

**BRITISH SALT LIMITED/NEW CHESHIRE SALT WORKS LIMITED
MERGER INQUIRY**

Provisional findings report

Published: 6 September 2005

The Competition Commission has excluded from this published version of the provisional findings report information which the inquiry group considers should be excluded having regard to the three considerations set out in section 244 of the Enterprise Act 2002 (specified information: considerations relevant to disclosure). The omissions are indicated by ✂.

Provisional findings report

Acquisition by British Salt Ltd of New Cheshire Salt Works Ltd

Contents

	<i>Page</i>
1. The reference.....	10
2. The products and companies.....	10
The basic product: salt.....	10
British Salt.....	14
New Cheshire Salt Works.....	15
3. Background to the merger and the relevant merger situation.....	15
1986 Monopolies and Mergers Commission White Salt Report.....	15
History of interest in NCSW.....	16
The transaction.....	17
The rationale for the merger.....	18
Jurisdiction.....	19
4. Market definition.....	20
Market definition in the 1986 MMC report.....	21
Market definition in the European Commission K&S/Solvay merger decision....	21
British Salt's view on market definition.....	23
Product market.....	23
Salt for de-icing.....	24
Types of vacuum salt: demand side substitutability.....	25
Types of vacuum salt: supply side substitutability.....	26
Types of vacuum salt: conclusion.....	28
Types of white salt: demand-side substitutability.....	29
Types of white salt: supply-side substitutability.....	33
Types of white salt: conclusion.....	33
Product market: conclusions.....	35
Geographic market.....	35
Pharmaceutical salt.....	36
PDV and compacted salt.....	36
Geographic market wider than the UK and the Republic of Ireland?.....	37
The role of imports.....	38
Geographic market wider than the UK and the Republic of Ireland: conclusion..	44
Geographic market: UK and the Republic of Ireland or Great Britain?.....	45
Separate geographic markets within Great Britain?.....	46
Conclusions on market definition.....	46
5. Assessment of the competitive effects of the merger.....	47
The counterfactual.....	47
Risk of subsidence.....	48
Alternative sources of brine.....	51
Susceptibility to price deflation.....	51
Energy costs and economies of scale.....	51
Rationalization of customer base.....	52
Environmental issues.....	52
Adverse regulatory changes.....	53
Succession.....	53
Reduced competitive impact.....	53
The strategy of the former shareholders.....	54
Analysis of the issues facing NCSW.....	55

Conclusions on the counterfactual	57
Factors affecting rivalry in the relevant market prior to the merger	59
Concentration	59
Supply and demand	60
Supply arrangements and negotiations	61
Switching	63
Market entry	64
Imports	66
Distributors	69
Business strategies pursued by British Salt and NCSW	71
Extent of competitive constraint between NCSW and British Salt.....	72
Conclusions on existing competition in the relevant market.....	81
Effects of the merger	82
Effect on concentration.....	82
Effect on prices.....	83
Effect on service, product choice and innovation	85
Effect of efficiency gains.....	87
Conclusions on the effect of the merger on prices, service, product choice and innovation	87
Unilateral effects of the merger: SLC	87
Coordinated effects	90
6. Provisional findings	90

Appendices

- A: Terms of reference and conduct of the inquiry
- B: Financial data for British Salt and NCSW
- C: Market information
- D: Pricing
- E: Production capacities, production and UK demand for white salt
- F: Import statistics
- G: Customer negotiation and switching

Glossary

Summary

1. On 26 May 2005, the Office of Fair Trading (OFT) referred the completed acquisition by British Salt Limited (British Salt) of New Cheshire Salt Works Limited (NCSW) to the Competition Commission (CC) for investigation and report under the Enterprise Act 2002 (the Act). We were asked to investigate whether a 'relevant merger situation' had been created and, if so, whether the creation of that situation had resulted, or might be expected to result, in a substantial lessening of competition (SLC) within any market in the UK or parts of the UK. We are required to publish our final report by 9 November 2005.
2. Salt occurs naturally and can be recovered in three main ways: vacuum salt, produced by evaporating brine—pumped from underground salt deposits—in enclosed pressure vessels; solar/sea salt, obtained by the evaporation of sea water; and rock salt (both white and brown), produced by dry mining in which solid salt is cut from underground salt deposits. Both British Salt and NCSW produce only vacuum salt.
3. British Salt is the [] of the three UK vacuum salt producers by production volume. Prior to the merger, NCSW was the smallest. The other UK vacuum salt producer is Salt Union Limited (Salt Union). All three UK vacuum salt producers have plants in Cheshire. British Salt's plant in Middlewich can produce 825,000 tonnes of salt a year, Salt Union's plant at Runcorn can produce 882,000 tonnes a year¹ and NCSW's plant at Northwich can produce 80,000 tonnes a year.
4. Vacuum salt can be further sub-divided into the following types:

¹[]

- (a) undried vacuum (UV) salt, which contains 2 to 3 per cent water and is primarily used in the production of chlorine and caustic soda, and in the production of other vacuum salt products;
 - (b) pure dried vacuum (PDV) salt, which is the product of further drying of UV salt and has a wide range of end-uses, including in the food industry;
 - (c) compacted salt, which is PDV salt that has been processed to form granules, tablets or blocks. Compacted salt is primarily used for water softening; and
 - (d) pharmaceutical salt, which is PDV salt that meets very high purity requirements and is used primarily for pharmaceutical purposes.
5. Prior to the merger, British Salt and NCSW both produced PDV salt and compacted salt. (British Salt also produces UV salt and NCSW also produces pharmaceutical salt). We found that as a result of the merger, British Salt and NCSW ceased to be distinct and that the share of supply test was met. As a result, we found that there was a relevant merger situation within the meaning of the Act.
6. In relation to market definition, we concluded that the relevant product market for the purposes of this inquiry was the market for PDV and compacted salt. We did not consider that the conclusions of our competition analysis would alter if there were separate product markets for PDV salt and compacted salt, or if UV salt were also included in the relevant market. Even if white rock salt (the purer form of rock salt) and solar/sea salt were included within the same product market as PDV and compacted salt, this would not have a significant impact on our analysis of the effect of the merger on competition in the relevant market.
7. We considered whether the appropriate geographic market should be wider than the United Kingdom and the Republic of Ireland. Although the total level of imports varies from year to year, imports have had only a limited share of salt sales in the UK.

Imports have not shown a persistent growth trend over the last five years, either in absolute terms or in terms of the proportion of UK demand met by imports, although there was an upturn in 2004. This, together with a range of competitive disadvantages affecting non domestic manufacturers or distributors who import salt—particularly higher transport costs—led us to conclude that the appropriate geographic market was Great Britain or the United Kingdom and the Republic of Ireland. We considered that the inclusion or exclusion of Northern Ireland and the Republic of Ireland within the relevant geographic market was not material to our inquiry.

8. We identified another relevant market, the market for the supply of pharmaceutical salt in Europe or more widely. However, British Salt does not currently produce pharmaceutical salt. Further, there is considerable uncertainty as to whether British Salt would have been able to establish a significant presence in this market during the relevant period for our inquiry. We did not find that the merger was likely to cause an SLC in this market and we therefore focussed our investigation on the effect of the merger on the market for PDV and compacted salt.
9. Our analysis of competition in the PDV and compacted salt market found a market characterized by:
 - (a) high concentration of supply in relation to both PDV and compacted salt;
 - (b) large numbers of both PDV and compacted salt customers who have long-term relationships with their salt suppliers, switch between suppliers relatively rarely and often give their existing supplier a chance to 'bid last' in any competitive negotiation situation. Although price is important, customers also rate highly reliability of delivery. Whilst salt is a critical input to many customers' industrial processes, it represents a very small proportion of the overall cost base for the vast majority of customers, whether small or large;

- (c) little evidence of buyer power. Only a minority of customers dual- or multi-source and individual salt customers tend to represent a very small proportion of each producer's sales volumes;
- (d) considerable PDV salt production over-capacity and less, although still significant, compacted salt over-capacity together with static or declining demand in most end-use applications, with little prospect of overall growth;
- (e) high barriers to entry for producers;
- (f) limited competitive constraints imposed on the relevant market by either imported salt or UK salt distributors. We found imported salt to be a limited competitive constraint due to, for example:
- the high transport costs into the UK for what is a bulky, relatively low value product;
 - the low share of the market historically held by imports and the lack of a persistent growth trend in import volumes; and
 - customer perceptions that quality and security of supply is higher with UK producers and that imported salt is not a realistic alternative; and
- (g) the pursuit by NCSW of a business strategy that differed from that of British Salt or Salt Union as a result of NCSW's differing scale, cost structure and production constraints, which led to NCSW's focusing on higher-margin pharmaceutical, retail and block salt. However, whilst the ability of NCSW to act as a competitive constraint in relation to PDV was to some degree limited by its scale of operation and capacity constraints, the effect of these has varied over time and, overall, has not been such as to prevent NCSW from competing effectively in the relevant market over the past few years.

10. We assessed the competitive effects of the merger on the basis that, if it were not for the merger, NCSW would have continued in business and remained a competitive force. However, both the former shareholders of NCSW and British Salt identified a

series of issues facing NCSW which they believed would diminish its competitiveness over time and which could lead to its closure at any point. The former shareholders of NCSW told us that these issues led them to pursue a strategy of continuing to run the business only for as long as it took to discharge their liabilities as they perceived them whilst also seeking to sell the business to a trade buyer.

11. We found that the former shareholders were seeking a managed exit and, whilst they were doing this, they continued to see value in the business. In our view, the former shareholders had been aware of, and adapted to, many of the issues identified over a reasonably extended period of time. Whilst some of these issues were clearly becoming of increasing concern, we did not find that they were so pressing as to be likely to prevent the former shareholders from pursuing their plans.
12. We therefore concluded that the appropriate counterfactual for the purposes of our inquiry was that NCSW's former shareholders would have continued to run the business for the period relevant to our inquiry.
13. In assessing rivalry in the relevant market, we found that the relevant market was already highly concentrated and had become more so as a consequence of the merger. A market with the characteristics listed above is inherently prone to higher prices in the event of a loss of a fringe supplier such as NCSW. This is because the elimination of such a fringe firm appears to the core suppliers in the market to be equivalent to an increase in demand, to which they would be expected to respond by increasing prices.
14. Whilst we noted the capacity constraints on NCSW, we found that these were not such as to prevent NCSW from competing effectively in the relevant market. In light of the barriers that limit the competitive constraint arising from imported salt (whether

imported directly or via UK distributors), the lack of competitive constraint offered by distributors in respect of UK-produced salt, and the lack of evidence that the merger would lead to an intensifying of the competitive behaviour of others in the market, we formed an expectation that the merger would lead to prices higher than would otherwise have been the case.

15. Given the high concentration in the relevant market, the limited competitive constraints imposed by imports and distributors, the limited number of other UK manufacturers from whom customers can obtain supplies and the evidence of inertia amongst customers, we considered that the loss of a relatively small competitor might result or be expected to result in an SLC.
16. We did not find that NCSW's scale and capacity limitations were sufficient to form the view that the lessening of competition we identified would not result or be expected to result in an SLC.
17. We also considered whether the issues facing NCSW might have weakened its ability to compete, making it insignificant, and increasingly so, in competition terms during the period relevant to our inquiry. We concluded that these issues were not such as to so weaken the competitive constraint provided by NCSW as would lead us to judge that the lessening of competition we identified would not result or be expected to result in an SLC.
18. We concluded, therefore, that the merger may be expected to result in an SLC on the basis of unilateral effects leading us to expect that prices in the relevant market would be higher than would otherwise be the case.

19. In line with our guidance, and given the nature of some of the evidence, we considered whether the merger would maintain or exacerbate any existing coordinated effects or increase the likelihood of coordinated effects in the relevant market. However, having found that we expected the merger to have unilateral effects, we did not pursue the issue of coordinated effects further.

Provisional findings

1. The reference

- 1.1 On 26 May 2005, the OFT referred the completed acquisition by British Salt of NCSW to the CC for investigation and report. The reference was made under section 22 of the Act. Our terms of reference are set out in Appendix A, together with an explanation of how we have conducted our inquiry. We are required to publish our final report by 9 November 2005.
- 1.2 This document, together with the appendices, constitutes our provisional findings which we are required to notify to the main parties under the CC's *Rules of Procedure*.² Further information, including non-commercially sensitive versions of main party and third party written submissions and details of a survey of salt purchasers conducted on behalf of the CC by Synovate (the customer survey) can be found on our web site.³ We cross-refer to these documents where appropriate.

2. The products and companies

The basic product: salt

- 2.1 Salt is the conventional name for sodium chloride. It occurs naturally either in solid form underground or in solution as brine. It can be recovered in three main ways, resulting in three different types of salt. Each of these types of salt differs in shape, hardness, grade and purity and may need to be processed further to meet the requirements of different end-use applications. The three types of salt resulting from the three different methods of production are:
- (a) Vacuum salt, a product produced by solution mining in which water dissolves underground salt deposits to create brine which is pumped to the surface and

² *Competition Commission: Rules of Procedure (CC1)* paragraph 10.3.

³ This survey is available at www.competition-commission.org.uk. The survey sample was not fully representative in terms of the number of salt purchasers involved from each UK vacuum salt producer. Therefore all survey results used in this report apply to the survey respondents, not necessarily the population of salt purchasers as a whole.

then evaporated in enclosed pressure vessels known as 'effects.'⁴ Vacuum salt has at least 99.8 per cent purity. Vacuum salt is produced in the UK by British Salt, NCSW and Salt Union, a subsidiary of Compass Minerals International Inc. It is also produced in north west Europe primarily by Akzo Nobel (Akzo) and the European Salt Company (ESCO), and to a lesser extent by Compagnie des Salins du Midi et des Salines (Salins du Midi).

(b) Solar/sea salt, a product obtained by solar and wind evaporation of sea water in open basins or pans, which has 98 to 99 per cent purity. It is produced around the world in warmer climates, notably (in respect of solar salt entering the UK) in France and North Africa by Salins du Midi and in Israel by Dead Sea Works. Whilst salt is not produced by solar evaporation in the UK, there are some small volumes of sea salt produced in open pans in the UK by the Maldon Crystal Salt Company and the Anglesey Sea Salt Company. All further references to solar/sea salt may be taken to exclude this small-scale UK production.

(c) Rock salt, a product produced by dry mining, in which solid salt is cut from underground salt deposits and transported to the surface. It is of varying purity, and comes in two forms known as brown rock salt (which is of lower purity and dark in colour) and white rock salt (of lighter colour and higher purity).⁵ The rock salt produced in the UK is all brown rock salt, with a typical purity of around 93 per cent. White rock salt has at least 96 per cent (and up to 99 per cent) purity and is not produced in the UK. It is produced in other countries around the world, notably in Germany by ESCO.

⁴We were told that, by placing these effects in series, greater efficiencies can be achieved in the use of energy and in the volume of salt extracted from a given quantity of brine. It is generally accepted that efficiency gains will increase up to a maximum of six effects in series. However, each incremental effect requires significant capital investment. The processing capacity of the plant is determined by the volume of the effects. There is therefore a balance to be struck in designing evaporation plants, which must take account of: processing capacity, estimated production volumes, capital expenditure and on-going energy costs.

⁵We were also told about grey rock salt, another form of lower purity rock salt of a slightly different colour. For the purposes of this inquiry, we use the term brown rock salt for all non-white rock salt.

2.2 Vacuum salt, solar/sea salt and white rock salt are collectively referred to as white salt for the purposes of this inquiry.

2.3 Vacuum salt can be sub-divided further into the following types of salt, each of which represents subsequent stages of the vacuum salt production process:

(a) Undried vacuum (UV) salt, which is the product of the vacuum evaporation process and some limited drying. It contains 2 to 3 per cent water and is used primarily in the production of chlorine and caustic soda, and also as the basic feedstock for the production of other vacuum salt products.

(b) Pure dried vacuum (PDV) salt, which is the product of the further drying of UV salt.⁶ PDV salt has a moisture content of less than 0.1 per cent and has a wide range of end-uses.

(c) Compacted salt, which is PDV salt that has either been compressed into salt sheets which are broken up to form granules (granular salt)⁷ or compressed into salt tablets or blocks (block salt). For the purposes of this inquiry, we treat salt licks for animal feed as an end-use application of PDV salt rather than as a form of compacted salt, since in the main salt licks are not manufactured by the salt producers themselves. For the purposes of this inquiry, we use the term compacted salt to refer only to products made from vacuum salt.⁸ Compacted salt is primarily used for water softening.

