

ETEC Nuclear Working Group Recollections

by Dr. Eric Abelquist, Muddy Boot recipient, ETEC past chair, local leader, and Certified Health Physicist
Remarks given at ETEC's Friday Meeting, **December 10, 2021**.

"Let me tell a story about the value of ETEC. In 2007 Jim Campbell said he wanted to "put together a small working group of folks in Oak Ridge/Knoxville interested in developing strategies to serve the nuclear industry." ETEC's Nuclear Working Group was formed.

I recall that in 2007 the 'Nuclear Renaissance' was a thing. Senator Lamar Alexander had championed the notion of building 100 new reactors in 20 years. Indeed, the NRC had about 20 applications for new reactors, and Jim Campbell's vision was to expand our footprint in two nuclear market sectors: manufacturing N-stamp & ultra-heavy forgings; and, workforce development (skilled craft for new nuclear builds). ETEC commissioned a white paper on nuclear supply chain in East Tennessee. Now, in retrospect, the 'Nuclear Renaissance' was a blip, with only two new nuclear reactors built in Georgia.

But ETEC's nuclear conversation continued. Small Modular Reactors became an interesting nuclear topic with the B&W mPower reactor, and TVA's interest in SMRs, perhaps at the Clinch River site (early site permit). USEC (now Centrus) announced plans for manufacturing a state-of-the-art AC-100 centrifuge machine to enrich uranium – the American Centrifuge Plant. UT's Nuclear Engineering program was experiencing growth. The nuclear market in Tennessee was real.

In fact, ETEC partnered with the Nuclear Energy Institute (NEI) to conduct a survey of the nuclear energy industry companies in East Tennessee. ETEC also formed a partnership with U.S. Nuclear Industry Council and hosted Nuclear Suppliers Workshops in 2017, 2018 and 2019. We partnered with DOE NE on the Millennial Nuclear Caucus in 2019. Most recently, in 2021, ETEC co-sponsored the Fusion Innovation Forum with Fusion Industry Association. ETEC has been in the middle of the nuclear supply chain and workforce development conversations for 15 years. ETEC provided continuity and kept the conversation moving forward.

Today advanced reactor technologies, next-gen reactor designs, and fusion power are being discussed in Oak Ridge/Knoxville. We are prominently on the nuclear map. Consider:

- 1) Centrus Energy Corp is working on bringing TRISO nuclear fuel using high-assay low enriched uranium (HALEU) to market (partnership with X-energy)
- 2) Kairos Power is building their Hermes fluoride-salt cooled test reactor at ETTP (using TRISO fuel), with plans to collaborate with TVA
- 3) General Fusion is opening their U.S. headquarters in Oak Ridge
- 4) TVA and UT NE are partnering on next-gen nuclear energy technologies, including SMRs

Jim had a vision in 2007 to bring the nuclear market to East Tennessee. The dots are connecting in ways we couldn't have predicted back then. But, by leveraging historic strengths in nuclear (both fission and fusion), and by building effective partnerships, ETEC has executed Jim's vision.

I'm grateful to be a part of ETEC, being able to work with many of you, and proud of what this organization has accomplished over its many years of taking care of business in Oak Ridge.

Thank you, Jim, Tracy and Nicole."