

Intruder Alert - Safe Computing Practices - Your Drinking Water

By Burt Tschache

Of all the components of the American infrastructure, clean, potable water is likely the most important for our survival. People have been known to live as long as a month without food, but 7 – 10 days is about all you can live without water, depending on numerous circumstances.

What does this have to do with computer security, you may ask? Much of our potable water processing is computer-controlled with highly-trained operator oversight using the SCADA systems I wrote about in last month's column. It has been theorized that future wars may be fought over water, so I figured water would be a good place to start in my infrastructure examination.

I interviewed my good friend, Dave Reid, a biochemist and board-certified Class A Operator at a water plant serving 25,000 citizens on the East Coast. While not being able to divulge exactly where he works or certain background information, that which I can tell you is most interesting.

In order for someone to become an operator, they need at least a B.A./B.S. to get a foot in the door. Then a background security check must assure possession of outstanding character. Operator training itself is most intensive with book and hands-on learning under the watchful eyes of instructors and senior operators.

There are 3 levels of operator: C, B and A. An operator must remain at each grade for at least one year so they have the understanding of plant operations at that particular level. They also have a minimum of 5 additional classroom hours every year. The skill levels attained are transferrable from state to state as all facilities operate under the same federal guidelines.

There has been much discussed about chemicals used in water processing. I won't get into that discussion, except that I was told all chemicals used must be of pharmaceutical or food grade. The chemicals must also be delivered during the day shift when the lab is in full operation and random analysis performed on every chemical that comes into the plant. This positive quality control was begun in the mid-90's at the plant where Dave works. Documentation is held for 5 years.

After hearing about the security breach occurring with the electrical grid, I asked Dave if such a breach could occur at a water plant like his. He firmly stated that with their new SCADA system in place, it would be impossible. In the first place, the SCADA system tolerances are so tight that any variation detected would be cause for an alarm or shutdown.

For transmission of remote signals outside the highly secure physical facility, they use what is referred to as a double-check system using multiple component input key matching created by a random signal generator. No one could break into the signal chain without SCADA detecting the variance and halting all activities.

It's not all a breeze with SCADA, though. Due to the frequent east coast thunderstorms, SCADA can be a bit of an issue when switching power from the electrical grid to generator backup, isolating the plant from a strike to the grid. SCADA systems are very sensitive to power fluctuations and many times must be restarted when switching power sources.

I asked him if their UPS's (Uninterruptible Power Supplies) were equipped with power conditioning. He said since their supplies are on a government contract, the low bid wins and since power conditioning was not in the specs, they did not get it. It is not a good idea to have such sensitive systems without power conditioning, as power sags and surges occur regularly even without a thunderstorm.

Not all facilities are at the advanced technological level as my friend's. Many are still not automated or nearly as secure. Having spent years as a Systems Analyst, I know that you do not scrimp when it comes to the protection of expensive computer assets or you will incur even greater expense replacing them.

Since President Obama is talking about major upgrades to the American infrastructure, I believe that looking into the functionality of governmental purchasing agents and their purchasing policies, in order to assure that we get the right equipment that will last over the long haul, must be a part of the process. At the end of the day, you get what you pay for.

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Happy Trails!: A Report From the Rodeo Road

By Mackenzie Carr

Greetings!

For those of you who do not know me, my name is Mackenzie Carr and I am the 2009 Miss Northwest Professional Rodeo Association (NPRA). I grew up in the wonderful small town of Vernonia, graduated from Vernonia high school in 2008, and am currently a student at Oregon State University. I cannot thank all of you enough for your continuous support. Vernonia's Voice editor Scott Laird had a great idea that I could write a monthly column letting my hometown know what I've been up to along the rodeo road. So, without further ado, here it is.

The majority of the first three months of my reign consisted of nothing but rodeo court coronations and NPRA board meetings. To say the least, I was thrilled when rodeo season began; unfortunately, I don't think my horse, Pedro, felt the same way. For him, this meant he had to actually do some work, instead of just lounging around. Pushing cattle, packing sponsor flags, and being "polite" to the other horses is a huge step for him. Just last year, Pedro had never been in a rodeo, let alone moved faster than a pleasure lope. I was thoroughly surprised that he took to it so well.