(d) Pharmaceutical salt, which is PDV salt that is put through hot air driers to produce a salt that has a moisture content of less than 0.01 per cent. Pharmaceutical salt requires a designated production and packaging facility to meet the high (99.9 per cent) purity requirements.⁹ Pharmaceutical salt must

⁶British Salt told us that NCSW produces PDV salt through vacuum evaporation and subsequent drying, and that the NCSW plant does not produce UV salt as a feedstock for production of PDV salt.

⁷Salt Union produces granular salt through an evaporation process rather than through compaction. When used in this document, the term 'compacted salt' includes the granular salt produced by Salt Union.

⁸Compacted salt can also be made from white rock salt and solar/sea salt. However, we do not consider that defining compacted salt in this way makes any significant difference to our inquiry.

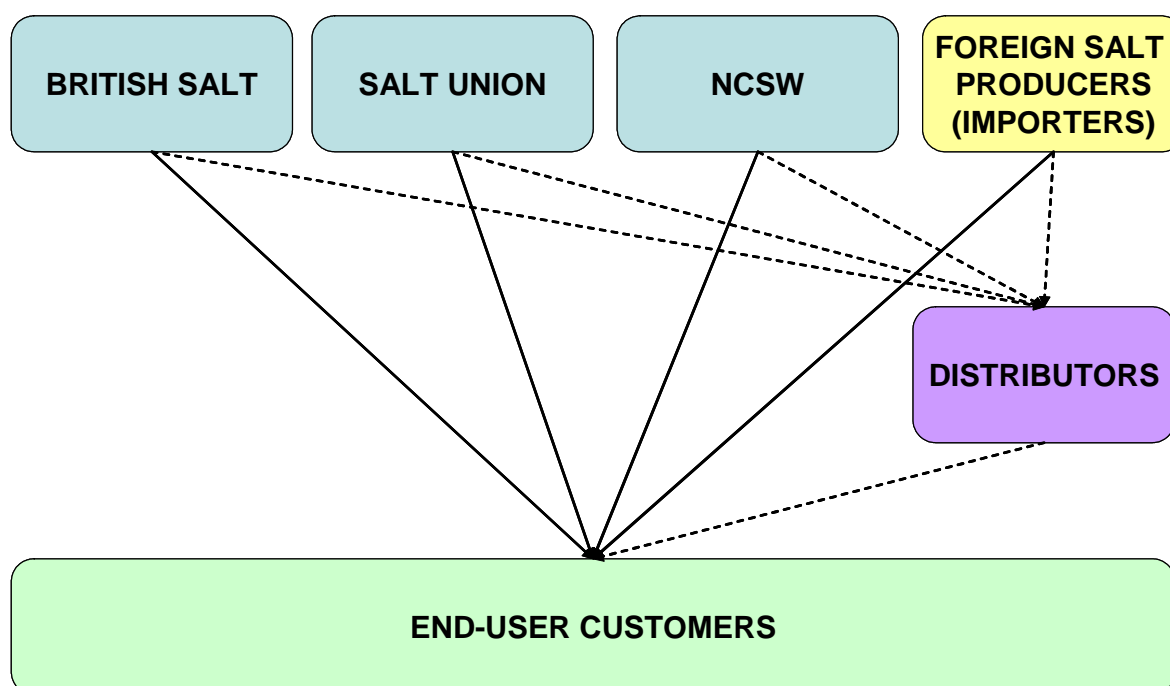
⁹Pharmaceutical salt requires either the isolation of an effect in the manufacturer's plant, or the isolation of the entire production process for a period of time in order to meet the required purity standard (known as a 'campaign').

conform to the relevant pharmacopoeia standard in the market where it is to be consumed. In Europe the relevant standard is the European Pharmacopoeia standard.

- 2.4 British Salt produces UV, PDV and compacted salt as end products; NCSW produces PDV, compacted and pharmaceutical salt as end products; and Salt Union produces UV, PDV and compacted salt as end products. (Salt Union is also a major operator of UK rock salt mines, producing brown rock salt used primarily for de-icing. See further discussion of de-icing salt at paragraphs 4.12 to 4.14.)
- 2.5 British Salt and NCSW therefore overlap in the production of PDV and compacted salt. If, absent the merger, British Salt would have entered the pharmaceutical salt market, then British Salt and NCSW would have also overlapped in the production of pharmaceutical salt. This is discussed further in relation to the counterfactual at paragraph 5.37.
- 2.6 All of the UK vacuum salt producers sell salt directly to end-users in the UK. They also sell salt to distributors who then sell it on to end-users. A small number of distributors are wholly-owned subsidiaries of the UK vacuum salt producers, (for example, Irish Feeds Ltd (Irish Feeds) is a subsidiary of British Salt, and Direct Salt Supplies Ltd (Direct Salt) is a subsidiary of Salt Union). However, most are independent, although they may have a 'preferred supplier' relationship with one of the UK or foreign salt producers. Foreign salt producers, in a few cases, sell salt directly to end-users in the UK. However, the majority of their imports into the UK are sales to distributors who then sell the salt on to end-users. Figure 1 illustrates this market structure.

FIGURE 1

Stylized market structure of the UK salt market



Source: CC analysis

2.7 Low sodium salt products are typically blends of sodium chloride and potassium chloride. Low sodium salt has been developed for use as a food flavouring instead of conventional salt in response to concerns about the effect of sodium chloride consumption on human health. None of the three UK vacuum salt producers manufacture low sodium salt. However, we consider the relevance of low sodium salt to our inquiry at paragraph 4.51.

British Salt

2.8 British Salt is the [✂] UK vacuum salt producer by production volume. It produces all of its vacuum salt at its plant in Middlewich, Cheshire. It sells salt and salt products in the UK and abroad. For the year to 31 December 2004, British Salt generated revenues of £29.0 million. It is a subsidiary of British Salt Holdings LLC, which, until December 2004, was known as US Salt Holdings LLC. British Salt was acquired by US Salt Holdings LLC in 2000 from Staveley Industries plc (Staveley), a company

registered in England. In October 2002, British Salt acquired the entire share capital of a Northern Irish company, Irish Feeds, for £72,000. Irish Feeds is its principal distributor of salt in Northern Ireland.

2.9 Appendix B provides further financial information on British Salt.

New Cheshire Salt Works

2.10 Prior to the merger, NCSW was the smallest of the three UK vacuum salt producers. It produced all of its vacuum salt at its plant in Northwich, Cheshire. It was a family-owned business, the principal activities of which were the manufacture and selling of salt and salt products. For the year to 2 January 2005, NCSW generated revenues of £[~~3~~]. During 2003, NCSW acquired a 49.9 per cent interest in the ordinary share capital of The Block Salt Company Ltd (The Block Salt Company) for £150,000. The remaining 50.1 per cent is held by Harvey Softeners Ltd. The principal activity of The Block Salt Company is the purchase from NCSW and resale to Harveys Softeners Ltd of compacted salt.

2.11 Appendix B provides further financial information on NCSW.

3. Background to the merger and the relevant merger situation

1986 Monopolies and Mergers Commission White Salt Report

3.1 As a result of a reference from the Director General of Fair Trading in 1983, the Monopolies and Mergers Commission (MMC) undertook an investigation into the possible existence of a monopoly situation in the supply of white salt in the UK. It published its report in 1986. At that time British Salt was owned by Staveley and Salt Union was owned by Imperial Chemical Industries plc (ICI); NCSW was owned by the same family that owned NCSW prior to its acquisition by British Salt in 2005.

3.2 The MMC concluded that price competition in the UK white salt market had been extremely limited, and that this could be expected to operate against the public interest, in that prices were higher than if price competition had been effective. The MMC therefore recommended that the then Secretary of State should request the Director General of Fair Trading to seek undertakings from Staveley and British Salt which would have the result of imposing a price control on British Salt's prices for white salt in the UK. In 1988, Staveley gave undertakings on behalf of itself and British Salt to ensure price increases were limited to a weighted index of production costs minus an abatement of one percentage point.¹⁰

3.3 In April 2000, when Staveley sold British Salt to US Salt Holdings LLC, Staveley sought to be released from its undertakings. The then Secretary of State released Staveley from its undertakings, and did not consider it necessary (as a result of changes in the market) to seek further undertakings from British Salt or its new owner.

History of interest in NCSW

3.4 In 2000, the new owners of British Salt approached the then owners of NCSW (the same owners that subsequently sold NCSW to British Salt in 2005) about the possibility of British Salt acquiring NCSW. A price of £[redacted] per share was discussed, which took into account NCSW's outstanding bank loans of about £1.5 million and payments that would be made to NCSW employees and the outgoing executive directors of NCSW in the event of the sale of NCSW. [redacted] As a result, British Salt withdrew its offer to purchase NCSW.

3.5 [redacted]

¹⁰In 1992, following a review of the original undertakings, the then Secretary of State accepted revised undertakings offered by Staveley which rebased the cost index to 31 January 1992, and increased the annual abatement to two percentage points.

The transaction

3.6 British Salt completed its acquisition of NCSW on 24 February 2005 at an agreed cost to British Salt of approximately £[REDACTED], before taking account of the estimated receipts of £[REDACTED] from the sale of the NCSW factory site and accompanying farmland. British Salt agreed to pay £[REDACTED] for all the shares of NCSW, equivalent to £[REDACTED] per share¹¹, and accepted responsibility for closing down the Northwich site at an estimated exit cost of £[REDACTED] million [REDACTED], resulting in a net cost of about £[REDACTED] after the estimated receipts referred to above.

3.7 The consideration for the shares (and the timing of the payments) is as follows:

- (a) £[REDACTED] per share satisfied in cash at the date of acquisition (24 February 2005);
- (b) a conditional £[REDACTED] payable subject to the decision of the relevant competition authorities; and
- (c) a further conditional £[REDACTED] payable 18 months after 24 February 2005 (subject to any warranty claims).

3.8 [REDACTED]

3.9 [REDACTED]

3.10 We were told that the price negotiations were relatively short; a price of £[REDACTED] by the former shareholders of NCSW and this was agreed by British Salt. The former shareholders of NCSW told us that, after the initial deal with British Salt had fallen through, they made a very informal approach to a non-UK salt producer about the potential acquisition of NCSW, but it was uninterested. We were told that the former

¹¹We have been told by the former shareholders of NCSW that the increased price per share achieved in 2005 compared to the [REDACTED] per share discussed during previous negotiations in 2000/2001 reflected the fact that, by 2005, the external debt of NCSW (amounting to some £1.5 million) had been repaid in full.

shareholders of NCSW did not seek or receive formal approaches or offers from any other parties.

The rationale for the merger

- 3.11 British Salt told us that its plant in Middlewich could produce 825,000 tonnes of salt a year but that it was currently operating only at approximately [X] per cent of its capacity. British Salt also told us that it had seen declining UK sales in a generally declining UK market over a number of years. British Salt told us it therefore found itself spreading the fixed costs of running its plant over decreasing volumes of salt, resulting in higher fixed costs per unit of production. We were told that NCSW's plant in Northwich could produce 80,000 tonnes of salt a year and was currently operating at approximately [X] per cent of capacity.
- 3.12 Against this background, British Salt told us that its rationale for the purchase of NCSW was to:
- improve the capacity utilization of its Middlewich plant by shifting all of NCSW's production from Northwich to its own plant at Middlewich, allowing the plant at Northwich to be closed. Additional investment at Middlewich would not be required in order to continue to service all of NCSW's existing PDV and compacted salt customers; and
 - benefit from reductions in key unit costs of British Salt's production process (such as energy, purification chemicals and pallets) as a result of combining its purchasing volumes with NCSW's and shifting all production to British Salt's more efficient plant.
- 3.13 British Salt told us that an additional benefit of its purchase of NCSW (but not part of the original rationale for the purchase) was the diversification of British Salt's product range into higher-margin products. British Salt told us that, in the lead up to acquiring

NCSW, it had not intended to continue with NCSW's production of pharmaceutical salt and salt packaged for retail sale (retail salt). It considered that the potential volumes of these types of salt, given the investments that would have been necessary to produce them, were too low to be of interest, despite the possibility of achieving higher margins. However, once the merger was complete, British Salt learned of the volume of these products that NCSW was selling. In addition, British Salt told us that [X] had forced British Salt to reconsider its strategy. As a result, British Salt had decided it will make the necessary investments at its Middlewich plant to allow it to continue production of pharmaceutical salt and retail salt at its own plant. Additionally, NCSW's block salt equipment would be relocated from the NCSW plant to British Salt's plant.

Jurisdiction

- 3.14 Under our terms of reference we are required to establish whether a 'relevant merger situation' has been created and, if so, whether the creation of that situation has resulted, or may be expected to result, in an SLC within any market or markets in the UK or parts of the UK for goods or services. Section 23 of the Act provides that a relevant merger situation is created if two or more enterprises have ceased to be distinct and at least one of the turnover or share of supply tests is met.
- 3.15 Any two enterprises cease to be distinct if they are brought under common ownership or common control. As described at paragraph 3.6, British Salt acquired the entire issued share capital of NCSW on 24 February 2005. The reference was made on 26 May 2005. Enterprises carried on by or under the control of British Salt have ceased to be distinct from enterprises carried on by or under the control of NCSW and did so not more than four months before the reference.

- 3.16 Under sections 23(3) and (4) of the Act, the share of supply test is met if British Salt increases its share of supply of goods or services of any description in the UK (or a substantial part of the UK) to at least one-quarter as a result of the merger, or if it already supplies at least one-quarter, it increases its share as a result of the merger.
- 3.17 The application of the share of supply test is different from the identification of market shares undertaken as part of any analysis of competition within an economic market. Nonetheless, the figures presented in Appendix C and discussed at paragraph 5.38 show that the British Salt and NCSW combined UK shares of supply of each of PDV salt and compacted salt are 68 per cent and 28 per cent respectively. Prior to the merger, British Salt's UK shares of supply of PDV salt and compacted salt were 57 per cent and 24 per cent respectively. The share of supply test is therefore met and we do not have to consider whether the turnover test is met.
- 3.18 We therefore found that, as a result of the merger, enterprises carried on by or under the control of British Salt ceased to be distinct from enterprises carried on by or under the control of NCSW. We also found that British Salt and NCSW together supplied more than one-quarter of both the PDV and compacted salt supplied in the UK and that, as a result, the share of supply test was met. We therefore concluded that there was a relevant merger situation within the meaning of the Act. This was not disputed by any party during the course of our inquiry.

4. Market definition

- 4.1. An important element in deciding whether a merger would result in an SLC is to define the relevant market or markets. There are normally two dimensions to the definition of a market, the product market and the geographic market. The products that should be included in the relevant market and the geographic boundaries of that market are determined by substitutability; that is, the extent to which customers can

readily switch between substitute products, or suppliers can readily switch their facilities between the supply of alternative products. The generally accepted conceptual approach seeks to identify the extent to which customers could readily demand, or suppliers readily supply, adequate substitute products in response to a small but significant non-transitory increase in price (SSNIP) imposed by a hypothetical monopolist of a certain product or products.

Market definition in the 1986 MMC report

4.2. As discussed in paragraphs 3.1 to 3.3, in 1986 the MMC undertook an investigation into the supply of vacuum salt (which it called white salt) in the UK. As British Salt pointed out to us, the MMC did recognize that there was ‘in some cases’ evidence of substitutability between white rock salt, and UV salt, PDV salt and granular salt. However, the MMC did not appear to consider this substitutability between vacuum salt and non-vacuum salt to be particularly extensive, and the focus of its investigation was vacuum salt. The MMC report is now nearly 20 years old and the nature of any substitutability may have changed as industrial processes and customers’ technical specifications and preferences have evolved. We address below whether such possible substitutability as commented on by the MMC is still applicable.

Market definition in the European Commission K&S/Solvay merger decision

4.3. In 2001, two European salt manufacturers, Kali & Salz Aktiengesellschaft (K&S) and Solvay S.A. (Solvay) notified the European Commission that they proposed to combine their salt production and sales businesses to form a joint venture called the European Salt Company (ESCO). The European Commission declared the merger

compatible with the common market and the EEA Agreement¹². In its decision, the European Commission discussed the appropriate market definition.

