

2002 - 2005 Code Changes regarding Window Sill Height

2002 Cycle

FS91-02 **1405, IRC 613.2**

Proposed Change as Submitted:

Proponent: Jim W. Sealy, FAIA, NCARB, Jim Sealy, Architect/Consultant

THIS PROPOSAL IS ON THE AGENDA OF THE IBC FIRE SAFETY AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

1. Add new text as follows:

IBC 1405.12.2 Window sills. In dwelling units, as applicable in Section 101.2, where a window is located more than 30 inches (762 mm) above the grade or other surface below, the sill of the window shall be a minimum of 36 inches (914 mm) above the finished floor of the room in which the window is located.

Exceptions:

1. Windows that are not operable.
2. Windows where only the top portion is operable and the bottom edge of the operable portion is a minimum of 36 inches (914 mm) above the floor.
3. Windows which will not open more than 4 inches (102 mm).

2. Add new text as follows:

IRC R613.2 Window sills. In dwelling units, where a window is located more than 30 inches (762 mm) above the grade or other surface below, the sill of the window shall be a minimum of 36 inches (914 mm) above the finished floor of the room in which the window is located.

Exceptions:

1. Windows that are not operable.
2. Windows where only the top portion is operable and the bottom edge of the operable portion is a minimum of 36 inches (914 mm) above the floor.
3. Windows which will not open more than 4 inches (102 mm).

Reason: Because of an ever increasing number of falls from windows in dwelling units, the U.S. Consumer Product Safety Commission, and an ever increasing number of cities and states are promoting and/or requiring the installation of window guards to reduce the number of debilitating and fatal falls from open windows. Logically, and from a common sense standpoint, the problem can be eliminated if the sills of operable windows are required to be a certain minimum height above the floor line. This is truly safety by design, and not an attempt to require safety by devices.

Substantiation:

- The 30 inch height of a fall which triggers the requirement is based upon the same 30 inch premise as that for requiring guardrails in the existing code.
- The 36 inch height for a sill is a median height based upon the height of guard rails in R-3 and individual dwelling units of R-2 in the existing code.
- The 4 inch sphere is from existing code language.

There will be no additional cost impact because of this change.

ITEM 1 (IBC)

Committee Action:

Disapproved

Committee Reason: The committee empathizes with the concerns of the proponent and the safeguards which are being proposed. However, the proposal may adversely impact other window related code requirements for light and ventilation and emergency escape. The proposal raises questions as to how effective such a provision may be when the positioning of furniture adjacent to a window (and thus a potential for climbing) is beyond the control of the code. Additional data as needed in order to differentiate between accidents, the types of accidents and other incidents. There is inconclusive data as to what the minimum sill height should be.

Assembly Action:

No Motion

ITEM 2 (IRC)

Committee Action:

Disapproved

Committee Reason: The compromise for the reduced sill height down to 20 inches is too lenient. The window industry should work on this and come back with the proper code language.

Assembly Action:

**Approved as Submitted-
Motion Failed**

Individual Consideration Agenda:

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Jim W. Sealy, FAIA, NCARB, Architect, Consultant, requests Approved as Modified by this comment.

Replace the proposal with the following:

1. IBC 1405.1.2.2 Window Sills. In dwelling units, where the rough opening for the sill portion of an operable window is located more than 72 inches above the ground or other surface below, that portion of the rough opening shall be a minimum of 24 inches above the finished floor of the room in which the window is located.

Exceptions:

1. Windows which will not allow a 4 inch diameter sphere to pass through the opening when the window is in its largest opened position.
2. Windows which are factory equipped with a device that will not allow a 4 inch diameter sphere to pass through the opening when the window is in its largest opened position.

2. IRC R613.2 Window sills. In dwelling units, where the rough opening for the sill portion of an operable window is located more than 72 inches above the ground or other surface below, that portion of the rough opening shall be a minimum of 24 inches above the finished floor of the room in which the window is located.

Exceptions:

1. Windows which will not allow a 4 inch diameter sphere to pass through the opening when the window is in its largest opened position.
2. Windows which are factory equipped with a device that will not allow a 4 inch diameter sphere to pass through the opening when the window is in its largest opened position.

Commenter's Reason: Of the more than 4,000 children who fall from open windows each year, many of them fall from windows whose sill height is close to the floor. The majority of these children are less than 3 years old, and a reasonably high sill will prevent the accidental falls that occur when the child is in a standing/walking posture. Those are the falls that occur because the sill height is lower than the child's center of gravity. Raising sill heights to the minimum set by this proposal does not interfere with the emergency egress height and does not interfere with the requirements for ventilation.

2003-2004 Cycle

RB205-03/04-AS

R613.2

Proposed Change as Submitted:

Proponent: Jim. W. Sealy, FAIA, NCARB, Jim Sealy, Architect/Consultant

Add new section as follows:

R613.2 Window Sills. In dwelling units, where the rough opening for the sill portion of an operable window is located more than 72 inches above the ground or other surface below, the rough opening for the sill portion of the window shall be a minimum of 24 inches above the finished floor of the room in which the window is located.

Exception: Windows whose openings will not allow a 4 inch diameter sphere to pass through the opening when the opening is in its largest opened position.

(Renumber remaining sections)

Reason: In 1973, New York City started keeping records of children falling from windows, when they recorded 192 falls with 32 of them resulting in fatalities. In 1999, The Consumer Product Safety Commission determined that approximately 4,700 children were treated in hospital emergency rooms for injuries suffered in falls from windows, with the largest number of children being under 2 years of age. Over the years many jurisdictions have enacted programs and/or policies that have been designed to reduce the number of window falls. While well meaning, they have failed and an average of 4,000 children still fall from windows every year.

The number of children that fall from windows that have a low sill height is not recorded but the number can effectively be estimated at approximately 25%, or 1,000 children each year who fall because a window sill was too low to the floor. This proposal, when enacted, will raise sill heights above the center of gravity of the smallest children and significantly reduce the number of window falls, thus reducing the number of children who suffer grave injuries, even death, from such a fall.

This proposal does not affect the requirement for emergency escape and rescue windows and does not in any way alter the design or manufacture of those windows. This pertains only to the placement of windows in exterior walls, which is strictly a matter of the aesthetic design of the wall and/or the exterior elevation of dwelling units.

By placing the restriction on the positioning of the sill portion of the rough opening for the window, the issue will be resolved before the finish work begins, and it will not require windows to be removed and replaced after they have been installed.

There is no cost impact associated with this change, other than reducing the amount that is spent in medical and hospital costs each year as a result of children falling from windows.

Cost Impact: None

Committee Action:

Approved as Submitted

Committee Reason: Based on proponent's published reason.

Assembly Action:

None

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Alan J. Campbell, representing WDMA, requests Disapproval.

Commenter's Reason: WDMA asks for a membership vote for disapproval. Setting an arbitrary minimum window sill height will not improve the safety of residential construction, but will in all likelihood negatively impact life safety.

Child window fall prevention has been an important public policy concern for many years. A comprehensive multi-pronged approach to child window fall prevention has been developed and endorsed or adopted by federal, state and local government agencies, as well as private safety organizations and experts. This approach relies on education and community outreach to encourage adequate parental supervision and the use of fall prevention devices where appropriate. The available data shows that this comprehensive and balanced approach has been successful; effectively reducing child window falls while not adversely affecting other potential safety issues - like the need to escape through a window in a fire emergency.

In contrast, the proponent has offered no data or technical information to substantiate that mandating any specific minimum window sill height (much less the proposed 24 inch sill height) would reduce or prevent injuries and deaths to children from window falls. Safety and industry experts, who collectively developed and implemented the existing multi-pronged effort, have not deemed minimum sill heights either necessary or desirable. Instead, their efforts have properly focused on supporting education and the installation of fall prevention devices where appropriate, rather than unnecessarily further complicating building design by establishing minimum sill heights that will serve only to distract everyone from the real solution. The ICC should take the same position.

WDMA offers the following additional observations in support of its position:

- The proponent has failed to provide *any* substantiated data that setting a sill height minimum will reduce child window falls. In fact, the proposal violates ICC requirements for code development. Without any supporting data, the reason statement declares that falls due to low sill heights “*can effectively be estimated at approximately 25% or 1,000 children each year....*” The proponent states that he has conducted research on the issue, but has not produced any verifiable data to prove that a sill height minimum would have the desired effect (in fact, the proponent has testified multiple times on behalf of different sill height proposals over the past couple of years, yet has never provided any credible data or substantiation). Section 3.3.4.3 of the ICC “Code Development Process for the International Codes,” states: *Substantiation: The proponent shall substantiate the proposed code change based on technical information and substantiation. The burden of providing substantiating material lies with the proponent of the code change proposal.* The proponent has failed to comply with these ICC requirements for technical justification.
- The supporting statement and public testimony for the proposal claims that educational efforts have not proven successful in reducing child falls. This is simply wrong. Educational programs have worked and are working. Programs like the NSC “*Kids Can't Fly*” Conference, the CPSC “*Protect Your Child*” brochure, Andersen Corporation “*Look Out For Kids*” and other measures including voluntary warning labels on insect screens have had a positive impact on the number of child window falls. The U.S. Consumer Products Safety Commission’s estimate of US deaths to children from window falls between 1993 and 2000 decreased by more than 33%. CPSC data also indicates a reduction of recorded falls by over 60% from 1994 to 2001. In fact, in several specific jurisdictions that implemented focused educational programs, significant measurable decreases in injuries related to child falls from windows have resulted. For example:
 - Boston, MA: *Kids Can't Fly* program of education about window falls and guards resulted in a decrease in child window falls by 83% between 1993 and 1997. Deaths to children from window falls went from three in the years prior to the program to zero.
 - New York, NY: The pilot program of education and guard use resulted in a 35% reduction in deaths and a 50% reduction in incidents attributable to falls from windows.
- The American Academy of Pediatrics (AAP) studied the issue of falls from windows roofs and balconies and issued a position statement containing their findings and recommendations. The recommendations include parental counseling on fall hazards, the proper use of window guards, educating parents about furniture placement and a caution about reliance upon insect screens. The AAP report also included concerns about any efforts that might inhibit the ability to use windows for emergency escape and rescue. It is important to note that while the AAP report includes building code considerations for such features as railing heights and vertical railing openings no greater than four inches, the AAP did *not* advocate the setting of a minimum sill height as a solution.
- Fire injuries and deaths to children (and adults) could result from setting a minimum window sill height (higher sills and reductions in the size of window openings will slow or inhibit egress in the event of fires) -- a fact that was dismissed by the proponent as insignificant despite the fact that current injury and death rates to children as a result of fire are more than 50 times greater than from window falls.
- Because of differing forensic conditions (including furniture placement), the propensity of children to climb, and the varying size and weight of children, there is no sill height value that can provide a fail-safe condition. If anything, higher windowsills will be more attractive to furniture placement and could produce a greater number of falls.
- Recognizing that window fall prevention devices are one appropriate solution, two ASTM standards for window fall prevention devices were developed at the request of the CPSC, to reduce the incidence of children falling from windows. The use of window guards has proven successful in reducing window falls in several jurisdictions, without the potential problems associated with mandating minimum sill heights.
- Setting a minimum sill height will provide a false sense of security that child falls have been eliminated due to a change in architecture. This false sense of security will only undermine crucial education and awareness efforts.

