The Looming Market for Abandonment and Decommissioning

Michael Jardon, Chief Executive Officer, Expro

The market for abandonment and decommissioning has undoubtedly grown over the past 5 years, as the boom of the 1970s and 1980s makes way for the first tranche of major decommissioning projects. From the smaller plugand-abandonment campaigns in the Gulf of Mexico to the mighty Brent field in the UK North Sea, we have reached a milestone in our industry that feels alien to many of us.

Having spent the majority of my 25-year career focused on exploration and appraisal, this has not been lost on me. A large proportion of those years were committed to the complex challenges associated with high-production land wells in the Middle East, offshore, deep water, as well as subsea projects in the Gulf of Mexico, Brazil, Asia, and Australia. However, as we continue to optimize recovery from mature fields, it has opened my eyes to the prospect of decommissioning from a challenge that was "on the horizon" to one that is quite literally on our doorstep.

Government legislation has played a large part in this refocus, as recent changes drive specific technical and time requirements. For example, the US Bureau of Safety and Environmental Enforcement (BSEE) says that, under its Idle Iron Program, wells or platforms no longer in use must be decommissioned within 5 years. As of 2015, this amounted to 535 eligible platforms and rising. While Europe's legislation is different, Oil and Gas UK's recent *Decommissioning Insight 2016* report estimated that over the next decade, 186 projects are forecast for decommissioning, including 1,800 wells. To deliver this in a safe and economic way, we need to accept and embrace decommissioning as a serious industry challenge.

Many people still perceive or talk about decommissioning in a negative way, as if it marks the immediate death of our industry. Setting aside the fact we are still making new discoveries, it has taken us many decades to explore for oil and will take many more to abandon our wells and decommission infrastructure. A study from the late 1990s estimated the cost of decommissioning the world's 6,500 offshore platforms at between USD 29-40 billion over 30 years (Pittard 1997). However, this now seems a huge underestimation, given that the UK alone is forecasting a cost of nearly GBP 18 billion/USD 22 billion

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over 10 years (Oil and Gas UK 2016). Either way, the figures are extremely compelling.

Prior to abandonment, it is vital that we effectively plan late-life asset operations to ensure that we fully maximize the asset potential. However, production optimization is complex and requires a strong understanding of each elementfrom the reservoir to the near-wellbore and surface facilities. For that reason, it is important we start with a review of well-performance data so we can understand and identify inefficiencies in the reservoir or production system. Taking into account the incremental production gains, we can apply solutions that overcome these challenges, ranging from well intervention to gas lift optimization and debottlenecking of production facilities.

In some instances, this requires more innovative solutions, particularly in the field of production surveillance. Expro, for example, uses sonar clamp-on metering technology to realize the increased potential from wells and fields through improved production monitoring and optimization of well performance. However, by contrast in one recent project, the company had to resurrect legacy tools to fit the specific low-pressure application the customer was looking for. Ultimately, it is about using the appropriate technology that is best suited to the project.

Once all methods are exhausted and we move toward the inevitable stage of abandonment, innovation continues to play a critical role. As an industry, we pioneered in our approach to exploration and appraisal, exploring increasingly complex reservoirs, basins, and frontiers, so why can't we do the same with abandonment? After all, aren't we just reverse engineering the well? While I may be simplifying matters, there are several ways in which we can do this.

Starting with the supply chain, we need to increase collaboration with other companies to deliver greater value to clients. This represents a challenge for peer companies that operate in a highly cost-competitive environment. Complementary joint ventures between different supply chain companies can deliver the breadth of expertise required to abandon wells, decommission infrastructure, and dispose of assets safely. This offers clear cost savings and efficiencies to the operators, while reducing any potential safety and/or environmental risk in the process. Alternatively, technology partnerships can innovate without the need for high levels of investment, often adapting existing products to deliver lowcost solutions.

Likewise our relationships with clients are key to success, although different during this phase. We cannot approach abandonment as a commodity, as operators are not looking for the lowest-cost provider; they are looking for the lowest cost to abandon the well(s). Alternative risk and reward models between the service sector and operators can offer the solution that customers need to minimize their exposure and manage costs, something the supply chain is starting to embrace. While this is not a new concept, some supply chain companies and operators are becoming more flexible in their approach and open to nontraditional contracting strategies.

Even now, we are looking at the next evolution of the business model. For example, is there a "partial abandonment" approach, where we can continue to produce as topside decommissioning begins? As we transition to the end-oflife cycle, companies are undoubtedly willing to accept ideas that prolong costly decommissioning while continuing to add value.

However, we will not truly succeed until we embrace decommissioning and recognize it as a natural part of the life cycle. We have a huge legacy of wells that need to be abandoned and decommissioned and, while traditional methods still dominate, we need to step up and innovate in our approach. There is no better example of this than the aforementioned Brent decommissioning project, which is revolutionizing by using the heavy-lift vessel *Pioneering Spirit* to remove the 24,200-ton *Brent Delta* topside platform in one go. While this is a goliath project that requires a bold approach, it is the underlying passion that is driving it.

Let us hope this can act as inspiration for the rest of the industry and pave the way for us to realize the fullest potential that decommissioning has to offer. **JPT**

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