4.4. As means of background, the European Commission stated that:

[t]he requirements for the different applications [of salt] can be met by all three types of salt [rock salt, sea salt and vacuum salt] which consequently can be used interchangeably to a large extent. However, this is not true for pharmaceuticals ... which require a particularly high level of purity which can only be achieved by vacuum salt ...¹³

4.5. In considering the product market, the European Commission identified eight applications of non-de-icing salt, but noted that ‘the applications differ in specifications of purity level, grain size and additives such that ‘there is no demand-side substitutability’. Focusing on supply-side substitution, it also noted that ‘some producers have confirmed that they would be able to shift their production of salt from one application into another application in the short term without incurring significant costs’.

4.6. The case is of limited assistance to us as the European Commission left the precise product market definition open since it considered that no competition problems would arise under any of the possible product market definitions. It did, however, use the working hypotheses of separate product markets for ‘the overall salt market, de-icing salt, and each of the eight applications for non-de-icing salt’.

4.7. The European Commission considered that the relevant geographic markets were mainland/Continental Europe, the Nordic countries, UK and Ireland, and the Iberian

¹²Case No COMP/M.2176—K&S/SOLVAY/JV 10/01/2002.

¹³Paragraph 15 of the European Commission decision.

countries. The rationale for these market definitions was primarily determined by the radius of 700 to 800km from a production plant beyond which transport costs were considered uneconomical.

British Salt's view on market definition

4.8. British Salt told us that it considered that there was a single UK market for the supply of white salt, comprising vacuum salt, white rock salt and solar/sea salt. British Salt told us that it considered low sodium salt to be in the same market as conventional salt, and it also suggested that electronic water conditioning¹⁴ was an alternative to water softening using salt.

4.9. British Salt considered that the only exception to a single UK market for white salt was pharmaceutical salt, which it considered was in a separate product market (as a result of high purity requirements and reputational and regulatory barriers to entry) that was at least European Economic Area (EEA)-wide.

Product market

4.10. As explained at paragraph 2.5, British Salt and NCSW overlap in the production of PDV and compacted salt. For the product market definition in relation to this inquiry, the critical questions are therefore:

- (a) whether there are four separate product markets for UV salt, PDV salt, compacted salt and pharmaceutical salt, or whether there is a PDV and compacted salt product market; or
- (b) whether vacuum salt is part of a wider white salt market containing all or any other white salt products such as white rock salt and solar/sea salt.

¹⁴In this report, we use the term 'water conditioning' to cover a range of water treatment/purification techniques, both chemical and non-chemical. Water softening is a particular form of water conditioning that involves the removal of hardness from water.

4.11. In the following sections, we first consider the particular case of salt used for de-icing. We then proceed to consider the questions set out in the previous paragraph, moving from a potentially narrower market definition (for vacuum salt or different types of vacuum salt) to a broader one (for white salt), looking at both demand-side and supply-side substitutability and using the SSNIP framework.

Salt for de-icing

4.12. Dissolving salt in water lowers the temperature at which it freezes. Salt can therefore be used in de-icing applications, for example to de-ice roads, airport runways and footpaths. Solid salt can be spread directly onto the surface, or it can be dissolved in water and then sprayed onto the surface in solution. We have been told that about a million tonnes of salt is used for de-icing during a typical UK winter, although clearly this can vary with the severity of the weather.

4.13. De-icing salt is generally low grade white rock salt, UK-produced brown rock salt, soiled vacuum salt or soiled solar/sea salt because purity and moisture content are not critical given its use. Most de-icing salt used in the UK is purchased by local authorities for highway de-icing using competitive tendering processes. We saw evidence that salt for de-icing is a lot cheaper than salt used for other applications. We did not believe that, if a SSNIP were carried out by a hypothetical monopolist supplier of white salt used in other applications, there would be significant switching of demand to de-icing salt, since it was already considerably cheaper (and not generally substitutable at a technical level).

4.14. We did not therefore consider that de-icing salt was in the relevant market(s) for the purposes of this inquiry, and British Salt has not disputed this. References to white salt products in this report should be considered to exclude the salt used for de-icing.

Types of vacuum salt: demand-side substitutability

- 4.15. Demand-side substitutability occurs because an increase in price makes a product less attractive to customers, who therefore decide to purchase less of it and more of substitute products.
- 4.16. We did not receive any evidence of widespread substitution by customers between the different types of vacuum salt (ie UV salt, PDV salt, compacted salt and pharmaceutical salt). Our customer survey indicated that a clear majority of PDV customers would not regard UV, compacted or pharmaceutical salt as realistic alternatives (85 per cent of respondents mainly using PDV said that UV was not very, or not at all, realistic as an alternative to PDV, and the same figures in relation to compacted salt and pharmaceutical salt as alternatives to PDV were 81 per cent and 83 per cent respectively). Our customer survey also indicated that a clear majority of compacted salt customers would not regard UV, PDV or pharmaceutical salt as realistic alternatives (81 per cent of respondents mainly using compacted salt said that UV was not very, or not at all, realistic as an alternative to compacted salt, and the same figures in relation to PDV salt and pharmaceutical salt as alternatives to compacted salt were 68 per cent and 83 per cent respectively).
- 4.17. British Salt told us that, in some applications where the salt was to be dissolved in a saturator for water conditioning (for example), either UV or PDV could be used, depending on the customer's handling facilities. British Salt also told us that there was some small scale substitutability between compacted salt and PDV (and ultimately UV) for regenerating water softeners. There may also be other opportunities for substitution, particularly in industrial applications.

Types of vacuum salt: supply side substitutability

4.18. In this section we consider whether there is potential for supply-side substitution in relation to the different types of vacuum salt. Supply side substitution occurs when a price rise prompts other firms to start supplying, at short notice, an effective substitute to the product in question. For each of UV salt, PDV salt, compacted salt and pharmaceutical salt, we examined whether firms might be able to start supplying the type of vacuum salt in question, at short notice and with little or no investment. This supply side substitution would usually come from firms with existing facilities, providing similar products and/or operating in adjacent areas. We then considered whether, if a hypothetical monopolist of a certain type of vacuum salt raised its prices by 5 per cent, there would be a loss of demand as a result of customers switching their consumption to supply from other firms incentivized to produce at short notice, such that the price rise would be unprofitable.

4.19. To understand the costs and timescales involved in starting to supply each type of vacuum salt, we examined what would be required for salt producers to install capacity for converting between UV salt, PDV salt, compacted salt and pharmaceutical salt. If supply of an effective substitute can be profitably started at short notice (usually less than one year) with little investment, the different types of vacuum salt can be incorporated into our calculation of the size of the product market. An analysis of the production capacities of the UK vacuum salt producers and the main European white salt producers is set out in Appendix E.

Converting UV salt to PDV salt

4.20. British Salt told us that a new dryer with a cooling facility would cost in the region of £1 million to £1.25 million with a six- to nine-month lead time for a producer with no existing infrastructure. To add a PDV dryer to an existing drying facility would cost

around £700,000, including additional conveyor belt capacity in and out, giving a drying capacity of around 250,000 tonnes per year.

Converting PDV salt to compacted salt

- 4.21. British Salt told us that production of compacted products could be increased at short notice by the addition of a compaction unit at a cost of approximately £250,000 to produce 6 tonnes per hour (which equates to around 50,000 tonnes a year if operated all day, every day or 12,000 tonnes a year if operated on a standard working week). We were told by British Salt that this was off-the-shelf technology and would require only a three- to four-month lead time. A distributor could easily buy PDV salt and compact it, and we were given an example of a distributor that does this. British Salt estimated that a new facility to do this would take about nine months to become operational. The cost should be considered in the context of compacted sales in 2004 of about £[redacted] for British Salt and £[redacted] for Salt Union. However, in relation to block salt, British Salt told us that it would cost about £700,000 to install machinery to have a block salt capability (including a packaging facility), and this would take six to nine months.

Switching capacity to pharmaceutical salt

- 4.22. NCSW produces pharmaceutical salt on a 'campaign' basis and requires the plant to be shut down and purged before production can begin again. The build up of impurities after a short period requires that this process be repeated thereby limiting production significantly. [redacted] Following the completion of the infrastructure upgrades necessary to produce pharmaceutical salt, there is also an additional requirement to achieve accreditation acceptable to the customer. We understand that this accreditation process typically takes nine to 12 months but may take up to two years in some cases depending on the customer's end use. This is in addition to the time taken to complete the infrastructure upgrades required.

Types of vacuum salt: conclusion

- 4.23. Despite British Salt's information in relation to water softening, we did not find sufficient evidence to form the view that UV, PDV, compacted and pharmaceutical salt are generally substitutable on the demand side.
- 4.24. We noted that there are some differences between granular, tablet and block salt in terms of how readily they can be substituted for each other in water conditioning applications. However, we concluded that all these forms of compacted salt can be considered to be within the same product market given the level of demand-side substitutability between these products, and in particular between tablet and granular salt. We accepted that blocks might be slightly less substitutable but judged, for the purpose of our inquiry, that these differences were not sufficiently material to require treatment as a separate product market.
- 4.25. We did not consider that there was supply-side substitutability between pharmaceutical salt and the other types of vacuum salt, given the timescale (over a year) and investment (as a result of the associated complexities) involved in commencing production of pharmaceutical salt.
- 4.26. We considered PDV salt and compacted salt to be in the same market for the purposes of this inquiry on the basis of supply-side substitutability. All PDV manufacturers are currently able to compact their own PDV. In addition, we were aware of at least one distributor which purchases PDV and compacts it. This suggested that there might be firms which could profitably start supplying compacted salt at short notice and without incurring substantial sunk costs in response to a SSNIP. We believed that the conclusions of our competition analysis would not have altered if there were separate markets for PDV salt and compacted salt.

4.27. We considered sales of UV salt to be in a separate market to PDV and compacted salt for the purposes of this inquiry on the basis that:

(a) the cost and timescales for installing UV-to-PDV salt drying capacity appeared to be significant;

(b) we are aware of only one firm (in Northern Ireland) that purchases UV salt and dries it itself to produce PDV. UV production by British Salt and Salt Union is co-located with their PDV production; and

(c) NCSW does not (and cannot) produce UV salt because of its plant design.

4.28. We did not consider that the inclusion of UV salt in the market definition would have made a difference to our analysis of the effect on competition of the merger between NCSW and British Salt because NCSW does not and cannot produce UV salt.

Types of white salt: demand-side substitutability

4.29. As explained previously, for the purposes of this inquiry, vacuum salt, solar/sea salt and white rock salt are collectively termed white salt. In this section we consider the potential for substituting solar/sea salt and white rock salt for the different types of vacuum salt (in particular, PDV and compacted salt) on the demand side. We consider (a) physical properties, (b) end-user perceptions (c) the presence of any switching costs, and (d) the product market definition using a SSNIP framework.

Physical properties

4.30. We found that the substitutability of different types of white salt depended on the intended end use. The physical properties of the different types of white salt, and their principal end uses, are set out in Table 2 in Appendix C. British Salt's best estimates regarding the split of the different types of white salt by end-use application in the UK are set out in Table 4 in Appendix C.

- 4.31. Several parties told us that white rock salt was a substitute for vacuum salt in animal feed production, preparation of hides and skins and water conditioning, and gave us specific examples of customers making these substitutions. The 1986 MMC Report also recognized the potential for these substitutions.
- 4.32. It was suggested that, as white rock salt from Germany and solar/sea salt meet the food standard BS998, they could be used in the food industry. Indeed, Broste Limited (Broste), a distributor, told us that it had invested in handling facilities to allow it to import salt for food use. It was also pointed out that white rock salt and solar/sea salt appear to be used in reasonable volumes in the food industry across Europe. We noted, however, that both solar/sea salt and white rock salt lacked vacuum salt's very high levels of purity and the benefit that vacuum salt had of a production process with inherently low risks of contamination.
- 4.33. We were also given examples of customers changing from compacted vacuum salt to compacted solar/sea salt for water softening.

End-user perceptions

- 4.34. As stated at paragraph 1.2, we carried out a survey of UK salt purchasers. The survey showed that, of respondents mainly using PDV today, 77 per cent would consider non-vacuum salt either not very, or not at all, realistic as an alternative. For compacted salt, the figure was 74 per cent.
- 4.35. Broste told us that, because white rock salt and solar/sea salt were not natural resources in the United Kingdom, the market developed in such a way that vacuum salt was the predominant type of white salt used. In relation to white rock salt, whilst Broste considered that there was generally no reason why it could not be used in

most applications, there were some applications (such as food production) where it felt it was difficult to envisage increased use in the UK.

Switching costs

- 4.36. Switching costs matter in defining a market because, if prices rise, the existence of switching costs may prevent customers from substituting one product for another. We did not find that there were many switching costs for customers in changing between vacuum salt and solar/sea salt or white rock salt, apart from the potential need to change production processes slightly to accommodate different grain sizes or chemical compositions and additional due diligence costs for end-uses where traceability was important (for example, the food industry).

Application of the SSNIP framework

- 4.37. To apply a SSNIP framework it is necessary to have an understanding of the effect of a price rise. Whilst British Salt stated that no general statements could be made as to the price sensitivity of particular customer groups, it considered that demand for salt products was generally price inelastic. We found that, for many customers, salt was not a high percentage of their expenditure and hence they were not particularly sensitive to changes in price. Around 40 per cent of the respondents to our customer survey said that salt was less than 1 per cent of their overall operating cost base, and approximately a further 40 per cent said that it was 1 to 4 per cent of their overall operating cost base. Our customer survey indicated that reliability of delivery and meeting tight technical specifications had similar levels of importance to low price in customer choice of salt supplier.
- 4.38. One way of assessing the outcome of price rises is to estimate the sales that must be lost before a given price increase would be unprofitable; the 'critical loss' volume. This volume can then be judged against the likelihood of such a loss occurring. This

potential loss of volume can be examined on both the demand-side and the supply-side.

- 4.39. Both British Salt and Salt Union provided evidence of the loss of volume which would render a 5 per cent price increase unprofitable. For British Salt, this was [X] per cent of volume for both PDV and compacted salt. This equated to volumes of [X] tonnes for PDV and [X] tonnes for compacted salt. For Salt Union, the volume loss was [X] per cent for PDV and [X] per cent for compacted salt; that is around [X] tonnes for PDV and [X] tonnes for compacted salt.
- 4.40. We considered whether, if a hypothetical monopolist raised its prices by 5 per cent for PDV and compacted salt, there would be a loss of demand to other white salt products of [X] per cent or more (in the case of PDV salt) or of more than [X] per cent (in the case of compacted salt), such that the price rise would be unprofitable. If there were losses of such magnitude, we would then consider those other white salt products to be in the same market as PDV and compacted salt.
- 4.41. We took the view that a 5 per cent price increase would not be sufficient for enough customers to switch in the case of PDV salt. This is primarily because of the price differences between solar salt, white rock salt and PDV salt, which are discussed further in Appendix D. Appendix D shows that British Salt's PDV bulk prices in the UK appear to be around [X] per cent more expensive than [X] white rock salt used for food or industrial purposes. (The reasons why these price differentials do not appear to have caused widespread customer substitution of white rock salt for PDV are discussed further in paragraphs 4.32 to 4.36). British Salt's PDV bagged prices appear to be around [X] per cent cheaper than [X] bagged solar salt prices, although some solar salt price estimates provided by a distributor, [X] and [X] suggest this difference is nearer 10 per cent (the reasons for this difference are

unclear). British Salt told us that its PDV prices would need to rise by 10 to 15 per cent before some customers would consider switching to imported (solar or white rock) salt.

- 4.42. In relation to compacted salt, we did not have price information regarding compacted salt made from vacuum salt, solar/sea salt and white rock salt.

Types of white salt: supply-side substitutability

- 4.43. We now turn to whether a 5 per cent price rise by a hypothetical vacuum salt monopolist could cause another firm to start supplying, at short notice, an effective substitute to the product in question. This supply-side substitution would usually come from firms with existing facilities providing similar products and/or operating in adjacent areas. Supply-side substitution could potentially come from existing UK producers, foreign producers and distributors; that is, a white rock salt or solar/sea salt producer (or indeed anyone else) switching to manufacturing vacuum salt at short notice in response to a SSNIP in vacuum salt.

- 4.44. We were told that the facilities required to manufacture vacuum salt are completely different from the facilities required to manufacture white rock salt or solar/sea salt, and we therefore considered that the switching of such manufacturing capability would not be possible in the short term (ie within one year) and without substantial investment.