Setting a minimum sill height to prevent children from falling from windows ignores decades of study on this issue as well as the recommendations of leading national safety experts. Data shows that the programs currently in place—education, community outreach, standards for window fall prevention devices, and local ordinances are successfully reducing the incidence of child falls from windows. The introduction of a mandatory minimum sill height into successful fall prevention efforts without any substantiating data to prove that this step would have the desired effect would likely make the child fall problem worse, not better. Introducing a mandatory minimum sill height without regard for the potential negative impact on fire safety is not prudent. It is for these reasons that the ICC procedures call for technical justification for code proposals. The proponent has failed to provide that substantiation and this proposal should be disapproved.

Public Comment 2:

Michael D. Fischer, representing the National Sunroom Association, requests Disapproval.

Commenter's Reason: The NSA has been involved in the window safety debate for many years, participating in industry discussions including the Fenestration Industry Alliance and other efforts aimed at reducing child falls. Because most sunrooms are used for recreational space, our members are keenly aware of the factors leading to child window falls. The NSA supports industry efforts aimed at educating parents on the proper function of insect screens and the need to supervise children where the potential for falls exists. The NSA opposes the window sill height proposal for the following reasons:

- The proponent has not provided technical substantiation as required by the ICC. There has been no study linking window sill height to child falls. All available studies agree that furniture placement is the largest single factor in child falls.
- All of the child safety advocacy groups in the US who have studied the issue of child window falls have recommended educational programs and the use of ASTM compliant window guards. None have recommended sill height minimums.
- The proposal ignores the potential negative effect on emergency escape and rescue features of sunroom windows.
- The proposal is fraught with geometry issues that make it illogical. For example:
 - Many sunroom manufacturers use fixed windows or solid panels to provide knee-walls below operable windows. Those knee-walls are typically 12 or 18 inches in height. A sunroom built on a patio deck that is 66 inches above the exterior grade, and containing an 18 inch knee wall would not be allowed because the sill would be at 84 inches above grade and less than 24 inches from the floor. The design solution could be to *lower* the knee wall to 5 inches, putting the sill 71 inches from grade, making it compliant with the proposed text. The proposal would then have the effect of causing a *decrease* in sill heights, which according to the proponent would worsen the situation.
 - The other option in the condition described above is to raise the height of the knee-wall to 24 inches. The NSA members believe that higher knee walls would invite furniture placement, which the proponent admits is the single largest contributing factor in child window falls. In this case, the proposal could then have the effect of increasing the number of child falls by increasing furniture climbing, *and* any falls occurring at that higher sill would then be farther from the ground.

It is apparent to the NSA members that there is no magic sill height number that can solve the problem of child window falls. The illustration above shows that even if you did believe the totally unsubstantiated reason statement, this proposal fails to provide a solution. Education, awareness programs and the use of window guards have demonstrated records of success in reducing child falls from windows.

Public Comment 3:

Joseph A. Hayden, representing the Pella Corporation, requests Disapproval.

Commenter's Reason: This proposal would establish a minimum sill height requirement for operable windows in certain applications. Although the intent is admirable, this proposal is not supported by data and could do more harm than good. Therefore, Pella Corporation does not support this proposal, and urges the ICC to disapprove it.

Section 3.3.4.3 of the ICC Document "Code Development Process for the International Codes" states: "*The proponent shall substantiate the proposed code change based on technical information and substantiation. The burden of providing substantiating material lies with the proponent of the code change proposal.*". To date, the proponent has not complied with this requirement.

We believe the proponent has acted with genuine sincerity and the best of intentions. Certainly Pella is supportive of valid proposals that will improve the overall safety of the constructed environment, provided the proposals are supported by appropriate data. Making code changes without any such data is not only a violation of ICC regulations, it is very plausible that this code proposal—while offered with the noblest of intentions—could actually have the opposite effect of that intended.

The proponent has argued that adoption of this proposal will reduce the number of injuries and deaths from falls through open windows. That claim has not been substantiated by statistically significant data. Will the proposal result in more safety, less safety or have no impact on safety? It is possible that any minimum sill height could actually increase the number of these occurrences. Higher sills may entice homeowners to place furniture, such as beds and sofas, next to or under more windows. This could provide more opportunities for children to climb or play on furniture near open windows, which in turn could lead to an increase in the number of potential injuries and deaths.

It is also possible that mandating higher sills could hamper swift, safe exits from homes and other buildings in the event of fire for two reasons:

- > The difficulty of exiting through a window likely increases as the sill height increases.
- > The enticement to place furniture next to more windows could potentially block access to the windows.

Based on the lack of substantiating data, and not knowing whether the proposal increases or decreases safety, Pella Corporation urges the ICC to disapprove this proposal.

Thank you for your attention and consideration.

Public Comment 4:

Jeff Inks, NAHB, requests Disapproval.

Commenter's Reason: After thoroughly reconsidering this proposal and the substantiation for it, this comment is being submitted less out of concern about the potential unwarranted design and cost impacts that would result from this proposed amendment, but rather out of concern about the precedent that will be set. Approving an amendment substantiated only by subjective conclusions based on limited data simply because "we have to do something" ignores the need for a rational technical basis for establishing minimum requirements.

Each of us is very sensitive to, concerned about and dedicated to ensuring the buildings we construct or are otherwise responsible for provide adequate occupant safety. By and large we have accomplished that and no one is arguing that we can't improve upon it further. However, those improvements must, in the interest of preserving the integrity of the building code process, be based on sound technical information that adequately substantiates that such an amendment will result in a practical improvement in occupant safety. We simply don't have that here and we should not compromise the process even when the issue deals with the accidental injury and sometimes death of infants and children - something that is very upsetting to all of us.

There is no documented relationship between center of gravity, window sill height and falls from windows and therefore no basis for establishing what is "too low," what an adequate minimum is, the role the window sill height plays, especially in relation to other relevant factors or that there is even a need for such a requirement.

Assuming that establishing a minimum window sill height to 24" will have a significant impact on reducing window falls of infants and younger children is just that - an assumption, and one that is based on limited data to support that assumption. Furthermore, there has been no discussion or apparent consideration for unintended consequences that may result from such an amendment, such as encouraging climbing near windows which is a significant factor in window falls involving children.

Of the interest weighing in on the issue such as the National Safety Council, American Association of Pediatrics, Consumer Product Safety Commission, the Timothy Healy Foundation, and other national, state and local agencies and organizations, regarding children falling from windows, there has been little to no discussion or concerns raised with respect to window sill height being a significant factor in these falls and no advocacy efforts on their part, that we are aware of, to establish minimum sill heights in building codes. Given the great deal of attention these organizations have given the matter, that cannot be considered an oversight. They instead focus on preventive measures that have proven to be very successful such as the use of operable window guards and stops and community outreach and education about window safety.

The International Code Council, National Association of Home Builders, National Safety Council and other interests are all currently working together to improve window safety awareness. This course of action will assuredly contribute to reducing the number of falls from windows as opposed to setting a minimum requirement with only theoretical gains.

We therefore urge the disapproval of RB205.

Public Comment 5:

Jim Krahn, representing Marvin Windows & Doors, requests Disapproval.

Commenter's Reason: Marvin Windows & Doors urges disapproval of this proposal that seeks to establish a mandatory minimum sill height in the *International Building Code*. The tragic event of a child falling from a window has long been a concern to Marvin and many others in the window and building industries. Unfortunately, the proponent has painted an incorrect impression that such an elementary solution can resolve this very complicated problem. Years of study, data and our accumulated experience and expertise in this industry, clearly indicate to us that this proposal is the wrong answer to this terrible problem.

Several years ago, Marvin participated alongside many other interested parties in an effort by the Consumer Product Safety Commission to address the window falls issue. A minimum sill height mandate was not found to be a viable solution even though thoroughly explored. The reason it is not viable is because of the child's ability to get to the opening, regardless whether it is five inches or fifty inches off the floor, and that is the primary reason why children fall. CPSC data indicates that children have fallen out of windows from atop bookcases, from beds, from stools, from highchairs, from siblings' backs, and any other piece of furniture or object you can possibly imagine. Setting a mandatory minimum sill height does nothing to protect the opening or educate parents that they need to properly protect the opening, which is really the only way to reduce the risk of falls.

