Anticipated acquisition by Ecolab, Inc. of Permian Mud Service, Inc.

ME/5696/12

The OFT's decision on reference under section 33(1) given on 5 February 2013. Full text of decision published 26 February 2013.

Please note that the square brackets indicate figures or text which have been deleted or replaced in ranges at the request of the parties or third parties for reasons of commercial confidentiality.

PARTIES

1. **Ecolab, Inc** (**Ecolab**) is a publicly-traded company headquartered in St. Paul, Minnesota, supplying customers in more than 160 countries across the world. The company provides products and services in the sectors of water treatment, energy and hygiene. In particular, it supplies production chemicals and chemical components for fluids used in the oil and gas industry. Ecolab's United Kingdom (**UK**) turnover in 2011 was approximately [ ] million.

2. **Permian Mud Service, Inc.** (**Permian Mud**) is a private holding company headquartered in Texas. It is the parent company of Champion Technologies, Inc. (**Champion**) and Corsicana Technologies, Inc. (**Corsitech**), which are respectively active in the supply of production chemicals and components for fluids for the oil and gas sector. The turnover of Permian Mud in the UK was approximately [ ] million in 2011.

TRANSACTION

3. Ecolab proposes to acquire Permian Mud (and indirectly Champion and Corsitech) through a merger of Permian Mud with Ecolab's subsidiary OFC Technologies Corp (the **Transaction**). Following the merger, the latter will cease to exist and Permian Mud will become a wholly owned-subsidiary of Ecolab. The merging parties informed the OFT that Permian Mud's downstream activities, namely the supply of production chemicals to refineries and petrochemical plants, have been carved out of the

Transaction.[1] The consideration for the Transaction is approximately US$2.2 billion.

4. The Agreement and Plan of Merger was signed on 11 October 2012 and the Transaction was announced on 12 October 2012. The Transaction was notified to the Office of Fair Trading (**OFT**) on 6 November 2012 and the administrative deadline is 5 February 2013.

JURISDICTION

5. As a result of this Transaction, Ecolab and Permian Mud will cease to be distinct.[2]

6. The merging parties overlap in the supply of production chemicals in the UK. The OFT considers that the share of supply test in section 23(3) of the Enterprise Act 2002 (the **Act**) is met since the merging parties' combined share of supply in the supply of production chemicals to oil and gas producers in the UK in 2011 was [20-30] per cent and therefore exceeds 25 per cent.

7. The OFT therefore believes that it is or may be the case that arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation.

FRAME OF REFERENCE

8. The OFT considers that market definition is a useful tool, but not an end in itself. Market definition provides a framework for assessing the competitive effects of the merger and involves an element of judgement. The boundaries of the market do not determine the outcome of the analysis of the competitive effects of a merger in a mechanistic way, as it is recognised that there can be constraints on merging parties from outside the relevant market, segmentation within the relevant market, or other ways in which some constraints are more important than others.[3]

[1] Second Amendment to Agreement and Plan of Merger dated 30 November 2012.

[2] The merger does not qualify for review under the European Union Merger Regulation (Council Regulation 139/2004/EC, OJ L24, 29/1/2004) as it does not meet the thresholds.

[3] Merger Assessment Guidelines, A joint publication of the Competition Commission and the Office of Fair Trading, OFT1254, September 2010, paragraph 5.2.2.

9. The merging parties overlap upstream in the supply of:

- Chemical components for drilling fluids, workover and completion fluids, and cementing and stimulation fluids to oil and gas service companies, primarily through their subsidiaries, Adomite in the case of Ecolab and Corsitech in the case of Permian Mud.
- Production chemicals and related services to oil and gas producers, through their subsidiaries, Nalco in the case of Ecolab and Champion in the case of Permian Mud.

10. The merging parties also supply drilling, workover and completion, cementing and stimulation fluids directly to oil and gas producers but only on rare occasions. Given the exceptional nature of these sales, the OFT does not consider it necessary to conduct an assessment of this overlap.

11. Finally, as noted above at paragraph 3, the OFT understands that there is no overlap between the merging parties with respect to their downstream activities as Permian Mud's have been carved out of the Transaction.

Product scope

Supply of chemical components for fluids

12. Drilling fluids, workover and completion fluids, cementing and stimulation fluids are used in the development and construction phase of a well.

13. Both of the merging parties supply chemical components for fluids worldwide and possibly in the UK. Third parties have referred to three broad categories of chemical components for fluids, namely:

- Commodity chemicals (very limited degree of differentiation between products aside from quality and packaging).
- Specialty chemicals are differentiated between specific suppliers and can be sold to multiple customers (with different specifications) or a single customer.
- Bespoke specialty chemicals (protected by intellectual property and either developed in partnership with a customer in order to respond to specific needs or granted exclusively to one customer).

14. The OFT understands that fluids are made from combinations of components, which have different purposes. Chemical components for fluids include corrosion inhibitors, biocides, clay control, crosslinkers, fluid loss additives, surfactants, scale inhibitors, friction reducers, gelling agents.

15. Chemical components for fluids are supplied to oil and gas service companies, who in turn re-label the chemical components and supply the finished fluids to oil and gas producers.

16. The OFT's approach to product market definition is generally to consider first if narrow candidate markets can be widened through substitution on the demand-side.[4] As such, the OFT considers below whether the evidence suggests that each type of chemical component can be widened by demand-side substitution. The OFT also further considers supply-side substitution.