Types of white salt: conclusion

- 4.45. Although we noted examples of customers substituting between vacuum salt and both solar/sea salt and white rock salt, we considered these to be small-scale substitutions which were insufficient for us to form a view that there was widespread demand-side substitutability in the UK between the different types of white salt. For

example, the figures in Table 4 in Appendix C show that 93 per cent of salt used in the UK for food and food processing is vacuum salt, 98 per cent of salt used in the UK for chemicals is vacuum salt and 99 per cent of water conditioning salt used in the UK is vacuum salt. The only exception to this appears to be in 'general industrial' applications (which we understand to include some very low priced applications such as fertilizers and fish curing), where only 56 per cent of salt is vacuum salt. Our customer survey indicated that a significant majority of vacuum salt customers do not regard white rock salt or solar/sea salt as realistic alternatives. We did not consider that solar salt and white rock salt would pass a SSNIP test in relation to PDV salt.

- 4.46. We saw no evidence that would have led us to conclude that there is supply-side substitutability between vacuum salt, white rock salt and solar/sea salt.
- 4.47. We therefore concluded that the relevant product market based on both demand- and supply-side substitutability was no larger than vacuum salt, and did not include white rock salt or solar/sea salt.
- 4.48. We noted that the evidence indicated that there may be more substitutability between white rock salt, solar/sea salt and vacuum salt in continental Europe than in the UK. In our view, this reflected the fact that all white rock salt and solar/sea salt is imported to the UK and therefore (a) it is subject to the various barriers to imports that are set out in the Geographic Market section of this report below and (b) due to lack of indigenous production of white rock salt and solar/sea salt, the UK market has developed in such a way that vacuum salt is the predominant type of white salt used. We considered that, even if white rock salt and solar/sea salt were included within the same product market as vacuum salt, this would not have had a significant effect on our analysis of the impact of the merger on competition in the relevant market(s).

Product market: conclusions

4.49. As a result of the analysis in the preceding sections, we considered that the relevant product markets for the purposes of this inquiry were:

(a) the market for PDV and compacted salt; and

(b) the market for pharmaceutical salt.

4.50. We did not see any evidence that bulk and bagged versions of PDV are in separate product markets, nor that bulk and bagged versions of granular salt are in separate product markets. Further, although different salt producers and distributors vary in the extent to which they focus on different types and sizes of customer, we did not find sufficient evidence to conclude there are separate customer markets (or segments of markets that need to be considered separately).

4.51. We found that, despite similarities in marketing and the fact that some consumers may be prepared to substitute low sodium salt for conventional salt on health grounds, low sodium salt is not in the same product market as conventional salt as a result of its significantly higher price.

4.52. We did not see any evidence of customers switching to electronic water conditioning despite its apparent cost advantage compared with water softening using salt. We did not therefore consider that electronic water conditioning is an economic substitute for water softening using salt.

Geographic market

4.53. In this section we consider the appropriate geographic market definition for each of the product markets identified in the previous section.

Pharmaceutical salt

4.54. In relation to pharmaceutical salt, British Salt suggested that the market for pharmaceutical salt was at least EEA-wide. We were told that NCSW, the only UK producer of pharmaceutical salt, exported about [X] per cent of its production to customers in [X]. British Salt told us that its US parent, which manufactures pharmaceutical salt in the USA, exported [X] of its production around the world, including to [X]. We were also aware that at least [X] per cent of pharmaceutical salt used in the UK is imported. We therefore took the view that the relevant geographic market for pharmaceutical salt was at least Europe, and might even be wider. The remainder of this section therefore relates to PDV and compacted salt only.

PDV and compacted salt

4.55. British Salt suggested that, leaving aside pharmaceutical salt, the relevant market for the purposes of this inquiry was the market for white salt in the UK. However, as explained in the previous section, we concluded (leaving aside pharmaceutical salt) that there was a single market containing both PDV and compacted salt and that white rock salt and solar/sea salt were not in this market. In relation to PDV and compacted salt, we considered three questions:

- (a) whether the geographic markets is wider than the UK and the Republic of Ireland;
- (b) whether the geographic markets is Great Britain or the UK and the Republic of Ireland; and
- (c) whether there are separate geographic markets within Great Britain.

4.56. There did not appear to be any significant product differences between PDV and compacted salt in the UK and EU. All vacuum salt must meet required quality control standards and products are relatively homogeneous. We therefore looked at (a) geographic strategies, (b) pricing differences, and (c) the role of imports (and, in

particular, the barriers to imports) to help us answer the questions set out in the previous paragraph. We also considered the application of the SSNIP test to the geographic market.

Geographic market wider than the UK and the Republic of Ireland?

Geographic strategies of firms

- 4.57. British Salt, Salt Union and the major European salt producers each seemed to view continental Europe as a separate strategic market from the UK and the Republic of Ireland in relation to PDV and compacted salt. Within the UK, the existence of national distribution networks and national purchasing agreements suggested that the UK may be a separate market to the rest of the EU. Moreover, British Salt stated that it did not advertise in any region outside the UK. (The relationship between Great Britain, the UK and the Republic of Ireland in terms of salt supply and its impact on the appropriate geographic market definition is addressed in paragraphs 4.81 to 4.85.)

Pricing differences

- 4.58. Price differences are the other main factor that makes the UK and the Republic of Ireland a separate market from continental Europe. Salt is a relatively low value product with high transport costs (and high fixed costs of production). Appendix D shows that UK¹⁵ prices are higher on a delivered basis than prices in continental Europe and the cost of shipping bulk or bagged salt to a UK port is £12 to £17 per tonne on a cost, insurance and freight (CIF) basis.
- 4.59. A price differential was also evident when examining export prices from the UK to continental Europe, which were [X] per cent lower than UK prices. British Salt pointed out that, in the case of its exports from the UK, it found it had to adjust its

¹⁵The use of UK data throughout this report is not intended to imply anything about the appropriate scope of the geographic market, and simply reflects the basis on which data has been made available to us during the course of our inquiry.

prices to be competitive in the country to which it was exporting, and the increased transport costs it incurred in exporting could not be reflected in pricing. In 2004, British Salt exported [X] tonnes ([X] per cent of its production) and, excluding pharmaceutical salt, NCSW exported about [X] tonnes ([X] per cent of its production).

- 4.60. British Salt argued that, in response to a 5 per cent price increase in the UK by a supplier of PDV or compacted salt, UK distributors would react quickly by sourcing increased volumes of vacuum (and other) salt products from overseas suppliers with whom they have existing, long-established supply arrangements. We saw little evidence of this, and this did not seem to be consistent with British Salt's view that the relevant geographic market for the purposes of this inquiry is the UK. The role of distributors in relation to competition in the relevant market(s) is discussed further in paragraphs 5.71 to 5.77.

The role of imports

- 4.61. It is important to examine the role of imports for the purposes both of defining the appropriate geographic market and understanding the extent to which imports are a competitive constraint within any relevant market we define. There is considerable overlap in the analysis that must be carried out to address these two issues. Even if the market were to be defined as no wider than the UK and the Republic of Ireland, imports may provide a competitive constraint in that market. This is discussed further in paragraphs 5.63 to 5.70 of this report.
- 4.62. The 1986 MMC Report noted that the competition from imports was principally confined to white rock salt. A small quantity of solar salt was also imported. It was suggested that the purchaser's requirement for small regular deliveries tended to limit the scope for imports. It pointed out that any potential importer would have to set up

some form of warehousing or bagging plant between the port and customers to meet requirements on delivery. Moreover, the MMC noted the existence of double handling costs and costs of transportation. We noted, however, that many UK distributors had storage and delivery facilities in the UK which enabled them to make deliveries in line with customer requirements.

- 4.63. When the DTI lifted the price controls on the UK salt industry it noted that ‘overseas suppliers such as Frima (a Dutch manufacturer), Akzo, and Solvay were identified as major and increasingly important sources of actual and potential salt imports’. However, Frima has since gone into receivership and the plant at Harlingen now forms part of ESCO (with the capacity remaining). Akzo has reduced its presence in the UK in the last few years and has recently put its speciality salt business up for sale.

Import data and trends

- 4.64. We examined statistics from several different sources regarding the levels of salt imports to the UK. We also collected data from ESCO, Akzo and Salins du Midi (since British Salt told us that these were their primary import competitors) regarding the volume of salt they have supplied to the UK in the period 2002-2004. Our analysis of this data is set out in Appendix F.
- 4.65. It appeared from the data in Appendix F that, although the total level of imports varies a little from year to year, imports had only had a limited share of salt sales in the UK. Although there appeared to have been an upturn in imports to the UK in 2004, we did not see evidence to suggest a persistent growth trend over the last five years, either in absolute terms or in terms of the proportion of UK demand met by imports. Combined import volumes from the major European salt producers appeared to have

been relatively stable over recent years, although they had had some successes in relation to certain end-use applications.

Switching to and from importers

- 4.66. We obtained data from the three major European salt producers regarding the number of customers and volume of salt that had switched to and from them in the period 2002 to 2004. This is set out in Appendix G. In terms of customer numbers, the analysis does not reveal much switching from UK producers directly to foreign producers.
- 4.67. Our customer survey indicated that 56 per cent of customers who mainly purchase PDV felt that switching to imported PDV salt was not very, or not at all, realistic, and the figure was 54 per cent amongst customers who mainly purchase compacted salt. The main reasons that imported salt was felt not to be realistic were price (too expensive), transport costs, insufficient required volumes to be worth importing and the potential for delivery problems. In contrast, only 19 per cent and 21 per cent of customers felt that it was not very, or not at all, realistic to switch to an alternative British salt supplier of PDV salt and compacted salt respectively.
- 4.68. We acknowledge that this analysis and the customer survey results may understate the number of customers switching to imported salt supplied via distributors. Foreign producers' import volumes to the UK have fluctuated in this period, and customers may not realize that, in purchasing salt from a UK distributor, they may be purchasing imported salt.

Barriers to imports

- 4.69. We considered the barriers to imports to be:
- (a) transport costs;

- (b) customer behaviour;
- (c) security of supply;
- (d) exchange rate risk; and
- (e) (in the case of imports from outside the EU) import duties.

Transport costs

- 4.70. We set out our analysis of the evidence we have received in relation to transport costs in Appendix D.
- 4.71. We were told and accepted that UK-based salt producers had a competitive advantage over foreign producers in servicing UK customers because foreign producers incurred additional freight costs in transporting salt into the UK. These freight costs are increased by the UK's adverse balance of trade in goods generally with continental Europe. We were told that transport costs from continental Europe to the UK were more than double transport costs from the UK to continental Europe because more loads were coming into the country than were leaving, resulting (for example) in lorries returning to Europe without a backhaul load.
- 4.72. British Salt argued that foreign producers which have a long-term commitment to exporting salt to the UK were prepared to absorb variations in transport costs in order to develop and maintain relationships with distributors and customers in the UK. Whilst this may be the case, the higher transport costs that they face in order to sell in the UK must inflate their overall cost base and influence their decisions (and limit their ability) in relation to exporting salt to the UK. In this context (and more broadly) we noted that UK sales volumes only made up a small percentage of foreign producers' total volumes. Salins du Midi stated that its sales to UK accounted for [redacted] per cent of ex-works sales value and [redacted] per cent of sales volume; Akzo stated

that salt supplies to UK were [X] per cent of total supplies; and ESCO considered that the share of its total tonnage coming to the UK in 2004 was [X] per cent.

Customer behaviour

- 4.73. Depending on the end use of the salt, quality of product has been mentioned as a key requirement for customers and a potential barrier to new entry or customer switching. Customers may act on their perceptions that imports are of poorer quality, even though we were told that the major European salt producers met all relevant standards, and that their vacuum salt products were clearly accepted by end-users in continental Europe for use in the full range of applications. (Substitutability and customer perceptions of imported white rock salt and solar/sea salt have already been discussed in paragraphs 4.30 to 4.35.)
- 4.74. British Salt suggested that the food industry was generally risk averse in sourcing products and that importation of bulk PDV from overseas producers might be perceived as a higher risk source, for example in relation to contamination. British Salt told us that this was not an issue for bagged PDV or for bulk PDV that was imported by tanker, but only for 'loose' bulk PDV (ie bulk PDV not imported by tanker). As with perceptions of quality, customers may nevertheless act on their perceptions that imported salt has an increased risk of contamination, even if this is not necessarily the case.
- 4.75. We were also told that incumbent salt suppliers had a distinct advantage when it came to quoting prices which further inhibited customer switching to imports. Akzo stated that UK customers often gave their current salt supplier the opportunity to provide the last quote as a consequence of the longstanding business relationships that exist. British Salt also told us that it hoped to have an opportunity to provide the last quote in a price negotiation with an existing customer.

- 4.76. As discussed further at paragraph 5.54, there is considerable evidence of inertia amongst salt purchasers in the UK. This acts as a barrier both to switching in general, and to switching to imports in particular.

Security of supply

- 4.77. Producers, distributors and customers noted the importance of security of supply as a factor when deciding upon a salt supplier. This was confirmed by our customer survey in which 77 per cent of respondents said that reliable delivery was a very important factor in their choice of supplier. Many customers operate on a just-in-time basis or do not have the storage facilities to keep large stores of salt which means that suppliers need to be able to ensure ready supplies of salt. This has led to many customers preferring to purchase directly from UK salt producers as they believe that this will give the best security of supply in comparison to relying on foreign producers directly or through a distributor. Our survey identified that customers felt that delivery problems were a significant reason why imported salt was not seen as a realistic alternative to UK-sourced supplies. We acknowledge that many of the large UK salt distributors operate storage depots and distribution warehouses throughout the UK such that they too can offer just-in-time deliveries to customers. However, again it seems that customer perceptions may influence purchasing behaviour. Further, distributors would incur costs for building and operating storage facilities which must also be taken into account.

Exchange rate risk

- 4.78. We were told by [REDACTED] and others that the exchange rate risk could influence their salt buying decisions. There is an inherent risk that any variation of the exchange rate from the time of entry into a purchasing agreement could potentially result in unforeseen costs. Although firms can hedge against such risks, variation in exchange rates is nevertheless an additional issue faced by firms seeking to import salt into the

UK not faced in relation to UK-produced salt. We were told that fluctuation in exchange rates was one reason that distributors might seek (but not necessarily receive) price support from foreign producers (price support is discussed further in paragraph 5.75). For these reasons, variation in exchange rates acts as a barrier to imports in our view.

Import duties

- 4.79. A tariff of up to €2.60¹⁶ per tonne applies to imports of some salt products from outside the EU. We were told that salt products from Chile, Brazil, Morocco and Israel were considered a viable prospect for importation.

Geographic market wider than the UK and the Republic of Ireland: conclusion

- 4.80. The analysis set out in the previous paragraphs has shown that imports of PDV and compacted salt hold a limited share of the market in the UK and, although there is variation between years, there is little sign of the sort of overall growth that might indicate that they are playing an increasingly important role in competing with the UK producers. Transport costs, longstanding business arrangements, willingness amongst some customers to give incumbent suppliers an opportunity to quote last, customer perceptions, costs incurred to ensure comparable levels of security of supply, exchange rate risk and, for imports from outside the EU, import duties, all provide barriers to imports through the imposition of additional costs and risks on non-domestic manufacturers or distributors who import salt. Consistent with the operation of such barriers, we observed ex-works prices in the UK to be higher than in continental Europe. In view of these barriers, and in particular the role of transport costs, we considered the appropriate geographic market to be no wider than the UK and the Republic of Ireland and potentially limited to Great Britain.

¹⁶Equivalent to £1.76 at the time of writing.

Geographic market: UK and the Republic of Ireland or Great Britain?