According to a CPSC report (*Consumer Product Safety Review*, Fall 2003, Vol. 8, No. 2), window fall incidents include the following patterns:

- Windows are often left open, with no appropriate protective guard in place.
- Furniture, like beds, sofas or chairs, are often near or under the windows.
- Frequently, no adult is present at the time of the incident.

Setting a mandatory minimum sill height does nothing to affect these common patterns. In fact, a code mandated sill height could exacerbate these patterns by creating the incorrect impression that the window is now safe and children are protected. It is also highly likely that a minimum sill height will tempt occupants to locate common furniture nearby or under window sills. Data clearly indicates that furniture is a prime culprit in window falls, whereas, in all our years of study, we have never seen any data to indicate that the height of the window sill is the determining factor in falls. In fact, in addition to the furniture risk, we are concerned that the higher the sill height, the more attractive the sill is for climbing. The CPSC activities determined that window guards and education are the most effective strategies to prevent falls.

Recent data indicates that the educational message is having an effect and that parents have a better appreciation that an open window - at any sill height - poses such a great risk for kids. Unfortunately, there is still considerable work to do on this front. For example, data shows that insect screens are still often thought of as adequate to prevent a child fall, despite the fact that they are designed to keep bugs out, not kids in. Teaching parents that they must protect the window opening, just like they are already accustomed to using guards and gates to protect openings at the top and bottom of their stairs, is a key to reducing the risk of child falls. The CPSC activities acknowledged this, and as a result, two ASTM standards were developed for window guards. Window guards are a highly effective solution and are now either recommended or mandated in many places.

In addition to the fact that the proposal will not accomplish the goal of preventing child falls - we are also concerned about other unintended negative consequences. If adopted, the new mandate will shrink the size/height of openings (or increase ceiling heights); severely reduce the number of egress window options; make the egress openings smaller; and potentially make the windows more difficult for the handicapped and elderly to reach and operate

We fully understand the desire to make a difference in child falls by devising a simple solution to this tragic event. However, for those that have been deeply involved in this issue for many years, we assure you this simple approach is not the panacea the proponent suggests. It has taken time, but our education and outreach efforts are working. Just like insect screens have created an incorrect

impression of safety for some parents and caregivers, so too will a minimum sill height lull parents into believing the height of the sill will protect their child from falling out of an open window. The sill height requirement could even undercut the adoption of educational programs and window guard requirements. In other words, such a proposal stands to make the jobs of those dedicated to prevent window falls even harder. We urge you to disapprove this proposal and to resist the temptation to implement a simple solution that will not solve this very complicated and tragic problem.

Public Comment 6:

R. Christopher Mathis, representing MCSquared, requests Disapproval.

Commenter's Reason: This code proposal is a perfect example of good intentions with potentially devastating results. While, on the surface, it may seem reasonable to assume that setting some minimum sill height might reduce the likelihood of toddlers falling from windows, the problems created by this action may actually cause more accidental injuries and deaths to children (and others). Doctors, fire officials, regulators and others have studied injuries to children and falls. We should listen first to **their** recommendations before coming face-to-face with the law of unintended consequences.

I am a building scientist with over 25 years experience in the building industry, focusing on the performance of buildings, building products, codes and standards. This experience, coupled with a brief review of the published data and expert recommendations on the subject of children falling, has led me to believe strongly that establishing a minimum window sill height is not a reasonable solution (or even part of the solution) to preventing children from falling from windows. While it is understandable and well-meaning to want to implement a code fix for this complex problem, not every building-related issue can be resolved by the building code.

We all want to protect children. However, I believe that the preliminary approval of this proposal was based on false assumptions. Too many questions remain unanswered. I have conducted a brief investigation into and find dramatically different information, recommendations and conclusions regarding falls from windows, window safety and fire safety from numerous sources (cited below).

At the outset, the proposal violates a fundamental principle that should be kept in mind in reviewing all proposed code changes – “First Do No Harm”. In other words, code officials must weigh the substantiated benefits (if any) of any proposal against the risks of harm.

Setting a minimum window sill height requirement fails this first building code test. And the risks are large. The proponent says his proposal will protect children less than two years of age. Assuming, for the sake of argument, that he is correct, will we be inadvertently harming children older than two? How about those children that are curious and climbers and can disappear from a parent’s sight in just a blink? And if sill height requirements are established, should they be the same for one- and two-family dwellings versus high-rise multi-family housing (statistics show that high-rise multi-family housing is the most at risk for falls)? Are we causing unintentional harm with a two-foot minimum sill height? (For example, I suspect that a “safe” sill height for one age group might be an “increased climbing temptation” for another.)

What about the elderly and disabled? For example, there are established requirements for window operating force and locking ease for those with physical handicaps. Does artificially setting a minimum window sill height impact compliance with these requirements? Will the window locks be reachable and operable? Are the window egress challenges for elderly housing the same as for housing containing toddlers?

What about fire fighters and egress openings? In full fire-fighting gear? The proponent offered no evidence to address any or all of these potential issues. How can we set any sill height minimum requirement without considering ALL of these potential issues and feasible, alternative measures? Do we even KNOW if we are doing no harm? If we cannot answer these questions confidently, then the proposal should be rejected outright.

Another reason that the ICC should reject this proposal is that the numbers just don’t add up. The proponent offered some claims and numbers implying some statistical validity to the proposition that raising window sill heights would save lives. Well, the numbers are simply not supportable. I did a simple internet search to check the claims. While my search was in no way exhaustive, the actual data is dramatically different from the claims of the proponent. Here is a small sampling of what I found in a few hours of searching:

- According to the National Center for Injury Control and Prevention, in 2001, the top 8 causes of death from unintentional injuries to children, ages 1-4 were as follows:

Cause of Death	Number of Deaths	Percentage
MV Traffic	558	32.6%
Drowning	458	26.7%
Fire/burn	230	13.4%
Suffocation	138	8.1%
Pedestrian/Other	81	4.7%
Natural/Environment	42	2.5%
Fall	32	1.9%
Poisoning	31	1.8%

This data on falls includes falls of all types (not just from windows). The data is not broken down to window falls. According to the same database, deaths from child falls (ages 1-4) have been declining over the past 20 years:

All Falls	1981-1985	1986-1990	1991-1995	1996-2000
Total Deaths	454	357	313	229
Deaths Per Year	91	71	63	46

- The Consumer Products Safety Commission (CPSC) is aware of 120 fatalities from window falls from January 1, 1990 through May 15, 2000. 37 of these were under the age of two.

So, on average, approximately 12 children die each year from falls from windows. All window falls. From bouncing on the bed, to being pushed, to trying to escape from fire, from ALL window related falls.

If we focus our consideration to children under the age of two, as the proponent referenced, we are addressing, on average, three to four deaths per year, again with no substantiation of the circumstances of the fall. (The CPSC data does not separate “types” of falls – from escaping fire to infanticide.)

So, if these are all of the falls, how can the proponent credibly claim that ANY are specifically due to window sills “too low to the floor”?

No one wants to know this much about the tragedy of injuries to children. But we MUST consider accurate information when making decisions about our codes designed to ensure life safety. This information is offered, in part, so that everyone can have as MUCH information as possible when considering this issue.

There actually was some positive news found during my internet search. There are proven programs that have been very successful at reducing and preventing falls from windows. For example, in 1976 New York City adopted an extensive education program coupled with requirements for window guards (<\$10 each) to reduce the number of falls from windows. The results are phenomenal:

- In 1973 there were 192 falls resulting in 32 fatalities;
- In 1993 there were 48 falls resulting in 6 fatalities.

The proven strategies for reducing the number of falls from windows according to all of the information that I have seen is (1) Education combined with (2) Window Guards. Major cities from New York to Boston to Chicago have already tackled this challenge with great success:

- “The [education] program has widespread effect, reaching nearly 8.5 million people since the beginning of the program in 1993. Between 1993 and 1997, there was an 83% reduction in the number of children falling from windows in the Boston area.” Boston Public Health Commission.
- “The “Children Can’t Fly” program has reduced the numbers of accidental falls by 96% in four years.” Schermer, Carol R., MD, FACS, *Injuries Due To Falls From Heights*, Report to the Subcommittee on Injury Prevention and Control, American College of Surgeons, Chicago, IL. 2002. (Additional references cited: Barlow B, Niemirska M, Gandi RP, et. al. “Ten Years of Experience With Falls From Height in Children” *Journal of Pediatric Surgery*. Volume 18(4):509-511, 1983 and Spiegel CN, Lindaman FC. “Children Can’t Fly: A Program to Prevent Childhood morbidity and mortality from Window Falls”. *American Journal of Public Health*. Volume 67(12):1143-1147, 1977.)
- New York State Department of Health: “Window Guards are the most effective tools for preventing children’s falls from windows.” Info. for Consumers. (Window guards have become so recognized as an effective prevention strategy that ASTM standards have been developed for both egress windows and high rise, non-egress windows. [ASTM PS120-99 and PS 112-98].) And on the “common sense” side of the equation:
- “In children and older adults, supervision is generally considered the strongest (yet least understood) of the protective factors against falls” Schermer, Carol R., MD, FACS, *Injuries Due To Falls From Heights*, Report to the Subcommittee on Injury Prevention and Control, American College of Surgeons, Chicago, IL. 2002.

So, there are proven programs to help prevent accidental falls from windows. Parental education coupled with window guards are proven to save lives. Proven. Before we change the code with unproven ideas and speculation, should we first fully and completely embrace what we know works?

