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Challenges Facing Mechanical Contractors in 2014 and onward

A Short historical look at the industry for the younger folks!

The mechanical business has changed greatly over the years as has the entire construction sector. I entered the industry in the late 1960's as an apprentice steamfitter for Comstock Mechanical in Winnipeg Manitoba. Things were different in those days and sanitary plumbing was still based on bell and spigot cast iron with melted lead and oakum joints. We assembled threaded galvanized pipe up to 8 inch, using 5ft long chain tong wrenches. Every concrete anchor was drilled in by hand with a large hammer and star bit. All big inch heating and cooling lines were stick welded. Pneumatic controls required miles of copper tubing to be run. Drums of R-11 were used to clean and purge the lines. Hand threading of pipe was still common. Ducts and fans were enormous as were boilers and chillers. Wall fin and big air handlers were high tech.

Applying for a job as an apprentice steamfitter - my first test was to arm wrestle the foreman proving that I was strong enough for the job. A medium sized commercial building would require a crew of 20 plumbers and fitters working for a year or more to complete the mechanical piping systems.

Fast forward – along came MJ couplings, Hilti type drills, Victaulic grooved fittings, ABS and PVC, PEX. Pressfit has made soldering and threading obsolete. Now we have Sharkbite and John Guest fittings that don't even need tools they just push together!! DDC controls, wireless controls, high velocity ducting, computerized plasma cutters for sheet metal fittings, plastic tube radiant heating, chiller beams, ductless splits, highly efficient City Multi type units and we find that the actual physical labour required to install all this high tech gear for mechanical systems is cut in ½ or less, for a similar sized but much more sophisticated building. The ideal worker is highly skilled and is required to interface with technologies and controls that are constantly changing. There are many more code requirements to be aware of and updates to stay on top of. Systems are far more complex now and unforgiving if you make an error. We install equipment across a wide variety of industries. The new apprentice no longer has to arm wrestle the boss!

Contractors saw steady growth thru to the late 70's. Besides the commercial and institutional construction that we see in our cities, many industrial projects were on the go. Large hydro

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dams, power plants, refineries, natural gas pipelines, pump stations, water and sewer plants, pulp mills and mines, nuclear plants, military facilities, and ship building. Remember Dome Petroleum and Murbs!!! Most projects were based on the bid market with the larger industrial projects based on a cost plus or cost recovery model. Tradesmen enjoyed many opportunities to work on industrial type projects with work available 7 days a week with double time pay rates. Tradesmen made more money than they ever dreamed of. Union locals were poaching tradesmen from each other, with promises of ever more money and overtime hours. Workers were recruited from Jamaica, Newfoundland and Europe to fill trades positions. We all thought the good times would never end.

We were all shocked to see how fast it did end - and it was almost overnight. Between 1979 and June 1981 interest rates soared from 11% to 20%. Jobs disappeared; projects were left unfinished and boarded up, capital investment died out along with many construction companies. In BC the dark age - lasted for 6 years and recovery did not start until 1987.

I think we are facing some similar issues with an added twist. Mechanical contractors in BC saw good times from the late 1980's until about 1993 when Glen Clark and the NDP government put a big chill on construction in the province. Fortunately Alberta was booming and many trades workers and contractors were able to fill jobs in the Alberta general construction and energy sector. Many BC trades still work there today. Things improved after the election of 2001 and have generally been good with a few downward blips from the 2008 meltdown. **What lessons does this bit of history have for us today?**

Currently the BC economy is poised for a large and sustained upswing. Commercial, institutional and residential projects continue to be built and major new projects loom on the horizon:

- 1) On Vancouver Island we have a new 1 billion hydro dam project in Campbell River, 2 new major hospitals, a large CRD sewage plant, pump stations and pipelines for the CRD sewage plant, and large contracts in our shipyards.
- 2) On the mainland we have the long planned site C Hydro dam pending, a host of pipeline projects, and the enormous LNG industry that the government of BC is pushing to develop.