Pedro and I have been to two rodeos so far this season, with 22 left to go. This year, I am able to travel to many rodeos that I've never been to before, including the Spray rodeo over Memorial Day weekend.

Although the town of Spray is very small, its rodeo's reputation is huge. Both Pedro and I were looking forward to it as I wrote this first report.

Not only does Pedro tear up the rodeo arena, he also cleans up pretty good for parades. Our first parade was in St. Johns, where we won the best overall equestrian entry. It was quite an honor to win such an award. The next major parade is the very famous Grand Floral Parade in Portland. Lisa Edgar, of Vernonia Floral, is making all the flower arrangements I will be using in the parade. Tune in on June 6th to see Lisa's wonderful work and the beautiful array of flowers that always accompanies the parade.

That's all for now, my homework is calling. The next time you hear from me, I'm sure I'll have some funny stories from my many travels. Thank you again.

Another Round: More Words of Wisdom About Beer

By Scott Laird

“Sometimes when I reflect back on all the beer I drink I feel ashamed - Then I look into the glass and think about the workers in the brewery and all of their hopes and dreams. If I didn't drink this beer, they might be out of work and their dreams would be shattered. Then I say to myself, ‘It is better that I drink this beer and let their dreams come true than be selfish and worry about my liver.’” -Deep Thought, Jack Handy

Barley Wine: Drink of the Gods - Well, It finally happened. After all these years of acting like I know a little more than your average beer drinker, I finally got around to trying a Barley wine. All I can say is “Wow!” I picked up a 22 oz. bottle of Deschutes Brewing 2009 Reserve Mirror Mirror, and was floored by this stuff. This is another of the Deschutes Limited Release Series (you remember, The Abyss, Black Butte XX, The Dissident). I said it before and I'll say it again-- Deschutes has done it again! At first sip, I wasn't sure what to think. It was fruity and strong, almost overpowering. But as I worked my way through the bottle, it started to grow on me. Maybe it was that 11% ABV, but by the time I reached bottom, I was really liking it! The label describes it as born of a double batch of their Mirror Pond Pale Ale, that is a 35% oak barrel aged Barley wine. For those of us not familiar with Barley wine, a little research taught me they are strong English-style ales, that blend a sweetness with hoppy bitterness. It was definitely a new experience, and one that was enjoyable, so I'll be on the lookout for more Barley wines to try. Send any suggestions you might have my way. Mirror Mirror is one of the Deschutes Limited editions, so it was a pricey \$10 experiment that worked out well, as most of my Deschutes experiments tend to.

Organic Beer Fest is Back - The world's largest selection of organic beer will be poured at the North American Organic Brewers Festival, June 26-28, in Portland's Overlook Park. I missed this one last year, but it sounds like it just keeps getting better and better. Festival organizers have just released this year's beer list, with over 75 organic ales and lagers. “I am impressed with the diversity of organic beers now being brewed,” said festival organizer Abram Goldman-Armstrong. “It's a testament to the creativity and passion of organic brewers.”

Last year, the NAOBF drew 15,000 attendees and raised over \$3300 for charities. The NAOBF also collects food for the Oregon Food Bank, offering a \$1 discount off the price of the festival's compostable tasting glass, in exchange for three cans of organic food, and showcases a wide array of sustainability-oriented vendors, live music, face painting for children, and local and organic food vendors.

The pre-festival Beer List looks especially enticing, with a number of breweries I have not encountered before, including: Crannog Ales, who brew Irish style ales in British Columbia; Santa Cruz Mountain Brewing; Standing Stone Brewing from Ashland; Ukiah Brewing Company from Ukiah, California; Elliot Bay Brewing from Seattle; and Upright Brewing Company from North Portland. Looks like lots of IPA's and Pale Ales and of course the current trend towards Belgian styles, and a few Porters and Stouts. Some great names that stir up interest: Johann Most Weizen from Captured by Porches Brewing in St. Helens, Back Hand of God Stout, Bald Guy Brown Ale, Recession Session, and Reggae Junkie Gruit.

Looks like just about something for everyone. I am looking forward to checking out this fest this year.

See you next time for Another Round!

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