I also find it curious that the proponent states that there will be no cost for this proposed code change. Without any research I can see at least two areas where there may be significant potential cost impacts – ceiling heights in multi-family and single family structures as well as window selection and design changes for architects/builders. Many ceiling heights in second and higher floors, especially in high-rise or multifamily buildings, are often built to 7.5 feet. Windows that currently meet the egress requirements in these spaces may no longer comply if the sill height is raised 2 feet off the floor. Many of the windows and designs that architects and builders currently use would have to be changed.

So, how can we say there will be “no costs” associated with this decision? Whether an architect or builder redesigns with a different window or a higher ceiling height, there will be more costs. I know that the focus here is child safety. But let’s understand that there will be costs. These costs have NOT been quantified (as required by ICC).

We should be focused on safety, but we may actually be less safe with this proposal. And there are other potentially negative results. Will such a proposal not limit product and design choices for architects, builders and homeowners? How many windows made today will no longer fit into the available space? Don’t shorter windows mean less daylight? Less view? Isn’t that why we even HAVE windows? What problems will cramming egress windows into smaller spaces cause? And I am not even talking about the aesthetics of home and building design.

These issues would be insignificant if the proponent’s proposal were likely to save children – unfortunately, that seems unlikely

from all of the information that I have seen.

Real data, real doctor and expert opinions and proven safety programs suggest other courses of action. Education works. Window and door guards work. Safety gates work.

Lastly, let's not give parents the wrong idea. We do not want parents to think that any child can be safely left unsupervised, regardless of the window sill height. With education, we will also teach parents about the proven safety of window guards. Let's teach the nation's new parents about REAL safety. Let's not let them think for one second that any window sill height is a safe one. I encourage code officials to reject this specious proposal. Thank you.

Public Comment 7:

James F. McMullen, The McMullen Company, requests Disapproval.

Commenter's Reason: The proposed code change should be disapproved. It is totally without substantiation and the reasoning misrepresents the facts. The reason statement, as well as testimony before the committee, inappropriately criticizes current educational efforts, underway for many years with a demonstrable record of success. More importantly, the reasoning ignores the potential adverse effects that setting a minimum window sill height will likely have on other areas of life safety.

I served on the ASTM F15.38 Window Fall Prevention Committee, which developed the two standards that are currently in effect for window fall prevention. As the fire safety representative to that committee, I was very concerned about the emergency escape and rescue features of window products. Based on my 40 years of experience related to fire safety issues, I am also particularly concerned about the impact of this proposal on fire safety. It is also very important to note that this concern has been dismissed by the proponent as irrelevant. Some of the very important fire safety issues that must be considered in any proposal to address window falls include:

- The model code bodies have considered the critical importance of the issue of emergency escape and rescue over many years. For example, text in the UBC '91 Commentary Handbook states: *"The very essence of the requirement for emergency escape windows is that a person must be able to effect escape or be rescued in a short period of time because in all probability the fire will have spread to the point where all other exit routes are blocked. Thus, time cannot be wasted to figure out means of opening rescue windows or obtaining egress through them. Thus, any impediment to escape or rescue caused by security devices, inadequate window size, difficult operating mechanisms, etc., is not permitted by the code."* Just as egress opening sizes are minimum code requirements, so are sill height maximums contained in code requirements. The value of 44 inches as a maximum sill height for emergency escape and rescue openings, while permitted, is certainly far from optimal. Adding an additional requirement for a minimum sill height is in direct conflict with the UBC Commentary.
- Unfortunately, a minimum sill height will reduce the space (height) available for the window, which will effectively limit the available egress windows to only those meeting the *minimum* standards. Windows with larger, more optimal openings will be prohibited. Emergency Escape and Rescue openings are required to have minimum height, width and area size. These values are *minimum* requirements- not necessarily optimal for rescue personnel. In fact, the opening height and width dimension minimums for egress window openings are not allowed to be used together- only one of those values is permitted to be at minimum due to the minimum area requirement. The New York City fire training program *"Back to Basics"* addresses egress and states, *"I don't know too many firefighters who can climb through a double-hung window that is open only at the bottom wearing full protective gear and SCBA."* If this issue is of concern to firefighting trainers, it should concern the proponents of sill height minimums. The last thing we need is a code change that would likely result in a decrease in the net average size of egress windows.
- Emergency escape and rescue from fire events is given the highest importance in code language and is among the more strictly enforced areas of code concerns. The proponent nonetheless states in an article in Southern Building *"given the results of that research, the opening dimensions for windows can be reduced and then they would be subjected only to the requirements for ventilation and the height limitations for escape."* This position shows the proponent's total disregard for the greater problem of injuries and deaths from fire events- to both occupants and rescue personnel.
- Raising the window sill height places the window higher in the wall – this may cause operating hardware locations to be too far from the reach of disabled occupants, a critical problem for the emergency escape function.
- In a statement during his testimony addressing emergency escape and rescue concerns the proponent stated: *"My research has yet to reveal a fire fighter who does not 'clear the opening'".* He further makes claims based upon the results of that research, yet none of this "research" has been published or made available. In fact, in an article in Fire Engineering, John Carlin a firefighter and fire coordinator for the Town of Hamburg, NY, states that controlled venting of a fire could require windows to be opened and then closed again or even removed during the fire depending upon the situation. The article also cautions against indiscriminately breaking windows at fire scenes due to the fact that the introduction of oxygen into the environment could quickly intensify the fire, pointing out that control of the oxygen and air flow to the fire is critical. NFPA also teaches that occupants trying to escape from fires should not break windows due to the potential injury to rescue personnel below.
- A minimum sill height is contrary to the notion that escape by occupants from fires is best accomplished by getting as close as possible to the floor to reduce smoke inhalation and increase the availability of clean air. "Crawl low under smoke" is a recognized fire safety message.
- The NFPA statistics report over 500 deaths to children per year in residential fires, **about fifty times the number of deaths from child falls**. Any code change attempting to eliminate child fall deaths must not cause a corresponding increase in child fire fatalities. This proposal provides no data to counter the likelihood that setting a sill height minimum would have a negative impact on fire/life safety.

The proponent's claim that education and window guard programs do not work has no basis in fact. For example, the proponent cites New York City as an example where a window fall prevention program failed. As a member of the ASTM committee that developed the window guard standards, I take exception to that claim. In 1976, the New York City Board of Health passed a law requiring the owners of multiple-story dwellings to provide window guards in apartments where children 10 years and younger reside. This law was passed after the implementation of a pilot program combining education with the provision of free window guards. The pilot program resulted in a 35% reduction in deaths attributable to falls from windows and a 50% reduction in incidents; no child fell from a window equipped with a window guard. The mandatory program resulted in a reduction of up to 96% in admissions to local hospitals for the treatment of

window-fall-related injuries. Follow-up through 1993 revealed a continuing downward trend. This success story is cited by many safety organizations throughout the country as a model to follow. Certainly, window falls remain a problem, but that is because not enough jurisdictions have aggressively pursued an educational and window guard based program, not because such a program does not work.

The proponent admits that there is no recorded information as to whether the height of the window sill played any role in children falling out of a window or whether a chair, table or other furniture was used to climb out of the window. Instead, the proponent has written “*even if you don’t consider the statistics, the facts cannot be denied*”. It is only this lack of consideration of the available statistics that would permit this proposal to be approved. Nevertheless, the proponent speculates about the cause of child window fall accidents and invents a remedy of a minimum 24 inch high window sill. In doing so, he ignores the numerous experts and concerned citizens who have worked on this issue for years. None of the leading safety advocacy groups that studied the child window fall issue have ever recommended mandating sill heights as a means of reducing or eliminating falls.

In sum, this code change is ill-conceived and totally without substantiation. From a fire safety perspective, I have a grave concern that this proposal would begin to erode the life safety function windows play as avenues of emergency escape and rescue. I strongly recommend disapproval of the proposal.

Public Comment 8:

Thomas Meyers, City of Cherry Hills Village, CO, representing the CO Chapter ICC, requests Disapproval.

Commenter’s Reason: The proponent did not submit any technical justification to show that 24” minimum sill height prevents falls. He refers to 24” being above the center of gravity of the smallest children but did not provide documentation showing sizes and ages of children and their respective centers of gravity. Before making this change, a study should be conducted to determine if the falls occurred ONLY when the sill was less than 24” high and whether the placement of furniture in front of the window contributed to the fall.

This change would not apply to window seats since the wording refers to “24 inches above the finished floor” and not to the top of built-in furniture.

Public Comment 9:

Andrea Nordaune, representing the Andersen Corporation, requests Disapproval.

Commenter’s Reason: Andersen Corporation opposes mandating a minimum sill height for windows for one- and two-family and multiple single-family dwellings in building codes. As a result, we request that the proposed code change be Disapproved.

Summary of Position: Andersen has been committed to quality building products and the safety and well-being of all building occupants from the very beginning of our company. As part of this commitment, for the past 15 years, Andersen has worked to raise awareness about window fall prevention. We have worked hand-in-hand with industry, code officials and government representatives, non-profit safety organizations, and fire safety experts to better understand and appropriately address this complicated issue. Based on this work, we believe current prevention efforts are working and are gravely concerned that imposing a sill height minimum, without fully understanding its impact, could promote more falls by providing a climbing aid for children and by creating a false sense of security among caregivers that they no longer need to supervise their children around open windows because the risk of falls has been fully eliminated by the code-mandated placement of windows into walls. And, we remain very concerned about any proposal that would reduce the size of a window opening that could be used for emergency escape and rescue.