We already have a shortage of skilled trades in some sectors with recruitment on going now in Europe and the USA. This will develop into a tighter market for the mechanical and electrical

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trades and will affect the commercial institutional residential sector in a big way. Possible scenarios include:

- 1) **A shortage of workers** in our local industry as more workers are lured away by the higher wages in the industrial sectors of northern BC and Alberta.
- 2) **Attrition of mid - sized mechanical and electrical contractors** older contractors will close the door and either retire or also go to work in the industrial sector. Why beat your head against a wall in Victoria when you can make a \$150K a year with no risk on an industrial project.
- 3) **The Baby boomer affect** – many experienced contractors and skilled tradesmen are in their late 50's to early 60's and due for retirement. The highly developed skill levels of the older tradesmen will be lost. It is also very difficult for younger tradesmen to qualify for bonding, financing, and obtain major supplier open credit accounts, all of which are required to operate new mechanical and electrical firms.
- 4) **Some projects will not attract any** qualified bidders as the supply of workers evaporates.
- 5) **Prices will rise substantially** for bids as the amount of work available far exceeds the capability of the work force.
- 6) Contractors will **not be able to meet the project schedules** as workers become harder and harder to recruit and quality issues become a problem. Projects will require overtime to come in on schedule. Overtime is very expensive and will drastically cut profits on projects.
- 7) **Many opportunities for apprentices** and trainees. The BC government is suggesting that 25% of workers in the LNG sector will be apprentices. This means one apprentice for every 3 journeymen. To allow for growth in the construction sector and allow for workers who retire I believe the ratio should be much higher. Young men and women have many opportunities for high paying jobs in the construction industry.
- 8) **Some projects are delayed** or cancelled due to uncertainty in the market.

Mechanical contractors will have choices:

- 1) Stick with the existing system and continue as per past practice. This may not be the most profitable plan.
- 2) Develop alternate strategies and pursue expanded opportunities in the residential and commercial sectors to upgrade mechanical systems in existing buildings. Improving energy efficiency is becoming more and more important as prices for energy rise and building codes tighten up.

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- 3) Work directly with owners and engineering consultants on a design build basis. Sell new construction services directly to owners and bypass the bidding process all together. Specialize in a selected technology or product that offers a high value return.
- 4) Partner with utilities in providing upgrade equipment with built in financing, for mechanical systems on existing and new projects.
- 5) Explore partnerships with industrial contractors or owners to provide specialty services.

Solutions for General Contractors:

- 1) Take a financial interest in a mechanical and electrical firm to assure allegiance to the GC and no worries on not getting a sub trade price. The GC's will need to find a suitable partner that works for them.
- 2) Open an internal mechanical division or open a separate but captive mechanical - electrical company.

In summary there are significant opportunities in the mechanical construction sectors for the next 10 to 15 years for expansion and growth in sales and overall profit. However much planning and industry wide co-operation will be required, to ensure that the skilled manpower required is available to complete projects on time and on budget. BC and Canada are competing in a world market for skilled labour resources and this reality will change the way we do business.

Yours truly,
Pro Star Mechanical Technologies Ltd.

Wilfred K. Scheuer, GSC
President.

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Greetings Panelists,

By next Tuesday, could you please send me an outline for your presentations? Feel free to use Powerpoint decks for your talks.

You will each have 15 minutes, giving some time for discussion at the end.

If you agree, I was thinking of asking the following three questions after you are done your presentations and asking all three of you to respond questions:

1. How do the current market statistics compare with the pre-2009 market conditions, in terms of investment in new construction, existing building renewal and mechanical system upgrades? Our sales showed 2008 was a very good year, then from 2009 thru 2012 had a slow but steady decline in volume but profit stayed at historical levels. 2013 is so far looking like sales are up over the last 2 years.
2. What are the key market drivers for investment? Immigration of wealthy retirees building large expensive high tech homes on the island, commercial energy upgrades as many buildings still use equipment from 40 years ago and are subject to high prices and poor performance, residential energy upgrades to avoid rising electrical oil and propane costs.
3. What are the key opportunities for market growth in the coming year - by building type, location, sector, occupancy type, equipment type? Commercial and residential clients show a high interest in better mechanical systems that can provide high levels of comfort at low energy usage. Many clients are very disappointed in what they end up getting out of the standard bid spec model of construction.
4. Is there a discernible market impact from government policies at the federal, provincial, and municipal levels? Grant programs definitely increased sales of high efficient systems, however as soon as the grant programs over, there is an artificial and long term drop in sales. What are the most successful policies for stimulating investment? Raise energy prices. Tax benefits for certain types of buildings can help i.e. rental housing policies.

Please provide your comments.

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