Shaping the Industry through Outreach and Advocacy on the Local Level

Experience with advocacy for the incorporation of ACI 562 into jurisdictional codes

by David G. Tepke

When I first became aware of local initiatives by ACI in the Carolinas for advocating the incorporation of the ACI 562 Repair Code[1] into local jurisdictional building codes, I thought carefully before deciding to join others in advocating. I consider myself a critical thinker and not one that readily accepts or advocates without understanding the mission and believing in the concept. To advocate for local adoption of an industry-standard code, one might consider several questions. I have been asked to share some of my thoughts on local involvement and hope that it may be of help when deciding whether advocacy is right for you:

Am I familiar with, and do I generally agree with, the principles of the ACI standard that is being promoted?

While I am not part of ACI Committee 562, Evaluation, Repair and Rehabilitation of Concrete Structures, and had no involvement in the development of the document, I have practiced in the field of structural repair design and service-life extension for the past 15 years. Being a conscientious and critical advocate doesn't mean that you have to have intimate involvement in the development of what is being advocated, but it does imply a familiarity and understanding of the concepts, as well as the potential impacts to the industry. In fact, a fresh look at the code from an outsider can bring a perspective that might not otherwise be a consideration of those developing the document. It also doesn't mean that you have to agree with everything that is in the standard, but it should mean that you agree with the principles and believe that it provides benefit.

Does the ACI standard represent an enhancement of the overall state of the practice?

Consider that the 1910 National Association of Cement Users (NACU) Standard No. 4, "Standard Building Regulations for the Use of Reinforced Concrete,"[2] a predecessor for what we now know as ACI 318, was just 14 (small) pages long. The 2019 version of ACI 318[3] is 623 pages! Does that mean that the 1910 NACU document was unnecessary or a bad idea? Of course not. It means that a need was recognized, a living document was created, and recognized experts were dedicated to improvement over time. That is a necessary process for progress. The question should not be "Is it perfect?" but "Is it a substantial improvement over the current state of the practices, and does it provide enforceable provisions that represent the industry state of the practice?"

Is there a local need for additional direction for professionals in the area and does the standard fit local nuances?

Being located in the Carolinas, I am familiar with the harsh eastern coastal and western mountainous climates, reactive aggregates in portions of the area, and the many buildings previously or currently used for industrial or manufacturing processes that impact the durability and service life of existing structures. There are numerous challenges in repairing structures in severe environments. Construction defects in some buildings and aging infrastructure, combined with these conditions, lead to potentially unsafe conditions.

Design of structural repairs for promoting compatibility with existing structures of various eras requires a different direction than the structural design of new structures. Deterioration, overload conditions, or overlooked structural defects can lead to reduction in capacity of a structure or spalling hazards that may dislodge and injure people. These conditions can effectively reduce safety locally or globally within a structure. There is a definitive need for direction on evaluating the safety of a structure and durably repairing. I

How Do You Get Involved?

by Kerry Sutton, ACI Code Advocacy Engineer

The ACI mission encourages participation in advocacy: ACI develops, disseminates, and advances the adoption of its consensus-based knowledge on concrete and its uses, and part of ACI's Strategic Plan includes goals and objectives for outreach and seeking opportunities to advance adoption. Further, ACI's Position Statements in support of the Institute's mission encourage and support ACI staff, leadership, and members to support policy positions that encourage state (SPS-19-01), federal, and international programs to use ACI programs and services for any programs related to the advancement of concrete technology. SPS-20-03 encourages ACI chapters and membership to serve as a mechanism for dissemination of concrete technology related to the adoption of ACI codes and related materials for the public good (SPS-21-02).

ACI advocacy collaboration groups have been established as forums for those interested in advocacy efforts in specific states and jurisdictions. Whether it be ACI codes, standards, certifications, or other industry partner initiatives, these groups provide a forum for members to work on the development and dissemination of technical criteria and related programs. The collaboration groups are hosted under the ACI Committee Directory at **www.concrete.org/committees/directoryofcommittees**.

