



New life for life-cycle costing

Information technology could bring life-cycle thinking back into vogue

The hypemeisters were working overtime five years ago, extolling the virtues of life-cycle costing and full-cost assessments in building and operating chemical plants. While accepted in principle by many of the engineering arms of leading chemical companies, the application of such thinking waned as project managers wrestled with delivering low-cost, on-schedule projects in the here and now.

The challenge to implementing life-cycle principles has been that most capital projects are measured by "total installed cost" with budgets that end at start-up or commissioning of the process unit.

Will new information technology tools and the continued push for operational efficiencies bring life cycle thinking back into vogue? Several prominent speakers seem to think so.

James Porter, vice president of engineering and operations for DuPont, keynoted the first Plant Success '99 conference in Philadelphia with a talk on "Business Value and the Information Technology (IT) Equation."

Porter challenged the facility supply chain to commit to a new course, namely electronic life-cycle data for owner facilities. Porter's vision for life-cycle data is that the technical knowledge that fully defines a facility is created, updated and maintained in an electronic database with that engineering and plant operation data managed over the facility's entire life cycle. Under Porter's plan "the owners gain value through reductions in work process cycle times, better quality engineering work, and safer, more productive facilities," he said.

At a different event, Joseph Scott, materials & service manager for rotating equipment at BP/Amoco, told the 31st Engineering & Construction Contracting Conference in San Antonio that to achieve long-term operating cost reductions, capital project teams have to consider life-cycle cost issues.

Scott provides perspective on the state of the industry by pointing out that just a few years ago, the emphasis was on the cost drivers affecting total installed cost.

"But today," he said, "BP/Amoco sites are being challenged to reduce operating expense in the range of 25% and more over the next few years. So, in a world of slim margins, operating expense becomes a key factor in determining success or failure."

Scott pointed to the importance of EPC (engineering, procurement & construction) contractors and OEMs (original equipment manufacturers) working in tandem with owners to break through the "total installed cost barrier." Owners are looking for OEMs to do far more than sell them new equipment," he said. "The manufacturers who are developing cost-efficient and effective ways to provide full life-cycle service delivery models will be the winners in tomorrow's marketplace."

Is life-cycle thinking just re-emerging as the current short-term hype, or does it have a chance of achieving a sustainable

foothold?

The emergence of a new organization, the "Owner-Operators Forum," provides evidence that life-cycle thinking may amount to more than just hype this time around. One goal of the growing six-company consortium is to be a vehicle for new technologies for the plant life cycle and to improve integrated life-cycle data for the plant industry.



In an interview with five of the founding representatives of the Owner-Operators Forum (Dow, DuPont, Air Products & Chemicals, Rohm & Haas and BASF), members noted the need for new accounting systems that support and give credit to life-cycle principles. They said the "total installed cost" syndrome will not compete with life cycle decisions if the business systems (i.e., management) really support life-cycle economics.

Forum members said EPC firms have been a major part of the problem in communicating life-cycle thinking to the OEMs, but quickly share the blame for allowing that to happen.

"Life-cycle data changes the game," said DuPont's Porter. "We must rework the facility supply chain which will affect owner/operators, EPC firms, software providers and equipment/material suppliers."

Porter outlined events that he said will occur in the movement toward plant life-cycle thinking: work practice and culture changes; integrated technical and project tools; maintenance and business systems integration; document/data management; collaboration/work sharing; and supplier and alliance partnerships.

Will the information technology revolution help the current renaissance in life-cycle thinking gain a stronger foothold? It seems that way. The economic benefits of information sharing and collaboration have never been greater! The irony is that in the drive for short-term profits, long term thinking will become key to success.

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