

# **BRITISH SALT LIMITED**

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**MAIN SUBMISSION TO THE  
COMPETITION COMMISSION CONCERNING  
THE COMPLETED ACQUISITION OF  
NEW CHESHIRE SALT WORKS LIMITED**

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**NON-CONFIDENTIAL VERSION**

July 11, 2005

**CLEARY GOTTLIB STEEN & HAMILTON LLP**

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This Submission relates to the completed acquisition by British Salt Limited (“British Salt”) of the entire issued share capital of New Cheshire Salt Works Limited (“NCSW”) (the “Transaction”).

**I. OVERVIEW**

The production and supply of white salt in the U.K. is characterised by significant excess capacity, increasing production costs, declining demand, increasing imports and falling prices.

- **Increased Excess Capacity.** Between 1999 and 2004, the capacity utilisation of British Salt fell from 74% (based on a nameplate capacity of 825,000 tonnes and annual production of 611,000 tonnes), to less than 63% (with production of 519,000 tonnes). By 2004, the *excess production capacity* of each of British Salt’s main competitors was significantly greater than the *total production volume* of NCSW: more than eight times greater in the case of ESCO; more than six times greater at Salt Union; and three times greater for Akzo. By contrast, NCSW is capacity constrained at just 80,000 tonnes of production per year. As a result of various environmental restrictions discussed below, it has no ability to raise its production capacity or production volume, while all other producers would be able, at short notice, to increase production to meet additional demand from the U.K. were market circumstances to justify such an increase.
- **Increased Production Costs.** The main input cost in the production of white salt is energy. In the case of British Salt, which uses around [ ] therms of gas per tonne of salt produced, energy price rises resulted, between 2001 and 2005, in a production cost increase of around [ ] per tonne. NCSW’s smaller and less efficient production process gives rise to energy usage of [ ] therms per tonne, equivalent to a production cost increase over the same period of [ ] per tonne. By way of illustration, this translates into a full production cost<sup>1</sup> for bulk pure dried vacuum (“PDV”) salt of [ ] for British Salt and [ ] for NCSW. The marginal costs of production for bulk PDV are [ ] per tonne for British Salt, and [ ] per tonne for NCSW. Such cost disadvantages inevitably inhibit the ability of NCSW to compete effectively with the larger volume Continental and U.K. producers, particularly in the commodity market segments.
- **Reduced Demand.** Between 2000 and 2004, total U.K. consumption of white salt fell from 1,184,000 tonnes to 1,027,000 tonnes (*i.e.*, a reduction in demand of

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<sup>1</sup> Full production costs include the cost of gas, chemicals, water and electricity, as well as the costs of maintenance, labour and overheads.

13.3%). This downward trend is expected to continue going forward: the announced closure, for example, of the Sandbach chlorine plant of Albion Inorganic Chemicals will result in a further demand reduction from November 2005 of around 110,000 tonnes per year, equivalent to a market contraction of 11.5%. In addition, the Food Standards Agency has a target to reduce the salt intake of the U.K. population by 30% within the next five years. This will equate to approximately a further 11% reduction in demand.

- **Increased Imports.** Against this backdrop of declining domestic demand, the U.K. has seen a significant increase in recent years in competition from imported salt products, as northern European producers, including ESCO, Akzo and Salins du Midi, have responded to reduced demand in their domestic markets by increasing their export activity. In 2000, imports of white salt products accounted for 11.6% of total U.K. sales. This figure had risen to 16.5% by 2004, representing an increase relative to total U.K. demand of 42.2%.
- **Reduced Prices.** All market sectors have witnessed strong downward pressure on prices. Between 1996 and 2004, British Salt's average realised prices for the sale of white salt dropped by over 30% in real terms. Within this period, British Salt's average realised prices for undried vacuum ("UV") salt fell by 22.3% (56.6% in real terms). The equivalent figure for bulk PDV salt was 7.6% (31.6% in real terms) and, for bagged PDV, 13.5% (40.5% in real terms). For compacted and granular products, British Salt's averaged realised price decline was 8.7% (33.2% in real terms).