Segmentation by type of chemical component for fluids

17. The merging parties submitted that there is a single relevant product market for the supply of components for drilling, workover and completion fluids, cementing and stimulation fluids due to supply-side substitution since suppliers are able to offer a whole range of components to respond to customers' requirements. In addition, market conditions are comparable across all categories of components. Ecolab also noted that for the smaller customers, the industry is moving towards supplying packages. The merging parties also submitted that bespoke and specialty chemicals should not form separate product markets given the same capabilities (research and development (**R&D**) and manufacturing) are required for both and it is not a distinction made within the industry. The merging parties acknowledged that the various components are not generally demand-side substitutes.

18. Customers confirmed to the OFT that they purchase products separately and do not view them as demand-side substitutes (whether looking at the commodity/specialty and bespoke product split or the type of chemical component for fluids); only exceptionally is this not the case for very

[4] See Merger Assessment Guidelines, A joint publication of the Competition Commission and the Office of Fair Trading, OFT1254, September 2010, paragraphs 5.2.6 to 5.2.19.

innovative products which may be sold as a package at the initiative of the supplier.

19. With respect to supply-side substitutability, responses to the OFT's enquiries do not support the merging parties' submission that suppliers are able to offer a whole range of chemical components or that the market conditions are comparable. In particular, third parties have differentiated between commodity, specialty and bespoke chemicals noting that not all suppliers are active across each of these categories. The responses from third parties suggest there are fewer suppliers of specialty and bespoke chemical components for fluids, as opposed to commodities, indicating that the market conditions are not comparable. Further, specialty and bespoke chemicals may require different manufacturing and R&D capability as compared to commodity chemicals. With respect to the distinction between specialty and bespoke specialty chemicals, the OFT notes that none of the merging parties' internal documents referred to this. The OFT understands that products which are initially bespoke specialty chemicals become specialty chemicals over time.

20. The OFT also considered whether it should further segment commodity, specialty and bespoke chemicals according to types of chemicals (for example, corrosion inhibitors, biocides, clay control). The market enquiries suggested that some suppliers are only active in manufacturing or supplying certain categories of products in which they specialise, which means that the supply of different categories of chemical components may not take place in the same competitive environment.

21. The OFT notes that it does not consider that Baker Group's (**Baker's**) self-supply should be included in the relevant product scope, particularly given that third parties have indicated that Baker is not a credible alternative, being vertically integrated and competing downstream. The OFT was not presented with sufficient evidence to demonstrate that customers have the ability to choose Baker such that it would affect the profitability of a price rise. In addition, the OFT was not able to assess the incentive of Baker to supply downstream competitors.[5] As such, the OFT has taken a cautious approach in this case and excluded supply from Baker from its frame of reference.

[5] See Merger Assessment Guidelines, A joint publication of the Competition Commission and the Office of Fair Trading, OFT1254, September 2010, paragraph 5.2.20.

Conclusion

22. It is not necessary for the OFT to come to a firm conclusion given that no competition concerns arise under any possible segmentation. Therefore, for the purposes of this assessment, the OFT considers the impact of the Transaction on commodity and specialty chemicals (including bespoke) split by category of chemical component for fluids.

Supply of production chemicals and related services

23. Production chemicals have several functions, which can broadly be described as follows: improving and maximising the efficiency of the infrastructure, preventing fouling and removing deposits from surfaces. Production chemicals are used at all stages, from oil production at the well bore to the delivery of crude oil to the well.

24. The need for production chemicals varies according to whether the field is onshore or offshore, its size and its age. In all cases, however, they allow the protection of the infrastructure, avoid the replacement of steel structures and also enable environmental compliance. Production chemicals include for instance corrosion and scale inhibitors, biocides and demulsifiers.

25. Ecolab submitted that all production chemicals and related services form part of a single product market because customers almost always purchase bundles of chemicals and related services from a single supplier. Ecolab also submitted that the service provided is the most important element of the bundle. Both of these statements were corroborated by third party responses.

26. Therefore, for the purpose of this assessment, the OFT considers the impact of the Transaction on the supply of production chemicals and related services.

Geographic scope

Supply of commodity and specialty chemical components for fluids

27. The merging parties submitted that the market is worldwide for all of these chemicals given that customers are mainly large global oil and gas service

companies. Both of the merging parties develop and manufacture (in a large proportion of cases) chemicals primarily in the United States (**US**).

28. Both the merging parties' data and third party responses to the OFT's enquiries suggest that commodity, specialty and bespoke chemistry are mainly purchased by large customers operating globally. These chemicals may be purchased in the US, for example, for use around the world suggesting that pricing is the same no matter where the products are ultimately used. The OFT also received no evidence to suggest that suppliers can price discriminate based on the customer's location. Nor did the OFT receive any compelling evidence that the geographic scope of specific chemicals or categories of chemicals is narrower than worldwide.

29. The merging parties submitted that the UK North Sea represents a small part of the worldwide rig count, 0.6 per cent in December 2012. Third party purchasing data also suggests that the UK North Sea represents a small part of the worldwide demand for specialty chemicals. In addition, the merging parties indicated that the UK North Sea does not drive demand for innovation in components and that they had not sold bespoke specialty chemicals in the North Sea in the last three years. One third party customer noted it had not sought to jointly develop bespoke specialty chemicals specifically for use in the North Sea with either of the merging parties, whilst another indicated it had but the merging parties indicated that they were not aware of having developed these products specifically for the North Sea and, in a number of case, the product is not registered or approved for use in the North Sea. The OFT therefore finds that it is not clear that innovation is required for the UK North Sea in the short to medium term and further finds that the UK North Sea plays a small part in international negotiations with respect to price and innovation.