We oppose a code requirement for a minimum sill height for windows for the following reasons:

- (1) given our extensive experience on this issue, we believe that education and the use of window fall prevention devices are the most effective tools to prevent falls from windows without adversely impacting the emergency escape and rescue function of a window;
- (2) while it may seem intuitive that a higher sill height could prevent some falls, this fails to take into account the likelihood of increased falls due to the placement of furniture permitted by higher sill heights and the attractiveness of a higher sill height to children that climb and do not yet associate the risk of falling with that action; and
- (3) there is no verifiable data to suggest that:
 - a. sill height is a contributing factor to a fall from a window; or
 - b. that any specific sill height (within the realm of reason) would prevent falls from windows.

Over the course of the comprehensive efforts to address window falls noted above, setting a minimum sill height (at any dimension) has never been determined to be an effective way to prevent or reduce child falls and resulting injuries. If it were a viable solution, we (and other interested stakeholders) would have already incorporated a minimum sill height into our strategy and would be encouraging others who had not reached that conclusion on their own to do the same. It should be clearly understood, Andersen and other window manufacturers will continue to be able to make and sell windows regardless of the sill height requirements – our concern here is the safety of those who use our products.

Research and education. It is important to note first that the issue of children falling from windows and the best approaches for preventing these tragic occurrences has undergone considerable study. Andersen has been actively involved in this process.

In 1992, a group with representatives from the window and building industries, building code community, and the fire safety community was formed to study two issues: (1) falls from windows and (2) entrapment if people are unable to use windows for escape or rescue in an emergency. The study group collected and analyzed data about injuries and deaths caused by falls and fires. The findings were: among children, the most vulnerable age group for injury or death from both falls and fires is 1-4 years of age (but people of all ages and abilities are subject to both of these potential hazards); and the incidence of injuries and deaths related to fire is much

higher than the incidence of injuries and deaths associated with window falls. Two major conclusions were drawn from this data: (1) any proposed measure to prevent falls from windows must in no way impede escape or rescue through the window in an event of an emergency, such as a fire, thereby increasing the already high risk of fire death and injury; and (2) the most effective deterrent to both fire injury and falls from windows is a multi-faceted program which includes education and community outreach programs.

The subject of preventing child falls from windows was again studied in 1994, when the Consumer Product Safety Commission organized a roundtable to discuss this concern. Representatives from the CPSC and industry, as well as building code representatives, child safety advocates, injury prevention specialists, and fire safety experts attended the roundtable session. The results of the roundtable and follow-up meetings were twofold.

First, an education coalition was formed with representatives from the window and insect screen industries and coordinated through the National Safety Council. The coalition agreed to an initial three year education campaign to promote greater awareness of child falls from windows and of the life-saving function windows play as an avenue of emergency escape in a fire. In 1997, the coalition developed and distributed a brochure entitled, "Keeping the promise of safety." The coalition also created special news releases and articles, developed a specific National Safety Council website devoted to the topic, and created National Window Safety Week, which is held the last full week of April each year. On the website, window safety tips, a checklist, and downloadable teaching aids are provided. The educational efforts of this coalition are ongoing.

Second, the CPSC approached the American Society of Testing and Materials to spearhead the development of a standard to address the application and performance of window guards to non-egress and egress windows. In 2000 and 2001, two ASTM standards were enacted: the first for window fall prevention devices (non-releasable) for application to windows installed above 75 feet from the ground, and a second for window fall prevention devices with release mechanisms for application to windows installed 75 feet above ground and below (the height at which a firefighter can perform a rescue). The second standard requires that window guards intended for use 75 feet and below contain release mechanisms to allow for emergency escape and rescue.

Various national and local programs to prevent window falls have been in place since the late 1980s:

- **Consumer Product Safety Commission ("CPSC").** In the mid-1980's, the CPSC developed language addressing window falls for inclusion in the CPSC brochure, "Protect Your Child." The brochure stated: "Keep children away from open windows to prevent falls. Don't depend on screens to keep the child from falling out of the window. They are designed to keep insects out, not children in. Avoid placing furniture near windows to keep children from climbing to a window seat or sill."
- **National Safety Council.** In 1987, the National Safety Council worked with the Home Falls Council to develop the "Humpty Dumpty" brochure to help educate caregivers on how to avoid child injuries caused by falls in the home—including falls from windows. One of the recommendations contained in the brochure was: "Don't put beds or other furniture in front of windows." At the time, the National Safety Council advised that the brochure was one of the most successful it had developed.
- **Insect Screen Warning Labels.** Andersen and its screen supplier worked with human factors experts to develop and apply a label to insect screens which would reaffirm to caregivers that insect screens are not designed to keep a child from falling out a window and to remind parents to keep children away from open windows. In 1992, the Screen Manufacturers Association adopted the same warning label format as a guideline for warning labels for insect screens. The SMA developed and released a proposed standard (SMA 7001) in 1992 that established specifications for warning labels. The CPSC used this warning label format on its "Consumer Product SAFETYALERT" entitled "CPSC Warns About Falls from Windows," first issued in 1993. Insect screen warning labels are available for retrofit use.
- **LookOut for Kids® program.** In 1992, Andersen developed its own window and fire safety program and brochure entitled "LookOut for Kids," as a proactive effort to increase awareness and to educate consumers about window safety. The key objectives of the LookOut for Kids program are to inform consumers that windows provide a vital avenue of emergency escape and to help educate parents and caregivers about how to prevent falls from windows. The brochure states: "When young children are present, windows should be closed. If ventilation is necessary, a window out of the reach of children should be opened." More than 1,750,000 brochures have been distributed nationally to date.
- **New York City.** The New York City Health Code requires owners of multiple dwellings (3 apartments or more) in New York City to provide, install, and maintain window guards when a child (or children) ten years old or younger lives there. Tenants with no children – or none living at home – may also request and receive window guards if they want them for any reason.
- **New Jersey.** New Jersey passed a window guard law in 1995 which requires landlords to install window guards whenever they receive written requests from families with children younger than 10 living above the first floor.
- **Boston.** Boston's Kid's Can't Fly program, founded in 1993, couples ongoing public education with the dissemination and voluntary installation of window guards.

These combined efforts appear to be working to reduce the incidence of child falls, without compromising the use of the window as an avenue of emergency escape and rescue. From 1993 to 1995, in Boston alone, the number of window falls declined by 83%. New York City's code and Children Can't Fly program is credited with reducing window falls by 50%. Data from the National Center for Health Statistics shows that, on average, unintentional-injury (accidental) deaths of children due to falls from or out of a building or other structure declined from 1990 to 2000. At no time during the discussion of prevention or analysis of the data has sill height been identified as a potential viable solution.

No data. While the code proponent has made proposals to the ICC for a minimum sill height in both 2002 and 2003, at no time has he submitted verifiable data to support his proposals. He has not shown how many, if any, falls have been due to sill height. Nor has he shown what sill height would have prevented falls and why. He has not shown whether or not his proposal would result in more falls due to climbing and/or more deaths or injuries due to fire escape issues. Finally, he has not shown that existing efforts are not working.

In 2002, the proponent submitted a proposal to require all operable windows in residential single-family and multi-family applications to be installed at a sill height no less than 36 inches from the floor (with limited exceptions). No data was presented to show that enactment of the proposal would have the intended effect of preventing child falls from windows, and the proposal was found unpersuasive by both the Fire Safety and IRC Committees. At the Final Action hearing for 2002, the proponent revised his proposal from 36 inches to 24 inches from the floor. The ICC voting membership rejected this proposal too.

In 2003, the same proponent again proposed a minimum sill height requirement – the same height proposed and rejected at the Final Action hearing the previous year – no less than 24 inches from the floor. Again, no verifiable data was presented to support the

proposal, and no rationale was provided for lowering the proposed minimum sill height from 36 to 24 inches. Inexplicably, the proposal was preliminarily approved by the committee at the hearings last fall. We recommend that the voting membership correct this action and reject this proposal again.

Safety risks of higher sill height. In the absence of verifiable data, we are concerned that imposing a minimum sill height would have the unintended effect of increasing the risk of child falls. Given a child's curiosity, coupled with a child's documented drive to climb, any sill height is arbitrary and can be overcome. Research shows that children climb on furniture to reach a window to look out. In fact, a higher sill height is likely more attractive to children than a lower one from a climbing point of view. Research also shows that children in the most vulnerable age group of 1-4 do not understand the consequences of potentially falling from a height to which they have climbed.

A higher sill height would also encourage homeowners to place furniture, a climbing device for a child, directly under the sill. CPSC data indicates that children as young as 1 year old have fallen from windows after climbing on furniture placed under a window sill. Even when furniture is not placed directly under windows, children can move chairs and other furniture to the window to provide them with a climbing aid. Common household furniture heights are often around 24 inches in height (e.g., chairs: 17-19"; beds: 24", 27"; storage chests: 19", 21"; end table: 20 1/2", 25 1/2"; piano bench: 21", 22 1/2").

Conclusion. A child's fall from a window is a tragic accident. While preventing these tragedies by imposing a higher sill height may appear to be logical, a thoughtful probe of the issues and available data leads to the conclusion that there is no verifiable data to support a higher, realistic sill height to prevent falls. Quite to the contrary, there is reason to believe that a mandated sill height could lead to a greater risk of falls from windows because of a child's propensity to climb and the enticement to place furniture near or under the sill. We are also concerned that a mandatory sill height could have a negative impact on the use of windows as avenues of emergency escape. Further, imposing a minimum sill height could falsely lead caregivers to believe that any concern about window falls had been eliminated by building design. This false reliance on the design of the building could lead caregivers to ignore window safety educational messages regarding fall prevention because they would misguidedly believe the code had eliminated all risk of falls. Based on existing data and our study of the issue over the last 15 years, we are convinced that educational efforts, including education about the appropriate use of window fall prevention devices, like guards, are the most effective and appropriate measures to continue to reduce child falls from windows. We are committed to continuing those educational efforts. We therefore urge the building code community to disapprove this code proposal.

