



Photo: PCI

Do Not Let the Perfect Be the Enemy of Good

William Nickas, *Editor-in-Chief*

When an engineer tries something new, there is a series of questions that will be asked by others involved (and sometimes those not involved) in the project.

- Is this change really going to simplify things?
- Will this change really save that much money?
- Is this procedural change going to add value to the final project?
- Why change if the current approach has worked for years?

In September 2011, as the retiring Tennessee state bridge engineer, Ed Wasserman presented a paper titled "Reflections or Fiction and Fact from Ed's Almanac." The main thrust of his reflection was the many opportunities he enjoyed through learning and sharing with others about changes in bridge technologies (see the *ASPIRE*TM website, under Resources/Papers, for a copy of Wasserman's paper). He goes on to say, bridge engineers should be brave but must also be smart. He reminds us all to never become just a number checker, and to always step back and evaluate the new concept for fundamental- and advanced-stage flaws.

My goal with this editorial is to keep his advice in the forefront. When evaluating new concepts and technologies, we all need to ask ourselves:


- Is this change an appropriate risk?
- What is the consequence of exceeding the limits?
- Does there need to be redundancy (multiple levels of protection) in the member's durability?
- If this change has a flaw, will it always meet the belt-and-suspenders strength limit state?
- Will the transient overloading from a superload cause an exceedance affecting the serviceability of this new detail?

- Is there adequate redundancy in the load path?
- Or, is there enough excess capacity above all factored loads?

Voltaire was the pen name of a French philosopher named François-Marie Arouet who lived from 1694 to 1778. According to Wikipedia, "the phrase *'The perfect is the enemy of good'* is an aphorism or proverb meaning that insisting on perfection often results in no improvement at all." The phrase is commonly attributed to Voltaire's moral poem, *La Béguéule*.

Judiciously taking design codes and applying these design principles is always an engineer's professional responsibility. But how the engineer sequences the construction and selects details is how the concrete bridge industry advances every day. New equipment and new materials are changing the tools available to engineers to deliver every infrastructure project.

During my career as a state bridge engineer, I had the chance to look at in-service bridge problems and major construction challenges. In every case, it took multiple issues to cause the problem. There was never a single root cause for the challenge.

Recently, I attended a meeting of the AASHTO T-10 committee on Concrete Design where committee members were working to ballot additions and changes to the 2014 (and beyond) *AASHTO LRFD Bridge Design Specifications*. These specification changes will certainly offer more high-performance concrete choices to industry suppliers, designers, contractors, and owners. Today, bridge engineers have dramatically more choices to address our nation's bridge inventory. Please, *do not let the perfect be the enemy of good.* 



American Segmental Bridge Institute



American Shotcrete Association



Epoxy Interest Group



Expanded Shale Clay and Slate Institute



Portland Cement Association



Post-Tensioning Institute



Precast/Prestressed Concrete Institute



Silica Fume Association

Editor-in-Chief

William Nickas • wnckas@pci.org

Managing Technical Editor

Dr. Henry G. Russell

Program Manager

Nancy Turner • nturner@pci.org

Associate Editors

Emily B. Lorenz

Craig A. Shutt

Art Director

Paul Grigonis

Layout Design

Tressa A. Park

Editorial Advisory Board

William Nickas, *Precast/Prestressed Concrete Institute*

William R. Cox, *American Segmental Bridge Institute*

Dr. David McDonald, *Epoxy Interest Group*

Dr. Henry G. Russell, *Henry G. Russell Inc.*

Cover

The Paducah & Louisville Railway Bridge

J23.3 near Fort Knox, Ky.

Photo: Alfred Benesch & Co.

Ad Sales

Jim Oestmann

Phone: (847) 838-0500 • Cell: (847) 924-5497

Fax: (847) 838-0555 • joestmann@arlpub.com

Reprints

Paul Grigonis • pgrigonis@pci.org

Publisher

Precast/Prestressed Concrete Institute

James G. Toscas, President

Postmaster: Send address changes to *ASPIRE*, 200 W. Adams St., Suite 2100, Chicago, IL 60606. Standard postage paid at Chicago, IL, and additional mailing offices.

ASPIRE (Vol. 7, No. 3), ISSN 1935-2093 is published quarterly by the Precast/Prestressed Concrete Institute.

Copyright 2013, Precast/Prestressed Concrete Institute.

If you have a project to be considered for *ASPIRE*, send information to *ASPIRE*, 200 W. Adams St., Suite 2100 • Chicago, IL 60606
phone: (312) 786-0300 • www.aspirebridge.org • e-mail: info@aspirebridge.org