British Salt and NCSW have each responded to this general decline in U.K. white salt sales by adopting divergent commercial strategies.

- **British Salt.** British Salt, as a high volume producer of commodity salt products, has focused on its export sales of PDV and compacted products. Between 2000 and 2004, British Salt's PDV export volumes increased by 50.3% (compared with a more modest 11.6% increase for NCSW). In the same period, British Salt's export volumes of compacted salt products rose by 47.7% (as against a 43.1% decline for NCSW).
- **NCSW.** Recognising its increasing inability to compete effectively in the sale of these higher volume, commodity products, NCSW has sought instead to diversify its product range by developing higher value, niche product ranges, most notably block salt (through a joint venture with Harvey Softeners Limited), and pharmaceutical salt. Pharmaceutical sales, in particular, have witnessed dramatic growth, both domestically and internationally, with an overall sales increase between 2000 and 2004 of 178.8% by volume.

As a result of these differentiated commercial strategies, there is today only a very limited commercial dynamic between British Salt and NCSW. Of a total combined 2004 customer base of 1,624, only six customers switched their supply volumes from British Salt to NCSW between 2003 and 2004, accounting for just 0.4% of British Salt's total U.K. sales volume. In the same period, nine customers switched from NCSW to British Salt, representing around 6% of NCSW's total sales volume.

The Transaction will enable British Salt [ ] to [ ] reduce production costs and expand its product range, rendering British Salt a more effective and efficient competitor. While securing these efficiency benefits, the completed acquisition by British Salt of NCSW will have no competitive impact on the supply of white salt within the U.K.:

- The competitive parameters within which British Salt operates are determined by the volatile market conditions that have existed for a number of years, and are expected to continue for the foreseeable future;
- Within the U.K., the principal competitive dynamic is between British Salt and its closest direct competitor, Salt Union. Both companies face significant and increasing competition from overseas manufacturers, both through direct sales to end-users and indirect sales through the scores of dedicated salt, and independent chemical, distributors that operate in the U.K. The varying business models, cost structures and market profiles of each of these players, in addition to the prevailing market conditions described above, preclude any prospect of co-ordinated behaviour.
- NCSW is in no way core to this competitive dynamic. The competitive structure of white salt supply within the U.K. can therefore be expected to remain unchanged post-merger.

## II. THE PARTIES AND THE TRANSACTION

### A. The Parties

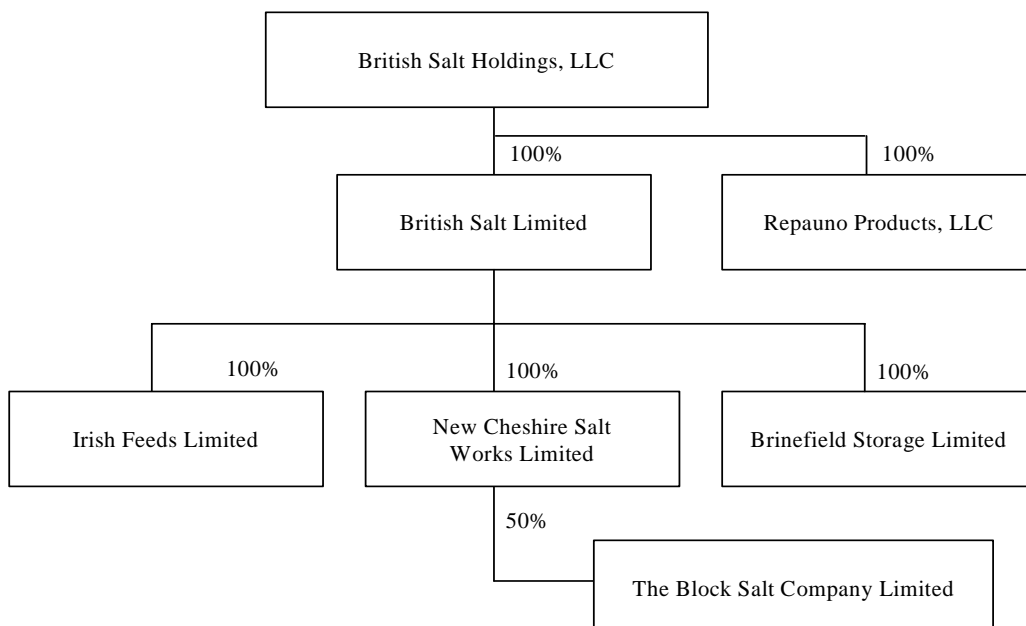
British Salt Holdings LLC is the parent company of a group comprising the following undertakings:

