

TN Legislators met in Oak Ridge on February 5, 1975, part 2

(As published in The Oak Ridger's Historically Speaking column the week of March 6, 2023)

Last week we introduced one of the very few times the Tennessee General Assembly of legislators have met outside of Nashville. To bring some 90 plus of them to East Tennessee, especially Oak Ridge, and have them attend a full day and evening of briefings, tours, meals and interaction with scientists and leaders was a phenomenal idea and well executed.

Now, let's continue with the tours at the Oak Ridge National Laboratory facilities located at Y-12.

Also, at Y-12, in Building 9201-3 (Alpha 3), Gordon Fee showed the legislators some eight test vessels of similar design, though smaller, as reactor vessels. He told them that these vessels withstood water pressures nearly three times as great as they were designed to take in a nuclear reactor. Gordon's presentation in the morning was on nuclear safety. And in the panel discussion he again reinforced the importance of safety comparing the nuclear industry accident potential to that of dams or natural disasters both of which are far greater.

James Cox, Superintendent of ORNL's Operations Division gave the legislators a tour of the High Flux Isotope Reactor where one legislator said, "The basis of fear is ignorance. Now I can go back and say I was there. I looked down at the reactor's radioactivity. And it did not hurt me." The use of HIFR to produce radioactive isotopes for cancer treatment was emphasized.

And at the Oak Ridge Gaseous Diffusion Plant, Ken Sommerfeld, assistant plant manager, inside Building K-33, in 100-degree heat (in February mind you), explained the process whereby gaseous uranium hexafluoride is pumped through thousands of stages of barrier material with small holes to enrich the uranium 235 content. He also showed them on the bus tour the huge containers of uranium worth \$320 million destined for Japan. The Toll Enrichment Program sent uranium reactor fuel to many countries over the world. Japan likely being the largest customer and for which Gene Joyce won a battle to collect state and city sales taxes on the uranium.

The tours accommodated some estimated 150 participants including the legislators, guests, and the press. They were scheduled so tours at each of the four sites would handle one-fourth of the group in rotation. Security requirements were not as strict as they are today, but this is still a significant accomplishment to accomplish in three hours.

Murray Rosenthal, in his presentation said, "...we must be prepared to expand our production and use of coal in the United States, both burning it directly in power plants and converting it into liquid and gaseous fuels. Tennessee has an important stake in this, since we are a major producer and consumer of coal, and institutions in the state are carrying on important programs aimed at making coal more widely usable." He also said, "...the new energy sources – shale oil, solar, geothermal, fusion - will not be helping out much for some time. ...we are going to need to greatly expand our use of coal and nuclear energy. ...we must be careful to conserve and not waste energy."

Floyd Culler made the point that "...uranium exploration and production must be expanded rapidly in the near-term, and that development of breeder reactors is urgent." He went on to explain that "A breeder reactor makes more fuel than it consumes. It uses plutonium as a fuel.

"More importantly, it uses uranium 238 that accumulates as the enriching plant tails. By using uranium depleted in uranium 235 as the primary source of plutonium, the estimated uranium resources of the United States can be extended for 1,000 or more years from uranium mined before the breeders were available. The breeder extends by a factor of 60 or 70 the energy than can be obtained from uranium."

Culler noted the Clinch River Breeder Reactor was proposed to be constructed in Oak Ridge. He also mentioned the fact that it was being questioned as was nuclear energy in general. As you may recall, the Clinch River Breeder Reactor project was terminated on October 26, 1983, when the US Senate voted 56 – 40 to deny any further financing for the project. I am pleased to note the site is now going to be used for the upcoming Tennessee Valley Authority's Advanced Nuclear Reactor Technology Park.

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Chester Richmond presented a comparison of coal fired power plants to nuclear fueled power plants. While recognizing that coal would still be needed for the foreseeable future, he emphasized the impact of coal usage on the environment as compared to the much less adverse impact of nuclear energy. He introduced the presentation by quoting Buckminster Fuller, inventor of the geodesic dome, who felt more, not less, technology is needed to overcome environmental ills, by saying, "It's an ignorance crisis we face, not a pollution crisis, or an energy crisis, but, above all, I think nature is really trying to make a success of man despite his ignorance."

Some of the newspaper articles explored reactions to the day's presentations and tours. House Speaker Ned McWherter said, "This is the most informative and productive day I've ever spent in the General Assembly. We were right to bring the General Assembly to Oak Ridge."

Other legislators were quoted, "I believe they were truthful about the data they had but I also believe somewhere there is a whole other group of statistics which prove other points." And "I heard everything they said, and I still don't believe it." Goes to show you that even in 1975, some people had their minds made up and it did not matter what facts they were shown, nothing would change it.