ACI members and staff have been supporting efforts to reach out to licensed design professionals, code officials, and various other professional organizations across the country. They have assisted with educating these groups on the use and benefits of ACI codes, standards, and certifications. Providing educational opportunities to code officials has been a key focus, as they represent a group that, in many cases, has limited access to ACI resources but is actively involved in voting to approve or disapprove code change proposals.

ACI volunteer members are actively involved in writing and maintaining the Institute's technical documents, including current codes and standards. As an ACI committee member, advocating for the use and adoption of codes and standards goes hand in hand with the development process. ACI members and staff are also tasked with keeping an eye on the future and determining how new concrete technology might bring about opportunities for the development of critical new documents or certification programs.

If you are interested in participating in ACI advocacy and outreach on the state or local level, please contact one of the ACI Code Advocacy Engineers: Kerry Sutton at kerry.sutton@concrete.org or Steve Szoke at steve.szoke@concrete.org.

have seen failed repairs, such as shown in Fig. 1, and unsafe conditions, such as shown in Fig. 2, in a number of structures—some of which had been recently repaired. Based on the consequences of inaction or inadequately addressing structural deficiencies and deterioration, it is clear to me that a resource is needed for design professionals and code officials that includes quality assurance, documentation, repair and service-life extension direction, and requirements for informing owners on implications of actions.

Does the ACI standard do harm or deter from creativity?

It must first be understood that no code or standard is perfect. Standards continuously evolve over time to fill in gaps; incorporate new ideas, materials, and technologies; respond to new information and lessons learned; and address societal and industry needs. But important questions when deciding whether to advocate in addition to "Does it help?" are: "Will it do any harm?" and "Is it overly restrictive to creativity?" While standards should provide important direction, they should also promote flexibility for professionals to exercise their craft. It was important for me that any code I advocate for does not negatively impact my ability to exercise professional judgment but has provision to increase the level of standard in an industry that is in need. In review of ACI 562, it is clear that there is progress to be made. I doubt there is little disagreement on that, but to me, it is structured in a way that does not deter creativity; does not meaningfully conflict with the International Existing Building Code (IEBC)[4] or typical local derivatives in a way that raises compatibility issues; and provides useful supplemental provisions specific to concrete repairs that enhance the requirements of the IEBC, including provisions for evaluating existing structures, classifying damage, and quality assurance.

How will the ACI standard impact the area?

Two concerns often heard with respect to the inclusion of reference standards in jurisdictional codes is cost impact and potential complication of provisions for code official enforcement. Economics, sustainability, and potential future impacts should be evaluated. The first and most notable impact I observed in deciding whether to give opinions on ACI 562 for inclusion in codes in my area was the obvious increase in the quality of repairs that are needed. Increasing the quality of repairs and including requirements for informing owners of specifics provides a net cost benefit to owners. Service-life extension is also an inherently sustainable action that provides substantial environmental benefits. It should not be overlooked that a well-crafted reference standard can act to fill needs not addressed in general jurisdictional codes and provide direction for code officials for more uniform and better-informed enforcement in the interest of public safety. Code officials should be given the opportunity to receive input from proponents and opponents experienced in the subject so that they can decide if the

Fig. 1: Examples of failed concrete repairs

Fig. 2: Examples of potentially dangerous structural conditions: (a) overhead spalling hazard; and (b) shoring of structural concrete components with deficiencies

standard is needed and provides beneficial and enforceable support to the general code.

How well is the ACI standard being maintained and how likely is it to evolve for improvement and with the industry?

It is important that standards be maintained and updated to incorporate new ideas and materials. ACI Committee 562 has demonstrated, through main committee and subcommittee meetings and actions, its intent to maintain, update, and enhance the standard on a regular basis. Since its first edition in 2013, it has been updated in 2016, 2019, and 2021.

