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## Message from the Chairman



The past year and a half has been a tough time for many, with the slowdown in the design and construction industry. VSEC members and their firms have experienced these difficulties first hand. When visiting the NCSEA annual conference toward the end of last year with Jeff Fisher, we found that many of the member organizations like ours have experienced a decline in membership, certainly due to economic concerns. But, even in tough times, continuing education and the need for interaction with those in our profession remains a priority. We on the executive committee will continue do our best to provide VSEC members with a variety of continuing education and professional development opportunities throughout the year.

As I'm sure you know, VSEC does not focus on making a profit from program fees. It is neither a priority nor a goal. Our goal is to be an active organization that serves the Virginia structural engineering community in as many ways as possible. With the economy in mind, and the "belt tightening " that we know many firms and individuals are experiencing, we are focused more than ever on keeping registration fees for programs as close to "break even " as possible.

Please take a few minutes and visit the VSEC website [www.virginiastructuralengineers.com](http://www.virginiastructuralengineers.com). The upcoming VSEC program will be noted on the Home page, along with other items of interest. In addition to VSEC sponsored activities we are also trying to include NCSEA news and other industry events that may be of interest to VSEC members. Take a look at the "Programs" page for the tentative schedule of VSEC programs for 2010. We will continue to

update that information and will get announcements emailed out and posted on the website.

As always, we welcome all comments and suggestions. I encourage anyone with an interest in joining the VSEC Board or joining a VSEC committee to contact me or any of the Board members. We know there are members out there with a desire to get involved and participate. Just pick up the phone or send an email.



Stephen M. Jones, P.E.  
Chairman, VSEC

## The Building Code Revision Process

*1st in a Series of 3 Code Development Articles*

Written in Response to the First of Three Recurring Questions:

1. What is the ICC Code Process and how are changes made?
2. What is the Development Process for Standards?
3. Why are Codes and Standards so complex?

Today, most U.S. communities enforce a building code based on a recent edition of the International Building Code (IBC). The IBC is one of several model code documents published by the [International Code Council \(ICC\)](#). Other model codes published by ICC include the International Residential Code, the International Existing Buildings Code, and the International Performance Code. Several other organizations, including [NFPA](#) and [IAPMO](#), also publish a series of model codes. None of these model codes have any legal standing, unless they are adopted by a state, county, city or other jurisdiction. ICC and the other organizations publish their codes to assist these jurisdictions in the code adoption process and also as a means of fund raising for their organizations.

Some communities adopt the IBC and one or more of its companion codes without modification, while other communities adopt these codes with substantial local amendments and modifications. The local adoption and amendment process can vary substantially from state to state and city to city. Engineers interested in how their local communities adopt a building code should discuss this with their local building official. This article addresses the process the IBC uses to develop the latest edition of its model codes. Since most structural engineering requirements in the model codes are adopted by reference to consensus standards, a companion article will appear in the April MO newsletter, to address the process by which the standards development organizations (ACI, AF&PA, AISC TMS, etc) modify and update their standards. A third article, in the June

edition of the newsletter, will address the reasons for the complexity of the code and its referenced standards.

*"This article addresses the process the IBC uses to develop the latest edition of its model codes"*

Despite the fact that it seems like each edition of the model code is quite different from the prior edition, in reality, the model codes change very little from one edition to the next. This is because the ICC uses the previous edition of its codes as the basis for the next edition and unless someone successfully submits a proposal to change, add or delete something in the code, and it is approved through a formal process, everything stays the same. So what is this formal process?

ICC publishes its codes on a 3-year cycle. At the start of this process, ICC places a call for submissions to change its codes. Interested parties can [download a proposal submittal form from ICC's website](#), fill it out and submit it, electronically, by email. The proposal form is relatively straightforward. It includes information on the name and affiliation (if any) of the person submitting the proposal; the specific code that the person wishes to change; the Section of the code to be changed (added or deleted); the specific proposal in which the text to be changed is typed, with additions shown in underline format, deletions in strike through format, and existing text left the same; and then there must be an explanation of the reason the person thinks this change is necessary.

Any person or organization can submit a change, and many take advantage of this opportunity. Usually there are several thousand proposals to change the code each cycle. These proposals range from (a) somewhat trivial requests to edit the way in which requirements are phrased, so as to clarify their intent or meaning, to (b) short but important proposals to adopt new or revised consensus standards (like ASCE 7-10 or ACI 318-11) by reference, (c) proposals to add new technical requirements directly into the body of the code, and (d) proposals to remove existing requirements from the code.

Many code change proposals are submitted for altruistic reasons because a person or group legitimately believes that the existing requirements need to be corrected to avoid safety problems. Others are submitted to allow the use of new techniques, systems and products. Many are also submitted for purely commercial reasons, either to allow the use of one supplier's products or to prohibit the use of a competitor's products. Even the most well-meaning proponents of a code change can inadvertently submit intended improvements to the code that would have unintended consequences and allow inappropriate

design and construction. Therefore, the ICC uses a rigorous process to evaluate the merit of proposals, once they are received.

