

**Rule 9B-13 Comments
And Proposed Code Changes**

COMMENTS MADE up to 3/17/08 and at the ENERGY TAC MEETING			
Rick Dixon 3/17/08	General	Appliance efficiencies should be included in the code per Governor's Executive Order 127 for the following appliances: Walk-in coolers and freezers Computer room air conditioners Hard-wired dehumidifiers Furnace fanes Water heaters that fall outside the federal ranges Pool pumps Spa standby power Fluorescent lamp efficacy	Rick Dixon 3/17/08
Dave Olmstead 3/17/08	13-601.B.2, 13-613.A.1-1 N1101.B.2, N1113.A.1-1	U-factor is not as important as SHGC in Florida. U-factor is a problem in Florida because Florida's buildings need the structural strength of aluminum frames for hurricane resistance. U-factors below 0.6 will eliminate an entire industry in an already depressed housing market and lack of money for retooling and redesign. 141 wood products approved, 276 aluminum products moved to ? products available. Aluminum currently 85% of market. Aluminum with thermal break can meet lower U-factor, some structural degradation. Bassett: In lieu of reducing by .85, changing baseline, does not displace any windows per performance code. Cochell: What is the cost difference if move to 0.6? Olmstead would take a few days. Sanders: Changing baseline does not outlaw product. Tradeoff with higher efficiencies elsewhere. Reynolds: If builders chose not to use aluminum windows, will be a significant impact. Olmstead: Industry understands performance code, looking down the road. Most companies going there. Zuniga. Commend DCA in following directive of the Governor. In order to do so, looked at areas that can be made more efficient; windows are one of those areas. You all received a letter from FMA proposing U-factor & SHGC (see below). 98% of permits are using Method A, predominant window installed is single glazed clear. Although can still install single pane clear, have to meet overall efficiency. Propose that baseline be something that industry builds. Wilhelm: Would like to see justification as to how got numbers on savings.	

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		<p>Fairey: Support Nau. Increasing U-factor is better in Miami; in N. FL it is deadly. Recommend 0.75 in south Florida, 0.6 in central Florida, 0.5 in north Florida; leave SHGC 0.30. Going from SHGC 0.3 to 0.35, lose 3% energy.</p> <p>TAC straw poll on Fairey proposal: 3 aye, 5 nay.</p> <p>Bassett, Geyselaers: Why not just move the baseline to 0.85 of 2007 level?</p> <p>TAC straw poll on Bassett, Geyselaers proposal: 8 aye, 0 nay.</p>	
Arlene Stewart 3/17/08	Form 1100B	Regarding the 14% cap on glazing in Method B, how does glass-to-floor-area relate to glass-to-wall-area? Answer: It depends entirely on the geometry of the building; there is no conversion. Have we looked at egress requirements? The code is nowhere near impacting egress requirements; the performance method allows any amount of glass.	
Hiron Castillo 3/17/08	N1111.ABC.1, 13-611.ABC.1	Would like to include insulation on refrigerant line. 5 standards coming out of ASHRAE: ASHRAE 90.2, Table 6.5 is appropriate. Problem is that nobody ever read footnote at bottom, exposed to air, requires .5" more. Opportunity to bring code up to date. Can deliver an additional 25% energy savings to contractor. Tradeoffs possible. Recommend up to date standard.	

