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Agree or Disagree? Engineering Consulting – a 30 year perspective

By Lori Carucci

We started our engineering consulting company some 33 or so years ago (I was young then!) on the premise that companies and refineries would find it a useful asset to have access to very experienced engineers, scientists, and other professionals on an as needed basis. On the oil company or the refinery's schedule – when they needed someone, for as long as they needed them, and what background that person should have. Cost effective, efficient, and timely. (Our record is 3 hours from the time we received a call to the time our engineer was on a plane. And that call came in at 5 pm.) We had 2 goals: First, to contribute the highest caliber expertise, services, and support to the oil and gas industry, and secondly to provide these services by maintaining an on-demand workforce of qualified, engineering consultants with the experience and knowledge to satisfy even the most challenging demands in a reliable, professional, and trusted manner.

The following article was written by one of our staff more than 15 years ago – and I find it interesting that 15+ years later nothing has changed. Read it and let me know if you agree – or do you think engineering consulting has changed, or should it change.

Consultants – When Are They Needed and Then What?

By D. Tryjankowski

Chances are if you are in a management or supervisory position, you have considered whether a consultant can help address a known or suspected problem. If your thinking stopped there, it probably did for one of two basic reasons. Some reasons arise from an emotional base (mental image of consultants, what they did in the past, how it might change management's view of your skills); others arise from practical considerations (cost, time factors, initiation effort).

If any of these concerns stopped you from proceeding, it is costing more than money. The lost or delayed profit improvement opportunity can be quantified. A delay in addressing a problem often creates other problems. Working around a problem often creates other problems. Working around a problem wastes time and effort.

The First Step to Getting the Job Done – Think It Through

The first step in preparing to hire a consultant is ensuring that there is a clear understanding of what is needed and expected.

Work Highlights

Analytical

- Providing ongoing analytical chemist assistance to a chemical company regarding additive use/performance.
- Provided technical/analytical support regarding troubleshooting investigations pertinent to jet fuel specification issues and successful time-sensitive resolution.

Marine Terminal

- Reviewed studies made by the client covering condition, utilization, and proposed upgrades to marine facilities during a one-week onsite visit to a refinery in Europe. The facilities consist of a pier sea island, SPM, and potential new LNG transfer facilities. The client's studies were generally found to be comprehensive, well done, and provide a good basis for developing the appropriate projects. Follow-up marine engineering consulting support is being done as the projects are developed. Such support includes a safety and operations audit, review of contractor proposals and technical bid conditioning, Engineering Quality Control of the contractor's detailed engineering work, witnessing of factory and site testing, etc.

Process

- Onsite FCCU process engineering startup support provided at multiple locations.

This is the same process one should apply whether a world expert on a specific piece of equipment or the best consultant team in the world needs to be brought in. A consultant should not even be considered until the problem can be outlined in one sentence (one paragraph maximum) and the resources available to resolve the problem are clearly outlined in terms of people and capital.

Understand The Timeframes

Clients need to clarify in their own minds, and with the consultant, how much background information needs to be developed, as well as how many solution paths should be explored. Additionally, the level of definition needed for given solutions is a critical decision.

Solution definition can be a time consuming process. However, the time to completely think through an option is the cheapest part of resolving the problem. The "thought experiment" is a good investment because it can offer the largest reward to cost return. Bringing in a consultant that can help in this process might even be a worthwhile consideration.

Does The Support Available Match The Support Needed?

Consultants, as the part-time employees they really are, do not function in a vacuum. They call upon the knowledge of full-time employees to answer questions that cannot be readily determined. The answers are generally best provided by the tightest of all commodities, the experienced, long time employee.

A critical review of available support to ongoing operation should be given as much consideration as management's commitment to the capital aspects of a project.

The Right Consultant

There are various kinds of consultants that can be considered, such as: recent company retirees, industry experts, technology vending companies, major industry consulting companies, and generalized consulting companies. What is appropriate for your needs will change based on the specifics in each case.

The easiest consultant to hire is the retired company employee. This is true whether the retiree is from your company or someone from your industry. The individual is known, both strengths and limitations, directly or through contacts. The retiree knows your operation or similar operations intimately and has reduced needs for support personnel. While the retiree can be brought in quickly, generally skill limitations make these individuals best suited for resolving a specific problem (rather than a "process" problem), as well as people training or as a key support person when knowledgeable employee support is limited.

If a problem is big enough to need people with multiple skills, the client will lean towards bringing in professionals who have handled this type of need in the past.

Consider using technology vending companies to address a specific problem or an industry consulting company to handle broader technical based problems.

When the problem is so large that a generalized consulting company is being considered, the commitment to a lot of support is needed from all levels of management.

The more general the consulting company, the less experience they have had with how you really operate. More time and support are needed before, during and after than when dealing with industry consultants.



The Contract For Service

The contract should be clear and concise. Be sure that the services identified in the contract are really what you need and want. Further, timetables and deliverables should be explicit. Clarify what additional work will cost you either in total or per hour basis, what support the consultant is expecting from you, what secrecy they are bound to, how access to the site will be controlled, and what access you will have to the work in progress for review and comment. (Remember, if the consultant must be escorted at all times, a client employee must be committed full time and the consultant's clock might be running when waiting for the escort.)

The last point to remember when dealing with a consultant is communication. Talking is key to keeping both parties aware of where things stand and what is helping or impacting the meeting of those deliverables.

The Consultancy Is Finished – Now What?

This is the time when training, if appropriate and/or necessary, is most effective. Utilizing the time to improve the skills and efficiency of the less experienced employee has great pay out if the tools can be quickly applied. Even with the experienced employees, providing a new skill demonstrates a commitment to them and to the company's continued growth.

Lastly, make sure you take credit for the effort made in addressing the problem and in using good business sense to resolve it. Post audit the results against what management was told before the consultant was brought in. This pro-active approach is generally well received by management. It also serves as a good learning experience of work when a consultant is necessary again. In this current business environment, the use of part-time help to serve as a cost effective way to handle one's need is a smart use of limited assets.

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