First, ICC staff reviews each proposal for editorial and technical merit and to determine whether the change is being proposed for an appropriate section of the code or conflicts with other code requirements. Often, ICC staff will contact a proponent and suggest changes they believe would improve the proposal. ICC staff develops an opinion as to the merits of the proposal and its likely effect on construction cost and safety. Then it assigns each proposal to a cognizant ICC code committee, including Administrative, Fire Safety, General, Means of Egress, Structural, Energy Conservation, Existing Buildings, and others. Finally, ICC publishes all proposals received, together with the staff analyses, in a monograph, which can be downloaded from the ICC website.

After publication of the monograph, ICC holds a public hearing to consider the proposals. At the hearing, cognizant ICC committees will review each of the proposals and vote to approve or deny them. As part of this process, proponents and other interested parties are permitted to offer comment on why they believe the proposal is needed or inappropriate. Proponents can propose changes to a proposal at the hearing, in order to improve it or address concerns expressed by others; however, major changes to proposals are not permitted, as the committees do not have adequate time to consider major changes in the brief time allotted each proposal during the hearing. Sometimes, the committee will approve a proposal with modifications they themselves propose. When an ICC committee denies a proposal, it also states the reason for denial, so that the proponent can modify the proposal and resubmit it for future consideration. Following the hearings, ICC publishes the results of the committee actions on its website, so that interested parties who could not attend the hearing can remain informed.

Prior to adoption of a code change proposal, ICC holds a final action hearing, usually in conjunction with an annual meeting. Prior to the final action hearing, proponents and opponents of proposals can challenge the committee actions, asking for disapproval of proposals the committees have approved or asking for reconsideration and approval of proposals the committee has denied. Requests for modification of committee action are voted upon at the final action hearing by the ICC-government members, typically building officials, who are present. Following the final action hearing, ICC staff inserts new language into the code, makes necessary deletions and publishes the new code.

NCSEA and many of our member organizations play an active role in this process through our code committees. Some member organizations (MOs), notably [California](#) and [Washington](#), maintain active code committees that develop and submit proposals for consideration by ICC. Since most structural engineering requirements in the code are adopted by reference to the consensus standards,

these proposals typically focus on the administrative requirements and the code chapters associated with foundations, quality assurance and existing buildings that are not presently covered by consensus standards. The NCSEA code advisory committee coordinates the efforts of MO committees, tries to develop consensus between the various MOs and submits the proposals on their behalf. In addition, the NCSEA code advisory committee sends delegates to the ICC code hearings to offer public comment on our proposals and those generated by other individuals. The [NCSEA Code Advisory Committee](#) includes several subcommittees, including Existing Buildings, chaired by David Bonowitz; General, chaired by Ed Huston; Seismic, chaired by Kevin Moore; Wind, chaired by Don Scott; and Construction Quality Assurance, chaired by Kirk Harman. We also maintain a subcommittee, chaired by Bill Warren, that works with the ICC Evaluation Service and other evaluation services, to review the submittals made for product evaluation reports. These committees are always looking for active members. Interested engineers should contact the committee chairs.

It is also possible for engineers to serve on the ICC Code Committees. Each committee has a number of seats that are open to the public. Interested engineers can submit their personal nominations for consideration. ICC does not provide travel or time support for committee members; however, NCSEA does provide some expense support for engineers who sit on the ICC committees with NCSEA endorsement. NCSEA endorsement is available to engineers who are interested in serving on an ICC committee if the CAC deems that the engineer has adequate qualifications. NCSEA-endorsed ICC committee members are asked only to perform a diligent and honest evaluation of proposals and have no obligation to support NCSEA proposals. Engineers interested in serving on these committees should monitor the ICC web site for a call for participants and also notify the [NCSEA Code Advisory Committee](#) chair so that we can provide endorsement at the appropriate time.

For many years, ICC and its predecessor organizations used an 18-month cycle for this process, with alternate cycles used to publish a new edition of the code (e.g. 2000, 2003, 2006, etc) and the remaining cycles used to publish Supplements to the code. The supplements gave proponents who could not get their proposals into the code a second chance to modify and resubmit their proposals, without having to wait three years. Supplements also provided ICC an opportunity to make emergency changes when an incident, such as an earthquake, hurricane, or other event showed that a major, previously undetected problem with the code needed to be changed on an expedited basis. However, since many communities did not adopt the supplements, most proponents timed their proposals to appear in the cycles that would lead to a new code.