30. It is not necessary for the OFT to come to a firm conclusion given that no competition concerns arise under any possible segmentation. For the purpose of this assessment, the OFT has considered that the geographic scope for the supply of each type of commodity, specialty (including bespoke) chemical components for fluids is worldwide.

Supply of production chemicals and related services

31. The merging parties submitted that the market for the supply of production chemicals and related services is global given that:

- There are a number of global competitors (in addition to regional and local ones).
- [ ] of all contracts are under global master service/framework agreements.
- Few global plants are necessary for intermediate production before shipping to other regional plants from where the final products are delivered.
- Transport costs are not prohibitive (generally less than five per cent of the price).
- Pricing and margins are similar worldwide.

32. The majority of third parties also considered the market for the supply of production chemicals and related services to be worldwide, given that the largest competitors have a worldwide presence. In addition, some third parties noted that the North Sea has some specificities compared to other regions (such as regulatory requirements). The OFT understands that oil and gas activity in the UK is almost entirely limited to the North Sea.

33. However, an internal document suggested that a local presence provides a competitive advantage.[6] In addition, one of the merging parties' internal documents noted that MultiChem 'had been actively trying to enter the UK market in 2008 however (...) have closed their office in Aberdeen and appear to have withdrawn from the UK market'.[7] Further, most competitors have plants in the UK or in Europe but those who do not, do not appear to be competing for UK tenders. A number of third parties also acknowledged the importance of a local presence, blending plant or technical service centre in the UK. This is because, as part of the service provided, customers require quick support from their suppliers, which can only be achieved by being located in the customer's area. With respect to the production of chemicals, one competitor indicated that a manufacturing plant in Europe was necessary to be active in the UK North Sea.

34. Given the fact that suppliers who do not have a UK or European presence are not tendering for business in the UK, the OFT has assessed the supply of production chemicals and related services on a European and UK-wide geographic scope, as it is not necessary for the OFT to come to a firm

[6] See [ ].
[7] [ ].

conclusion given that no competition concerns arise under either possible segmentation.

Conclusion

35. The OFT has assessed the impact of the Transaction on the basis of the following frames of reference:

- the supply of commodity and specialty (including bespoke) chemicals split by category of chemical component for fluids to oil and gas service companies worldwide (including the UK), and
- the supply of production chemicals and related services to oil and gas producers in Europe and the UK.

HORIZONTAL ISSUES

Supply of chemical components for fluids

Commodity chemical components for fluids

36. The merging parties submitted that their combined share of supply in the supply of commodity chemicals is less than [0-five] per cent. Given the negligible shares of supply, that the OFT's investigation identified a number of suppliers of commodity chemicals worldwide, no specificities about the UK market and no concerns were raised in this respect, the OFT considers that the Transaction does not give rise to a substantial lessening of competition (**SLC**) in the supply of commodity components worldwide and, in turn, in the UK. Given the limited overlap, commodity chemicals are not discussed further below.

Specialty and bespoke chemical components for fluids

37. The OFT understands that the merging parties overlap in the supply of specialty and bespoke chemical components for fluids and, more specifically, with respect to friction reducers, foamers and surfactants, scale inhibitors, scale control, non-emulsifiers, corrosion inhibitors, clay control, clay stabilisers, clay inhibitors, gelling agents, antisludge, biocides, cementing additives, fluid loss additives, fracturing breakers, crosslinkers, paraffin and asphaltene inhibitors and water clarifiers.

38. The theory of harm considered by the OFT is whether the merged entity will be in a position to increase prices or reduce innovation to UK customers. The OFT notes that the majority of third party customers raised concerns in this respect as well as the merged entity no longer supplying bespoke specialty chemicals or jointly developing bespoke specialty chemicals.

39. The merging parties submitted that there is no overlap in the UK, given that Corsitech has not made any direct sales to the UK North Sea for the last four years. Further, evidence from the merging parties and customers show that purchases from the merging parties directly in the UK were negligible.[8] Evidence from customers suggests that there may be limited overlap between the merging parties in the UK via sales made abroad.

40. In addition, as noted above, at paragraph 29, it is not clear innovation is required for the UK North Sea in the short to medium term. The OFT therefore considers that, to the extent the market were UK wide, there would be no competition concerns arising as a result of the merger.

41. However, as noted above, the supply of specialty components for fluids is likely to be worldwide in scope. The OFT therefore assessed the conditions of competition worldwide given that, in the event of a worldwide price rise or lessening of innovation, UK customers would be affected.

Shares of supply

42. The merging parties submitted that they have worldwide shares of supply of [five-10] per cent in the supply of specialty (including bespoke) chemical components for fluids.[9] They further provided shares of supply split by product category noting that in each case the increment is less than five per cent with the exception of corrosion inhibitors and non-emulsifiers, where the combined shares of supply are respectively [20-30] and [10-20]

[8] Adomite indicated its 2011 sales were [ ] and one third party customer data indicated it made [ ] from Nalco and [ ] from Corsitech of UK purchases of bespoke specialty chemicals in 2011 out of a total of [ ].