- 4.81. Given that we considered that the market was not wider than the UK and the Republic of Ireland, one issue that needed to be addressed was whether the market should be confined to Great Britain or whether it should also include Northern Ireland and the Republic of Ireland.
- 4.82. We were told that there were no manufacturers of vacuum salt in Northern Ireland or the Republic of Ireland, although there was a rock salt mine for de-icing in Carrickfergus. British Salt accesses the Northern Irish market through its wholly-owned distributor, Irish Feeds, and supplied [REDACTED] tonnes of PDV and [REDACTED] tonnes of compacted salt in 2004. British Salt stated that competing suppliers of white salt products in Northern Ireland included Irish Feeds, Walkers Eurosalt, Devenish, Salinity, Univar and Albion Chemical Distribution (Albion).
- 4.83. British Salt told us that it considered it was possible that Northern Ireland and the Republic of Ireland were one geographic market, and that Great Britain was a different geographic market as a result of the transport costs for shipping salt across the Irish Sea. [REDACTED]
- 4.84. [REDACTED] We were also told that distributors from Northern Ireland and the Republic of Ireland sold to customers across the island of Ireland.
- 4.85. However, the inclusion of Northern Ireland and the Republic of Ireland within the relevant geographic market is not material to our inquiry. This is because there are no manufacturers of vacuum salt in either Northern Ireland or the Republic of Ireland, and the small volumes sold there have little effect on market shares. We therefore considered that the geographic extent of the market for PDV and compacted salt was

the area covered by Great Britain, and might include Northern Ireland and the Republic of Ireland as well, but was no wider than that.

Separate geographic markets within Great Britain?

4.86. We saw some evidence that salt demand in Great Britain was clustered near the existing vacuum salt plants in Cheshire where certain large customers had chosen to locate to minimize transport costs. Also, we heard evidence that imports might be more of a competitive constraint in some areas than others, for example around the main ports, particularly those on the east coast of Great Britain. However, having considered the location of customers that have switched between British Salt and NCSW, and the location of distributors' storage and warehousing facilities, we did not find sufficient evidence to support the view that there were narrower geographic markets within Great Britain.

Conclusions on market definition

- 4.87. We concluded that the relevant markets for the purposes of this inquiry were:
- (a) the supply of pharmaceutical salt in Europe or wider; and
 - (b) the supply of PDV and compacted salt in Great Britain or in the UK and the Republic of Ireland.
- 4.88. We did not consider that our decisions regarding (a) whether or not PDV and compacted salt are in the same product market or separate product markets; and (b) whether or not the appropriate geographic extent of the market for PDV and compacted salt is Great Britain or the UK and the Republic of Ireland would alter our assessment of the effect of the merger on competition in the relevant markets.

5. Assessment of the competitive effects of the merger

5.1 In this section we look at the competitive effects of the acquisition of NCSW by British Salt in the relevant markets. We first consider what was likely to have happened if the merger had not occurred (the counterfactual). We then discuss factors affecting rivalry in the relevant markets, existing levels of competition and market entry. We finally consider the expected impact of the acquisition.

The counterfactual

5.2 Prior to the merger NCSW was trading profitably. We considered whether, absent the merger, NCSW would have continued to operate as a viable competitor in the market. The former shareholders of NCSW told us that they believed that NCSW was not a viable economic entity in the medium term and that, had they not sold it to new owners, it would almost certainly have closed in the short to medium term. Similarly, British Salt submitted that NCSW's viability beyond the short term was threatened.

5.3 We began by examining the issues relevant to NCSW's continuing viability as identified by the former shareholders of NCSW and British Salt. In particular, we considered the former shareholders' perceptions of these issues. We then turned to the question of what the former shareholders intended to do with NCSW in the light of their perceptions. Finally, we considered whether these issues would have stopped the former shareholders from following through with their plans for NCSW (namely, continuing to run the business for as long as it took to discharge their liabilities, as they perceived them, whilst also seeking to sell the business to a trade buyer).

5.4 The main issues that affect the commercial viability of NCSW, as identified by the former shareholders of NCSW and/or British Salt, are:

- (a) the risk of subsidence caused by NCSW's method of extraction of brine from the ground;
- (b) NCSW's inability to secure commercially-viable alternative sources of brine and therefore, its inability to grow its market share;
- (c) NCSW's susceptibility to price deflation;
- (d) NCSW's susceptibility to increasing energy costs;
- (e) the risk of increasing supplier base rationalization by major customers;
- (f) other environmental issues (the climate change levy and waste management);
- (g) the risk of adverse regulatory changes and the consequential additional burden on NCSW's limited management resources; and
- (h) NCSW's inability to identify suitable successor management.

Risk of subsidence

- 5.5 The former shareholders of NCSW told us that they believed that the business was at risk of closure arising from legal action being taken against NCSW because of subsidence in the local area.
- 5.6 Wild brine pumping involves the pumping of naturally-occurring brine to the surface, whereas controlled brine pumping involves pumping water down to dry salt deposits, which are subsequently dissolved to form brine which is then pumped out. NCSW obtains all its brine from wild brine pumping, whereas British Salt obtains all its brine from controlled brine pumping. We were told that wild brine pumping had occurred in the Cheshire area for many years and also that, over that time, there had been subsidence related (amongst other things) to wild brine extraction.¹⁷ However, incidences of subsidence related to wild brine pumping had reduced as the number of wild brining operations had reduced. There is no similar risk of subsidence with controlled brine extraction because the shape of the cavities left underground can be

¹⁷Cheshire County Council told us that there are natural (ie not pumped) movements of underground brine or water that can cause subsidence, although it felt that wild brine pumping exacerbated and scaled up subsidence problems.

carefully designed to prevent any subsidence. We were told that both the geology of the land around NCSW's Northwich site, and the inability to achieve a return on the costs of the development of a controlled brine pumping operation, precluded NCSW switching to controlled brine pumping at the Northwich site.

5.7 The Cheshire Brine Compensation Board was established by statute in the nineteenth century¹⁸ due to the large number of wild brine pumping operations in the county at that time. All Cheshire brine pumpers pay a levy into a central fund managed by the Cheshire Brine Compensation Board which then handles all claims in relation to subsidence in the area (except claims from excluded bodies as discussed in next paragraph) and pays out compensation from this fund.¹⁹ We were told that the Cheshire Brine Compensation Board was dealing with on-going claims in the Marston and Wincham areas in the neighbourhood of the NCSW plant at Northwich, on both residential and agricultural land, as well as having dealt with and closed similar such claims over the course of at least the last five years, and that this included claims for compensation which had been paid.

5.8 Certain statutory bodies are excluded from being able to claim for compensation from the Cheshire Brine Compensation Board and would therefore have to seek redress through the Courts. We understand that NCSW is now the only commercial organization in the UK (and Western Europe) which continues to use wild brine pumping and the former shareholders were therefore concerned that any subsidence in the local area would be directly attributed to its continuation of this method of brine extraction. In particular, the former shareholders concluded that, [X]. The former shareholders did not believe that NCSW had the financial means to meet the costs of

¹⁸The Board is now regulated under the Cheshire Brine Pumping (Compensation for Subsidence) Act 1952.

¹⁹British Salt told us that NCSW paid a higher levy rate than the other brine pumpers as a result of its wild brine pumping. British Salt therefore put it to us that, in the event of an increase in claims to the Cheshire Brine Compensation Board in respect of subsidence damage (or an increase in the value of these claims, for example as a result of rising house prices), NCSW would have a higher level of exposure to these increases than the other brine pumpers. We considered this to be a further example of a possible future cost increase for NCSW.

a legal challenge. The granting of an injunction could force permanent cessation of NCSW's wild brine pumping activities. Further, the award of damages against NCSW could threaten NCSW's commercial viability.

5.9 Stafford is another area where wild brine pumping was historically carried out, but it is not covered by the Cheshire Brine Compensation Board. Both the former shareholders of NCSW and British Salt referred us to the Lotus Shoe Company case.²⁰ In that case, the Lotus Shoe Company was able to obtain a High Court injunction in 1970 restraining further wild brine pumping by British Soda Company Ltd, a wild brine extractor in Stafford owned by Staveley Industries. The Lotus Shoe Company was able to prove, on the balance of probabilities, that the subsidence on the shoe company's adjacent property was directly attributable to British Soda's wild brine pumping activities. British Salt told us that this plant never reopened. British Salt noted that all wild brine extraction (except that at NCSW) ceased shortly after this case.

5.10 NCSW extracts brine under a planning permission granted by the Cheshire County Council, as part of that Council's role as the Mineral Planning Authority for Cheshire. After a general review of NCSW's permission to extract brine in 1997, Cheshire County Council imposed new monitoring requirements on the company. This led to the installation of monitoring points at various positions around the Northwich site. The Cheshire County Council wrote to NCSW in December 2002 and January 2003 setting out the results of this monitoring which highlighted to the former shareholders that subsidence appeared to be occurring on its own land—[✂]. The Cheshire County Council copied its letter of January 2003 to a number of statutory bodies, excluded from making claims to the Cheshire Brine Compensation Board, which might have been affected by subsidence on the monitored land. [✂]

²⁰Lotus Ltd v British Soda Co Ltd [1972] Ch.123

Alternative sources of brine

5.11 The former shareholders told us that NCSW had attempted to seek alternative supplies of brine over a prolonged period of time, and had approached ICI, its successor Ineos Chlor Limited (which acquired ICI's chlor-alkali business) and British Salt, in order to allow NCSW to cease wild brine pumping and to grow its market share if possible. In all cases, these possible sources were not considered commercially viable and were not pursued.

Susceptibility to price deflation

5.12 The former shareholders of NCSW told us that, despite NCSW's sales of higher value and margin salt products such as pharmaceutical salt, NCSW was dependent on the sale of PDV salt to cover its fixed and marginal costs, but as a 'price taker', ie it was forced to price no higher than the prevailing price in the market. This was because of its smaller size and its limited capacity. Therefore, the former shareholders of NCSW considered that any decline in the prevailing market price of PDV could have threatened the future of NCSW. [REDACTED]

Energy costs and economies of scale

5.13 The biggest variable cost for NCSW is energy, which is also (based on recent evidence) the cost most likely to be subject to dramatic changes. Because of the nature and size of its plant, NCSW requires more energy to produce one tonne of salt than British Salt. The former shareholders of NCSW told us that NCSW could not reduce its energy costs any further because its plant was already at maximum efficiency (as confirmed by a review of the plant by government consultants). British Salt told us that, due to rising energy prices, it estimated that NCSW's energy costs would increase by approximately £[REDACTED] by 2006.

Rationalization of customer base

5.14 The former shareholders told us that since the 1990s, many customers had decided to rationalize their supplier base in order to reduce costs. The former shareholders told us that they believed NCSW had lost the business of [REDACTED], as a result of such changes in purchasing behaviour.

Environmental issues

5.15 In relation to the UK government's climate change levy, British Salt told us that both it and NCSW currently benefited from an 80 per cent discount in the levy. British Salt told us that it also qualified for an additional 10 per cent rebate due to its use of an energy efficient combined heat and power plant.²¹ However, British Salt told us that it had been notified of an impending increase in government efficiency targets which it believed NCSW would not be in a position to meet. British Salt considered that NCSW would therefore need to purchase carbon dioxide allowances, thereby increasing its cost disadvantage relative to its competitors and presenting another threat to the future of NCSW.

5.16 Both the former shareholders of NCSW and British Salt identified problems with waste management as a further source of risk for NCSW. Currently, NCSW is able to dispose of its waste from the brine purification plant because dairy farmers are willing to be paid to take it away for use as a soil conditioner. However, both the former shareholders of NCSW and British Salt considered that this arrangement might not last since it appeared to be becoming more difficult each year for NCSW to find farmers willing to take the waste. British Salt told us that NCSW produced and disposed of approximately [REDACTED] of waste a year, and British Salt estimated (based on

²¹The former shareholders of NCSW told us that Salt Union currently qualified for a [REDACTED] per cent rebate on its climate change levy due to its use of an efficient combined heat and power plant that already surpassed existing government targets on energy efficiency.

its own costs for waste disposal during plant shutdowns) that the annual cost to NCSW of sending this waste to landfill would be about £56,000 a year.

Adverse regulatory changes

5.17 The former shareholders of NCSW told us that an additional issue for NCSW was an ever increasing burden of dealing with regulation and the authorities. As an example, they pointed to the amount of NCSW management time that had been expended to achieve modifications to the application of the UK government's climate change levy so that it did not disadvantage NCSW as compared with British Salt and Salt Union.

Succession

5.18 The former shareholders told us that the former MD of NCSW, a member of the family that owned NCSW, intended to retire from the business when possible, [REDACTED]. The former shareholders had sought other members of the family to take over running of the business but with no success because of the problems the business faced. As well as creating uncertainty, the former shareholders also considered that the fact that no family successor could be identified would also have made it difficult to interest potential buyers in purchasing the business.

Reduced competitive impact

5.19 The former shareholders of NCSW suggested that, in any event, NCSW's competitive impact would—on a forward looking basis—be expected to diminish over time as a result of the issues they had identified and would certainly be less than its current market share would otherwise suggest. This is considered in paragraphs 5.125 to 5.126.

The strategy of the former shareholders

- 5.20 The former shareholders of NCSW told us that in about 1997, they came to the conclusion that 'NCSW's days were numbered and it simply could not continue as it was' By 2003, the former shareholders had concluded that they wanted to exit the business but, in doing so, they wanted to meet NCSW's liabilities. These liabilities included legal obligations to creditors and in relation to site rehabilitation, and both legal and perceived moral obligations [REDACTED].
- 5.21 They also told us that they had sought to explore all the options available for NCSW, including diversification, the takeover of British Salt, alternative sources of brine (see paragraph 5.11), [REDACTED], short term trading, sale to a foreign company, sale of the NCSW site for property development, trade sale to an existing salt producer and the possibility of NCSW becoming a distributor or only manufacturing and selling pharmaceutical salt.
- 5.22 The former shareholders told us that, from April 2003 until the sale to British Salt was completed in 2005, they actively pursued short term trading as an option (ie with the aim of running the business for only as long as it took to generate sufficient cash to pay off the liabilities of the company) whilst simultaneously seeking a trade sale to an existing salt producer. In 2003, it was anticipated that it might take two or three years to generate sufficient cash to meet the company's liabilities and other perceived obligations.
- 5.23 By 2004, when British Salt again made overtures regarding a merger with NCSW, NCSW had already cleared the £1.5 million of bank loans that it had held when the two companies had discussed merger in 2000/2001. It also had a positive cash balance of £0.25 million. The former MD of NCSW told us that he believed that, at this point, if British Salt had not again expressed interest in purchasing NCSW, and

depending on how well the business performed, he was still approximately two to three years away from being in a position to wind up the company in a satisfactory manner. The former shareholders have told us that a major concern for them was that, whatever direction the company took, it was important not to signal to the market that the company was being wound down as this would only hasten any decline.

Analysis of the issues facing NCSW

5.24 In this section, we consider further the list of issues identified by the former shareholders and British Salt.

5.25 The issues facing NCSW appeared to us to fall into three categories: first, issues relating to how it obtained brine; second, issues relating to future increased costs and/or decreased revenues; and third, issues relating to scarce management resource. We discuss these three sets of issues below.

5.26 In relation to NCSW's brine supply and the concerns of the former shareholders about the risk of legal action from statutory bodies excluded from making claims to the Cheshire Brine Compensation Board, we noted that, following the letter from Cheshire County Council to NCSW in January 2003 about the results of its subsidence monitoring, no further letters have been sent by Cheshire County Council to NCSW on this subject. We were told by the former shareholders of NCSW that the statutory bodies, that were copied the Cheshire County Council's letter of January 2003, had not contacted NCSW. Further, there did not appear to be any other examples of Court challenges to wild brine extraction after the Lotus Shoe Company case in 1970. Whilst we were told that wild brine pumping does increase the risk of subsidence, the Cheshire County Council and the Cheshire Brine Compensation Board both told us that it was not straightforward to establish that a particular

instance of subsidence was directly attributable to a particular case of extraction of brine by this method.

5.27 Cheshire County Council told us that it would not have moved to revoke NCSW's brine extraction planning permission [REDACTED]. Given this and the other factors set out in the previous paragraph, we considered it unlikely that NCSW would have had to stop its wild brine pumping during a time period relevant to our inquiry. It followed, therefore, that NCSW's inability to find an alternative source of brine was not relevant to our counterfactual.

5.28 The second category of issues faced by NCSW involved risks of future increases in costs, for example due to higher energy prices, the climate change levy and increased waste management costs or decreases in revenues, for example due to price deflation and the loss of customers as a result of supplier base rationalization. Whilst there has been some decline in salt prices, our analysis (as set out in Appendix D) indicated that prices appear to have risen recently, possibly in response to increasing energy prices. We therefore considered it possible that NCSW would be able to recover at least some of its increased energy costs through increases in the prices it charges customers for salt. We accepted that NCSW used significantly more energy to produce a tonne of vacuum salt than its competitors as a result of the configuration of its plant,²² and was therefore more vulnerable than its competitors to increases in energy costs. However, we were aware that NCSW had adopted strategies in the past (for example, forward buying of gas) to manage this risk. We expected that NCSW would have been able to recover energy cost increases to a sufficient extent so as not to have prevented the former shareholders pursuing their plans.

