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### Understanding redundant asset management planning

In this article - the first of two - Richard Vann urges manufacturers to take a planned approach to end-of-life asset management

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#### Feasibility studies provide confidence to move forward



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The difficult economic conditions of recent times have overwhelmingly affected the processing sectors. Unprecedented pressures have been placed on manufacturing, chemical, pharmaceutical and petrochemical companies across the globe, and unfortunately very few have proven to be fully recession-resistant.

Some have simply consolidated their activities in a bid to work smarter from fewer locations, while others have mothballed, rationalised or permanently closed down their sites.

**The challenge for plant owners, managers and engineers is therefore how to proceed with the safe and cost-effective management of their redundant assets, while minimising any environmental impact.**

Operators often assume that there are limited options when closing a facility and many simply ask a local contractor for a 'demolition' price, before deciding whether to proceed with the exercise or not. Naturally plant owners wish to avoid abortive or non-essential spend, yet delaying projects that are deemed unaffordable is not always the most appropriate solution.



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They will inevitably have to be tackled at a later date and in most cases at an overall increased cost due to continuing liabilities such as hazardous material containment, security provisions, regulatory compliance feed, care and maintenance costs, plus the burden of unavoidable overheads such as standing building and land charges.

Other companies may initially try to sell their plant in-situ in an attempt to pursue a relatively 'pain free' site exit and where possible protect employees' jobs. But in truth this course of action may not result in the highest possible commercial outcome, and if a buyer is not found processing firms may struggle to know what to do next.

Difficulties lie in making well-founded decisions about the future, especially at a time when pressures are mounting or there are knowledge gaps. Specialist tools such as feasibility studies therefore play a crucial role in the development of safe yet commercially sound redundant asset management plans.

The concept of the feasibility study is not new. For decades it has been regarded as a useful investigative exercise that generates reliable site and plant-specific data from which informed decisions can be made. But its widespread application is rapidly increasing, predominantly due to its ability to present previously unexplored solutions for even the most complex of plant closure projects.

Drawing upon in-house and specialist external engineering experience, sector knowledge and commercial awareness, feasibility studies provide an unbiased, clear and realistic view as to the true liability, or indeed opportunity, of a decommissioning and demolition project.

EHS, commercial and financial factors associated with the given site and current marketplace, are all considered. This means assessing achievable costs, potential hazards and risks, the status of the supply chain, the commodity value of scrap, technological trends and requirements in emerging markets, waste management obligations, required resources, relevant legislation and programming and scheduling constraints.

**Ultimately feasibility studies provide sufficient data and confidence to pursue a given approach whether that be:**

- The dismantling of plant for re-sale, re-erection and operation elsewhere, as was the strategy for a chemical production plant in North America which is being sequentially dismantled, decontaminated, precisely match marked and refurbished before being shipped to Europe for reassembly
- The demolition of plant, where it is often possible to generate an income stream as a consequence of scrap value. For example, following the closure of INEOS ChlorVinyls' site in Wales (UK), the PVC manufacturing specialists handed the site back to the landlord as flat slab. A feasibility study indicated that plant demolition and dismantling could generate an income from the sale of the process equipment and metallic arisings including high-value exotic alloys. Not only do demolition schemes mitigate ongoing levels of liability, but in some cases projects can be self-funding or even cash-positive
- The mothballing of plant whereby the plant lies idle, perhaps until market conditions pick up. This however should not be misconstrued as an easy option; even a plant that has been extensively isolated and preserved may still experience deterioration leading to the potential for dropped objects, corrosion of pipework under insulation, means of access destabilisation and inevitably, the cost to maintain the site's condition and security will rise over time
- The decommissioning of redundant plant within a shared operational site to minimise safety, environmental and cost liabilities. This was the preferred solution for a German chemical processing facility. Detailed standing cost analysis identified significant longer-term savings would be achieved through selective dismantling
- Or, a combination of the options above, with detail as to how, in what sequence and over what period of time the project should be pursued and with what safety management plan in place.

By assessing every risk and exploring every opportunity these strategic management tools remove an element of the unknown and provide an insightful starting point from which value-adding business decisions can be made.