

## The State of Union Address on Hydronics (...and it's a real mess!)

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Here's one mans 40 grit sandpaper view of the 'whole' in the pipe...

When I was in the design, distribution and fabrication business, our energy transfer stations division catered to small to medium sized district energy projects and we rarely if ever had any complaints from clients even though the systems were far more sophisticated than residential stand alone systems.

Each station had energy meters, magnetic or impeller types, analog or digital, with or without remote communications; differential pressure control valves - not the low cost spring variety but the diaphragm and positive/negative cap tube type; reset and setpoint controls for space heating, ventilation and domestic water and both electronic and thermostatic valves. Most had brazed plate heat exchangers. All had balancing valves. Each station was designed, fabricated, wired and completely commissioned to the engineering performance specification before it left our facilities. These were not custom units...they were standardized models and we luvvved them - they never came back and they never needed troubleshooting! I'm guessing Taco, Wirsbo and even those of you embarking on a similar trip are finding out the same thing.

It was our product distribution division that drove us bonkers because our individual control component sales eventually became on site assembled systems which ultimately led to trouble shooting calls dealing primarily with wiring, commissioning and operation...not piping assemblies. It literally drove us batty because what would happen is the heating wholesaler would sell the electrical components to the contractor and it would go to the job site where it was mounted on a wall or connect to a device - then when sparky showed up he was given the instructions on what needed to happen and then poof - poof...the smoke gets let out of the wires.

Then the blame starts...warranty claims...mad customers...threats...lawsuits...increases in insurance premiums...none of it listed in Dale Carnegies book "How to Win Friends and Influence People."

It was (is) a losing battle - over time, a demand for the techno systems has been created and continues to rise in proportion to housing starts - at the same time we have a shrinkage in skilled labor so the result is a gradual but continual dilution of qualified installers on the job sites ... and the numbers don't work in our industries favor ... distribution, manufacturers, government, industry and insurance companies are duly concerned - and (AND) as mixed hybrid systems evolve it will get to be a real handful.

The preassembled stuff deals only with the "smoke on the water" - but the filling, purging, balancing, and commissioning of controls still has to be done by a qualified and certified technician...this is where the real challenge lays.

Like Paul Pollets says bubba butt cracks don't come voluntarily to seminars. He might be able to pipe it but he can't make it sing and dance and that's why I and others have said over and over again ...a plumber, pipe fitter or tinsmith is no more of a comfort contractor anymore than a cribber or framer is a cabinet maker...Mark Eatherton calls them Hydronicians, I call them Thermal Environmental Comfort Technicians or TECTs for short. It all falls under the filed of Environmental Ergonomics. Whatever we call these guys and gals we can't just call em' plumbers or pipe fitters anymore because that's not what the customer's calls to complain about unless the call is to say there is a leak - then and only then has she has called the right person.

When a consumer calls up to say she's cold, hot, dry, clammy, out of hot water or concerned about the hissing, banging, clanking etc...in our personal experience she's not typically passing judgment on the assembly of the system at that specific moment in time (unless it's leaking), but she is telling us one or more things are not meeting her perception of satisfaction from a comfort, safety or efficiency perspective. Comfort is a physiological and psychological interpretation, safety requires knowledge of codes, standards and equipment operation, and efficiency requires knowledge of chemistry and physics.

The National Occupational Competency Testing Institute publishes the Job Ready Assessment List for an HVAC tradesperson, which includes; Electricity, Soldering, Brazing and Welding, Air Conditioning, Forced Air, Gas and Oil Units, Hydronic Systems, Refrigerant Recovery, Heat Pumps and Electric Heat, Pipe fitting, Humidity and Air Movement, Controls Installation and Service, General Safety, Related Math and Science, Sheet Metal and Ductwork, Employability Skills and Computer Literacy...an impressive list no doubt - but no where does it cover human physiology, psychology, nor does it cover codes and standards, or physics and chemistry (like Dan says in his blog - his sociology degree was good training for the heating business ...amen to that.)

The safety taught is general on site workman's comp stuff if I remember correctly (if I'm wrong give me a whack) and the math and science knowledge disappears as soon as they become "pipe fitters or tinsmiths".

I personally would never call the good guys I know on this site a plumber, pipe fitter or tinsmith...those words don't describe their profession at all ...not even close. In my own trade background, I have over 10,000 hours in carpentry experience but if I ever got the idea of building cabinets for our house my wife would divorce me. Call me a framer, cribber, whatever - but even I know when to stop at cabinetry ...it may fall under the word carpenter but it's not the same...and a master cabinet maker from the old country would permanently turn my fingers into wood plugs if ever he was called a framer. Hydronicians, or Thermal Environmental Control Technicians are the Cabinet Makers of our industry.

Anyways ...back here in Canada, our industry association and institutes have worked so incredibly hard to develop and get the CSA B214 Installation Code for Hydronic Heating into the National Building Code ...it made it into Section 6, Best Engineering Practices (yahoo!) only to have it rejected in Section 9, Wood Frame Construction on the premise that it was too restrictive...geesh. The builders don't like the benchmark the industry is looking for, unqualified masses of bubbas won't take the certification / seminars / courses, and inspectors don't have the power to do anything about it.

I am the last person in the world to invite government legislation into business but when business can't control the risks particularly health and safety then it's time to bring in big brother.

Which brings me to my last breath and obnoxious opinion - the #1, numero uno reason "we are - where we are" is the fragmentation of our industry...every committee that I sit on says the same thing...different city, different country, different table and chairs ...all saying the same things. But try getting all the players on both sides of the border to form a coalition ...one voice....one message....critical mass as we say - requires people to drop their egos, risk their job security, possibly forego research dollars and for some it ultimately means becoming uncompetitive and for others unable to meet the standards...all such pleasant thoughts.

The BRIGHT LIGHT ...a shining star as it were...a ray of optimism and hope - is currently in a vortex being spun about in Canada by AHAC/CIPH/CHC/HRAI/RHWHA/ and MCA members - around the CSA B214 Code and the certification course being developed and offered by N.A.I.T. and B.C.I.T. - Toss in the Ontario governments newest requirements for inspectors and designers to pass a series of legislated professional exams ( Dan Peel ...help us out on the details if you can). ... and what we're left with is a "soufflé of societies of sorts" - I don't know where the carnage will eventually land but with a miracle of miracles - hopefully they will pull together to form the elusive coalition needed to drive provincial and federal governments to legislate certification and enforcement by inspection branches. They in the soufflé - are all great people who care about the industry so I'm rooting for em' all and doing what I can to provide some social lubricant!

In the U.S...its the same issues, just ...well - bigger...and with some more sand in the ointment - but someone once said - all that really matters is whether you care enough to start from where you are.

Anyhow...send me the bill for taking up your time reading this expose of one mans 40 grit sandpaper opinions and observations...

Cheers,

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