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<p>Mike Moore 3/17/08</p>	<p>13-400.0.C Form 400C</p>	<p>U-factors for steel frame walls above grade basically halved. No change to wood frame walls. Unfair penalty. Ask remove 7.5 R added for steel framing. Otherwise should be done across the board.</p> <p>Written Public Comment to Summary of Proposed Changes, Rule 9b-13 Mike Moore, Newport Ventures on behalf of the Steel Frame Alliance</p> <p>Background Below are three comments submitted on behalf of the Steel Frame Alliance on proposed changes to Florida Building Code Section 13-400.0.C and Form 400C. Within the proposed changes are a couple line items that penalize steel framing by requiring it to reach a higher thermal performance than other framed assemblies, particularly wood. The reasons behind this are unclear and unjustified, both from an energy savings and cost basis. We ask that the commission consider the following arguments in finalizing their proposed changes in response to Executive Order 127.</p> <p>Comment Number 1 Section 13-400.0.C describes a prescriptive envelope method for commercial buildings. This section is filled with frequent references to Form 400C as the method for compliance. Proposed changes to FORM 400C create a bias in the code favoring certain materials over others. They also incongruous with the direction the IECC is headed and extend the requirements for wall insulation beyond even what is contained in ASHRAE 90.1-2007.</p> <p>Form 400C requires R-13 for wood walls but R-13 + 7.5ci for steel framing for residential buildings. This will affect multi-family buildings of all types through the state by inducing extra costs with little to no benefit to consumers or building owners.</p> <p><i>Recommended action:</i> SFA requests that the proposed 13 + 7.5ci for steel framed residential walls be modified to eliminate the R-7.5 continuous insulation.</p> <p><i>Reason/substantiation:</i> Adding R-7.5 continuous insulation requires steel to perform at a much higher level than competing products (wood). Further, a simulation using Energy</p>	
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	13-400.0.C	<p>Gauge Premier Summit 3.11 shows that the difference between steel and wood framing without continuous insulation results in an almost indistinguishable overall energy use (about 0.01 percent) in Orange County for a typical four story apartment building. This energy use difference does not come even close to justifying the addition of approximately \$1/square foot of wall area to the cost of an apartment building. Further, this proposed requirement for the addition of R-7.5 continuous insulation goes beyond what ASHRAE 90.1-2007 requires for Florida, and it also exceeds both the 2006 IECC as well as what was recently approved by the IECC committee in the February code hearings.</p> <p>Comment Number 2 Section 13-400.0.C describes a prescriptive envelope method for commercial buildings. This section is filled with frequent references to Form 400C as the method for compliance. Proposed changes to FORM 400C create a bias in the code favoring certain materials over others. The assembly U factor for steel framed walls (0.064) is much lower than for wood walls (0.089).</p> <p><i>Recommended action:</i> Change the Assembly maximum for steel framed residential walls in Form 400C to be equivalent to the 0.089 used for wood framed walls.</p> <p><i>Reason/substantiation:</i> There is no rationale that we can identify that would justify different U-factors for wood and steel. The U factor should represent a performance requirement that could be met for any framed wall. To adopt the ASHRAE requirements as they are currently written would be to introduce bias between material systems within Florida's code. Our recommendation would create an equivalent requirement for framed walls independent of the materials used.</p>	
	13-400.0.C	<p>Comment Number 3 Section 13-400.0.C describes a prescriptive envelope method for commercial buildings. This section is filled with frequent references to Form 400C as the method for compliance. The prescriptive requirements for steel framed residential walls leave out options for warm wall construction that are gaining in popularity in the industry.</p>	

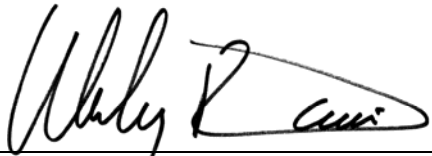
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		<p><i>Recommended action:</i> Add an option for steel framed residential wall insulation minimum R-value to Form 400C as follows: R-0+8.5ci.</p> <p><i>Reason/substantiation:</i> When framing factors are considered, R-8.5 continuous insulation provides equivalent wall performance to a wood wall with R-13 in the cavity. By moving the insulation from the cavity to the exterior, the impact of framing is minimized and a more durable wall system is achieved.</p> <p>In the recent code hearings, the ICC residential code committee recently approved this option for steel framing as a way to achieve equivalent performance between wood and steel framed walls.</p>	
Jeff Householder 3/17/08	Appendix 13-D in FBC-B Ch. 13. & G in FBC-R.	Form 1100B & C Table 11B-2 and 11C-3: Add the words "warm air furnace" or "Combustion space heating systems" instead of "combustion heaters". Form 400C: Add gas storage tank standards for units less than 75,000 Btu/h as per Table 13-412.	
Bob Volin 3/17/08		Specify that U-factor is for the entire window assembly, not the center of glass for windows.	