RB206-03/04-WP R613.2

Proponent: Rick Davidson, representing City of Hopkins, MN

Add new text as follows:

R613.2 Window sills. Windows on floors above the first story above grade shall have a sill height of not less than 36 inches above the floor.

Exceptions:

1. Windows fixed in a closed position.
2. Windows protected by a guard meeting the requirements of section R316.
3. Windows that are prohibited from opening such that a sphere 4 inches in diameter will not pass through.
4. Windows that have no openable area within 36 inches of the floor.

Reason: Both the IRC and the IBC require a guard be installed to a height of 36 inches in the screen walls of screen porches if the porch floor is 30 inches or more above grade, even if the screening is not openable. Many homes are sold with sliding doors above grade without a deck or landing. It is common practice in most building departments to require protection of the sliding door openings by either requiring a guard to a height of 36 inches be placed across the door opening or blocking the door so it won't open to 4 inches if the door sill is more than 30 inches above grade. If a landing or deck is built and it is more than 30 inches above grade, that landing and deck must be protected to a height of 36 inches with a guard. The definition of a "guard" is: "A building component or a system of building components located near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to the lower level." What is a walking surface? The term is not defined but if one reads section R308 Glazing, the term is broadly and repeatedly used to help identify windows that must be protected with safety glass in a multitude of locations. If Section 316 Guards is read literally, one could argue that it already requires a guard if the window is not protected to a height of 36 inches above the floor and the floor is more than 30 inches above grade. It seems as though a minimum standard for protection has already been established and that is that any floor that is more than 30 inches above grade should have no unprotected openings that are less than 36 inches above the floor. This proposed amendment, which will only apply to windows in the first story above grade, clarifies the broad concept of protecting openings that are less than 36 inches above a floor when the floor is more than 30 inches above grade or the floor before. While it is often argued that there is a parental responsibility to watch children to prevent them from falling out of a window, the same argument could be made for a deck 8 feet off the ground without a railing. If the parent supervises the child properly they won't fall off the deck. The same argument could also be made for adults and may be more appropriate since adults should know better than to get to close the edge of a floor they may fall from. If for no other reason than consistency, it seems appropriate to require window openings to be protected. But the more compelling reason is the added protection this requirement will provide for children. Complying with this amendment will come at no cost and significantly reduces the potential for falls by children from upper story windows.

Cost impact: This proposal will not increase the cost of construction.

RB206-03/04

Committee Action:

Withdrawn by Proponent

2004-2005 Cycle

RB176-04/05-AM-Part I; AM-Part II

R613.2 (IBC 1405.12.2)

Proposed Change as Submitted:

Proponent: Jim W. Sealy, FAIA, NCARB, Architect and Consultant

THIS PROPOSAL IS ON THE AGENDA OF THE IRC BUILDING/ENERGY AND THE IBC FIRE SAFETY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I — IRC

1. Revise as follows:

R613.2 (Supp) Window Sills. In dwelling units, where the rough opening for the sill portion of an operable window is located more than 72 inches (1829 mm) above the ~~ground~~ finished grade or other surface below, the rough opening for the sill ~~or lowest part of the operable portion of the window~~ shall be a minimum of 24 inches (610 mm) above the finished floor of the room in which the window is located. Glazing between the floor and 24 inches (610 mm) shall be fixed or have openings such that a 4 inch (102 mm) diameter sphere cannot pass through.

Exception: ~~Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position.~~ Openings that are provided with window guards that comply with ASTM F2006 or F2090.

2. Add new text as follows:

CHAPTER 43 REFERENCED STANDARDS

ASTM	
F2006-00	<u>Standard /Safety Specification for Window Fall prevention Devices for Non-Emergency Escape (Egress) and Rescue (Ingress) Windows</u>
.....	<u>R613.2</u>
F2090-01a	<u>Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms</u>
.....	<u>R613.2</u>

PART II — IBC

1. Revise as follows:

1405.12.2 (Supp) Window Sills. In Occupancy group R-2 and R-3, ~~one and two-family and multiple-family dwellings, where the rough opening for the sill portion of an operable window is located more than 72 inches (1829 mm) above the finished grade or other surface below, the rough opening for the sill, or lowest part of the operable portion of the window, shall be a minimum of at a height not less than 24 inches (610 mm) above the finished floor surface of the room in which the window is located. Glazing between the floor and 24 inches (610 mm) shall be fixed or have openings such that a 4 inch (102 mm) diameter sphere cannot pass through.~~

Exceptions: ~~Windows whose openings will not allow a 4 inch diameter sphere to pass through the opening when the opening is in its largest opened position:~~

- ~~1. Convents, Dormitories, Fraternities, Sororities and Monasteries.~~
- ~~2. Openings that are provided with window guards that comply with ASTM F2006 or F2090.~~

2. Add new text as follows:

**CHAPTER 35
REFERENCED STANDARDS**

<u>ASTM</u>	
<u>F2006-00 Standard /Safety Specification for Window Fall prevention Devices for Non-Emergency Escape (Egress) and Rescue (Ingress) Windows</u>	<u>1405.12.2</u>
<u>F2090-01a Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms</u>	<u>1405.12.2</u>

Proponent's Reason: At the hearings in Overland Park, several building officials asked that certain clarifications be made to the window sill proposals. They favored the inclusion of the provisions in both codes but felt that the changes that are reflected in this proposal would make enforcement easier.

It was never the intent to prohibit glazing below 24 inches, so that clarification is made. There has always been confusion about the interpretation of grade or ground and the building officials who made input to these changes felt that this modification is the appropriate language. The same reasoning was applied to the addition of the words "finished" and "surface".

The original intent of including the word "other" when speaking of a surface below was to distinguish that there could be a surface other than a walking surface, such as a roof below. The building officials who consulted with me felt that it was redundant to include the word "other" and therefore it is deleted.

The original intent of both proposals is to regulate the height of openings through which a toddler can fall, in dwelling units where families permanently reside. It was never the intent to "blanket" the built environment, as did the guardrail change that occurred a few years ago, but simply to address where children live. By specifically referencing R-2 and R-3, with exceptions, the clarification is made.

Addressing claims that the dimensions are arbitrary, they are not. The first proposals included dimensions that were straight out of the building code; i.e. a 36" sill came from the guardrail dimension in the IRC. The 30 inch trigger came from both the IBC and the IRC, for when a guardrail is required. The 4 inch sphere comes from the guardrail section. The membership felt that the 36 inches was too high, so I have lowered it to 24 inches, which puts the lowest part of an opening above the average center of gravity of a toddler. The 72 inches is not arbitrary, as it comes from the OSHA Standards. If the consensus is that 72 inches is too much, we can change it to 48 inches, which corresponds to requirements for a guard on a retaining wall.

Analysis: The proponent had not submitted the standards for review by staff prior to printing the monograph.

Cost impact: None

Note: Revise original analysis as published in the monograph as follows:

Analysis: In staff's opinion, ASTM F2006-00 and ASTM F2090-01a complies with Section 3.6 of the ICC Code Development Procedures regarding referenced standards.

PART I - IRC

Committee Action:

Approved as Modified

Modify proposal as follows:

R613.2 (Supp) Window Sills. In dwelling units, where the rough opening for the sill portion of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, the rough opening for the sill or lowest part of the operable portion clear opening of the window shall be a minimum of 24 inches (610 mm) above the finished floor of the room in which the window is located. Glazing between the floor and 24 inches (610 mm) shall be fixed or have openings such that a 4 inch (102 mm) diameter sphere cannot pass through.

Exception: Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position. ~~Openings that are provided with window guards that comply with ASTM F2006 or F2090.~~

**CHAPTER 43
REFERENCED STANDARDS**

ASTM F2006-00	Standard /Safety Specification for Window Fall prevention Devices for Non-Emergency Escape (Egress) and Rescue (Ingress) Windows	R613.2
F2090-01a	Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms	R613.2

Committee Reason: This change clarifies and improves the code language. The modification removes the reference to rough opening and refers to the lowest part of a clear opening rather than the lowest part of the operable portion. The standards were deleted because there was some question, in the Fire Safety Hearing, about the accuracy of the content. The committee approved this change with the understanding that this conflict with the previous action on RB177-04/05, Part I will be resolved during the Public Comment phase and the Final Action.

Assembly Action: **None**

PART II - IBC
Committee Action: **Approved as Modified**

Modify proposal as follows:

1405.12.2 (Supp) Window Sills. In Occupancy group R-2 and R-3, one and two-family and multiple-family dwellings, where the rough opening ~~for of~~ the sill portion of an operable window is located more than 72 inches (1829 mm) above the finished grade or other surface below, the rough opening for the sill, or lowest part of the operable portion clear opening of the window, shall be a minimum of at a height not less than 24 inches (610 mm) above the finished floor surface of the room in which the window is located. Glazing between the floor and 24 inches (610 mm) shall be fixed or have openings such that a 4 inch (102 mm) diameter sphere cannot pass through.

Exceptions:

- ~~1. Convents, Dormitories, Fraternities, Sororities and Monasteries;~~
2. Openings that are provided with window guards that comply with ASTM F2006 or F2090.

(Portions of the code change proposal not shown are unchanged.)