[9] The merging parties calculated this based on the Freedonia 2014 market size and their 2011 sales. They submitted that on the basis of the Freedonia 2009 market size and their 2011 sales, their combined market share of supply would be [five-10] per cent, although the merging parties indicated that this is likely to be an overstatement of their current position given the market growth between 2009 and 2011.

per cent. In all other cases, the merging parties submitted that their shares of supply were 20 per cent or less.

43. However, the OFT notes that evidence from third parties suggests that the merging parties' shares of supply in the supply of all specialty chemicals for fluids may be higher. Indeed, a competitor indicated they were much higher overall and purchasing data from two [ ] customers suggests their shares may also be higher, ranging from approximately [more than 20] per cent.

44. No third parties provided shares of supply per category, although one customer of the merging parties indicated that the combined entity will control over [ ] per cent of its own total purchases of specialty chemicals in surfactants, clay control and scale inhibitors.

45. Given the discrepancy in shares of supply provided and, as per the OFT's usual practice, the OFT considered the other body of evidence in order to determine if the Transaction raises any competition concerns.

Other market participants

46. The merging parties submitted that there are a number of other companies supplying specialty chemical components for fluids to oil service companies worldwide, citing BASF, Baker, Dow, SNF, Rhodia, CESI, Economy Polymer, [ ], Benchmark, Fritz Chemical, Weatherford, Kemira and Marchem/Chemlogic. Adomite internal documents corroborated the merging parties' view that Baker, Weatherford – Clearwater, Economy Polymers, CESI, Kemiera, SNF, BASF, Dow, Rhodia, Fritz Chemical, [ ] and Benchmark are viewed as competitors of Adomite, in addition to Champion, and contained references to 'Many players/entrepreneurial' and 'Price competitive'.[10] The OFT notes that Adomite's 2012 quarterly reports refer to [ ].[11] An older Champion internal document referred to [ ], in addition to Nalco, as competitors 'controlling a larger share of the market'. It also noted 'Numerous other specialty chemical companies also sell to major drilling and stimulation customers, but have limited laboratory and manufacturing capabilities but compete on price' and gave [ ] as an example.[12]

[10] [ ], slide 9 and [ ].
[11] Adomite Grow to Win Qtly Summary, [ ].
[12] [ ].

47. With respect to Baker, the merging parties submitted that Baker does participate in the merchant market and makes sales through a distributor (sometimes under their own brand). They further indicated that, in any event, Baker exerts an indirect constraint on suppliers as, if the merged entity were to worsen its offer such that its customers were in a less competitive position than Baker, the merged entity would ultimately make fewer sales. The OFT is of the view that Baker provides some constraint on the merchant market as evidenced by its sales but that this is limited.

48. In addition, a few third party competitors identified by the merging parties indicated to the OFT that they supply some types of specialty chemicals, albeit one noted that it was a much smaller company than the merging parties and some indicated that they did not compete at all with the merging parties. One third party indicated that Clariant is likely to be the third largest competitor of specialty chemicals (behind the merging parties) and there are no categories of specialty chemical components where there are very few players (albeit some competitors have a small presence). Given customers generally purchase on a product by product basis, the OFT is of the view that competitors do not need to provide all specialty chemicals supplied by the merging parties to exercise sufficient competitive constraint in the product categories where they are active. Finally, third party customer data showed that they purchase specialty chemicals (including bespoke specialty chemicals) from a long list of suppliers. Indeed the merging parties were the first and seventh largest suppliers worldwide in 2011 for one and the second and fourth suppliers over the last three years for another.

49. Customers noted failed attempts at developing products with [ ], [ ] and [ ] for corrosion inhibitors, chemicals for stimulation fluids and crosslinkers. A [ ] customer also noted it had not had success with bespoke products with [ ] since 2008, noting that [ ] does not have a dedicated oil and gas sector. However, the merging parties submitted that these do not imply lack of capability, as the merging parties have also been involved in unsuccessful projects. Nalco provided three such examples relating to friction reducers (where it did not successfully compete with [ ]), an acid corrosion inhibitor where a customer moved to [ ] and [ ], which resulted in no sales.

50. When looking at individual product categories, the merging parties submitted that there are at least two other suppliers for each category where concerns had been raised by third parties (including data that they

provided). The merging parties submitted that significant competitors they face include Aubin and Weatherford (corrosion inhibitors), Chemlogic and CESI (non-emulsifiers), Balchem and Taminco and Sachem (clay control), MultiChem and Rockwater (scale inhibitors), and CESI, Chemlogic and Stepan (surfactants). In addition, they submitted that Rhodia, Economy Polymers and Rockwater are key firms active in friction reducers and Corsitech is not a significant supplier of gelling agents.

51. The OFT was able to identify at least one other supplier excluding Baker (based on customer purchases and third party responses) for each category where concerns had been raised by third parties or data they provided, namely corrosion inhibitors, scale inhibitors, non-emulsifiers, friction reducers, clay control, gelling agents and surfactants.

Closeness of competition

52. The merging parties noted that their specialty chemicals businesses are complementary, as evidenced by the small increment in most categories. However, the merging parties submitted that they are close competitors with respect to two product categories only, namely corrosion inhibitors and scale inhibitors but that they are not closest competitors and other suppliers are equally close to the extent that sufficient competitive constraints will remain after the merger.