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COMMENTS MADE PRIOR TO ENERGY TAC MEETING AND WORKSHOP			
<p>Bob Volin 3/14/08</p>	<p>N1107.ABC.1.1, 13-607.ABC.1.1, Ch.43 <i>FBC-R</i>, Subch. 13-3, <i>FBC-B</i></p>	<p>Manual S needs to be inserted into the code as a referenced manual (see below). See DCA08-DEC-004 as a needed clarification of code for section 13-607.ABC.1.1 and N1107.ABC.1.1, cooling equipment capacity. This is needed so contractors can understand how equipment is selected and why, in addition ASHRAE defers to ACCA Manual S for equipment selection.</p> <p>N1107.ABC.1.1 [13-607.ABC.1.1] Cooling equipment capacity. Cooling only equipment shall be selected so that its total capacity is not less than the calculated total load but not more than 1.15 times greater than the total load calculated according to the procedure selected in Section 13-607.ABC.1, or the closest available size provided by the manufacturer's product lines. The corresponding latent capacity of the equipment shall not be less than the calculated latent load.</p> <p>The published value for ARI total capacity is a nominal, rating-test value and shall not be used for equipment sizing. Manufacturer's expanded performance data shall be used to select cooling-only equipment <u>in accordance with ACCA Manual S</u>. This selection shall be based on the outdoor design dry bulb temperature for the load calculation (or entering water temperature for water-source equipment), the blower CFM provided by the expanded performance data, the design value for entering wet bulb temperature and the design value for entering dry bulb temperature.</p> <p>[No change to rest of section.]</p> <p>Chapter 43, <i>FBC-R</i> [13-301.0]: <u>ACCA Manual S -1995 Residential Equipment Selection</u> <u>N1107.ABC.1.1 [607.ABC.1.1]</u></p>	

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<p>Wes Davis 3/14/08</p>	<p>Chapter 43 <i>FBC-R</i>, Subchapter 13-3, <i>FBC-B</i></p>	<p>The Air Conditioning Contractors of America supports updating the references to its manuals. The table below illustrates, by strike through and <u>underline</u> text the former and current references. These changes to Section 13-301, Referenced Standards will ensure the Florida Building Code is using the most current references.</p> <table border="1" data-bbox="634 396 1924 776"> <thead> <tr> <th colspan="4">Proposed Changes</th> </tr> <tr> <td colspan="2">ACCA</td> <td colspan="2">Air Conditioning Contractors of America 2800 Shirlington Road, Suite 300 Arlington, VA 22206</td> </tr> <tr> <th>Standard reference number</th> <th>Title</th> <th></th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>ACCA Manual D-1995</td> <td>Residential Duct Systems</td> <td></td> <td>4</td> </tr> <tr> <td>ACCA Manual J8 version 2-2006 2003</td> <td>Residential Load Calculation, Eighth Edition <u>version 2</u> with posted updates/errata.</td> <td></td> <td></td> </tr> <tr> <td>ACCA Manual N5-2008N-1988</td> <td>Commercial Load Calculation <u>For Small Commercial Buildings, Fifth</u> Fourth Edition.</td> <td></td> <td></td> </tr> <tr> <td><u>ACCA Manual S - 1995</u></td> <td><u>Residential Equipment Selection</u></td> <td></td> <td></td> </tr> </tbody> </table> <p align="center"></p>	Proposed Changes				ACCA		Air Conditioning Contractors of America 2800 Shirlington Road, Suite 300 Arlington, VA 22206		Standard reference number	Title		Reference	ACCA Manual D-1995	Residential Duct Systems		4	ACCA Manual J8 version 2-2006 2003	Residential Load Calculation, Eighth Edition <u>version 2</u> with posted updates/errata.			ACCA Manual N5-2008 N-1988	Commercial Load Calculation <u>For Small Commercial Buildings, Fifth</u> Fourth Edition.			<u>ACCA Manual S - 1995</u>	<u>Residential Equipment Selection</u>			
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<p>Robert Bullard 3/6/08</p>	<p>13-101.5.7, 13-407, 13-607</p>	<p>The interior humidity control requirement and constraints for the cooling season are confusing. I have never been quite convinced of the value for a separate humidity control function during interior cooling. There is, however, in Florida a definite humidity control need during the winter as most heating periods follow rather balmy days when (especially near water bodies) there is a lot of moisture in the interior space air, even as the cold front passes and the temperature drops 30 or 40 degrees within 24 hours. In these situations, over the 24 to 48 hours of declining and low temperatures, interior surfaces (esp. fenestrations and wall cavities contiguous thereto) experience condensation, with the eventual spectrum of staining, mold, mildew and corrosion accumulating several times every winter. I can show you brand new buildings that exhibit the phenomenon I have described. Heating season dehumidification must be a fully functional component of modern central cooling systems of all conditioned spaces. This feature appears to be completely absent from 9B-13.</p>																													