²²British Salt told us that it uses about [REDACTED] therms of gas to produce a tonne of vacuum salt whereas NCSW uses about [REDACTED] therms.

5.29 In addition to rising energy costs, there were other potential cost increases that might fall on NCSW and not on its competitors (or might fall more heavily on NCSW than on its competitors), such as the climate change levy. Some of these potential increases in costs did not appear large enough to threaten NCSW's continuing viability. In any event, the impact of such cost increases on NCSW would depend on how prices for salt change over the same period, potentially allowing NCSW to pass through some of these cost increases to its customers. In the same way, the effect, if any, on NCSW of further supplier base rationalization would depend on NCSW's commercial response to such pressures. NCSW has demonstrated in the past an ability to take advantage of new business opportunities to maintain or increase its profitability, and the former shareholders of NCSW told us that NCSW, as a small company, was able to be particularly responsive to such opportunities.

5.30 The third category of issues facing NCSW concerned scarce management resources. The former shareholders told us that the burden of dealing with adverse regulatory changes, along with their inability to identify a suitable successor for the former MD of NCSW, both represented risks to the future commercial viability of NCSW. In this context, we noted that NCSW had in fact been able to bring in additional management resource in the past when necessary. For example, the former shareholders told us that an additional manager was brought in during the 1990s to cover tasks previously carried out by the former MD of NCSW.

Conclusions on the counterfactual

5.31 We balanced all the evidence in coming to a judgement on the appropriate counterfactual. We considered the question of whether the issues identified by the former shareholders of NCSW and British Salt would have prevented the former shareholders pursuing the strategy of continuing to run the business for as long as it

took to discharge their liabilities, as they perceived them, whilst also seeking to sell the business to a trade buyer.

5.32 We believed that the various issues discussed previously were seen as significant by the former shareholders of NCSW, and we did not doubt that these issues were critical factors in their decision to pursue options to enable them to exit the NCSW business. However, we considered that they were seeking a managed exit, and that, during this time, they continued to see value in the NCSW business. Whilst they were keen to exit from the salt market, they did not wish to advertize this, as they felt this could have damaged their relationships with their customers. Further, the former shareholders did not rush to sell NCSW, but investigated a wide range of alternatives.

5.33 [✂]

5.34 The former shareholders of NCSW had been aware of, and adapted to, many of the issues discussed previously (for example, supplier base rationalization and NCSW's limited economies of scale) over a reasonably extended period of time. Whilst some of these issues (eg subsidence) were clearly becoming of increasing concern, we did not find any of them were so pressing (separately or together) as to be likely to prevent the former shareholders pursuing their plans and continuing to operate NCSW.

5.35 In relation to the question of whether the former shareholders would have found a trade buyer (other than British Salt) for the business during this period, the former shareholders of NCSW told us that they believed that sale to other trade buyers was unlikely. We did not consider it necessary for the purposes of determining the appropriate counterfactual to consider the other options open to the former

shareholders of NCSW (such as those listed at paragraph 5.21). For the reasons given above, it was only necessary to consider what the former shareholders of NCSW would have done absent the merger.

5.36 It was therefore our view that the appropriate counterfactual for the purposes of our inquiry was that NCSW's former shareholders would have continued to run the business for the period relevant to our inquiry.

5.37 If, absent its merger with NCSW, British Salt had entered the pharmaceutical salt market, it would have had to go through a lengthy accreditation process (see paragraph 4.22) and it would also have had to establish its reputation in this market. Hence there is considerable uncertainty as to whether British Salt would have been able to establish a significant presence in the pharmaceutical salt market in the timeframe which we need to consider for the purposes of our inquiry. For that reason, we did not find that the merger was likely to cause an SLC in the European or wider market for the supply of pharmaceutical salt. The remainder of this document therefore focuses on the other relevant market, namely the market for the supply of PDV and compacted salt in Great Britain or the UK and the Republic of Ireland.

Factors affecting rivalry in the relevant market prior to the merger

Concentration

5.38 We took as a starting point for the assessment of rivalry in the market for the supply of PDV and compacted salt in Great Britain or the UK and the Republic of Ireland the level of concentration. Appendix C presents the market share information for the relevant market. Table 1 sets out the market shares based on volumes sold in 2004 for British Salt and NCSW, and the corresponding two-firm concentration ratios and

Herfindahl-Hirschman Index (HHI)²³ values for the relevant market prior to the merger. For illustrative purposes, it also shows market shares and measures of concentration assuming that there are separate product markets for PDV salt and compacted salt. Table 1 indicates that, prior to the merger, the relevant market was highly concentrated. This is also the case if PDV salt and compacted salt are considered separately.

TABLE 1 Pre-merger market concentration (based on 2004 volumes sold)

	<i>Market for PDV salt</i>	<i>Market for compacted salt</i>	<i>Market for PDV and compacted salt</i>
British Salt market share, per cent	57	24	50
NCSW market share, per cent	11	4	9
Two-firm concentration ratio (British Salt and Salt Union), per cent	83	90	85
HHI	4,062	4,977	3,790

Source: CC analysis of 2004 sales data provided by each party.

Supply and demand

5.39 Many parties told us that overall demand for vacuum salt was declining in the UK. UV salt has seen the largest reduction, principally as a result of the decline of the chlor-alkali industry in the UK. It was also put to us that the use of PDV in the food industry was declining, as a result of increasing concerns about the effect of salt consumption on human health.²⁴ However, some parties told us that there might be modest growth in the use of salt for water softening, and also for nitrate removal by certain water companies, whilst demand for salt for other applications, such as animal feed and hide and skin processing, was static.

5.40 Appendix E sets out UK salt demand over the last five years, alongside the vacuum salt production capacities of the UK salt producers and some major non-UK salt

²³The HHI is a measure of market concentration calculated as the sum of squared market shares.

²⁴The UK Food Standards Agency has adopted targets to reduce salt intake from 10g to 6g a day by 2010, with an interim target of a 10 per cent reduction by 2005/6.

producers. It is clear that there is over-capacity in terms of UK production capacities for PDV and compacted salt as compared with current demand. Without significant increases in overall demand for salt in the future—for which we saw no evidence—over-capacity is likely to remain a feature of UK vacuum salt production.

Supply arrangements and negotiations

- 5.41 There is a range of sizes of customer for PDV and compacted salt, but even the largest customers for PDV salt represent only small proportions of the UK producers' volumes and sales values. The largest compacted salt customers have a higher share because of the greater importance of distributors for compacted products. For example, British Salt sells [redacted] per cent of its PDV salt production volume to its largest PDV customer, and [redacted] per cent of its compacted salt production volume to its largest compacted salt customer. The equivalent figures for NCSW are [redacted] per cent and [redacted] per cent respectively.
- 5.42 We saw evidence that customers tend to have long-term relationships with their salt suppliers. Our customer survey indicated that, amongst respondents mainly using PDV salt, the average length of relationship with their principal supplier was about nine years, whilst for compacted salt, the figure was about 8.5 years.
- 5.43 In our customer survey, the most frequently quoted reason for choosing a particular supplier was low price. However, delivery reliability scored most highly in terms of importance when respondents were asked to rate different factors in supplier choice, followed by low price and ability to meet tight technical specifications. Our customer survey also indicated that, for the vast majority of respondents, salt was less than 4 per cent of their overall operating cost base, and for many, particularly PDV customers, it was less than 1 per cent. This was also confirmed by what some large users of salt told us during hearings.

- 5.44 We were told that customers for whom salt is a critical input to their production processes valued the ability to obtain salt at short notice, and that they considered that direct relationships with (and proximity to) the UK producers enhanced their security of supply.
- 5.45 We also saw evidence that a minority of customers and distributors dual-source (or in some cases multi-source) salt, making switching between producers easier. Our customer survey found that 25 per cent of respondents used more than one supplier. British Salt told us that around [redacted] per cent of its combined customer base dual-sourced from British Salt and NCSW.
- 5.46 We were told that some large customers, particularly in the utilities sector, operated a formal tendering process for their salt requirements. However, this seemed to be an exception to the more informal arrangements that are usually in place.
- 5.47 British Salt told us that it had three forms of supply agreement with its customers, as well as undertaking ad-hoc sales to customers with whom it had no on-going relationship. It has formal contracts for a small number of large customers (as does NCSW), with terms that range from six months upwards, with a very small number having terms of over 12 months. [redacted]
- 5.48 British Salt told us that negotiations for the supply of salt typically involved initial discussions over the phone or via email between sales representatives and purchasing managers. Prices are negotiated individually with each customer. Salt Union told us that it tended to write to small customers first when it wished to change its prices, and then over the course of the next few months renegotiated with large customers and distributors. Distributors are often given one month to inform their customers.

- 5.49 Both UK and non-UK producers told us that they did not operate or publish standard price lists. British Salt told us that it held a price list for internal reference for sales to spot purchasers with whom it had no existing supply relationship. British Salt estimated that [X] per cent of its sales were made at list price. As part of the negotiation process, British Salt told us it used a set of bottom-line prices as an internal guide for sales agents, below which agents had to get authorization to negotiate. NCSW maintained an internal price list which was used by its sales staff as the basis for negotiation.
- 5.50 We were told by different salt producers that the negotiation process might take anything from one week to a few months. British Salt considered the length of the negotiation process was a function of volume, such that negotiations with larger customers tended to take longer.
- 5.51 We received data from British Salt regarding the competitive bidding situations in which NCSW had participated since 2002. An analysis of this data is set out in Appendix G.
- 5.52 When customers negotiate prices for renewal of agreements with an existing supplier, we were told that typically the incumbent supplier was given the opportunity to make a last offer. This gives the incumbent supplier a distinct competitive advantage and may be a factor contributing to low levels of customer switching, as set out in the following paragraphs.

Switching

- 5.53 British Salt gave us a list of British Salt and NCSW customers that had switched between the two companies in the period 2000-2004. Our analysis of this data is set out in Appendix G. As discussed in paragraph 5.95, our customer survey indicated

that switching ranges somewhere between 6 per cent and 10 per cent a year (of a particular supplier's customer base).

5.54 British Salt stated that there were no technical barriers to switching between suppliers and no legal restrictions. Switching costs have already been discussed in relation to substitutability between vacuum and non-vacuum salt (see paragraph 4.36). Whilst the costs of switching may not be high in absolute terms, we consider that they may be high for many customers in relation to the cost of salt purchased. The costs of switching between suppliers in general include:

- (a) due diligence costs. Where traceability is important there may be a need to carry out due diligence on the product before it can be used, for example in the food and animal feed industries;
- (b) changing production processes. Different specifications of salt may require production processes to be modified to accommodate different grain sizes or chemical compositions;
- (c) customer preferences. Customers in general appear not to change supplier much, as shown in Appendix G. This appears to be because their perception is that the risks of switching, in terms of security of supply, losing access to a 'tried and tested' product and additional management effort, are greater than the reward of potentially lower prices for a relatively low value product which is nevertheless often a key input. Moreover, salt customers tend to place a reliance on maintaining long term supplier relationships.

Market entry

5.55 There are two important questions in relation to entry to the market for PDV and compacted salt (regardless of whether the geographic scope of the market is considered to be Great Britain or the UK and the Republic of Ireland):

(a) is there an ability and incentive to enter into production from within the relevant geographic market; and

(b) is there an ability and incentive to begin to import PDV and compacted salt into the relevant geographic market?

5.56 [REDACTED] British Salt and the former shareholders of NCSW had similar attitudes to that of Salt Union in relation to further significant investments.

5.57 Imported PDV and compacted salt is available in the market both via direct purchases from foreign vacuum salt producers and via UK distributors. For the reasons set out at paragraph 4.69, imported PDV and compacted salt has a limited market share and there is no pattern of overall growth in imports (either in absolute terms, or in terms of market share, although there was an upturn in 2004). [REDACTED]. Akzo has recently put its salt speciality business up for sale.

5.58 In relation to the new entry of imported salt products into the relevant market via UK distributors, we were told by some distributors that they sourced and imported new salt products specifically to meet niche customer needs. It appeared that such new products were often sourced from salt producers who already had a long-term presence in the UK.

5.59 Historically, there has been some entry and exit amongst salt distributors. For example, Avon Salt was launched in 1989 and Salt Union purchased Direct Salt in 2004 (Direct Salt continues to distribute both Salt Union products and other domestic and imported salt products). See paragraphs 5.71 to 5.77 for a discussion of the extent of the competitive constraint offered by distributors in the relevant market.

- 5.60 Overall, we considered that entry of new firms (from either inside the geographic market, or outside the geographic market for supply into it) was most unlikely. This was because of declining demand for salt within the market, the existing excess capacity in UV salt feedstock production (and, to a lesser extent, in PDV drying capacity) and the reluctance amongst existing market participants located within the relevant market to make any significant investments.
- 5.61 We identified several barriers to entry to the relevant market. These included the set-up costs for a vacuum salt production facility (including obtaining access to brine). Further, to enter the relevant market, a firm must build demand, which requires at the least accessing customers, transporting salt to them and building a reputation for quality, reliability of delivery and overall security of supply. We saw evidence of significant barriers to building demand, including low levels of switching, long established customer relationships, the ability of the incumbent salt supplier to make a final offer during negotiations, and the lack of customer strategic focus on salt (since for most customers it is a small fraction of their overall cost base), resulting in considerable customer inertia.
- 5.62 We therefore considered that new entry or the threat of new entry was unlikely to be sufficient to constrain the behaviour of the existing firms in the market for PDV and compacted salt. We further considered it unlikely that the merger of NCSW and British Salt would have a significant effect on barriers to entry to the relevant market as these barriers to entry will remain unchanged.

Imports

- 5.63 Imports have already been considered in the context of defining the extent of the relevant geographic market(s) (see paragraphs 4.61 to 4.79), and in the context of market entry (see paragraphs 5.55 to 5.62). On the basis of this analysis, we

concluded that the geographic extent of the market for PDV and compacted salt was at least Great Britain, and might include Northern Ireland and the Republic of Ireland, but was no wider than this, and that there was at least a European market for pharmaceutical salt, and possibly a wider market. We also concluded that it was unlikely that new firms—from either within or outside the geographic market—would enter the relevant market.

5.64 We now consider the extent to which imports are a competitive constraint on the market for PDV and compacted salt in Great Britain or the UK and the Republic of Ireland.

5.65 British Salt argued that absolute volumes of imported white salt had been increasing significantly over the last five years, and that the increase was even more pronounced as a proportion of the volume of white salt sold in the UK. British Salt considered that import volumes would continue to increase as a result of large foreign producers responding to declining demand in their home markets and seeking to use their excess production capacity by exporting, and also as a result of production costs rising faster for UK producers than for the main European producers.

5.66 British Salt further argued that the major European white salt producers represented a competitive constraint on the relevant market, being well-resourced and obtaining higher revenues from salt sales than British Salt or NCSW. For example, British Salt considered that, in response to a 5 per cent price increase in the UK by a supplier of PDV or compacted salt, UK distributors would quickly react by sourcing increased volumes of vacuum (and other) salt products from overseas suppliers with whom they had existing, long-established supply arrangements. British Salt told us that it tried to price its salt products in a way which discouraged customers switching to

imports. British Salt believed that the competitive constraint from imported salt came not only from customers switching to imported salt, but also from customers threatening to switch to imported salt in order to win concessions from the UK producers.

5.67 PDV and compacted salt are bulky, with transport costs representing a significant part of the delivered price. We were told that the cost of shipping bulk or bagged salt to a UK port is £12 to £17 per tonne on CIF basis. Comparison of the average transport costs for British Salt with those provided by [REDACTED] for delivery to the door of a customer within the UK illustrates the scale of differences in transport costs (see Appendix D). Foreign producers face the additional uncertainty and costs associated with exchange rate fluctuations as well, although it is possible to hedge against exchange rate risks.

5.68 Imported salt historically has had a low share of the relevant market. There has been no persistent growth trend, and the major northern European white salt producers have had mixed success in selling into the UK. Many customers perceive that quality and security of supply is higher with UK producers and that imported salt is not a realistic alternative. We noted that sales via distributors who purchase both domestic and imported salt may mean that customers are sometimes unaware of the origin of the salt they use. However, when customer perceptions are coupled with the low level of customer switching and the high transport costs into the UK, importers appeared to have found it difficult to grow the volumes they sell.