53. The majority of third party customers thought that the merging parties and Baker were close competitors in terms of their capabilities and the Transaction will reduce competitors from three to two or two to one.[13] This was primarily based on their capabilities to innovate and manufacture as third parties noted that general chemical companies do not specialise in oil and gas solutions and generally compete for products not requiring substantial R&D expertise or a limited amount of niche products, some companies supply more commoditised products which do not require large amounts of R&D expertise, some are toll-manufacturers[14] and some are only active with respect to specific specialty chemicals. In addition, customers also indicated that, given Baker is vertically integrated, they only

[13] Only one third party indicated that they were not close competitors referring to the fact that Nalco primarily makes sales directly to oil and gas producers, arguably referring to its sales of production chemicals.

[14] One third party indicated that toll manufacturers may not have manufacturing capability for specialty chemicals and tend to focus on commodities.

use Baker's services as a last resort. Specifically, the merging parties were either described as strong or close competitors or purchasing data indicated fewer other suppliers used in the supply of friction reducers, surfactants, demulsifiers/emulsifiers, non-emulsifiers, clay control, scale inhibitors and corrosion inhibitors. However, the merging parties submitted that they do not overlap with respect to demulsidiers/emulsifiers.

54. With respect to specific R&D capabilities, the merging parties undertook a search for patents registered since 1993 for friction reducers, corrosion inhibitors, scale control, clay control, flowback surfactants and non-emulsifiers and indicated that, combined, they hold 43 patents out of 1850.

55. With respect to innovation, the OFT notes the third party responses stating that the merging parties are close competitors specifically with respect to innovative products. One customer indicated that although it uses a broad range of suppliers of specialty (including bespoke) chemicals, the major suppliers are Corsitech, Nalco and Baker and noted others, where R&D is not as important. However, the OFT has not received sufficient evidence to support this. In particular, third party concerns are not supported by their purchasing data, which show that there are a large number of suppliers that customers use for specialty (including bespoke) chemical components. Where the granular data has been provided, the OFT has noted that certain competitors supply more specialty chemicals by value to customers than the merging parties combined for the following types of chemicals in 2012: activator, friction reducers, gelling agents, shale stabilizer and surfactants, and the merging parties were not listed as suppliers for biocides, breakers, corrosion control, emulsifiers, foamers, iron control, retarders, viscosifiers. The OFT has not received sufficient evidence that these other suppliers do not compete with the parties in terms of price and product development/innovation.

56. In addition, as noted above, the OFT considered the importance of innovation for the UK North Sea. The merging parties indicated that low levels of drilling generally mean low levels of demand for components. Further, the OFT understands that products used in the UK North Sea are also used in other locations (Adomite provided an example of a product registered by a customer in the UK North Sea, which was originally used in the US, and it indicated is used globally). The merging parties also indicated that the UK North Sea does not drive demand for innovation in

components and supported this by indicating that the merging parties were not aware of having developed bespoke chemistry specifically for the UK in the last three years, including products which a customer indicated were jointly developed specifically for use in the North Sea. In addition, they said that the North Sea rigs are in shallow water and the products used for extraction require less innovation than other fields which require horizontal drilling and/or fracturing.

57. Some third parties disagreed. They suggested that bespoke chemicals are important for the UK North Sea either, because the UK is a mature field and it is becoming more difficult to extract oil and therefore bespoke chemistry is required to enhance product and exploit harsh climates, or due to the tight environmental regulation. However, where the OFT received relevant purchasing data, it noted that the total sales of bespoke chemicals to the UK North Sea were negligible (less than [ ] per cent in 2011). In addition, the merging parties' combined sales of bespoke specialty chemicals in the UK North Sea for 2011 and 2012 were negligible (or non-existent) compared to other suppliers. Further, one customer noted that all chemicals used in the North Sea have been used for more than five years. The above suggests that R&D and innovation is not key to the supply of components in the UK in the short to medium term. This in turn also suggests that suppliers with lower R&D expertise might be able to effectively compete for specialty chemical components used in the UK North Sea.

58. The North Sea did not feature in any of the internal documents of the merging parties on chemical components submitted to the OFT.

59. The merging parties submitted that there is nothing distinct about their manufacturing techniques and assets for components and that these are common to production and other types of chemicals, thus their incentive to invest will also be driven by businesses unconnected with the Transaction. In addition, Corsitech uses toll-manufacturers to supply [ ] per cent of its specialty chemicals and the merging parties submitted toll-manufacturing is readily available.

60. The OFT has not received sufficient evidence that the merging parties' chemical components are close competitors, such that prices will rise or innovation will be lessened post-merger.

Switching

61. The merging parties provided what they submitted was comprehensive switching data for 2011 and 2012 which showed that no customers switched from Corsitech to Nalco and only one instance of switching from Nalco to Corsitech out of 15; other instances of switching were to over 10 different suppliers. However, it was unclear whether switching was for products which were becoming more commoditised or for more innovative products. In addition, it is not clear that such instances would capture customers choosing to develop a product with either of the merging parties where they previously used the other. As such, the OFT was unable to put much weight on this evidence.

62. [ ]. Third parties suggested that they had switched from Nalco to Corsitech with respect to corrosion inhibitors, demulsifiers, surfactants and friction reducers, one in reaction to a price rise; albeit, as noted above, the merging parties indicated that they do not supply demulsifiers. However, the data provided did not indicate how much switching had taken place or whether or not customers had also switched to other competitors.

63. The OFT found that switching costs may not be insignificant, as third parties indicated that new suppliers require pre-qualification and audits and new products can take a couple of years to develop and cost US$500,000. However, it is unclear what switching costs to existing suppliers for existing products would be, especially given that the OFT has been provided with examples of switching.