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<p>Pete 3/10/08</p>	<p>13-101, 13-407, 13-600, 13-607</p>	<p>The problem is this, when you tell the customer you can't replace just one unit, you need to replace both A/H and Condenser, (a lot of people don't have the money for both) so what do we do? Just walk away, they will seek other means (unlicensed people to put in the unit), no one in south Florida is going to just open up their windows.</p> <p>I had a customer call up and give me a model number of her condenser so I could see if a 13.0 SEER air handler could match with the condenser. I check with the ARI online and couldn't find the information. So I called the manufacturer, it took manufacturer 2.5 days to get back to me. When I called the customer (elderly lady) back to let her know it didn't match, she told me that it was hot and she was on a fixed income and had the unit replaced, thanks for your help.</p> <p>Manufacturers data states that, inside unit outside unit and proper copper line set will give you 100% efficiency. Well, did Bob Cochell provide information on condos where the condenser is on the roof of a 3, 4 and 6 story condo? Well, let me tell you, the manufacturer data gives us the proper line size and length for each tonnage, and if the copper lines don't get replaced or can't be replaced, then you have like Bob Cochell said or 0% efficiency like the manufacturer data states. But that is OK for condos, but not for single dwelling home owners.</p> <p>Bob Cochell's study is good, but all this going to do is cause financial problems with customers and lead to more unlicensed activity. Why, because unlicensed people can go to the Distributor, Manufacture and Supply stores to pick up anything they want. You want to do something for the Air Conditioning Industries, STOP the Distributors, Manufactures and Supply stores from selling to unlicensed people, (if they cannot buy PARTS or UNITS they cannot do unlicensed work).</p>	
<p>Robert Bullard Volusia County Home Builders Assn 3/6/08</p>	<p>13-404, 13-604</p>	<p>The Cool Roof Coating Council and the ASTM Standards upon which the CRCC relies are deficient with respect to the aged reflective performance of roofing. Based on my research and inquiries, there is no consideration given to loss of reflectance over time by the accumulation of a bio-slime (mildew) on roof surfaces. In order to be meaningful, the reflective roofing materials must have a demonstrated resistance for their lifetime of service to loss of reflectance. For example, a new semi-gloss white elastomeric roof coating will have a reflectance of about 0.8. With a normal 0.25 pound per gallon zinc-oxide mildewcide load ground into the paint (quite sufficient for most walls), the average roof reflectance after about three years will be below 0.7, based on my observations of roofs receiving such coatings under my oversight. At five years, the reflectance is down to about 0.5. Pressure washing restores almost the as new reflectance, but the requirement for an average of 0.7 reflectance for the service life of a roof (say 20 years)</p>	