Committee Reason: The code change provides appropriate standards for fall prevention devices to be used in lieu of the 24" sill height requirement. This provides flexibility in design for prevention of child falls from windows. The modification restores the language one- and two- family and multiple family dwellings, to allow for the possibility that these might be included in another occupancy classification. The modification also removes reference to rough opening and more appropriately refers to the lowest part of the clear opening rather than the operable portion of the window. Further, the modification removes the exception for convents, dormitories, etc. because, even though there is a lower probability for child falls in these types of living units, there is still a concern that child falls could be a problem during some periods of use of these facilities.

Assembly Action: **None**

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

RB176-04/05 PART I

Public Comment:

Jeff Inks, representing the National Association of Home Builders (NAHB), requests Approval as Modified by this public comment.

Modify proposal as follows:

R613.2 (Supp) Window Sills. In dwelling units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, lowest part of the clear opening of the window shall be a minimum of 24 inches (610 mm) above the finished floor of the room in which the window is located. Glazing between the floor and 24 inches (610 mm) shall be fixed or have openings such that a 4 inch (102 mm) diameter sphere cannot pass through.

Exception: Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position. Openings that are provided with window guards that comply with ASTM F2006 or F2090.

**CHAPTER 43
REFERENCED STANDARDS**

ASTM
F2006-00 Standard /Safety Specification for Window Fall prevention Devices for Non-Emergency Escape (Egress) and Rescue (Ingress) Windows R613.2

F2090-01a Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms . . . R613.2

Commenter's Reason: Should the IRC B&E committee action to approve RB 177 be overturned, this exception provides a more reasonable option for addressing child safety concerns as well as the design and egress constraints that result from R613.2 as approved. Both are accredited standards for guards for non-emergency escape and emergency escape windows respectively. "Questionsabout the accuracy of the content" of those standards as stated in the committee reason have not been substantiated and in no way justify deleting the standards from the exception. "Questions" about accuracy can be raised over the content of any accredited standard referenced by any of the building codes. Furthermore, no explanation of what the concerns are has been provided.

RB177-04/05-AS/DF-Part I; D-Part II

R613.2 and 1405.12.2

Proposed Change as Submitted:

Proponent: Michael D. Fischer, representing Window and Door Manufacturer's Association

THIS PROPOSAL IS ON THE AGENDA OF THE IRC BUILDING/ENERGY AND THE IBC FIRE SAFETY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I — IRC

Delete without substitution:

~~**R613.2 (Supp) Window Sills.** In dwelling units, where the rough opening for the sill portion of an operable window is located more than 72 inches (1829 mm) above the ground or other surface below, the rough opening for the sill portion of the window shall be a minimum of 24 inches (610 mm) above the finished floor of the room in which the window is located.~~

~~— **Exception:** Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position.~~

PART II — IBC

Delete without substitution:

~~**1405.12.2 (Supp) Window Sills.** In Occupancy group R, one and two family and multiple family dwellings, where the rough opening for the sill portion of an operable window is located more than 72 inches above the grade or other surface below, the rough opening for the sill, or lowest part of the operable portion of the window, shall be a minimum of 24 inches above the finished floor of the room in which the window is located.~~

~~**Exception:** Windows whose openings will not allow a 4 inch diameter sphere to pass through the opening when the opening is in its largest opened position.~~

Proponent's Reason: Proposals RB 205 and FS 138 were the subject of much debate during the previous code cycle. This proposal would remove the language approved by committees during the 2003/2004 ICC code development cycle.

The problem of child falls from windows is a serious matter that deserves serious consideration. The issue has been studied by child

safety advocates and experts as well as fire safety professionals for decades. None of the nationally recognized advocacy groups who have explored years of data gathered from emergency room physicians under the National Electronic Injury Surveillance System, including the Consumer Product Safety Commission and the National Safety Council, have ever stated that sill heights are either a cause- or a solution- for child falls. In fact, the National Safety Council urged the ICC to oppose the adoption of sill height minimums in letters to the ICC staff Secretariats. Here is an excerpt from those letters:

“In 2002, a proposal was made to the International Code Council to require that all operable windows in residential and commercial applications be installed at a sill height no less than 36 inches from the floor. The stated intent of the proposal was to eliminate child falls from windows. The 2002 proposal to include this code language was rejected. In 2003, another proposal was made that would require a minimum sill height of 24 inches. The 2003 proposal was preliminarily approved in September. We have been informed that during the process no data has been presented to show either (a) that sill height is a contributing factor to falls from windows or (b) that any specific sill height would prevent falls from windows.

A code proposal purporting to reduce the number of falls from windows should be based on comprehensive data that proves that mandating a sill height will have the intended affect of preventing falls from windows. Without substantive data, the Council recommends that no specific minimum sill height for windows be approved by the ICC.”

In spite of the ICC requirements for technical substantiation, the proponent failed to provide a link between sill heights and child falls. No substantiation showing how the proposal would save lives from child falls has ever been presented. Mentioning a few random anecdotal cases where child falls occurred at windows with sills close to floor level does not constitute justification for making a wholesale sweeping change in the architecture of residential construction. The proposal ignores available data showing continued reductions in both child falls and fire related deaths, and also ignores the advice of many safety advocates that recommend against placing furniture against windows- especially beds in children’s bedrooms.

More importantly, the proposal to require sill heights ignores important considerations that will likely have a serious effect on fire safety. The proposal will reduce the size of emergency escape and rescue openings- and move them farther from the floor. Fire safety experts advise to “stay low beneath smoke” during escapes, but this proposal will make it more difficult to locate emergency escape openings. The proponent has ignored the potential deadly consequences of this issue. While it sometimes seems that a simple answer is best- the problem of child window falls cannot be considered without also considering the problem of egress and rescue during fires. This is not a simple problem- and setting a minimum sill height does not come close to solving it.

Cost impact: None

PART I - IRC

Committee Action:

Approved as Submitted

Committee Reason: This issue needs to be addressed by parenting skills and education. This does impact the design. There are many houses with 8 feet wall height, especially the second floor, and this would impact the window size in those walls.

Assembly Action:

Disapproved

PART II - IBC

Committee Action:

Disapproved

Committee Reason: The proponent of the code change failed to provide sufficient justification for elimination of the code requirements for window sill heights to minimize child falls.

Assembly Action:

None

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted and an assembly action was successful.

RB177-04/05 PART I

Public Comment 1:

Michael D. Fischer, representing the Window and Door Manufacturing Association, requests Approval as Submitted.

Commenter’s Reason: The issue of child falls from windows has been the subject of much debate over the past several code cycles. Various code committee actions, assembly actions and final actions have resulted in different outcomes. In this current cycle, the IBC Fire Safety Committee disapproved this proposal, while the IRC B/E committee approved it. A floor action in the IRC hearing that called for disapproval created an automatic conflict for the final action hearings on this proposal. Committee actions on a related proposal, RB 176, also created a conflict regarding the application of ASTM standards for window guards.

The past few cycles have been full of spirited debate as proponents of setting minimum sill heights have argued that it will certainly reduce child falls from windows- offering only an intuitive feeling, rather than any data or studies showing that a sill height minimum will reduce falls, without adversely affecting emergency escape and rescue provisions. Opponents of setting minimum sill heights have serious concerns about the emergency escape and rescue provisions, and the effect that setting a minimum sill height will have on escape window size, furniture placement, window operator type, and other related issues.

Despite decades of studies including the work of such groups as the National Safety Council, the Consumer Products Safety Commission, the American Academy of Pediatrics, and others from within and without the window industry recommending against minimum sill heights, the ICC has proceeded to move forward with a minimum sill height requirement. In fact, the National Safety Council sent a letter to the ICC prior to the final action hearings cautioning against setting any minimum sill height without a careful study of the effects on emergency escape and rescue openings as well as child window falls.

Available data do show that child window fall deaths are decreasing, despite an increase in population. Data also show that injuries and deaths from residential fires are decreasing as well. Today's architecture is working, and today's homes are safer than they have been in the past. The National Safety Council is undertaking a new study to review child window falls, emergency escape and rescue considerations, and injuries and deaths from residential fires and falls from windows.

The IRC B/E committee noted that there is a need to review data about child window falls as well as to study the role that windows play in emergency escape and rescue. That's why the committee passed a resolution asking the ICC Board of Directors to create an ad hoc committee to study both issues, and prepare a recommended course of action. The window industry wholeheartedly supports the committee's request. Approving this public comment asking for approval as submitted will send a message that we are in fact concerned about child window falls and fire deaths, but want to give these issues careful consideration. Child safety is not the type of issue that can be fairly, accurately and comprehensively debated during a two-minute sound bite on the hearing floor. The creation of an ICC committee to study all of the related safety issues can provide appropriate direction for code development.

Public Comment 2:

Frank G. Castelvechi, III, PE, Henrico County Building Inspections, Richmond, VA, representing the Virginia Building and Code Officials Association (VBCOA), requests Disapproval.

Commenter's Reason: Action of IRC committee is in conflict with last cycles floor vote to include these requirements in the code. This action is inconsistent with the IBC committee's action to retain this requirement. Injuries from falls out of windows is a serious issue that needs technical as well as educational approaches for their reduction.

While the criteria in the supplement may not be adequate to completely replace parental supervision it is a start. In our jurisdiction we have observed sliding door sized units being used as windows with a sill height of 2 inches off the floor in porch to sunroom conversions 10 feet off the ground. There is no code definition that separates sliding and casement type windows from doors. The 24 inch minimum sill height also gives a visual cue for adults that it is a window not a door with a landing on the other side.

Public Comment 3:

Jim W. Sealy, FAIA, NCARB, Architect, Dallas, TX, requests Disapproval.

