

A Firm Foundation

The Personal Side of the PE Exam

As fall arrived in northwest Arkansas—as the maple trees outside my office window lost their leaves last year, I could once again see the Ozark Mountains in the distance.

I love those mountains. They are well-worn and wise without any named peaks outreaching the others. From a distance, they all look the same, but if you take the time to know them, they are uniquely beautiful. They are covered with forest that is filled with squirrels, mushrooms, deer, ticks, waterfalls, copperheads, eagles, walnuts, thorny bodarks, songbirds, school kids on field trips, and old people trying to hike away a cough. All these things come and go with the cycle of the seasons, but the bedrock that supports and protects all of this life remains solid. From my window, the forest makes the mountains look like a fuzzy, rumpled blanket that reaches to the horizon. That comforts me.

My dad died a little over a year ago, and now I am the oldest living male on the Osborn side of my family. My oldest daughter is learning to drive and applying to colleges. It just doesn't seem like 25 years ago that I finished my B.S. degree in agricultural engineering at the University of Kentucky, converted from a student member to a full-fledged member of ASABE, and went to work for Grain Systems, Inc. (GSI) in Assumption, Ill.

The chief engineer for GSI, who hired me, was Burl Shuler. Burl passed away unexpectedly some months ago. Burl was an ASABE member for many, many years. He worked nearly his entire career for GSI. Burl was a great man and a great engineer. And he was a PE.

Not long after I started working for him, Burl asked me to figure out the maximum load that a plank of the plenum



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AGE: 47

HOMETOWN: Charleston, West Virginia

LAST BOOK READ: *Cloudspitter* by Russell Banks

WORDS TO LIVE BY: Make decisions based on which path allows you to give the most, not get the most.

FAVORITE VACATION: Went with my family to New York City last Thanksgiving to see my daughter's band in the Macy's Parade and saw all the sights.

floor in a grain drying bin would hold. I got out several engineering textbooks and calculated all the structural properties of this irregularly shaped piece, taking into account the different perforations, overlaps, and stiffening ridges.

Three days later, when I was finished, I knocked on Burl's door and proudly told him my answer. Burl got up from his chair and told me to follow him. We went downstairs to the manufacturing plant, and Burl got out a plank of flooring, placed it between two concrete blocks, and stacked more blocks and debris in the middle of the span until it bent. He then told me to weigh the pile. "Is that the answer you got, Scott?" (Actually, it wasn't, because I later found that I had made a sign error in my calculation). Burl solved the problem at hand in just 15 minutes. Burl then gently explained to me that engineering is a tool to be used to help you get a job done, and just because you can use a certain tool doesn't mean that it's the best way to complete a particular job. Burl served as a reference for me on my PE exam and gave me many, many other lessons about engineering and life that I will never forget. I would not be a PE without Burl.

I had many other mentors during my career who helped show me professional engineering. They taught me that proper engineering looks like quiet dignity that comes from uncertainty, not shouting righteousness of absolutes; that engineering writing and speaking are just as important as calculations; that even when it seems like you have to work so hard to do what you think is right when everyone else seems to be after the path of least resistance, you must do it anyway; that your colleagues are your most valuable asset; that there is a proper way to resolve disputes with

other engineers; that engineering is a human activity, so you must manage your staff with kindness and good humor. And



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Autumn in the Ozarks.

lastly, by their great example, they taught me that it is my responsibility to help new engineers find their own way. None of these lessons were on the PE exam, but all of those who taught me how to be a Professional Engineer were PEs.

Sustainability is now one of those words-of-the-moment that we hear so frequently: “Leave it at least as good as you found it.” We, as engineers, need to work to ensure that everything in that forest that I see out my window keeps cycling for future generations. And let’s not forget about the mountains underneath. They seem solid and unchanging, but they’re not. They just change more slowly than the seasons. If we don’t take care to prevent them from being eroded, stripped, and exploited, they will be gone, as will the forests upon them. We also need to keep in mind that those who have been protecting these resources are now leaving, or gone, and yet their work must go on.

I like to think that I got my PE for the same reasons as my mentors: not because it meant a promotion or a raise or because some bureaucrat required it, not for expediency, not

to tower over others and acquire a name, but simply because it is what you are supposed to do. Yes, it takes time and study, but if you are eligible for the PE, then it is your time and your season. You are a part of the cycle, and now it is your turn to sustain your profession for those who will follow you. If you think you are an engineer, then you need to prove it. Take the exam, get certified by your state, and then, most importantly, live the role of Professional Engineer.

We can’t know what life will look like in the future, but as I view those ancient mountains and think about Burl, and then think about all the young engineers I know who are so excited to have earned their PE or EIT and are doing amazing things — I think I have a pretty good idea of what the foundation of the future will be.

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