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		will never be achieved in Florida unless 1) there is some really seriously durable, toxic and expensive long term mildewcide as a final translucent top coating, or 2) the roofer is bonded with the requirement to pressure clean the conventional 0.8 as-new reflectance surface every five years. Roof reflectance is a very big deal in the energy budget of most Florida buildings and this matter deserves deep and earnest consideration by the TAC.	
Robert Bullard 3/6/08	13-407, 13-607	The SEER/EER standards are too low. At the recent AHR Expo in NYC, there were many compression/evaporation systems with SEER's over 16 and a few with SEER's over 20. SEER's of 12 and 13 are so 20th Century.	
Gary Rex 3/6/08	13-407, 13-612	<p>One of the frustrating aspects of being with a solar company like mine is the fact that we recognize that if solar hot water were to gain more wide spread acceptance that this one solar product alone would more then offset the effects of a 15% more stringent building code mandate. When you consider that solar hot water alone will reduce Floridians electricity needs by \$15-\$18 per month per residential occupant and that this is more savings then will be gained by the proposed collective efforts of changing code requirements for windows, insulation, air ducts, skylights, etc., it leaves us thinking that there must be a way to better get this message out there.</p> <p>What, if anything, do you think we could do with the building codes that would help push Floridians in the solar direction? Maybe we could offer <u>solar offsets</u> as an alternative to the tighter building standards. For example, a builder doing a remodeling job could elect to install free solar products as an offset to meeting the new 15% tighter standards.</p>	
Robert Donnelly PE 3/6/08	13-413.ABC.1	Section 13 lists "voltage drop" calculations be listed on the design documents. VOLTAGE DROP should be stricken from the energy code. It has no effect on energy. For example a 100 watt light at 120 volts draws .8333 amps. The same 100 watt light at 110 volts draws .91 amps. In both cases the load is still 100 watts. There is no affect on energy.	
Glenn C. Hourahan 3/4/08	13-3, ch 43	In the HVAC sector – approximately 45% of the electrical usage in residential and commercial buildings – merely making building codes more stringent is not likely to result in the desired performance enhancement. Indeed, most HVAC purchasers do not receive the energy- (not to mention comfort-) performance that they should when they currently upgrade their systems to higher SEER or EER equipment. WHY ?... because the vast majority of today's HVAC systems (>85%) are not properly sized, selected, installed, and maintained. Hence, a better focus, other than just increasing the label efficiency on a piece of equipment, is to ensure that HVAC systems are installed correctly and correctly maintained!	

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		<p>703/575-4477; www.acca.org), 2007</p> <p>Commercial Maintenance <i>Standard Practice for Inspection and Maintenance of Commercial HVAC Systems</i>, BSR / ASHRAE / ACCA Standard 180 – 2008; American Society of Heating, Refrigerating and Air-Conditioning Engineers, 1791 Tullie Circle, NE., Atlanta, GA; tel: 404/636-8400; www.ashrae.org, 2008.</p> <p>System Cleanliness <i>Restoring the Cleanliness of HVAC Systems</i>, ANSI / ACCA 6 HVAC System Cleanliness – 2007; Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 200, Arlington, VA, 22206; tel: 703/575-4477; www.acca.org), 2007.</p> <p>Currently, the California Energy Commission is exploring the adoption of the <i>Quality Installation Specification</i> as California’s definition for quality HVAC installations (as opposed to California’s existing Title-24 code requirements).</p> <p>Vieira: We need it all –stronger codes and higher quality installation and maintenance. The recent work of ACCA and ASHRAE as well as DOE and EPA can help us get to where we need to be. We will work to incorporate these materials into our educational programs.</p> <p>Stewart: It is a very good idea to have more details on HVAC installation.</p>	
<p>Robert Donnelly PE 3/6/08</p>	<p>13-3, Ch 43</p>	<p>If the people who have to comply with the Florida Building Code do not have readily available standards to comply to, then the standards themselves will be difficult to enforce.</p> <p>Most of the standards listed in the subchapter 13-3 are not enforceable. The only way to properly enact required code enforced standards is to write the standard into the building code using "shall" instead of "should" were applicable. Use "shall be installed" instead of "suggested installation" where applicable and so on. You may find that the standards have a copyright which will not allow you to rewrite their standard into the building code.</p>	
<p>Ron and Betty Wigton 3/4/08</p>		<p>My wife and I are retired and living on the coast South of Tallahassee. I am having an increasing problem understanding how Crist remains so popular! The proposed changes just keeps kiting the price of building in FL. We need to get off of the coast because we are not rich, we worked for a living but developer oriented County commissioners and big profit oriented insurance companies are killing us. We have to cut into our IRA to pay these big bills. This kind of stuff doesn't help! From talking to others we are not</p>	

