



Columbus Engineer

Franklin County Chapter

A chapter chartered by the Ohio Society of Professional Engineers.

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President's Message

Mehrdad Rowhani, P.E.
– FCC President



FCC-OSPE continuing professional development (CPD) program was presented by Kevin Hoggatt from Intel on the topic “Building the Silicon Heartland” in October. I would like to thank Kevin for sharing the information with us on this amazing mega project. Our next CPD program will be on December 7. Please refer to our 2023-2024 Calendar for more information on the upcoming CPD programs. We encourage all of you to attend our future programs.

EFO Fall CPD Conference was on November 2 and 3. Our 2024 regional MATHCOUNTS competition will take place on February 10. In addition, OSPE-FCC will participate in the Central Ohio E Week luncheon on February 22 and our Engineer for a Day program will be on February 23 in observation of “National Engineer’s Week”. The Imagine Engineering coloring competition is also underway! Our main goal is to promote our profession and help young students learn more about engineering.

I appreciate all our members and sponsors for supporting FCC-OSPE and our programs. FCC is a Five Star Award Chapter! We also have some vacant positions within the Board need to be filled and would appreciate any help you can provide.

Mehrdad Rowhani, PE, PMP
OSPE-FCC President

OSPE-FCC December Luncheon Program



Date: Thursday, December 7, 2023

Place: Hickory House
550 Officecenter Pl., Gahanna, OH

Time: Registration: 11:30 am

Lunch: 11:50 am

Speaker: 12:00 pm

Closing Remarks: 1:00 pm

Cost: Members: \$25.00 & Non-Members: \$35.00.
SPE@OSU Students: \$10.00

Registration: Visit - www.fccospe.org

Pay by check or cash at the door. No access to a computer, contact Steve Day, at 614-876-7525, to help with registration.

Title: “Application of Geotechnical Engineering in Landfills”

Abstract: In this presentation, the application of geotechnical engineering in the design, construction, and operation of landfills will be discussed. The process of site selection, subsurface explorations, and geotechnical analyses required for permitting and design will be described. In addition, considerations in construction planning, QA/QC, certifying cells, and needs for instrumentation and monitoring will be discussed. Finally, issues encountered during the operation and remediation methods will be reviewed.

- Continued, page 2

December Luncheon, continued –



Learning Objectives:

- **Geotechnical Design:** Geotechnical design including seismic hazard analysis and site response, settlement, seepage, and stability analyses need to be performed to ensure the stability and integrity of structures are not compromised.
- **Stability Evaluation:** Static and seismic stability analyses are performed to evaluate the global stability of landfills as well as the stability of base liner and final cover.
- **Construction QA/QC:** The QA/QC process including the preparation of the QA/QC plan, laboratory and field-testing programs and issuing a certification of completion will be briefly discussed.

Presenter: Mr. Mehrdad Rowhani, PE, PMP



Biography: Mehrdad Rowhani, PE, PMP currently serves as the president of OSPE-FCC and Senior Project Manager for Weaver Consultants Group. He has more than 21 years of experience in civil infrastructure projects including the design and construction of roadways and bridges, retaining walls, earth and rockfill dams, irrigation networks, water and wastewater refineries and networks, landfills, transmission lines, landslide remediation, and residential and commercial buildings. He is experienced in the design of shallow and deep foundations, soil stabilization methods, dewatering and excavation methods of underground structures, grouting and soil improvement methods. He is an expert in conducting geotechnical analyses such as seepage, settlement, slope stability and seismic analyses using numerical modeling tools. He has also been involved in numerous projects requiring

complex soil-structure interaction analyses. He earned his Bachelor of Science in Civil Engineering and his Master’s degree in Geotechnical Engineering from Amirkabir University of Technology (Tehran Polytechnic). He is a registered P.E. in Ohio, Indiana, Virginia, Maryland, and District of Columbia.

A certificate for 1 hour of Professional Development for attending the program will be emailed to the attendee

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Photos from the OSPE-FCC October Luncheon



Above: Tina Sutermeister-EFO President, addresses attendees.

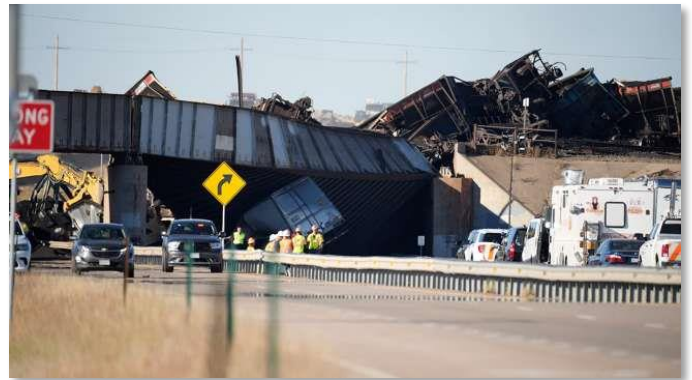
Below: Presenter Kevin Hoggatt, Intel's Director of State Government Affairs for Ohio