Constraints from other products

64. The merging parties submitted that commodity products constrain the price of specialty chemicals. However, third parties have indicated that these are not substitutable. The OFT has therefore not received sufficient evidence to suggest that commodity products offer a sufficient constraint to mitigate any price rise or lessening of competition in the supply of specialty and/or bespoke chemicals.

65. In addition, the merging parties submitted that customers can continue to use current products in the event that new products do not provide sufficient value and/or innovation to be worth purchasing over existing products, such that current products will constrain the price of new ones.

In this respect, the OFT notes that it would expect that the prices of existing products are likely to provide some constraint on new innovative products in the same category.

Conclusion

66. Given the number of other market participants identified by the OFT during its investigation who have R&D capabilities, some of which are large players, the OFT considers that the Transaction will not give the merged entity the ability to increase price or worsen non-price aspects of the competitive offering (such as innovation). The OFT is therefore of the view that the Transaction does not give rise to a SLC in the supply of specialty components (including bespoke) worldwide, and in turn, in the UK.

Supply of production chemicals and related services

67. The merging parties and third parties have described the UK North Sea as a conventional and mature field. In this respect, the OFT understands that the products required may differ from those for unconventional and deepwater environments.

68. Ecolab submitted estimates of the merging parties' shares of supply of production chemicals in the UK in 2011 of [20-30] per cent, with an increment of [10-20] per cent. Ecolab submitted that there are a number of competitors in the market, namely Baker ([30-40] per cent share of supply), Clariant ([10-20] per cent), Weatherford ([five-10] per cent), MI SWACO/Schlumberger ([five-10] per cent), MultiChem/Halliburton ([0-five] per cent) and CECA ([0-five] per cent).

69. The OFT also received Blairchem reports for 2009 to 2011. The combined share of supply in 2011, based on the Blairchem report, was 33 per cent for the UK (with a 16 per cent increment) and 27 per cent (with a nine per cent increment) in Europe. The reports identified Baker, Clariant, MI Swaco and Roemex as the main competitors with 32 per cent, 18 per cent, 15 per cent and two per cent shares of supply in the UK in 2011, respectively. In Europe, MI Swaco had the largest share of 34 per cent, followed by Clariant (20 per cent), Baker (17 per cent) and Roemex (one per cent) in 2011. The OFT also calculated shares of supply over a three-year average and noted that these were similar to the 2011 shares described above. However, the merging parties submitted that the shares in this report

contain limitations as it sets out sales values as reported and are stated as including double counting.

70. The OFT notes that an internal document of Champion indicated that MultiChem had closed its offices in the UK and appeared to have withdrawn from the UK.[15] [ ].

71. Third parties indicated that there are several potential other suppliers, including Baker, Clariant, MI Swaco and Roemex. The majority of third party customers identified at least two alternatives. Of those that did not, they identified Baker (as a potential or current supplier) and one third party noted that it sources from one supplier in the UK, currently Nalco, and is not considering any alternative. Third party competitors also indicated that there are a number of suppliers in the UK, including Baker, MI Swaco, Clariant, Roemex and Weatherford. They indicated that the combined entity's shares would be 32 to 50 per cent and the largest supplier.

72. In any event, the merging parties submitted that contracts are generally awarded following tenders and therefore bidding data is more informative than shares of supply in assessing the characteristics of competition in the market.

73. The bidding data submitted by Nalco of the tenders it participated in since 2006 exceeding US$250,000 shows that four bidders have regularly participated in tenders alongside the merging parties since 2007. These are Baker, MI Swaco, Clariant and Roemex. Albeit, the OFT notes that Roemex appears to impose a smaller competitive constraint on the merging parties than the others, as it did not win any tenders in the UK or Europe.

74. The bidding data for Europe (including the UK), which included [ ] tenders, showed that Champion only won business once from Nalco where Nalco was the previous supplier (even though Nalco was the previous supplier in seven instances), while the reverse did not occur.

75. Third party competitor responses suggest that the merging parties compete closely, since they offer a similar range of products and services in similar geographic areas. They are generally considered to be the second and third providers of production chemicals and related services behind Baker, albeit

[15] [ ].

some third parties indicated that Baker had recently had issues with customers in relation to its services. However, the majority of third party customer responses indicated that they are not each other's closest competitors. Indeed, the majority of customers did not identify any areas in which both of the merging parties offer better products or quality of service than their competitors. The OFT is of the view that it did not receive strong evidence that the merging parties compete more closely with each other than with their competitors. Further, one third party noted complementarities between the two companies noting Nalco's strength in corrosion inhibition and Champion's strength in scale inhibition, for example.

Conclusion

76. The OFT identified a number of other market participants through shares of supply, bidding data and third party responses, competing with the merging parties and who, in the OFT's view, will continue to provide a strong competitive constraint post-merger. In addition, the merging parties are not each other's closest competitor. As such, the OFT is of the view that the Transaction will not give the merged entity the ability to increase price or worsen non-price aspects of the competitive offering (such as innovation). Therefore, the OFT considers that the Transaction does not give rise to a SLC in the supply of production chemicals and related services in Europe or the UK.

