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Put Your Building on Autopilot; Sit Back, Relax

By **Bill Holmes, P.E.** February 16, 2012 09:59:45 pm[Email](#)[Print](#)[Like](#)

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I was sitting in my car in the parking lot of a Mental Health Hospital having cold chills. What was the matter with me? Was I okay? It was almost 100 degrees outside. Should I be out here or in a bed in a room in there?

I had just taken a 40% paycut and left a good job as head of the Energy conservation department at an engineering firm. I had taken a faculty position teaching in the Purdue School of Engineering and Technology and had started my own business with the intent of contracting to serve as energy manager for a number of facilities in the area. The hospital was my first project.

I was confident that I could more than make up that loss of income managing energy. My chancellor encouraged the faculty to consult, and I was ready to go. I was 34, had three children under 10, a stay-at-home wife and a 25-year mortgage. This was my first big consulting job; a great opportunity.

I was looking at the contract in my lap that described how I was to be paid. What the hell had I done? I had convinced the hospital's board to hire me as the facility energy engineer for a fee of zero. If I could reduce the monthly utilities cost, I would receive 30 percent of the actual documented savings each month. If I didn't produce any savings, I wouldn't be paid. I was taking 100 percent of the risk with no guarantee that I would make a dollar.

It had only seemed fair at the time; get paid for what you produce; the Midwestern work ethic. I had been a paper boy. You delivered the papers: put them on the porch, on time, and kept them dry. You did what you were supposed to do and maybe you got a \$2 tip at Christmas. I was an honor carrier – an entire year without a single complaint. I mowed lawns in the summers. You took pride. The yard looked nice when you finished. You trimmed and swept up the clippings. You earned your money and it felt good. That is what I wanted to do; get paid for what I actually produced.

I had gone to Officer's Training School with the intention of being a pilot, but couldn't pass the eye exam. But while I was in OTS, the Air Force offered me the opportunity to go to graduate school to get my Master's in Mechanical Engineering, all expenses paid plus full salary and benefits; too good to turn down. They gave me a list of 100 schools and told me to choose three. I think I picked Cal Tech and M.I.T but don't remember the third one. As I had only been in the service for a few months, I still had a lot to learn about the military's methods. They sent me to New Mexico State University, a good school but one that wasn't even on the list. Their Master's was a two-year program but the Air Force gave me only 12 months to complete it.

When I arrived on campus and met with my advisor, Dr. Ford, the head of the M.E. department, he told me no one had ever completed a Master's there in less than two years; I needed to get an extension from the Air Force. I applied and when I received my response, it read, "Under Article such and such, failure to complete a government-paid degree program in the allotted time is a court-martial offense." Guess what I did? I did what they told me. You got it; no jail time. Remember I was just this kid from the Midwest trying to do what I am told, stay out of trouble and keep everybody happy.

When I finished my 12 months, I again got to "choose" my first actual duty assignment. I said I want to work in buildings with building energy systems. They said, "Oh no, you have to be a Civil Engineer to work on buildings; Mechanical Engineers have to work on airplanes." When they told me I had to work on airplanes, I figured I'd just say yes before they pulled out that court-martial thing again. So I worked on airplanes for the next five years. As this was 1969, I assumed I would have to go to Vietnam at some

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Author Bio

**Bill Holmes, P.E.**

Bill Holmes, P.E. founded Holmes Energy LLC www.holmesenergy.com and developed the AutoPilot Monitoring-Based Commissioning (MBCx) System in 1979. He has a B.S. and M.S. in mechanical engineering and has done additional coursework and research for his PhD. He is a former Purdue professor and taught for several years in the Continuing Education in Energy Management Program at the University of Wisconsin.

Bill has produced savings from 20% to, in a few projects, more than 50% from low-cost, no-cost changes in management, operation, maintenance and control alone in all types of facilities including Industrial Plants owned by Fortune 500 Companies.

He is the recipient of a DOE Award for Energy Innovation and was the Indiana Energy

point so I volunteered to do it right out of graduate school, to get it over with. The Air Force apparently thought I was again trying to cause trouble so they said not so fast; you want to go to Vietnam, we will send you to Florida instead. But I guess I must have done what they needed because as far as I know not a single North Vietnamese made it past Pensacola.

As it turned out, making me work on airplanes was probably the best thing that could have happened to me in terms of my eventual career. Maybe the Air Force knew what was best after all. I was assigned to the 4750th Test Squadron at Tyndall AFB in Florida, and worked with evaluating modifications and improvements to fighter aircraft as they flew over the Gulf of Mexico Test Range. I also got to balance one of our missiles, the first missile ever launched from the Air Force's Rocket Sled Track at Holloman AFB in New Mexico, and watch it fired, begin to tumble out of control and take out a whole row of utility poles alongside the track. That time I knew it was going to be Leavenworth for sure for as long as it took me to pay for the missile and the poles from my \$303 monthly salary. But I did have some fun along with getting really valuable instrumentation experience. The aircraft and systems being tested were fitted with instrumentation and data was transmitted to a ground station via telemetry. We analyzed the data to verify the results of the tests.

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