

### **Looking Back on a few early events:**

In the early days of the Minuteman Missile System, I was an R&D Tech for the Transistor Circuits that were used for the missile control systems.

Later, I was Lead-Tech on the Mobile Minuteman Project. The one that was to go on various trains around the country. Defense Secretary MacNamara inspected it while I was there.

After that, I was an Instructor/Supervisor in the Boeing Industrial Training Division for a while.

Then, I wound up at the Boeing Space Center in Auburn working with Missile Telemetry Analysis of Lift-Off and Stage Separation (all analog by transistor circuits), including vibration analysis of missile payloads. These payloads included testing in the largest Space Chamber in the world at that time. I was there when the Lunar Orbiter and the Moon Buggy were tested.

When we were getting a brand new 3<sup>rd</sup> Generation Digital Computer System for "Digital Analysis" (still only transistorized), with all the associated Peripherals, I was asked if I wanted to have the maintenance responsibility.

During that time frame, I wound up writing about 200 diagnostics in Machine Code, as well as a complete Operating System for that mainframe, for testing all of the Peripherals, and there were a few more very interesting projects.

During this time frame (mid '60's ?) I was called back to the Industrial Training Center. Boeing was constructing their first AWACS prototype, and I was given the task of training each of the 3 crews of Technicians working with the Westinghouse Engineers. I had two weeks with each group to bring them from zero to fluency in Digital Techniques and Computer Concepts. Some of those techniques I taught are still not in the text books today. I left the Space Center in 1973 to teach in Montana.

Besides teaching in Montana, I was the Tech side of an OEM Company where we made custom computers for Law Enforcement, and various Businesses (before any PCs existed), and Parking Ramp Computers (for a while, we were number 1 in the nation).

In 1984, we came here to teach for 15 years here in Tacoma, and retired in 1999.