

National Concrete Bridge Council—Making Things Happen for the Concrete Bridge Industry



by Gregg Freeby, American Segmental Bridge Institute and National Concrete Bridge Council

In the Fall 2022 issue of *ASPIRE*®, I wrote a Perspective that introduced readers to the National Concrete Bridge Council (NCBC) and outlined the strategic objectives identified by the council. This article provides updates on NCBC's latest activities and recent progress.

New Member

Since my previous article, NCBC has welcomed a new member, the International Concrete Repair Institute (ICRI). This new member will help develop our focus on stewardship: How can NCBC help disseminate the existing body of knowledge and identify gaps in the inspection, evaluation, maintenance, and repair of concrete bridges? All these actions are aimed at extending the service life of our existing concrete bridges. In addition, maintaining bridges in a state of good repair is an objective of

the U.S. Department of Transportation. Having ICRI join the ranks of NCBC will help us to further assist the industry in this area. If you missed it, you can read about ICRI's Concrete Surface Repair Technician Program in the Summer 2023 issue of *ASPIRE*.

Sustainability

Also since the last update, NCBC has embarked on a collaboration with the National Steel Bridge Alliance. While a collaboration between these otherwise competing industry groups may sound shocking, it has happened before. In 2009, the concrete and steel industries teamed up to craft a white paper on the 12 essential elements of a comprehensive quality system.¹ This latest collaboration was announced in a Concrete Bridge Stewardship article in the Fall 2023 issue of *ASPIRE*. In a nutshell, this collaboration is intended

to develop fair and technically robust life-cycle assessment (LCA) requirements for the bridge market. The Federal Highway Administration (FHWA) publication *Pavement Life Cycle Assessment Framework*² provides a framework for performing LCA for pavements, but no similar guidance currently exists for bridges. It's time for the concrete and steel industries to work together to fill this gap.

Workforce Development

Through deliberative collaboration with the American Association of State Highway and Transportation Officials (AASHTO) and FHWA, NCBC is making progress on the workforce development front. NCBC has two recent "wins" to report.

The first win was the adoption by AASHTO of the AASHTO/NCBC



Attendees listen to William N. Nickas, past chair of the National Concrete Bridge Council, during the Prestressed Concrete Bridge Seminar: Concepts for Extending Spans workshop in Hudson, Wis. All Photos: Gregg Freeby.



Challenge coins were given to all attendees at the Prestressed Concrete Bridge Seminar: Concepts for Extending Spans workshop hosted by National Concrete Bridge Council in Hudson, Wis.

“Resources for Concrete Bridge Design and Construction.” This document was balloted for publication in May 2023 at the AASHTO Committee on Bridges and Structures (COBS) annual meeting in Kansas City, Mo. As stated in the Background section of the AASHTO agenda item:

This new document is the first product developed under the AASHTO/NCBC Collaboration Agreement. This document is a listing of resources for the concrete bridge practitioner that are made available by the American Association of State Highway and Transportation Officials (AASHTO), the Federal Highway Administration (FHWA), the members of the National Concrete Bridge Council (NCBC) and selected other relevant sources. It is intended to be a catalog or “bookshelf” of important resources for the design and construction of concrete bridges from these organizations.

The second win for NCBC was a pilot workshop titled “Prestressed Concrete Bridge Seminar: Concepts for Extending Spans.” This first-of-its-kind workshop was hosted in Hudson, Wis., for the Minnesota and Wisconsin Departments of Transportation. Two representatives from each of their prequalified engineering firms were also invited to attend. More than 100 attendees participated during two full days of instruction. Topics included an introduction to prestressed concrete, spliced girders, concrete segmental bridges, strain compatibility, design limit states, post-tensioning, fabrication,

and many other subjects. Presentations on ethical issues were also included. Attendees received a challenge coin to mark the event. After refining the program from this pilot workshop, NCBC plans to host future sessions of this seminar, with the next offering likely to be in Atlanta, Ga., in April 2024.

To further help educate the workforce in bridge stewardship, NCBC sponsored a series of six webinars in the summer of 2022. These webinars covered a wide range of topics such as concrete fundamentals, evaluations, analysis and design of repair solutions, concrete repair basics, concrete bridge strengthening, and long-term bridge protection. Each session was 90 minutes long. Recordings of the sessions can be accessed on the NCBC website (nationalconcretebridge.org). In addition, on October 18, 2023, NCBC began a series of six 1-hour webinars aimed at concrete bridge stewardship. The session titles are as follows.

- Concrete Condition Assessments
- Don’t Patch it, Repair it!
- ICCP and Electrochemical Treatments
- Galvanic Encasements and Jacket Systems
- Extending Bridge Life Using Targeted Cathodic Protection
- Surface Applied Cathodic Protection

Registration for upcoming webinars and recordings of those that are completed can be found on the NCBC website.

Collaborations with AASHTO and FHWA on Future Publications

Under the recently executed collaboration agreement with AASHTO, NCBC is continuing to expand workforce development resources.