5.69 In relation to threatened rather than actual switching, we considered that, if customers do not actually switch, this undoubtedly places a limit on the extent to which importers can increase their supply of salt into the UK. Threatened switching to imported salt will be less of a competitive constraint than actual switching.

5.70 Whilst the existence of imports may offer some competitive constraint (both from actual and threatened customer switching), we considered this to be limited and we have not seen sufficient evidence to expect that this will change in the period relevant to our inquiry.

Distributors

5.71 British Salt argued that there was a strong, independent salt distribution sector in the UK, and that an increasing volume of salt was being handled via distributors. British Salt considered that distributors provided an effective route to market for overseas manufacturers. It believed that both the distributors themselves, and the fact that they provided a channel to market for imported salt, acted as competitive constraints on the relevant market.

5.72 There are a large number of different types and sizes of distributor supplying salt into the relevant market. Some only or mainly sell salt, targeting customers for whom it would be uneconomic to deal directly with the producers because of their size or the frequency with which they require small deliveries. Others provide a range of related products of which salt is only one, so that they can offer a 'one stop shop' to customers. Some distributors service local geographies within the UK or particular end-use applications, for example water softening.

5.73 About [redacted] of the 2004 UK sales values of British Salt and Salt Union were to UK distributors (not including Salt Union's sales through its wholly-owned subsidiary, Direct Salt), whilst the figure for NCSW was [redacted], reflecting NCSW's stated preference to selling direct to end-user customers rather than to distributors. We did not see any evidence that the overall sales of PDV and compacted salt via distributors in the UK was increasing, although British Salt told us that its own sales via UK distributors had increased between 2001 and 2004.

- 5.74 Even the largest distributors accounted for only a fairly small percentage of the total sales volumes of the UK vacuum salt producers. For example, Albion's PDV and compacted salt purchases from British Salt amounted to about [X] per cent of British Salt's PDV and compacted salt sales volumes in the UK. A number of the major distributors obtain salt from more than one source, and, for many, at least one of these sources was a foreign salt producer. However, volumes purchased from second suppliers can be small. [X]
- 5.75 We examined the prices at which UK distributors purchased salt, from both UK and foreign producers, but found no evidence that distributors can always purchase salt from the producers at prices lower than the generality of customers. Some distributors did tell us that, if one of their potential end-user customers appeared to require a lower price than the distributor had been able to offer, the distributor might seek (and possibly be provided with) 'price support' from the producer in order to improve its chances of winning the customer. Producers have an incentive to offer lower prices to distributors in such circumstances to avoid the logistical difficulties of dealing with the end-user customers themselves.
- 5.76 We found that several distributors were well-represented in geographic terms, and that there were a range of locations for storage depots for other distributors, collectively giving reasonable coverage of Great Britain. This confirmed British Salt's view that distributors were typically able to match the lead times (and the security of supply) of the UK producers even when relying on imported salt, although we were also told that customers do not always perceive this to be the case. We found that distributors sell to all sizes of customer.
- 5.77 Whilst distributors may provide some competition for end-user customers, all salt ultimately must be bought from producers (whether UK or foreign) and the

distributors are themselves customers of the salt producers. Although some customers may benefit on occasion from the ability of distributors to broker between different sources of salt and specialize in serving (with a lower cost structure) certain parts of the market, the ultimate constraint on distributors is the price at which they purchase salt. This price is determined by the pricing behaviour of the salt producers both in the UK and abroad. To the extent that distributors purchase salt from the UK salt producers, we did not consider that they offered an additional competitive constraint in the relevant market. To the extent that distributors purchase salt from salt producers abroad, we considered that distributors could not provide a significant competitive constraint for the reasons outlined in paragraphs 5.63 to 5.70.

Business strategies pursued by British Salt and NCSW

5.78 We considered that British Salt and NCSW implemented significantly different business strategies. We considered the key factors to have been:

- (a) The differing scale of NCSW and British Salt. For example, British Salt's UK sales of PDV salt in 2004 were about [REDACTED] tonnes, and NCSW's were about [REDACTED] tonnes. For compacted salt, the figures were about [REDACTED] tonnes and about [REDACTED] tonnes. This restricted NCSW's interest in supplying the very largest customers.
- (b) The differing capital structures of NCSW and British Salt, and their differing cost structures. The differing cost structures are in part due to NCSW's small scale, and in part due to the fact that it has a three-effect evaporation plant and British Salt has a six-effect plant. As explained previously, a three-effect plant is less energy efficient than a six-effect plant, and British Salt told us that it used about [REDACTED] therms of gas to produce a tonne of vacuum salt, whereas NCSW used about [REDACTED] therms. This has a significant impact because energy costs are the biggest variable cost in vacuum salt production.
- (c) NCSW's stated policy of selling sufficient PDV to utilize fully its capacity, having taken account of its compacted and pharmaceutical salt production. (Data on

NCSW's production capacity is set out in Appendix E). This was more important for NCSW than for the other UK vacuum salt producers because of NCSW's relative inefficiency to start with. At the same time, NCSW acted in the belief that there would be no point in selling any further PDV salt than necessary, since it considered that it was unable to expand its PDV capacity due to the costs and perceived risks of doing so (discussed elsewhere in this report).

(d) NCSW's focus as a result on converting some of its PDV production into small volume, higher-margin salt products such as pharmaceutical salt, block salt and retail salt.

5.79 Whilst the former MD of NCSW told us that NCSW monitored its PDV sales carefully, this was on the basis of achieving a certain threshold of throughput, beyond which it would not have the capacity to supply any further customers. We were told that NCSW might occasionally try to switch existing lower-margin PDV customers for higher-margin PDV customers. British Salt, on the other hand, has considerable spare UV and PDV production capacity and a large plant. British Salt's attitude to the pharmaceutical market prior to its acquisition of NCSW (namely that the volumes involved were not large enough to make it decide to produce pharmaceutical salt despite the higher margins available) confirms its production-led philosophy.

Extent of competitive constraint between NCSW and British Salt

5.80 British Salt is a clear competitive constraint on NCSW in relation to the prices NCSW charges its customers. British Salt provided us with data on the occasions on which NCSW bid for customers from 2002 to 2004, summarized in Table 2 below. This data shows that NCSW was involved in 261 competitive bidding situations between 2002 and 2004 (ie on average 87 occasions a year). There were around 56 occasions (21 per cent of those listed) between 2002 and 2004 in which NCSW bid

competitively against British Salt (ie on average 19 occasions a year). Of these, there were 44 occasions in which British Salt competed for existing NCSW customers.

TABLE 2 **NCSW competitive bidding situations, 2002 to 2004**

<i>No. of bids</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
NCSW competitive bids	100	87	74
BS also bidding	21	18	17

Source: CC analysis of British Salt data.

5.81 For NCSW's existing customers, the merger between British Salt and NCSW removed this competitive constraint.

5.82 We next considered the extent of the competitive constraint offered by NCSW in the relevant market; and in particular the argument that NCSW's lack of additional production capacity means that it had little or no ability to respond to increasing demand from new or existing customers, and hence neither the incentive nor ability to provide effective price competition to British Salt and Salt Union. In order to assess the extent of the competitive constraint offered by NCSW, we examined evidence on:

- (a) NCSW's production capacity and constraints arising from this;
- (b) whether NCSW is perceived to be a viable alternative for customers;
- (c) the role played by NCSW in the negotiation of customer prices and the extent to which NCSW features in customer switching; and
- (d) NCSW prices compared to those of British Salt.

Constraints arising from NCSW's production capacity

5.83 British Salt told us that NCSW had a theoretical maximum production capacity of some 80,000 tonnes per year (its nameplate capacity), though the actual level of maximum production depended to some extent on the proportions of PDV, compacted and pharmaceutical salt produced. In particular, pharmaceutical salt is

prepared in batches; its production requires the preparation of the salt evaporator plant which typically takes [X] from time of production of a batch of pharmaceutical salt to resumption in the production of PDV or compacted salt. We were told that, in the event that NCSW were to produce pharmaceutical salt to its full capacity of [X] tonnes a year, its overall production capacity would be reduced to 74,000 tonnes.

5.84 Table 3 below shows NCSW sales volumes over the last five years. Taken together with the information in the previous paragraph, this suggests that NCSW probably had some spare capacity in 2002 and 2003 (between [X] and [X] tonnes) but that in 2004 its capacity was more fully utilized, based on a maximum production capacity of 80,000 tonnes a year.

TABLE 3 NCSW sales volumes, 2000 to 2004

Tonnes	2000	2001	2002	2003	2004
PDV Compacted Pharmaceutical Total	[]	[]	[X]	[]	[]
Maximum spare capacity			[]		

Source: British Salt.

5.85 Of those occasions identified from the NCSW bidding data where NCSW tried to win customers from British Salt, Salt Union or a distributor (ie leaving aside 44 occasions in which British Salt competed for existing NCSW customers), over the past three years NCSW tried to win new customers on 33 occasions, of which 12 were where NCSW and British Salt both bid for non-NCSW customers. Table 4 shows capacity utilization and EBITDA (earnings before interest, tax, depreciation and amortization) over the past five years and NCSW's competitive behaviour over the last three years.

TABLE 4 NCSW competitive behaviour

	2000	2001	2002	2003	2004
Capacity utilization (based on 80,000t), per cent			✂		
EBITDA (£)	885,662	605,490	544,986	871,080	985,823
Competitive quotes for non-NCSW customers	N/A	N/A	17	11	5
Of which, existing British Salt customers	N/A	N/A	7	5	3
And, of which, British Salt also bid	N/A	N/A	5	5	2
Total competitive quotes won by NCSW for new customers	N/A	N/A	13(76%)	2 (18%)	0

Source: CC analysis of British Salt data.

Notes:

1. Five of the 33 occasions when NCSW bid competitively for non-NCSW customers relate to compacted salt, the rest relate to PDV salt.
2. N/A = not available

5.86 Table 4 suggests that, over the last three years, as NCSW has become more profitable (and more cash generative, as indicated by the growth in EBITDA) with less spare capacity, its level of active competition in the market as indicated by the number of times it has tried to win new customers, has decreased. It is consistent with the view, put to us by the former owners of NCSW, that NCSW seeks to retain existing customers and actively seeks new customers only when it has spare capacity (for example, due to the loss of a customer or a decline in demand from its existing customers).

5.87 The data nevertheless shows that in 2004, when NCSW's capacity utilization was at its highest, NCSW did bid to supply one new customer with in excess of 2000 tonnes of PDV (and, in 2003, NCSW bid to supply another customer with around 2000 tonnes of PDV). Both British Salt and the former shareholders of NCSW told us that NCSW was prepared to drop lower-margin business to take on higher-margin business. Even under circumstances where NCSW's capacity utilization was at its highest, therefore, it is clear that NCSW did not entirely withdraw from competing for new customers.

5.88 We were told by British Salt that it intended to shift all of NCSW's production from the NCSW site at Northwich to its own plant at Middlewich, allowing the plant at Northwich to be closed. It is clear therefore that the merger will eliminate NCSW's production capacity from the relevant market entirely (rather than simply joining NCSW's production capacity with that of British Salt).

Salt users perceptions of NCSW as an alternative supplier

5.89 The customer survey showed that 14 per cent (around 40) of those respondents buying from a supplier other than NCSW considered NCSW as the main alternative if they could no longer buy from their current supplier. The proportion seeing NCSW as the main alternative was lower amongst those buying more than 1,000 tonnes a year, but broadly similar across all those buying less than that amount.

5.90 Focusing on current British Salt PDV customers that responded to the survey, 25 (17 per cent) said that NCSW was the main alternative and 41 (27 per cent) said they would switch to Salt Union. Some 31 per cent of British Salt's PDV customers that responded to the survey said that they did not know who would be their main alternative.

5.91 Whilst we did not attribute great weight to the specific percentages involved, the survey data suggested that NCSW was seen as a viable alternative by a significant number of existing customers of British Salt and Salt Union.

The role played by NCSW in the negotiation of customer prices and switching

5.92 We examined the bidding data provided by British Salt to assess the extent to which NCSW participates in customer negotiations and customer switching, and how this compared to what we might have expected to see given NCSW's market share.

- 5.93 As stated earlier, the data from British Salt revealed that there were around 56 occasions (21 per cent of those listed) between 2002 and 2004 in which NCSW bid competitively against British Salt (ie on average 19 occasions a year). Figure 1 in Appendix G shows a comparison of bids for the 11 occasions where NCSW bid for non-NCSW customers of PDV salt and British Salt also bid. It shows that bid prices were broadly similar when viewed against a 45-degree line (the point at which bid prices are equal). Analysis of the data shows that NCSW was cheaper on two of the 11 occasions. However, we noted that there were a limited number of data points in this analysis.
- 5.94 As noted previously, the customer survey showed that the salt industry is characterized by long-term relationships between supplier and customer with relatively infrequent switching. Amongst respondents mainly using PDV salt, the average length of relationship with their principal supplier was about nine years, whilst for compacted salt, the figure was about 8.5 years. Nearly 40 per cent of respondents said they had been with their existing supplier for ten years or more.
- 5.95 The customer survey also showed us that 20 per cent of respondents had stopped using a supplier within the last three years²⁵. This figure, and the length of customer relationships, taken together, suggested that the level of switching overall was in the range 6-10 per cent a year (of a particular supplier's customer base). The lower bound is based on what the customer survey told us about the frequency with which respondents terminated supplier relationships, and the upper bound is based on the length of customer relationship.

²⁵This may be an underestimate of switching due to customers switching volumes between suppliers without terminating a supplier relationship completely.

- 5.96 The switching data provided by British Salt showed 28 customers had switched from British Salt to NCSW in the last four years (2000 to 2004). This amounted to an average of seven switchers per year ([redacted] per cent of British Salt's customer base).
- 5.97 Our analysis of NCSW data, also set out in Appendix G, suggested it was gaining (on a gross basis) around [redacted] tonnes a year from British Salt and [redacted] tonnes a year from Salt Union (a combined total of [redacted] tonnes or nearly 2 per cent of NCSW annual production). In total, around [redacted] tonnes were being gained and lost by NCSW each year (comprising volumes gained and lost to British Salt, Salt Union and unknown competitors), amounting to just over 10 per cent of NCSW production. In practice, these figures may be under-estimates, as not all volumes gained and lost are to and from known competitors.
- 5.98 Data from Salt Union, set out in Appendix G, revealed around [redacted] tonnes of non-UV volumes lost a year ([redacted] per cent of Salt Union non-UV production), of which on average [redacted] tonnes were lost on price. NCSW accounted for on average [redacted] tonnes of the volumes lost on price ([redacted] per cent of [redacted] tonnes). This picture was similar when analysed on the basis of customer numbers, with NCSW picking up [redacted] of the [redacted] customers ([redacted] per cent) lost by Salt Union over the last five years, and [redacted] of the [redacted] lost on price ([redacted] per cent). The data suggested that some [redacted] customers were lost a year, amounting to slightly [redacted] per cent of a customer base of around [redacted]. Again, in practice, these figures may be under-estimates as not all volumes gained and lost are to and from known competitors.
- 5.99 This data allowed us to build up some picture of switching in the market. If switching were assumed to be around 10 per cent based on length of customer relationships in the survey data, it would imply that, from a total customer base (for the three main

suppliers) of around [redacted]²⁶, the maximum number of switchers in any one year would be [redacted]. If, on the other hand, switching were assumed to be nearer the 5 per cent put forward by [redacted] or the 6 per cent based on survey responses regarding the termination of supplier relationships, this would imply only around [redacted] switchers per year. On the basis that NCSW picked up a minimum of [redacted] customers per year from British Salt and Salt Union, it would account for between 6 per cent and 13 per cent of switchers, ie roughly in line with its market share.

5.100 Whilst the data was too limited to enable firm conclusions to be drawn regarding the precise level of competitive constraint offered by NCSW, it appeared incompatible with a view that NCSW was effectively absent from the market due to its capacity constraints such that over the last three years it provided little or no competition. It is also clear that British Salt provides a competitive constraint on NCSW in relation to the prices NCSW charges its customers.

Comparison of NCSW and British Salt prices

5.101 We analysed data provided by British Salt in relation to NCSW and British Salt prices for 2004, and this analysis is set out in Appendix D. Table 5 summarizes our analysis of this data, which suggested that on an ex-works basis NCSW was generally price competitive with British Salt.