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		<p>alone. There is no global warming, Gore's Nobel Prize was a travesty and his film a lie. Who can we look to for help, We, not government, will take care of our own problems!!!!</p>	
<p>Bill Eberle 3/5/08</p>		<p>To be effective, we do indeed need the whole package of better code, better installation and ongoing maintenance. M&V (measurement and verification) is the ultimate determinate of our success and needs to be considered for proposed solutions. We're all well aware of current codes, that if properly implemented, would achieve the benefits that were desired. Progress Energy is in a position to "see" the direct result of measures on load shapes and consumption profiles; simply closing the loop between an efficiency measure and its proper implementation has a significant impact. Education is critical. Duct seal is an excellent example; when we demonstrate to builders and contractors where they're at (via blower and smoke), subscription to mastic and better installation jumps. When the same group is clear on how heat pumps can be more than 100% efficient, implementation follows. Sizing, charge and flow are next with HVAC, but the same concepts apply to all areas of the energy code. Communication of the intent, or "why" component, is critical as is the "teeth" in M&V.</p>	
<p>Chuck Meyer 3/10/08</p>		<p>How best to meet the 15% reduction in energy use is to allow the cost of construction to rise to the point that no new houses can be built. That will reduce energy consumption for sure.</p> <p>On the revised code requiring existing air handlers and condensers to be changed at the same time, (so they are matched for code reasons) will have an additional unintended consequence. All the people who will have to go without air conditioning for extended periods of time because of the additional cost will not be burning electricity. Of course one must factor in all of the unlicensed people that will fill the prohibition void.</p> <p>The proposed after the fact requirement of maintaining equipment at its peak efficiency like when it was brand new will create jobs for energy monitors that will go door to door disabling systems that are not running up to par. The energy monitors used to be contractors that have nothing else to do so we will inadvertently improve the unemployment numbers for the State as well.</p> <p>I think the whole situation could be addressed by simply requiring the TAC member from last months meeting to share his knowledge of how to reduce the capacity of a 5 ton</p>	

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		air conditioning system to a 3.5 ton system. I was very curious when he made his statement to the lady that was requesting Manual S from ACCA be included in the proper system sizing options for contractors. He said that Bigger is Better and that he would much prefer reducing the capacity of an oversized system than not ever being able to increase the capacity of a system that is undersized.	
Gene Basham 3/14/08	Appx 13-D Bldg Appx G-D Res. Forms 1100B, C	According to latest information on the Florida Solar Energy web site, walls only account for 6% of the overall energy load. Has there been a cost analysis done on increasing from R-4.1 in South and Central in Compliance Method B and from R-5 to R-6 in Compliance Method C? This small R-value gain would certainly lessen the energy load but seems questionable as having as great an impact as improving the envelope at the roof level. A cooler attic impacts both the ceiling and HVAC performance, potentially providing opportunities for downsizing the HVAC system.. There are several approaches in achieving this objective including cool roofs, attic radiant barriers, and roof deck insulation. Radiant barriers are the most mature and proven technology with credits already assigned in the code. We are suggesting that you amend your proposal and would appreciate you including my comments with those being presented to the Building Commission.	
D. Palmer 3/14/08	13-101.5	Please take a look at ASHRAE 90.1, Scope section 2, more specifically 2.2 and 2.3. Section 2.2 is for the envelope of the building being exempt if unconditioned by heating or cooling. Section 2.3 only exempts other items such as lighting etc if the building is not fed by electricity or fossil fuels. Florida should not exempt unheated/not cooled buildings from meeting lighting provisions of the code. 13-101.5 Exempt buildings. Buildings exempt from compliance with this chapter include those described in Sections 13-101.5.1 through 13-101.5.7. 13-101.5.3 Any building which is neither heated nor cooled by a mechanical system designed to control or modify the indoor temperature and powered by electricity or fossil fuels shall be exempt from the requirements of Sections 13-401 through 13-411. Such buildings shall not contain electrical, plumbing or mechanical systems which have been designed to accommodate the future installation of heating or cooling equipment.	
Ron Bailey 3/18/08		I am for the reduction of the base glass loads to 15%, and increasing the SHGC of glass to meet lower energy standards. I am cautious about lowering the Total glass percentages lower, without going to a graduated scale with a higher percentage for smaller affordable homes. The reason is to assure that a home can still be ventilated without requiring air	

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		<p>conditioning to have comfort. The larger the home square footage the lower the % of glass based of wall to glass ratio. Consider a penalty for homes over some square footage, making the larger homes have to be lower per square foot energy consumers.</p> <p>I am not for lowering the "U- factor" without careful study as to how it would affect using impact glass for hurricane protection.</p> <p>Higher seer equipment is readily available as a trade for the U- Values. I'd rather go with a higher seer base minimum.</p> <p>Review the multipliers for solar water heating and heat pump water heating</p> <p>Higher penalties for ducts and equipment out of conditioned spaces by basing the baseline on ducts and equipment in the conditioned space.</p>	
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