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The Business of Engineering and Science Consulting - Part Three

By Lori Carucci

Since there has been a lot of interest in this series of articles, here are the last four rules that we thought were important to the building of our consulting business.

Ninth Rule: Befriend a bank: Establish a relationship early on with a bank that is interested in your business and what you are doing. We started with a small local bank that became Summit Bank that became part of Fleet Bank that became part of Bank of America. Our Bank of America banker was always there for us with suggestions and help. (And the day the payroll company accidentally paid our engineer 8760 hours for 2 weeks work instead of 80 hours, he was the first person we called. Thanks, Bob!)

Tenth Rule: Pay yourself last – I know this one will not be popular! You should have enough seed money to get your business going, but there are things like slow paying clients, large bills due (e.g., insurance!) that can temporarily set you back. Always honor your commitments to your staff and suppliers first. You can catch up and pay yourself later when the funds come in.

Eleventh Rule: See your employees as people. Remember a previous rule, that these are people you like and want in your business. Babysitters will be late, dentist appointments will come up, cars won't start, and traffic might not cooperate. Flexibility is key here (obviously within reason) – and I have always found that we benefit from the flexibility because the employees will put in the extra time elsewhere for you (one hand washes the other works well). We have been to weddings together, and we have been to funerals together. We have had wedding showers and baby showers in the office. We have even had babies in the office with their mothers, and on days of no school and no babysitter, we have had children in the office. And during Sandy, when the power came back to the office before it was restored to some of our employee's homes, we had an employee and children sleeping here.

Work Highlights

FCCU

- After involvement with FEL-1 & 2, continued process support to a refiner associated with FEL-3 review for the upgrade of their FCCU reactor system with riser cracking design improvements, and providing assistance to review operating manual procedures.

Fired Equipment

- Provided revisions to Boiler Design Guide and separate related boiler engineering standard for a major refining company.

Machinery

- Performed a root cause failure analysis of seal design and installation for a hot crude oil pump after multiple failures had occurred, one leading to a fire that caused a unit shutdown. The analysis revealed fundamental problems with bearing design that led to seal failures, and issues related to the seal itself. Recommendations were made to improve the situation, which also apply to other hot pumps at the refinery.

Process Development

- Provided ongoing process and mechanical technology development support for a chemical company's novel commercial design involving a fluid bed-type conversion process.

Twelfth Rule: Reassess as you grow. What work is worth doing, what work isn't? At the beginning we took in all work where we had the required technical capabilities, but never where there was any question that we could do the necessary work (money is not worth risking your technical reputation). Some work was less profitable than others, and some clients were easier to deal with than others. As you grow you will find what work and clients suit you the best, and be prepared to decline work that is not a good match or could have the potential to be more problems or take more time than it is worth. The key is to be the best that you can be – no matter what size your business is at the time. Your clients will see that and value that. One of our earliest tag lines was “partnering in engineering excellence” and that was and still is our core principle. We always strived to seamlessly partner with our clients, there was never any question that our work was of the highest quality, and we have developed many long term business relationships. In fact, several engineers who used to be our clients came to work with us after “retiring.”

And there you have it – after all these years of threatening to write an article for our newsletter – I actually did it. And I liked it! It was fun to do, but now it's time for the technical articles to start back with subsequent newsletters.

Thank you for your comments. Remember – phone and Blackberry in pocket; so, I can always be reached at icarucci@carmagen.com.

About the Author

Lori Carucci is the Vice President of Operations at Carmagen Engineering. In addition to this, Lori has responsibility for contracts as well as responsibility for all personnel, business, and marketing needs of the company. This includes contract negotiations with clients, employment agreements for engineering staff, vendor negotiations and bid review, payroll, human resources, hiring and training support staff, development and maintenance of employee handbook, development and maintenance of safety manual.



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