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BNSF Inspection Practices Probed After Colorado Derailment Truck Driver Died When Bridge Collapsed on Road Beneath



Workers clear railcars that derailed and collapsed a bridge over I-25 northbound Oct. 16, north of Pueblo, Colo. (David Zalubowski / Associated Press)

An investigation into a Colorado coal train derailment and bridge collapse that killed a truck driver is focused on whether inspection and maintenance practices at BNSF Railway contributed to the accident, federal officials said Nov. 2.

The steel bridge built in 1958 collapsed onto Interstate 25 on Oct. 15, when a broken rail caused 30 cars from a BNSF Railway train hauling coal to derail, the National Transportation Safety Board said based on preliminary findings.

- Continued, page 4

BNSF Inspection, continued -

The accident just north of the city of Pueblo closed the main north-south highway through Colorado for four days while crews cleared hundreds of tons of coal and mangled railcars.

Killed in the accident was Lafollette Henderson, 60, of Compton, Calif., who had been driving under the bridge.

The BNSF train was traveling about 32 mph — below the 45-mph limit for the area, the NTSB said.

Broken rails and other track problems are a leading cause of derailments, according to federal accident data. In July, federal investigators blamed poor track conditions along a BNSF route in Montana for the 2021 derailment of an Amtrak train that killed three people and injured 49 others.

BNSF, based in Fort Worth, Texas, conducted track infrastructure testing and visual inspections of the rail line in the area of the Colorado bridge collapse within the last three months, said spokesperson Kendall Kirkham Sloan. That included an inspection on the day of the accident, Sloan said.

“Our teams regularly conduct extensive track, bridge, rail and weather event inspections across our network,” said Sloan, who declined to answer if the track had undergone any previous repairs.

The ownership of the collapsed bridge remains in dispute between BNSF and the state of Colorado. A 1957 agreement appears to assign ownership of the bridge to the railroad, while another document from 1968 said the state had maintenance responsibilities, said Matt Inzeo with the Colorado Department of Transportation.

Inzeo said the railway has agreed to replace the structure and cover the costs.

Pressure for the railroad industry to improve safety has intensified since the February derailment of a Norfolk Southern train hauling toxic chemicals that triggered evacuations in Ohio and Pennsylvania. There were more than 12,400 train derailments in the U.S. in the past decade. The rate has been falling in recent years, but there were more than 1,000 derailments last year, or roughly three a day across the U.S., according to accident reports submitted by railroads.

During track inspections — typically conducted by private companies, not government officials — crews look for cracks or other defects in the rails that could make them more susceptible to breaking. Repairs are scheduled based on the severity of the defect. That means even when problems are identified they might not be fixed immediately.

The Colorado accident follows a railroad bridge collapse in June along a Montana Rail Link route that sent railcars with oil products plunging into the Yellowstone River, spilling molten sulfur and up to 250 tons of hot asphalt. The accident remains under investigation and much of the spilled asphalt remains in the river.

(Excerpted from NSPE DAILY DESIGNS, November 6, 2023 with links removed)



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Missouri plans historic \$2.8B I-70 expansion

It's the state's largest amount of funding for work on the interstate since it was built in the 1960s.

Dive Brief:

- The Missouri DOT recently unveiled a plan to expand and improve Interstate 70, which runs east-west across the state and has been a source of consternation for drivers for decades. Missouri allocated \$2.8 billion in its fiscal year 2024 budget to reconstruct 200 miles of the highway.
- Improve I-70 represents Missouri's largest amount of funding to rebuild the interstate since its original construction in the 1960s, according to Kansas City Public Radio. Missouri DOT will plan, design, construct, and repair three lanes in each

direction across the state between Wentzville and Blue Springs, in the Kansas City area.

- In August, Missouri DOT plans to share which section of the interstate construction it will start on and to begin the procurement process, said spokesperson Linda Horn in an email. The agency is currently forming its internal team for the project.

Dive Insight:

- Once the first piece of the project is determined, the agency will start the procurement process with contractor teams, with selection likely sometime in 2024, Horn said.
- While traffic jams and aging pavement have long plagued the highway, the cost to overhaul it was prohibitive. This year however, Missouri had a budget surplus, and a unique opportunity to use the money for a dramatic investment in infrastructure.
- Half of the money needed to fund Improve I-70 will come from the state budget surplus, while the other half will be sourced from state road bond proceeds. The project will be completed in segments.
- While Missouri DOT has not yet scheduled the projects, it is considering starting with the Columbia area, as well as near Wentzville or near Blue Springs, according to Horn.
- “The team is working with MoDOT partners in the construction industry and engineering design to determine the best way to schedule the work,” said Horn. “We want to sequence the projects to deliver the most improvements with limited traffic impacts and do it within industry’s capacity to get the best value.”