Barriers to entry and expansion

77. When assessing whether entry or expansion might prevent a SLC, the OFT considers whether it would be timely, likely and sufficient.[16]

Supply of chemical components for fluids

78. The merging parties submitted that barriers to entry are low. In particular:

- The major service firms have in-house capacity and can expand by hiring the relevant personnel.
- Suppliers can expand R&D expertise by hiring chemists from rivals.

[16] See Merger Assessment Guidelines, A joint publication of the Competition Commission and the Office of Fair Trading, OFT1254, September 2010, paragraphs 5.8.1 to 5.8.11 on barriers to entry and expansion.

- A new entrant to the market or a general chemical company wishing to expand into specialty chemical components will require R&D expertise which is readily available and manufacturing capability, which can be outsourced to toll manufacturers.
- Smaller more specialized specialty component firms could also acquire relevant capability.

79. Further, distribution can be organised by customers themselves and, as such, does not therefore constitute a barrier to entry.

80. The merging parties also noted a recent entrant in 2012, Independence Oilfield Chemicals as well as Shanghai Everest who entered in 2009 (but only have one person working in R&D and it is unclear how large a share of supply it has). The merging parties also noted that Dow and BASF acquired Rohm & Haas and Ciba Specialty Chemicals, respectively, in 2009. Corsitech submitted the following as recent entrants (without specifying dates): Balchem (for clay stabiliser), which entered the market several years ago but is expanding, MeadWestVaco - which has just introduced a new scale inhibitor, Taminco (for clay stabiliser), and Chinese entities such as Be-Long Industries, who are looking to expand internationally. However, they did not put forward any examples of upcoming new entry.

81. The OFT considers below both wholesale new entry and expansion both cross-category and of existing capabilities.

82. Internal documents suggest on the contrary that it may be difficult to obtain the required production capacity and expertise, which would suggest that entry may not be timely, likely or sufficient.[17] In particular, [ ], although the merging parties indicated that this related to Adomite specifically as opposed to the market generally. Whilst a customer has indicated that acquiring basic chemical capability capacity takes a long period of time (it would take five to seven years) and is costly, as indicated by the merging parties, it may be possible, although there is conflicting evidence, to use toll manufacturers in the first instance.

83. With respect to Independence Oilfield Chemicals, Adomite acknowledged that this company has not yet made any sales.[18] Adomite also indicated

[17] [ ], slides 5 and 6 and [ ], slide 9.

[18] Call with [ ] from Adomite on 5 December 2012.

that it does take time to develop a reputation within the industry.[19] This suggests that after having entered the market, it takes time to develop customer relationships and gain share of supply. In line with this, the OFT also received evidence to suggest that customers are reluctant to switch to companies they have no experience with, which suggests it would be difficult for a new entrant to compete in a timely and sufficient manner with the merging parties.

84. With respect to expansion, customers suggested that general chemical companies may not have the expertise and incentive to expand given their focus is broader than the oil and gas industries. The OFT notes that [ ] currently supplies certain specialty (including bespoke) chemicals and received internal emails of Adomite, one of which states that [ ].[20] However, the OFT has no information on specific product categories or detailed explanation of any expansion plans to assess the likelihood of expansion.

85. As noted above, the merging parties suggested that should competitors require further manufacturing capabilities, they could use toll manufacturers, as Corsitech does for [ ] per cent of its specialty chemical components. The OFT has not received sufficient information to assess how easy it would be to expand cross-categories or acquire R&D expertise and whether this would be timely, likely and sufficient.

86. Thus, the evidence received by the OFT suggests that expansion of existing capabilities or cross-categories may be more likely to meet the OFT's criteria than de novo entry. However, as the Transaction does not give rise to concerns over unilateral effects for the supply of specialty chemical components for fluids worldwide and, in turn in the UK North Sea, there is no need for the OFT to reach a firm conclusion regarding barriers to entry and expansion.

Supply of production chemicals and related services

87. The merging parties submitted that barriers to entry are low given that it is not difficult for an entrant to have access to warehouse space and transportation infrastructure, to obtain supply of inputs for production chemicals and toll-manufacturing is an alternative to the availability of a

[19] Issues meeting with the merging parties on 21 January 2013.

[20] Email from [ ].

blending facility (and blending equipment and space is easy to obtain). The key is obtaining the relevant sales-service representatives and they can be hired from competitors; restrictions in employment contracts of sales employees in relation to working for competitions are rarely enforced.

88. The merging parties also provided the example of MultiChem to illustrate successful entry, although it occurred in 1993, the merging parties submitted it made sales of [ ]. However, it should be noted that whilst MultiChem competes globally (the merging parties submitted a share of [five-10] per cent), it withdrew from the UK North Sea (see above paragraph 33).

89. Third parties noted that it can take at least a year for a new entrant to start competing if the chemicals are purchased from a general chemical company and up to three years if the company self-manufactures its chemicals. Further, one third party estimated that the required investment for a new entrant would be in the range of US$30 to $100 million. A couple of third parties suggested that acquiring the relevant individuals with expertise is more difficult than suggested by the merging parties. Finally, reputation is important especially in order to become a leading supplier and compete for global contracts. A third party competitor indicated that any new entrant would likely be competing for smaller customers that do not require the same level of services as the larger ones. This suggests that barriers to entry and expansion in the supply of production chemicals and related services may be high.

90. However, as the Transaction does not give rise to concerns over unilateral effects for the supply of production chemicals and related services in Europe and the UK, there is no need for the OFT to reach a firm conclusion regarding barriers to entry and expansion.