²⁶The figure of [redacted] does not include customers that Salt Union services through its Direct Salt subsidiary.

TABLE 5 British Salt and NCSW weighted average ex-works prices by customer size, 2004

Tonnes, £/t	<10	10–49	50–99	100–199	200–299	300–499	500–999	>1000
<i>PDV (excl. fine)</i>								
British Salt					✂			
NCSW								
Difference	2.73	-0.95	3.30	3.28	2.94	8.90	1.01	6.95
<i>Compacted</i>								
British Salt					✂			
NCSW								
Difference	-17.39	-12.45	-7.74	0.40	-3.79	-5.11	N/A	10.29

Source: CC analysis of British Salt data.

Note: N/A = not applicable.

5.102 The interpretation of these results is complicated by a number of factors, in particular the view taken on the most appropriate treatment of British Salt’s Fine 50 and Fine 60 grades in the case of PDV and the differing role of distributors in the case of compacted salt. We heard evidence that the Fine grades, produced by sieving to separate out smaller particle sizes from British Salt’s PDV production, are regarded as value-added products by some salt users, mainly in parts of the food industry such as crisp manufacturing and cheese making. However, for the majority of uses, PDV salt from one UK manufacturer can be fully substituted for that from another and the precise mix of particle size is not an important feature. In relation to compacted salt, British Salt argued that the price comparison between particular customer sizes is distorted because of the sale of significant quantities of compacted salt for water softening to one distributor at a low price. When segmenting by customer size, this has the statistical effect of lowering the weighted average price to large customers but effectively increasing it to smaller customers.

5.103 We did not conclude on the basis of this price data that NCSW charged generally lower prices than British Salt. However, the data, as summarized in Table 5, did indicate to us that NCSW was generally price competitive in relation to customers on

whom it focused (generally not distributors and not customers requiring the largest volumes).

5.104 Salt Union considered that, although it did not find itself bidding against NCSW frequently, when it did so, NCSW was competitive on price. British Salt, on the other hand, considered that NCSW was generally not price competitive with it. British Salt stated that the merger only eliminated NCSW as a competitor for the supply of small volumes to customers. Further, British Salt told us that British Salt had a limited presence in relation to serving that type of customer and tended to sell mainly through distributors to such customers. British Salt drew attention to the proportion of British Salt's sales that were made to larger customers compared to NCSW's sales.²⁷ Whilst we accepted that the size profile of British Salt's customer base was different from that of NCSW, the data provided by British Salt still indicated considerable overlap between the sizes of customer supplied by British Salt and NCSW. We found that the differences in the profiles of the customer bases of British Salt and NCSW were insufficient to alter our view that NCSW was generally price competitive with British Salt, for those customers of a size which both supplied.

Conclusions on existing competition in the relevant market

5.105 We found that competition in the market for the supply of PDV and compacted salt in Great Britain or the UK and the Republic of Ireland was characterized by:

- (a) high concentration of supply in relation to both PDV and compacted salt;
- (b) large numbers of both PDV and compacted salt customers who have long-term relationships with their salt suppliers, switch between suppliers relatively rarely and often give their existing supplier a chance to 'bid last' in any competitive negotiation situation. Although price is important, customers also rate highly

²⁷British Salt told us that customers purchasing more than 1,000 tonnes of PDV salt a year (excluding fine grades and No Anti Caking Agent salt) account for about [x] per cent of British Salt's sales by volume, and about [x] per cent of NCSW's sales by volume. For compacted salt, the figures are [x] per cent and [x] per cent respectively.

reliability of delivery. Whilst salt is a critical input to many customer's industrial processes, it represents a very small proportion of the overall cost base for the vast majority of customers, whether small or large;

- (c) little evidence of buyer power. Only a minority of customers dual- and multi-source and individual salt customers tend to represent a very small proportion of each producer's sales volumes;
- (d) considerable PDV salt production over-capacity and less, although still significant, compacted salt over-capacity together with static or declining demand in most end-use applications with little prospect of overall growth;
- (e) high barriers to entry for producers;
- (f) limited competitive constraints imposed on the relevant market by either imported salt or UK salt distributors; and
- (g) pursuit by NCSW of a business strategy that differed from that of British Salt or Salt Union as a result of NCSW's differing scale, cost structure and production constraints, which led to NCSW's focusing on higher margin pharmaceutical, retail and block salt. However, whilst the ability of NCSW to act as a competitive constraint in relation to PDV was to some degree limited by its scale of operation and capacity constraints, the effect of these has varied over time and, overall, has not been such as to prevent NCSW from competing effectively in the relevant market over the past few years.

Effects of the merger

Effect on concentration

5.106 Using the market share information in Appendix C, Table 6 sets out the effect of the merger on the two-firm concentration ratios and HHI values for the relevant market. For illustrative purposes, it also shows the effect of the merger on concentration assuming that there are separate product markets for PDV salt and compacted salt. Table 6 indicates that the relevant market is already highly concentrated, will become

more so after the merger, and, in particular the HHI will increase by 932. If PDV salt and compacted salt are considered separately, the increase in HHI is 1,231 for PDV salt and 207 for compacted salt.

Table 6 **Market concentration after the merger (based on 2004 volumes sold)**

	<i>Market for PDV salt</i>	<i>Market for compacted salt</i>	<i>Market for PDV and compacted salt</i>
British Salt market share pre-merger, per cent	57	24	50
NCSW market share pre-merger, per cent	11	4	9
Combined British Salt and NCSW market share post-merger, per cent	68	28	59
Two-firm concentration ratio pre-merger (British Salt and Salt Union), per cent	83	90	85
Two-firm concentration ratio post-merger (merged firm and Salt Union), per cent	94	94	94
HHI pre-merger	4,062	4,977	3,790
HHI post-merger	5,293	5,184	4,722
Increase in HHI	1,231	207	932

Source: CC analysis of 2004 sales data provided by each party.

Effect on prices

5.107 Although the increase in concentration in the relevant market indicated that the merger potentially raises concerns, it provided no more than a starting point for our assessment of the effect of the merger on competition.

5.108 We considered first whether the merger would be likely to have an effect on prices. The majority of competitors, distributors and customers who provided us with comments expressed few concerns on this score. Most felt that the merger would have little effect on them, largely as a result of the small size of NCSW. However, a few third parties indicated that they were concerned that prices might rise as a direct result of the merger, although some of the concern expressed by these third parties appeared to be over the operation of the market rather than the effects of the merger itself. The relative absence of expressions of concern needs to be interpreted against the fact that salt is very small proportion of the overall cost base for the vast majority of end-users.

- 5.109 In our judgement, a market with the characteristics we identified in paragraph 5.105 is inherently prone to higher prices in the event of a loss of a fringe supplier. At any given level of market prices, the presence of a fringe firm that seeks always to sell its available capacity reduces the combined sales of the core firms (ie the small number of firms that have between them a large share of the market) by an amount equivalent to the fringe capacity. Thus the elimination of such a fringe firm appears to the core firms to be equivalent to an exogenous increase in demand, to which they would be expected to respond by increasing prices.
- 5.110 In this case, the increase in prices is likely to be greater to the extent that NCSW would not have been completely capacity constrained (and could thus have responded to opportunities to increase sales if British Salt and Salt Union increased their prices), the response of imports would be limited, and Salt Union's competitive behaviour would not be altered by the merger so as to increase competition between British Salt and Salt Union.
- 5.111 As we have discussed, British Salt was a competitive constraint on NCSW that was clearly important for NCSW's customers. Whilst we accepted that capacity constraints on NCSW limited to some degree the competitive constraint it placed on British Salt and Salt Union, we found that these were not such as to prevent NCSW from competing effectively in the relevant market. We considered whether, absent the merger, NCSW would have increased its production of pharmaceutical salt and reduced its production of PDV and compacted salt, further reducing its ability, and need, to compete in the relevant market. We were told by NCSW that it had effectively reached the limit on its ability to produce pharmaceutical salt without making a step change to its production processes which could not currently be justified. Therefore we had no reason to expect such a development in the relevant period.

5.112 On the other hand, we perceived a possibility that, absent the merger, a change in strategy or circumstance might lead to changes that would have lessened the capacity limitation on NCSW that existed immediately prior to the merger. For example, any reduction in sales of pharmaceutical salt by NCSW or change in relative prices of different salt products might have caused NCSW to seek to increase the volume of PDV or compacted salt sold. Alternatively, any significant loss of demand from its existing customers might similarly have increased its need to seek new customers. Since we saw that the effect of NCSW's capacity limitation had varied over time, and depended upon product mix, we took the view that a weakening of the effect of this limitation could not be ruled out.

5.113 We considered the barriers that limit the competitive constraint arising from imports in paragraphs 5.63 to 5.70 and we considered the limited competitive constraint offered by distributors in paragraphs 5.71 to 5.77. The ability of Salt Union to respond depends to some extent on its available capacity. Salt Union told us that it could produce an additional [redacted] tonnes of PDV a year without further investment, and an additional [redacted] tonnes of granular compacted salt, [redacted]. Whilst Salt Union told us that it saw some benefit to itself from the merger in that it might perhaps take some of New Cheshire's customers, it thought that the impact would be limited. Nor did British Salt expect to lose many of NCSW's former customers to Salt Union. This lack of intensified competitive behaviour from Salt Union led us to believe that the merger had not changed Salt Union's general competitive stance. In particular, we did not expect that Salt Union would respond aggressively to price rises by the merged entity following the merger.

Effect on service, product choice and innovation

5.114 We considered whether the merger would be likely to lead to a loss of service, product choice or innovation. The majority of those who commented on these

aspects told us that the service levels from both British Salt and NCSW were high, and expressed no concerns; only two third parties considered that the merger would lead to deteriorating levels of service.

5.115 Their differing sizes and business strategies suggested that British Salt and NCSW were under different pressures to innovate, with British Salt facing strong incentives to find innovations that would help it to reduce costs and maintain volumes whereas NCSW faced a particularly strong incentive to find higher-margin products that would enable it to cope with its higher production costs, even where volumes were small. There was also an argument that smaller firms such as NCSW could be more nimble, moving faster to meet changing demands. In this context we noted that the former shareholders of NCSW told us that Harvey Water Softeners chose to approach NCSW rather than British Salt or Salt Union when it was seeking a new supplier to manufacture the salt blocks for its water softeners.

5.116 The former shareholders of NCSW, in giving examples of innovation over the last ten years, pointed to developments in the production of pharmaceutical salt, which they had undertaken in cooperation with customers, and the joint venture with Harvey Water Softeners in compacted salt. British Salt provided details of a series of its innovations involving development of new products—in some cases to meet the specific requirements of individual customers—as well as packaging and palletization innovations and the installation of a fully automated unmanned weighbridge to enable customer loading and unloading 24 hours per day.

5.117 Whilst we did not dismiss the possibility that the removal of a smaller competitor following a different business strategy could lead to some loss of service or innovation, we did not find compelling evidence that would lead us to expect that the

merger would have an adverse effect on service, support or product choice or innovation in this case.

Effect of efficiency gains

5.118 British Salt told us that the merger would enable it to improve its capacity utilization, reduce its production costs and expand its product range as a result of transferring NCSW's production to British Salt's plant. British Salt argued that, as a result, British Salt would be a more effective and efficient competitor.

5.119 Given barriers to market entry and expansion, and little evidence for widespread buyer power amongst customers, we were not able to form an expectation that British Salt's efficiency gains would lead to an increase in rivalry in the relevant market.

Conclusions on the effect of the merger on prices, service, product choice and innovation

5.120 The considerations in paragraphs 5.107 to 5.117 led us to the expectation that the effect of the merger would be to lead to prices being higher than would otherwise have been the case, but not to an expectation of loss of service, product choice or innovation.

Unilateral effects of the merger: SLC

5.121 It was put to us by the former shareholders of NCSW that 'even if [the removal of NCSW's competition within the UK salt market] led to some lessening of competition, [it] could not be said to lead to a substantial lessening of competition'²⁸. The former shareholders also suggested that 'the competitive impact of NCSW on the UK salt

²⁸Page 10 of the Submission of the Former Shareholders of New Cheshire Salt Works Limited dated 17 June 2005.

market would—on a forward looking basis—be expected to diminish over time and would certainly be less than its current market share would otherwise suggest’.²⁹

5.122 Our judgement on whether a loss of competition is an SLC must be taken in the context of the relevant market. In this case, that means in the context of our assessment of the high concentration in the market for the supply of PDV and compacted salt in Great Britain or the UK and the Republic of Ireland, the limited competitive constraints imposed by imports and distributors, the limited number of alternative UK manufacturers from whom customers can obtain supplies and evidence of inertia amongst customers. Given these factors, the relevant market, in our view, was one in which competitive forces appeared muted. We considered that, in such circumstances, the loss of a relatively small competitor might result or be expected to result in an SLC.

5.123 We then considered whether there were features of the market or acquisition that would lead us to the view that the lessening of competition we identified would not result or be expected to result in an SLC.

5.124 For the reasons given in paragraphs 5.83 to 5.88 and paragraphs 5.111 to 5.112, we did not believe that the constraints arising from NCSW’s scale and capacity limitations provided sufficient basis for such a judgement.

5.125 We next considered whether the issues identified in paragraph 5.4 might form the basis for such a judgement. When considering the counterfactual, we found that, whilst some of these issues (eg subsidence) were clearly becoming of increasing concern, they were not so pressing (separately or together) as to be likely to prevent the former shareholders pursuing their plans and continuing to operate within the

²⁹Ibid.

period relevant to our inquiry. The question we then considered, therefore, was whether, whilst continuing to operate, its ability to compete would have been so weakened that its continuing operation would have become insignificant, and increasingly so, in competition terms over that period (as suggested by the former shareholders of NCSW).

5.126 The effect of some of the issues identified by British Salt and the former shareholders of NCSW, such as rising energy prices, changes in NCSW's costs in relation to the climate change levy and increased costs of waste disposal, would primarily be to potentially affect the financial position of NCSW adversely (although, as previously discussed, there may be factors—such as price increases and NCSW's commercial response to these issues—that could lessen their impact). If realized, some of these issues might reduce or eliminate the future profitability of NCSW and may ultimately threaten its long-term viability. However, we believed that, provided NCSW continued to operate, these issues would not reduce the extent to which NCSW provided a competitive constraint on other manufacturers. In this context, we noted that the data in Table 4 above shows that NCSW competed to win new customers in greater numbers in 2002, when its financial performance was weak, than in the subsequent two years. It appeared to us that, so long as NCSW continued to operate, it would need to continue to seek to sell its full production capacity, and its incentives to do so would not be diminished by increases in its marginal costs, provided these remained below achievable prices. On this basis we concluded that the issues faced by NCSW were not such as to so weaken the competitive constraint provided by NCSW as would lead us to judge that the lessening of competition identified above would not result or be expected to result in an SLC.

5.127 We concluded, therefore, that the merger may be expected to result in an SLC on the basis of unilateral effects leading us to expect that prices in the relevant market would be higher than would otherwise be the case.

Coordinated effects

5.128 In line with our guidance, and given the nature of some of the evidence, we considered whether the merger would maintain or exacerbate any existing coordinated effects or increase the likelihood of coordinated effects in the relevant market (the market for the supply of PDV and compacted salt in Great Britain or the UK and the Republic of Ireland). In the analysis of unilateral effects, we noted features of the market that might indicate that the conditions necessary for coordinated effects were satisfied. These included, for example, the high level of market concentration pre- and post-merger (paragraphs 5.38 and 5.106); the high level of excess capacity in the market (paragraph 5.40 and Appendix E); the existence of high entry barriers, switching costs and customer inertia (paragraphs 5.53 to 5.62); and stable market shares over time (Appendix E). However, having found that we expected the merger to have unilateral effects (specifically, a loss of effective competition in a market characterized by muted competitive forces as a result of high concentration, limited competitive constraints from other sources and high customer inertia), we did not pursue the issue of coordinated effects further.

6. Provisional findings

6.1 On the basis of paragraph 5.120 we expect that the acquisition of NCSW by British Salt will lead to prices being higher than would otherwise be the case in the market for the supply of PDV and compacted salt in Great Britain or the UK and the Republic of Ireland. On the basis of paragraph 5.127 we find that the acquisition of NCSW by British Salt may be expected to result in an SLC in that market.