Work is projected to finish in fall 2030.

(Excerpted from NSPE Daily Designs July 25, 2023 with photo and hyperlinks removed, Julie Strupp, editor)



Imagine Engineering 2024

*It is time to begin planning for FCC presenters
for the second grade Imagine Engineering
Coloring Contest 2024!*

We need to assemble the chapter volunteers. The first step is to contact local elementary schools and encourage second grade teachers to register for the 2024 Imagine Engineering program and download the "Classroom Program Kit." Offer to virtually or in-person visit second grade classes. If virtual that will be after the students have completed the virtual program. Schedule your visits. Ask teachers how much time they have allotted for your visit and if there are any specific learning items they would like you to cover. I will create a spreadsheet of schools which have participated in past years and would like to add more schools if you can give me names of schools and possibly teachers with which you a familiar.

EFO must have in hand all entries for state judging by April 15, 2024. Entries may be submitted by U.S. mail or electronically. Entries submitted electronically must be a high-resolution scan that is quality enough for potential reproduction in the OhioENGINEER magazine. Entries may be submitted by individual students, teachers or OSPE chapters. EFO will accept a maximum of 3 entries from each OSPE chapter.

Thank you
Tim McCarthy – Imagine Engineering Chair
Franklin County Chapter – OSPE

2024 CALENDAR

DATE	TIME	DESCRIPTION
Jan. 4	12:00 p.m.	CPD Program: Title: Integrity Management for Oil and Gas Pipeline Systems Presenter: Michiel P. Brongers, PE
Jan. 5	5:00 p.m.	Deadline for January Columbus Engineer
Jan. 9	5:45 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Jan. 12	5:00 p.m.	Deadline for February Columbus Engineer
Feb. 1	12:00 p.m.	CPD Program: No Program
Feb. 9	5:00 p.m.	Deadline for March Columbus Engineer
Feb. 10	8:00 a.m.	Regional MathCounts Competition @ CSCC
Feb. 13	5:45 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Feb. 18 – 24		National Engineer's Week
Feb. 22	11:30 a.m.	Program: E-Week Luncheon – Location: TBD – Theme: TBD
Feb. 23	8:00 a.m. – 3:00 p.m.	Engineer for a Day Program
Mar. 7	12:00 p.m.	CPD Program: Title: Post Construction Best Management Practices (BMPa) Presenter: Ashlee Balcerzak
Mar. 14-15		Engineer's Leadership Institute - Virtual
Mar. 8	5:00 p.m.	Deadline for April Columbus Engineer
Mar. 16	8:15 a.m. – 4:00 p.m.	Ohio MathCounts Competition @ Columbus State (OSPE, see www.ohioengineer.com)
Mar. 12	5:45 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Mar. 22	12:00 p.m.	OSPE Lunchtime Legislative Briefing, Zoom meeting
Mar. TBD		District Science Day @ CSCC
Apr. 4	12:00 p.m.	CPD Program: Title – Presenter:
Apr. 9	5:45 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Apr. 12	5:00 p.m.	Deadline for May Columbus Engineer
Apr. TBD		Legislative Day
May 2	12:00 p.m.	CPD Program: Title – Presenter:
May 10	12:00 p.m.	Deadline for June Columbus Engineer
May 14	5:45 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
May 22	6:30 p.m.	Chapter Officer Installation & Awards Dinner
June 6	12:00 p.m.	CPD Program: Title – Presenter:
June 11	5:45 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
June 14	5:00 p.m.	Deadline for July Columbus Engineer
June 28	12:00 p.m.	OSPE Lunchtime Legislative Briefing, Zoom meeting
July TBD	(TBA)	FCC Budget Meeting - Location to be announced

Civil & Environmental Consultants, Inc.
Address: 250 Old Wilson Bridge Road, Suite 250, Worthington, Ohio 43085

WHERE DO I GET MORE INFORMATION?

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FCC-OSPE WEBSITE:	www.fccospe.org	
OSPE WEBSITE:	www.ohioengineer.com	
NSPE WEBSITE:	www.nspe.org	
To volunteer to help with MATHCOUNTS:	benjamin_brown68@yahoo.com	(614) 519-8978
To volunteer to help with Science Day:	baba.yahaya@terracon.com	(614) 328-5209
To volunteer to help with OSU Student Chapter:	TBD	
To volunteer to help with Imagine Engineering:	TBD	
FCC Luncheons / Programs:	ddoherty@cecinc.com	(614) 359-6321
New Members / Membership Application	www.nspe.org or www.ohioengineer.com	(614) 223-1144

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