Last year, as a cost-saving measure, ICC elected to abandon the supplement cycles and, instead, go to a three-year cycle. Under this new approach, half of the committees consider their proposals in the first 18 months of the cycle and the

remaining half of the committees consider their proposals in the second 18 months of the cycle. Unfortunately for structural engineers, ICC placed the Structural Committee into the first 18-month portion of the cycle. This created several problems. First, when this decision was made, AISC, ASCE and other standards development organizations were working towards publication of 2010 editions of their standards that would not be completed prior to the deadline for submittal and approval of structural code changes. Thus, it appeared that the 2012 edition of the IBC would not be able to adopt these updated standards. Second, the deadline for submittal of proposals for change was so early that most engineers would not have the opportunity to use the 2009 edition of the codes, and they would have to submit proposals for change before they even knew if there were problems with the prior code. In response to the first problem, ICC provided for administrative adoption of the new consensus standards. This is less than satisfying as it means that it is not possible for either ICC or the public to conduct a thorough technical review of the standards before they are adopted. ICC offered no resolution for the second concern identified above.

NCSEA, ASCE/SEI and the other structural standards development organizations are quite concerned about these new ICC procedures and are working to find a means of more effectively operating in this new paradigm for code development. One option includes the potential publication of a stand-alone structural building code. ASCE/SEI and NCSEA will be hosting a series of meetings over the next year to review how this or other measures can move forward; and I will keep you posted on important developments through this newsletter.

Ronald O. Hamburger, SE, SECB  
Chair, NCSEA Code Advisory Committee

## **NCSEA Annual Conference Summary**

The National Council of Structural Engineers Association's Annual Conference in Scottsdale, Arizona, was attended in October by VSEC Chairman, Steve Jones, and VSEC Vice Chairman, Jeff Fisher. This was the seventeenth annual conference, and was hosted by the Structural Engineers Association of Arizona. Member Organizations from 42 states, including Alaska and Hawaii, and the District of Columbia were represented at the conference.



Over three days the conference offered opportunities to meet structural engineers from across the country, to attend seminars, to learn what other Member Organizations are doing, to attend NCSEA committee meetings, to hear NCSEA

committee reports, and to attend the Awards ceremony.

Some highlights of the conference included:

- 911 Responders and Structural Risk - Joseph Tortella of the Structural Engineers Association of New York spoke about his and many other New York structural engineers' efforts to aid in the aftermath of the 9/11 attack. The particularly interesting and disturbing aspect of his discussion was the over 11,000 lawsuits against his and the other structural engineering firms that aided in the disaster recovery. More information on this can be found at: [www.emergencylegislation.com](http://www.emergencylegislation.com).
- Investigation of the I-35W Bridge Collapse - Mark Chauvin discussed his firm's involvement in the investigation and analysis of the collapse of the bridge over the Mississippi River in Minneapolis, Minnesota. He provided an interesting and in-depth discussion of the structure and the failure mechanisms.
- Committee Report on Structural Engineers Emergency Response (SEER) - Scott Nacheman discussed his and his committee's efforts to rejuvenate the SEER program on a national level and to facilitate revisions to the SEER Plan Manual. More information on this can be found at: [www.ncsea.com/SEER.aspx](http://www.ncsea.com/SEER.aspx) Other committee reports included Advocacy, Basic Education, Code Advisory, Continuing Education, Licensing, and Publications.
- Reports from each of the attending Member Organizations - The oral reports from each Member Organization delegate provided information such as the number of organization members and their annual dues, which varies significantly from state to state. Many of the Member Organization's reports included a summary of activities and programs offered throughout the previous year. Items of interest included the Structural Engineers Association of Kansas and Missouri and their success with student chapters. Each Member Organizations is glad to share what they have learned with other Member Organizations.

The annual conference provided a great opportunity to gain ideas and lessons learned from the other conference delegates and attendees that can be utilized in the planning of activities for the Virginia Structural Engineers Council.

The 2010 conference will be held in Newark, New Jersey.

Jeffrey A. Fisher, P.E., S.E.  
Vice Chairman, VSEC

## Upcoming VSEC Events

**May 10 - Richmond**

Guide to the Design of Diaphragms Chords and Collectors Based on the 2006 IBC and ASCE 7-05

Earn 3.5 PDH's

[Register Now!](#)

**May 11- Norfolk**

Guide to the Design of Diaphragms Chords and Collectors Based on the 2006 IBC and ASCE 7-05

Earn 3.5 PDH's

[Register Now!](#)

**July TBD**

VSEC Meeting, Program TBD, PDH's offered

**Sept 21 - Petersburg**

Tour of the Gerdeau Ameristeel Steel Mill

PDH's offered

## NCSEA News & Webinars

**March NCSEA News** -Structural Engineering Practice Acts - A Review of Existing Regulations

**April NCSEA News** -The New Structural Exam - NCEES Raises the Bar

**August 5, 2010:** Wind Load Design for Storm Shelters and Critical Facilities  
Marc Levitan

**August 19, 2010:** Wind Load Design for Industrial Structures and Appurtenances  
Marc Levitan

**October 19, 2010:** ATC-58  
Ron Hamburger

## Other Events

**April 28, 2010 - Richmond**  
[VCSSFA Breakfast Seminar](#)

## Executive Committee

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