Commenter's Reason: In the 2003/04 cycles, both the IBC and IRC Committees approved submittals, agreeing that low window sills are indeed a problem. At the Overland Park meeting the membership approved the actions of the committees, concurring that there are problems. Because of formal appeals, each approved proposal was prevented from being published in the code supplement. Following due process each appeal was denied and the codes were ready to go forward with a 24 inch restriction placed on the height of window sills. The parties who filed the appeals then announced their intent to submit proposals to remove the approved provisions from each code. Because of that, and to clarify some questions that had been raised, I submitted revisions to each of the sections for the 2004/2005 Cycle.

At the hearings in Cincinnati I was approached by some of the opponents and they asked me to permit them to modify my submittals. In the spirit of cooperation, I agreed to do what they asked and both the IBC Fire Safety and the IRC Committees accepted the modifications and the submittals were "Approved As Modified".

Following that RB 177-04/05 is WDMA's proposal that is designed to remove the provisions from the code, the IRC Committee approved that proposal As Submitted, claiming that the issues need to be addressed by parenting skills and education and that a low sill impacts design. The assembly disapproved the action. The IBC Fire Safety Committee also heard the proposal and they disapproved it, and the assembly took no action.

I was told that WDMA will continue their pursuit to have the restrictions taken out of the code and at Cincinnati WDMA did not present anything that would prove the necessity of removing the provisions and/ or that was different from the information that was available in the previous cycle where both committees approved the proposals. In short, the IRC reversed its position and they did so without statistical justification. The position of WDMA is that my proposals were approved without statistics yet they cannot present statistics to disprove what I have been saying.

The lack of statistical information is easy to explain, because no one has kept records of how the incidents occurred and what the physical setting was. That was true when the guardrail provisions were approved and it has been true until recently. At least, it has only been recently that I have discovered the statistical information that WDMA said did not exist and my positions could never be proven.

By the time you read this, my discovery will be several months old but it stunned me to find that what had been missing was to be found in a study that was undertaken in Dallas County, Texas.

For some reason, statistics from Dallas had never shown-up in all of my Internet research, but it includes everything that I have been saying since I first made these submittals. A synopsis of those statistics is reprinted here for your information. The entire study is viewable by copying this Internet address and pasting it into your browser.

<http://ip.bmjournals.com/cgi/content/full/9/4/349>

Background: *Falls from balconies and windows are an important cause of childhood injury. This study investigated the circumstances around such falls and attempted to identify possible measures for their prevention.*

Population: *Children, living in Dallas County, Texas.*

Methods: *Each child treated because of a fall from a building in 1997–99 had information about the injury collected, and a parent was contacted to obtain further information. For apartment related falls, an attempt was made to visit the apartment to measure windows and balcony rails.*

Results: *Ninety eight children were injured in falls from buildings during the three year period; 39 (40%) were admitted to hospital. Seventy five of the falls (77%) involved apartments, and most occurred around noon or evening meal times. Among apartment falls, 39 (52%) fell from windows, 34 (45%) from balconies, and two (3%) from unknown sites. For more than two thirds of balcony related falls, the child fell from between the balcony rails, all of which were spaced more than 4 inches (10 cm) apart. On-site measurement showed the rails were an average of 7.5 inches (19 cm) apart; all of these apartments were built before 1984. For more than two thirds of window related falls, the window was situated within 2 feet (61 cm) of the floor.*

Conclusions: *Two factors are important in falls from apartment windows and balconies: balcony rails more than 4 inches (10 cm) apart, and windows positioned low to the floor. Current building codes do not apply to older apartments, where most of these falls occurred. Nevertheless, these factors may be amenable to environmental modifications that may prevent most of these falls.*

I have not withheld any of these statistics but made them public information as soon as I had them. Not surprisingly, my detractors immediately replied with; "So what?" "Dallas is hardly indicative of the rest of the country and, there are not enough incidents to be meaningful." "They won't hold up under scrutiny". None of that surprised me. All along my opponents have claimed "NO STATISTICS" and now that real statistics are available it is their position that they are not complete enough, and not good enough to apply to the rest of the country. Available at the back of the room, in Detroit, is a letter from the organization that undertook the study. They are in full support of what I have done and they were as pleased to find me as I to find them. It seems that, independent of one another, we have been advocating the same things.

The issue of low window sills being a factor in children falling from windows is an issue that pertains to the physical layout of buildings. It is about the placement of openings in walls and it is NOT a social issue that involves poor parenting or climbability. The issue of education has been in effect since 1976 when New York City instituted the program of installing window guards in existing buildings. Education programs have spread across the country but the problem of children falling persists.

Climbability is an issue that not only pertains to windows but it also applies to elements that are constructed; elements that are subsequently regulated by the building codes and not a piece of furniture, or another object that can be used to climb upon. Climbability is a totally separate issue that will be studied by a committee to be appointed by ICC, and not an issue that is to be studied by the IRC Committee.

Another subject that is continually thrown out is the fear that a required sill height could complicate the design of emergency escape/rescue openings. That is also a separate issue and has nothing to do with taking measures to prevent children from falling from low openings in walls. If there is a problem with the size of those windows it should be the subject of study by another adhoc committee and not tagged-on to these proposals.

With respect to design, that is the subject of the magazine article that I wrote in 2002. This problem is truly an issue of design, as explained in that article. It is an issue that is controlled by a designer when they place an opening in a wall. Nothing about a window sill that has a minimum dimension complicates design, and there is nothing about the code section that will preclude a glazed opening in a wall that is below the minimum set for the open portion of a window. Nothing.

The attempts of WDMA to remove the restrictions from the code are, and have been, without merit and the restrictions on the height of window sills should be in the codes, As Modified in Cincinnati.

RB 177 PART II

Public Comment 4:

Michael D. Fischer, representing the Window and Door Manufacturing Association, requests Approval as Submitted.

Commenter's Reason: (see Public Comment # 1)

RB178-04/05-D-Part I; D-Part II

R613.2 and 1405.12.2

Proponent: Jerry E. Hight, City of Bonney Lake, WA, representing the Technical Code Development Committee, Washington Association of Building Officials

THIS PROPOSAL IS ON THE AGENDA OF THE IRC BUILDING/ENERGY AND THE IBC FIRE SAFETY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I — IRC

Revise as follows:

R613.2 (Supp) Window Sills. In dwelling units, where the rough opening for the sill portion of an operable window is located more than 72 inches (1829 mm) above the ~~ground finished grade or other~~ surface below, the rough opening for the sill portion of the window, or lowest part of the operable portion of the window, shall be ~~a minimum of~~ at a height not less than 24 inches (610 mm) above the finished floor surface of the room in which the window is located. Glazing between the floor and 24 inches (610 mm) shall be fixed or have openings such that a 4-inch diameter (102 mm) sphere cannot pass through.

~~**Exception:** Windows whose openings will not allow a 4-inch diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position.~~

PART II — IBC

Revise as follows:

1405.12.2 (Supp) Window Sills. In ~~Occupancy group R,~~ one and two-family and multiple-family dwellings, where the rough opening for the sill portion of an operable window is located more than 72 inches above the finished grade or ~~other~~ surface below, the rough opening for the sill, or lowest part of the operable portion of the window, shall be ~~a minimum of~~ at a height not less than 24 inches (610 mm) above the finished floor surface of the room in which the window is located. Glazing between the floor and 24 inches shall be fixed or have openings such that a 4-inch diameter (102 mm) sphere cannot pass through.

~~**Exception:** Windows whose openings will not allow a 4-inch diameter sphere to pass through the opening when the opening is in its largest opened position.~~

Reason: (R613.2) The intent of this code change is to correct what we believe was an oversight in the change that was approved by the membership in Overland Park (item RB205-03/04), to clarify the application of these provisions, and make this section consistent with the corresponding section in the IBC (Section 1405.12.2). A similar code change has been submitted to clarify the language in IBC Section 1405.12.2.

As passed, RB205-03/04 would require the rough opening for windows to start 24 inches above the floor, if the window is operable. This would prohibit fixed glazing in the 24-inch zone above the floor, even if the openable part of the window is above the 24-inch zone. In discussing this with one of the speakers who spoke in favor of the proposals, his intent was to prohibit window openings within the 24-inch zone or at least provide some sort of barrier—it was not to prohibit all glazing. A similar code change (FS138-03/04) was passed in Overland Park, which included language that implied fixed glazing was allowed, but this proposal and the corresponding proposal to change IBC Section 1405.12.2 clearly state fixed glazing is allowed.

Adding the phrase, “or lowest part of the operable portion of the window” makes this section consistent with IBC Section 1405.12.2.

Moving the provisions in the exception into the text as a requirement is editorial, as is the change from “a minimum of” to “a height not less than”. The use of the latter language is more consistent with other parts of the code.

Adding the words, “finished” and “surface” clarify from where the height dimensions measured.

(1405.12.2) This proposal is being made to clarify the application of this section. As written, it is unclear if fixed glazing is allowed in the 24-inch zone above the floor. This proposal clearly states fixed glazing is allowed, then editorially moves the provisions stated in the exception into the text.

Adding the words, “finished” and “surface” clarify from where the height dimensions measured.

Deleting “Occupancy Group R” is editorial, since one- and two-family dwellings, etc. are all in Group R. Replacing “a minimum of” with “at a height not less than” is also editorial, but the proposed language is more consistent with language in other parts of the code.

A similar proposal has been submitted to revise the corresponding section in the IRC (Section R613.2) so the two sections will be consistent.

Cost impact: None

RB178-04/05

PART I - IRC

Committee Action:

Disapproved

Committee Reason: Consistent with the action taken on RB177-04/05, Part I.

Assembly Action:

None

PART II - IBC

Committee Action:

Disapproved

Committee Reason: The preference of the committee (as well as the proponent) was for RB176-04/05.

Assembly Action:

None
