Commodity Business… *or* Shareholder Value Business?

It seems odd that the power business; one that is behaving more like a commodity business (as ever-maturing yet volatile energy trading markets continue to evolve), is not more obsessed with maximizing the value of the power plant asset by increasing the project Net Present Value (NPV). Why haven't all debt and equity participants demanded that plants be built to maximize shareholder value? How do we truly build shareholder value?

The answer to these questions may be found by looking into the history of the gas turbine business, where other compelling value propositions have taken time to reach a broad scale. Let's take a closer look at the combined cycle concept. In the early days of gas turbines; back when the industry was primarily using coal, hydro and nuclear as the generation methods of choice, a few gas turbines were introduced into the mix as quick and easy additions in times of crisis. Most were installed as simple cycle units.

As the economic and environmental winds began blowing against coal, hydro, and nuclear, gas turbines were looked at more seriously as the answer to meet new capacity needs. This didn't happen overnight. The addition of Heat Recovery Steam Generators (HRSG) increased the total plant efficiencies and generated the critical heat for co-generation applications. This equipment changed the operation mode of gas turbines from peaking to base load applications, where efficiencies and total output were more important.

Now enter the independent power producer (IPP) business in the mid - 1980's. With the advent of PURPA and Standard Offer 4's, Industrial gas turbines fit the "new IPP business model" very well. Maximizing efficiency and lowering the unit $/KW cost was critical to maximizing IPP project valuations. As a result, combined cycle gas turbine projects became the generation method of choice. The niche began to develop. Today, this is a mature market.

With that illustration in place, I propose that the next big idea whose time has come is the modular packaged energy plant applied to the geothermal power world. Some will say that this concept has been out there for many years and is nothing new. While this may appear try at first glance, this doesn't take into account "second-generation" designs that are rapidly deployable, with excellent overall economics; both first cost but even more importantly lower $/KW-hr cost and increased "speed-to-market", reliability, remote operability, and safety features.

The potential for this technology is truly applicable on a grand scale. With the highest base-load availability, the ability to be deployed regardless of water availability, this rapid deployment technology predictably reduces construction time and risk, and starts to produce revenue quicker than any other utility scale renewable technology. Why are we not adding the most reliable rapidly deployable power plants with the lowest cost of generation to our renewable portfolios? Why are we not looking to get the lowest combination of cost of production ($/MW-hrs) in the shortest amount of time to into the ground and generate MW output, so that we can truly maximize life cycle cost effectiveness and shareholder value?

Systems are now evolving from being "stick-built" in the field, to an operator-friendly system; pre-engineered, factory assembled, and shipped to the site with minimal field work required – a "single source" OEM concept that is complete with comprehensive service offerings that can shift operational and maintenance risk away from the owner-developer.

Some owner-developers have discovered this "secret"; that packaged modular energy plants are the best way to enhance their projects, increase their speed to market, reduce risk by providing a rapidly deployable technology that is potentially moveable as resource and business needs change. Even in today's market, where owner-developers are wondering about how much costs will change as they try to fight the clock to get their projects financed, developed, and in the ground producing MW-hrs, some owners are thinking ahead.

Edited by Halley Dickey, Geothermal Business Development, TAS. Original article for Electric, Light and Power, June 10, 2002, Mechanical Inlet Chilling, by Craig Hurlbert, CEO, Turbine Air Systems. TAS is a global leader in manufacturing modular, packaged energy plants throughout North and South America, the Middle East, Asia, Africa, and Australia.