Units		Unit\$	<Comment>
Ceiling Insulation -Celluls.Blwn - R-30	Insulation	SqFt	-->	0.30	
Ceiling Insulation -Celluls.Blwn - R-30	Labor	SqFt		0.60	
Ceiling Insulation -Celluls.Blwn - R-30	Other	Each Attic		0.00	
Ceiling Insulation -Fbergl's.Blwn - R-30	Insulation	SqFt	-->	0.33	
Ceiling Insulation -Fbergl's.Blwn - R-30	Labor	SqFt		0.60	
Ceiling Insulation -Fbergl's.Blwn - R-30	Other	Each Attic		0.00	
Ceiling Insulation -User Type 1 - R-30	Insulation	SqFt	-->	9999.00	Not considered unless user specifies cost
Ceiling Insulation -User Type 1 - R-30	Labor	SqFt		0.00	
Ceiling Insulation -User Type 1 - R-30	Other	Each Attic		0.00	
Ceiling Insulation -User Type 2 - R-30	Insulation	SqFt	-->	9999.00	Not considered unless user specifies cost
Ceiling Insulation -User Type 2 - R-30	Labor	SqFt		0.00	
Ceiling Insulation -User Type 2 - R-30	Other	Each Attic		0.00	

The "Costs" Data Sheet View for the Attic Insulation R-30 measure