

Aging jackup fleet will present serious challenge

Stewart Wiseman, ODS-Petrodata

AS EACH YEAR comes and goes, the offshore industry gets older and one of the core pieces of equipment that drives much of the activity, the jackup drilling rig, suffers an additional year of wear and tear.

According to a new report by ODS-Petrodata, *The Jackup Market: Scenarios for Newbuilding and Attrition to 2015*, many more jackups will need to be built to prevent the age profile of the worldwide fleet becoming dominated by old equipment.

Carl Thorne, Chairman and CEO of ENSCO International, agrees.

He says, in connection with his company's latest newbuild jackup the ENSCO 106, that "as drilling requirements become more stringent and fleet renew-

al becomes imperative, we believe the balance between capability and cost will be crucial."

Another contractor, Rowan, is currently building a new jackup at the LeTourneau yard in Vicksburg and has a further three on order.

In southeast Asia, a subsidiary of Petrovietnam is expected to place a newbuild order before the summer and is studying the possibility of building three jackups. According to ODS-Petrodata, only 14 new competitive rigs have been delivered in the last five years, and even when the current rigs that are under construction are factored in, rig replenishment between 1998 and 2006 will amount to just 6% of the fleet.

1982 - A PIVOTAL YEAR

The vast bulk of the world's drilling jack-

ups are at least 21 years old. Only 4% are less than six years old. The result is a fleet that will need even more money for repair and maintenance.

New rigs are necessary because drilling requirements are becoming more sophisticated and will include greater use of automation to prevent accidents and improve tripping times. Additional power will also be required to drill longer, multilateral and directional wells.

The fleet has basically stayed the same size for the last ten years while it has aged considerably due to the preponderance of rigs delivered in the early 1980s. From the earliest days of offshore drilling until 1982, demand for jackups followed a continual upward trend, culminating in a building boom in the early-1980s.

Because the industry was new and growing, the supply of rigs was barely keeping pace with the demand for them, resulting in high levels of utilization. From 1955 to 1982, utilization only once fell below 90%, and averaged 95%. The over-building in the early-1980s caused the end to 90%+ utilization.

WHAT IS A USEFUL LIFE?

Conventional thinking suggests that most jackups have a useful life of 25 years. This thinking grew from the shipping industry and is slowly being challenged as rigs reach, and pass, that perceived milestone.

Eighty jackups in the current fleet are already 25 years old or older. Many of these are working, including the oldest rig in the fleet, the North Star I, which is 37 years old and operating for Petrobras in Brazil.

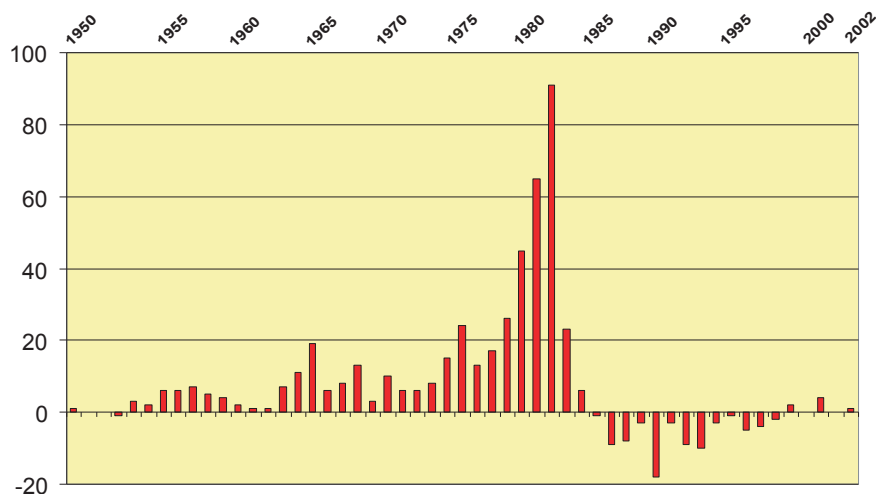
While an old car might be able to get from A to B, it is not necessarily the safest nor the most fuel-efficient. The analogy could hold true for rigs. Newly built rigs are able to fully benefit from the latest advances in technology.

Both ENSCO and Rowan are outfitting their newbuilds with substantial mud pumping and engine capacities, larger spud cans to help avoid leg penetration, automated pipe handling systems and other innovations that simply were not



The Noble Lewis Dugger is drilling for Mexican state oil company PEMEX in the Bay of Campeche under a contract that runs through July 2004.

Net change in worldwide jackup supply 1950 - 2002



around in the early 1980s. Ultimately, oil companies want rigs that can reach their target quickly while being safe, and building new will always offer the latest bells and whistles over retrofits.

ATTRITION

A total of 582 jackups were delivered into the drilling market between 1950 and 2002, of which 191 (33%) exited the drilling fleet, split roughly one-third through loss, conversion and retirement. At 66 units, the number of retirements from drilling is fairly small: only 11% of the delivered fleet. There have been no voluntary retirements since 1995.

NEWBUILDING AND ATTRITION

The study suggests that the industry faces two milestones. By 2007, nearly 90% of all jackups will be 21 years old and older. In 2012, those rigs will be 26 years old and 77% of the then-fleet will be at least 30 years old. Currently, only 4% of the jackup fleet is 30 years old or older.

By holding the demand for jackups constant, the report offers three supply-side scenarios for newbuilding and attrition to 2015. The assumptions vary in each scenario and include applying a useful life that varies from 26 to 35 years old.

When each of the jackups in the current fleet reaches a certain age they are scrapped or otherwise removed from the active drilling fleet. While this is a theoretical approach, the report does admit that retirement is a management issue and policies will differ between contractors.

In each of the scenarios, the supply of jackups falls from present day numbers because the number of newbuildings is

unlikely to keep pace with increasing rates of attrition.

In one scenario, the jackup industry has additional legislation imposed on it that restricts the use of rigs beyond the age of 26, in a similar vein to that seen in the oil tanker industry. Under this scenario, which is dubbed "newbuild boom", ODS-Petrodata predicts that 289 jackups will leave the fleet between 2003 and 2015 and that 243 newbuilds will be needed as replacements.

However, the report also says that demand for jackups could even increase: from Russia, where massive volumes of offshore oil and gas in water depths suited to jackups are estimated, and from deep sub-surface hydrocarbons in the shallow waters of the US Gulf and elsewhere.

If demand does increase, a newbuild spree to replenish an aging fleet will become an even more pressing issue. ■

Possible changes in the jackup fleet

Year	Delivery of existing orders	Attrition	Newbuilds
2003	5	7	0
2004	4	16	0
2005	1	21	5
2006	1	41	40
2007		63	68
2008		88	90
2009		24	20
2010		11	10
2011		6	7
2012		5	2
2013		2	1
2014		4	0
2015		1	0
Total		289	243

"Newbuild boom" scenario from ODS-Petrodata's "The Jackup market: Scenarios for Newbuilding and Attrition to 2015"