My Experience

Through information provided to our local ACI Carolinas Chapter and ACI, I became aware of the initiative to join others to give my thoughts and opinions to code officials and the State Building Committee so that they can decide if incorporation of the ACI 562 Repair Code into the North and South Carolina Existing Building Codes (EBCs) by reference is a good idea. After considering the questions in this article, and learning more about the way the advocacy was being administered by ACI and industry partners, I joined the North Carolina and South Carolina Initiatives Collaboration Groups, and began attending virtual meetings. From there, I was given opportunities to join others to attend and testify with my personal opinions for policy makers to evaluate their options.

As part of the initiative, I was given the opportunity, alone and with others, to present opinions on ACI 562 through webinars sponsored, but not scripted, by ACI to code officials and other policy makers. The goal was to educate on the portions and aspects of the ACI 562 Code that would be the most important to them, comment on portions that I thought provided the most significant benefit for supplementing the IEBC, and discuss areas where I thought the code would see improvement in the future. These webinars were given from the point of view of someone who practiced in the area of concrete repair and service-life extension design but was not involved with the committee that developed the code.

Through the hard work of ACI Committee 562 in developing a viable improvement on the current industry standards and compatible supplement to IEBC (and local derivatives), and the advocacy groups to help communicate the need and benefits of the code on a local level, the ACI 562

Code was adopted as permissible in the North Carolina EBC (effective January 1, 2022) and South Carolina BC (effective January 1, 2023).

As part of the initiative, I engaged on a national level and attended the ICC Committee Action Hearings to testify, with others, why I thought a concrete repair code maintained by industry experts is an important advancement for our industry and sustainability. The voices of proponents and opponents are important, as the primary goal for the industry should be "getting it right."

Should You Get Involved?

Whether to get involved or not is a personal decision. The purpose of this article is to provide some insight into my thought process for deciding whether to advocate incorporation of the ACI 562 Code into existing local and national jurisdictional building codes. It is not to encourage credulous action or an uncritical decision to go along with a group. But I do think that stakeholders in any industry should feel they have the ability and a powerful voice to speak up, get involved if they see benefit and believe in the mission, and advocate for something that makes the industry better and participate in actions that they believe are part of a greater good for serving the public. Advocating for a mission that you believe in should be viewed not as trying to sell something or shying away from discussing facts and needed improvements, but instead trying to educate—helping those who make decisions understand the issues with honest input on impacts. For me, it has been an interesting experience. Hopefully these thoughts provide you with some things to think about when deciding whether you should get involved to give opinions on a standard that might impact your local area of practice.

Acknowledgments

The author would like to acknowledge Kerry Sutton and Steve Szoke of ACI Code Advocacy for their input regarding local advocacy and leadership of educational efforts, and the efforts of many others in the North and South Carolina Advocacy Groups who participated in giving opinions. The author would also like to thank and acknowledge his employer, SKA Consulting Engineers, Inc., for supporting involvement and necessary travel in advocacy efforts.

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Selected for reader interest by the editors. However, the opinions expressed in this Point of View are not necessarily those of the American Concrete Institute. Reader comment is invited.

David G. Tepke, FACI, is a Principal Engineer at SKA Consulting Engineers, Inc. in Charleston, SC, USA. He serves on the ACI Committee on Codes and Standards Advocacy and Outreach, as well as ACI Committees 201, Durability of Concrete; 222, Corrosion of Metals in Concrete; 301, Specifications for Concrete Construction; and 329, Performance Criteria for Ready Mixed Concrete; and ICRI Committees 160, Life Cycle and Sustainability, and 510, Corrosion. His primary interests and experience include testing and analysis, construction evaluation and troubleshooting, structural investigations, durability assessments, and design for service-life extension of structures. He is an NACE/AMPP Certified Corrosion Specialist and Protective Coating Specialist. Tepke received his BS and MS in civil engineering from Pennsylvania State University, State College, PA, USA, and is a licensed professional engineer.