Countervailing buyer power

Supply of chemical components for fluids

91. In assessing buyer power, the OFT will consider to what extent the merger is likely to reduce the customer's ability and incentive to exercise buyer power.[21]

[21] Merger Assessment Guidelines, A joint publication of the Competition Commission and the Office of Fair Trading, OFT1254, September 2010, paragraph 5.9.4.

92. The merging parties submitted that:

- Customers have significant leverage with respect to pricing and other terms, given that there are several suppliers between which they can switch. [ ].[22]
- Customers comprise a significant portion of any supplier's revenue, making their business and relationship important to the supplier. However, this was not supported with evidence.
- Customers have their own technical capability (R&D, IP rights and testing capabilities) as well as access to manufacturing enabling them to invest in self-supply or sponsor entry and/or expansion. For example, the merging parties indicated that three large customers each have more patents than either of the merging parties with respect to friction reducers, corrosion inhibitors, scale control, clay control, flowback surfactants and non-emulsifiers. In addition, the OFT received evidence from one customer that it did hold IP rights over many specialty chemical components.

93. The OFT notes that the main customers are large entities. However, some third party customers have suggested that switching is costly and will be more difficult post-merger. One also indicated that it had no plans to develop manufacturing capabilities to self-supply.

94. In any event, as the Transaction does not give rise to competition concerns over unilateral effects in the supply of specialty chemicals for fluids to oil and gas service companies, there is no need for the OFT to reach a firm conclusion regarding buyer power.

Supply of production chemicals and related services

95. The merging parties submitted that customers benefit from favourable contract terms. For example, the 'best in class' mechanisms allow customers to maintain competition between current and potential suppliers.[23] Further, the merging parties indicated that contracts can be terminated [ ].

[22] See for example letter from [ ].

[23] The 'best in class' mechanism allows the customer to use a rival's production chemistry if that is superior to the chemistry offered by the incumbent supplier or if the customer otherwise prefers alternative chemistry.

96. Third party competitors indicated that large customers concluding global contracts are able to negotiate more favourable contract terms than smaller buyers. In addition, one competitor indicated that customers' buyer power may be dependent on the geographic location noting, for example, that purchasing production chemicals and related services for extreme or very challenging technical conditions (such as deepwater situations) will receive lower discounts.

97. However, as the Transaction does not give rise to competition concerns over unilateral effects in the supply of production chemicals and related services to the oil and gas sector in Europe or the UK, there is no need for the OFT to reach a firm conclusion regarding buyer power.

THIRD PARTY VIEWS

98. Third party comments have been taken into consideration and discussed above where relevant.

99. With respect to chemical components for fluids, the majority of customers indicated that they had concerns with the Transaction. In particular, that the merged entity would raise prices or reduce innovation. These concerns have been addressed above under horizontal issues. No competitors identified any concerns with the Transaction, although one indicated it would result in a price rise on the basis that Nalco is a higher priced supplier albeit it then indicated this would open the door to more cost competitive supplies, suggesting that there would be no long term price effect.

100. The large majority of customers did not have any concerns with respect to the supply of production chemicals and related services. Only two customers raised concerns and one indicated that there were alternative companies that supply similar services. The other noted that it believes the Transaction will result in increased prices and reduced incentives to innovate as it considers that only Baker has the resources to compete with the merging parties. This concern has been addressed above under horizontal issues.

101. Two third party competitors of production chemicals and related services were concerned that the Transaction will increase prices given two of the largest three suppliers are merging, one indicated they are the major

competitors for large operator contracts and another that barriers to entry for the smaller suppliers will increase. These concerns have been addressed above under horizontal issues. One third party competitor noted that the merger may generate economies of scale and another that the merged entity will be able to increase its product line and present a threat. The OFT has received no evidence that other competitors will not continue to exercise a constraint on the combined entity's product line.

ASSESSMENT

102. The merging parties overlap, as far as material for the competition assessment, in the supply of specialty chemical components and production chemicals and related services to the oil and gas sector. Their combined share of supply in the UK in 2011 in the supply of production chemicals was [20-30] per cent. As such, the OFT considers that the share of supply test in section 23(3) of the Act is met.

103. The OFT has assessed the impact of the Transaction on the worldwide (including the UK) supply of chemical components for fluids (split by commodity and specialty (including bespoke specialty) components and type of product) and the European and UK supply of production chemicals and related services.

104. The merging parties' shares of supply and increment were negligible with respect to commodity chemical components and no third parties raised concerns. With respect to specialty chemical components for fluids, there is limited overlap of the merging parties in the UK North Sea and the OFT is of the view that the UK North Sea does not drive innovation of specialty components. Purchasing data provided by customers did not support their concerns and the OFT identified sufficient competitors offering specialty chemicals (suggesting they have sufficient R&D capability) generally, some of which are large companies, and per product category to suggest that the Transaction would not give rise to a price rise or worsening of non-price competitive factors (such as innovation) worldwide and in the UK.

105. With respect to the supply of production chemicals and related services, the OFT's investigation identified a number of other competitors in Europe and the UK capable of exercising a sufficient competitive constraint on the merged entity, based on shares of supply, bidding data and third party

responses. In addition, the merging parties are not each other's closest competitors.

106. Consequently, the OFT does not believe that it is or may be the case that the merger may be expected to result in a substantial lessening of competition within a market or markets in the United Kingdom.

DECISION

107. This merger will therefore **not be referred** to the Competition Commission under section 33(1) of the Act.