Leslie Dale, who along with Ben Adams had lead roles in bringing the event about, said he felt the strongest impression left with the legislators was that nuclear power and nuclear reactors must play a part in providing electric power in the future. "The critics of nuclear power have minimized it and proposed solar and other more exotic fuels as alternatives, Dale said "But the legislators realized here that there will need to be dependence on the fullest development of coal and nuclear energy that case was well made."

Ben Adams said, "Legislators were overwhelmingly impressed with the size of the local installations, the size of its payroll and the credentials of the speakers and leaders. The legislators have developed a new sense of trust in Oak Ridge expertise, one they didn't even know about."

Other legislators commented that the critics and environmentalist were not there to present their views and that the presentations were one-sided. Of course, they were correct on both counts. It was by design not to allow other views and also the one side presented was pronuclear as to be expected from Oak Ridgers.

The final event of the day was a semi-formal reception at the then new location of the American Museum of Atomic Energy on Tulane Avenue. The building was a showplace Oak Ridgers were proud of. While the official opening of the new museum was scheduled for February 17, 1975, Gary English, museum director, allowed the function to be held there and even had most of the exhibits operating. Legislators were encouraged to tour the museum and were awed by the elegance of the food served and the entertaining atmosphere.

Proudly, our American Museum of Science and Energy remains something we Oak Ridgers are proud of and it continues to fill the role of a gathering place for parties and receptions as well as being an excellent museum in conjunction with the other six museums we have now. Can you name them? I know, two of them are not accessible by the public but are available via the bus tours from AMSE or online.

Let me list them for you: AMSE, the Children's Museum of Oak Ridge, the Oak Ridge History Museum, the Y-12 History Center, the K-25 History Center, the Graphite Reactor (accessible only via the AMSE Bus Tours) and the Museum of Radiation and Radioactivity (accessible online only, here is the link: <https://www.ornl.gov/health-physics-museum/>).

Now you see what was accomplished by Oak Ridgers pulling together in February 1975 in a phenomenal manner to execute an influential and highly educational briefing on a subject, nuclear energy, that was at best little understood by the Tennessee State legislators. One legislator even brought along a physicist from Vanderbilt to help him assure he understood what was being told him.

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A potential lesson learned for modern Oak Ridge is that our expertise is valuable, and we must use the power of factual presentation to influence decision makers who do not have the knowledge or experience to appropriately evaluate some of the important decisions they are called upon to make. We elected them to the office and they are doing their best to fulfill the promises made and expectations of the public. They need help in specialized areas to do their jobs we elected them to do.

It is not always enough to just take a group to Nashville or Washington, DC and speak to our elected officials. Sometimes bringing them to see the actual sites and meet the people doing the hands-on work is far more effective. Folks like Ben Adams, Gene Joyce, Herman Postma, Gordon Fee, Roger Hibbs, Robert "Bob" Hart, Alvin Weinberg, and Al Bissell – they knew and understood.

One last interesting side note to this excellent affair. On December 12, 1974, a bill was introduced in the US House of Representatives to change the name of Oak Ridge National Laboratory to Holifield National Laboratory. It became Public Law 93-616 on January 2, 1975, just one month before the event to bring the legislators to Oak Ridge.

The only place this is mentioned in all the documents I reviewed, and all the newspaper reports I read is at the very end of the Associated Press report distributed statewide by Nashville staff member Bill Rawlins, who was at the event. Rawlins said, "And Herman Postma, director of the Holifield National Laboratory, said nuclear critics 'have resorted to distorting facts.'"

Don't you know this was a major issue at the time. Nothing in any of the presentations even hinted at anything other than Oak Ridge National Laboratory as the name. Of course, the name was changed back, and I understand that two sets of letterheads were kept at ORNL and used judiciously limiting the Holifield one to only required communications with the government.



American Museum of Science and Energy as it stood for 43 years

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American Museum of Science and Energy as it looks now



High Flux Isotope Reactor (Photo from ORNL Review)

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Legislators and members of the press hear an explanation of the High Flux Isotope Reactor at ORNL. The man second from left facing the camera is John Barach, physicist from Vanderbilt University brought here by Rep Steve Cobb (D-Nashville), far right. Fourth from left is Jim Westcott, WATO, and fifth is Rep. Alvin King (D-Memphis). The white-haired man with glasses is Sen. Ernest Crouch (D-McMinnville).

Photograph from The Oak Ridger's February 7, 1975, edition