NCBC is working to complete a new publication called *Guide to Post-tensioned Transportation Structures*. In this document, NCBC will be updating FHWA’s very popular *Post-Tensioning Tendon Installation and Grouting Manual*,³ and supplementing it with new content. The new guide, which is on track to be balloted by the AASHTO COBS in 2024, will include details for spliced girders and troubleshooting guidance, as well as other new resources for bridge practitioners regarding all types of post-tensioned transportation structures.

NCBC also continues to collaborate with FHWA. The forthcoming *Guide to Post-tensioned Transportation Structures* is just one example where a need was identified and the two groups worked together to come up with an innovative solution in which NCBC becomes the steward for an existing FHWA publication. As such, FHWA has also committed to updating the e-learning modules that were created for the previous manual so that they reflect the new guide. NCBC has also committed to keeping the new guide current through regular updates, making this a win-win situation for the industry.

Collaboration with CBEI

NCBC continues to support the Concrete Bridge Engineering Institute (CBEI) as the various programs you have read about in previous issues of *ASPIRE* come to fruition. The collaboration between CBEI and NCBC means neither group is working alone, but rather in tandem with a common objective: to build better concrete bridges.

Visibility

If you attended the International Bridge Conference or the Western Bridge Engineers’ Seminar in 2023 and visited the exhibit hall, I hope you stopped by the NCBC booth. That’s right, NCBC has started exhibiting at bridge conferences. This effort is led by NCBC member volunteers to help increase the visibility and awareness of NCBC. While NCBC continues to increase our support for the industry, it is important for the industry to know about the resources available not only from NCBC but also from our individual members. The next time you’re at a bridge conference, look for us. We’re likely to be there.


NCBC Continues to Grow

This is an exciting time for NCBC, and I am personally honored to serve as the current chair. The numerous opportunities that have been presented to NCBC and the outstanding response and cooperation among members have already taken us places which our founders could only have dreamed of. More to come.

References

1. American Institute of Steel Construction (AISC) and Precast/Prestressed Concrete Institute (PCI). "AISC/PCI White Paper on Quality Systems in the Construction Industry." Accessed October 6, 2023. https://www.pci.org/PCI_Docs/Certification/AISC_PCI_Quality_Systems_White_Paper.pdf.
2. Harvey, J. T., J. Meijer, H. Ozer, I. L. Al-Qadi, A. Saboori, and A. Kendall. 2016. *Pavement Life Cycle Assessment Framework*. FHWA-HIF-16-014. Washington, DC: Federal Highway Administration.

<https://www.fhwa.dot.gov/pavement/sustainability/hif16014.pdf>.

3. Corven, J., and A. Moreton. 2013. *Post-Tensioning Tendon Installation and Grouting Manual*. FHWA-NHI-13-026. Washington, DC: Federal Highway Administration. <https://www.fhwa.dot.gov/bridge/construction/pubs/hif13026.pdf>. 

Gregg Freeby is the executive director of the American Segmental Bridge Institute and chair of the National Concrete Bridge Council.

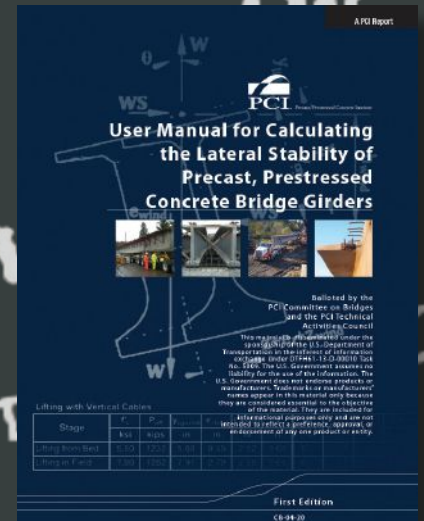
EDITOR'S NOTE

Visit the National Concrete Bridge Council website at nationalconcretebridge.org for more information about upcoming events, including the next Prestressed Concrete Bridge Seminar, as well as webinar recordings and registration links.



The National Concrete Bridge Council (NCBC) has begun exhibiting at various bridge conferences to help increase the visibility and awareness of NCBC and its mission.

The First Edition of



User Manual for Calculating the Lateral Stability of Precast, Prestressed Concrete Bridge Girders FREE PDF (CB-04-20)

This document, *User Manual for Calculating the Lateral Stability of Precast, Prestressed Concrete Bridge Girders*, PCI Publication CB-04-20, provides context and instructions for the use of the 2019 version of the Microsoft Excel workbook to analyze lateral stability of precast, prestressed concrete bridge products. The free distribution of this publication includes a simple method to record contact information for the persons who receive the workbook program so that they can be notified of updates or revisions when necessary. There is no cost for downloading the program.

This product works directly with the PCI document entitled *Recommended Practice for Lateral Stability of Precast, Prestressed Concrete Bridge Girders*, PCI publication CB-02-16, which is referenced in the *AASHTO LRFD Bridge Design Specifications*. To promote broader use of the example template, PCI developed a concatenated Microsoft Excel spreadsheet program where users may customize inputs for specific girder products.

www.pci.org/cb-04-20