- British Salt Limited, a U.K.-incorporated company active in the manufacture and sale of a range of vacuum salt products;
- Repauno Products, LLC, a Delaware-registered company active in the manufacture and sale of sodium nitrite and nitrosylsulfuric acid;
- Irish Feeds Limited, a U.K.-incorporated company active primarily as a distributor of British Salt products in Northern Ireland and the Irish Republic. The company also stores and distributes products for the animal feeds industry; and
- Brinefield Storage Limited, a U.K.-incorporated company that is currently dormant.

Prior to its acquisition by British Salt, NCSW was a family-owned business, active primarily in the manufacture and sale of value-added vacuum salt products, including pharmaceutical salt, retail salt and block salt. NCSW has a 50% interest in The Block Salt Company Limited (“The Block Salt Company”), a joint venture with Harvey Softeners Limited (“Harvey Softeners”). The Block Salt Company has no direct trading activity, but purchases salt blocks from NCSW for sale to Harvey Softeners, which is in turn solely responsible for the commercialisation of the manufactured product.

The post-merger structure of the combined group is illustrated at **Figure 1** below.

**Figure 1: Post-Merger Corporate Structure Chart**



**B. Transaction Structure**

The Transaction was conducted by way of a general offer to all shareholders of NCSW, and was completed on February 24, 2005. [ ]

### III. PRODUCTION PROCESSES AND APPLICATIONS

#### A. Production Processes

Common salt, or sodium chloride, is a naturally occurring substance. It is found both in solid form as rock salt (halite), and in liquid form (brine) in inland lakes, groundwaters and springs. It is also one of the main constituents of seawater.

There are three basic methods of salt recovery:

- **Dry mining**, whereby the rock is cut from underground salt deposits using standard “room and pillar” techniques. It is then transported via conveyor belts and hoisted to the surface where it is processed (*i.e.*, it is milled and sieved to produce the required grain size). Additives such as anti-caking agents, iodine and fluoride may also be added.
- **Solar evaporation**, involving the supply of brine to a large, flat basin, or “sea garden”, where the water is evaporated by the sun and wind, leaving a salt precipitate that is gathered, dried and further processed.
- **Solution mining**, in which fresh water is forced through a bore-hole into the salt deposit to dissolve the salt. The resulting brine is then pumped to the surface for recovery and processing.

Both British Salt and NCSW manufacture vacuum salt in the U.K. using the solution mining method. In the case of British Salt, it operates a controlled brinefield. This method involves the development of underground cavities to the required shape and size within the rock salt strata. These cavities can then be used to dispose of the by-products created during the solution mining process or, increasingly, for gas and oil storage. NCSW, by contrast, employs a system of wild brine pumping to extract brine from underground streams. The voids left by this process may result in ground subsidence, often remotely from the point of abstraction. As a result, this method of brine extraction has largely been abandoned throughout Europe.

In either case, the brine solution is purified to remove unwanted magnesium and calcium compounds and transported by pipeline to an evaporation plant. As the brine is boiled, salt crystals settle to the bottom of the evaporator. This “magma” (*i.e.*, salt crystals suspended in saturated brine) is continually drawn from each evaporator and allowed to settle and thicken. It is then dried in a centrifuge to remove most of the liquid, leaving undried vacuum (“UV”) salt.

UV salt is the basic feedstock for all vacuum salt production. UV salt contains 2-3% water and may be stored in bulk for supply to the chemical industry for use in the production of chlorine and caustic soda, or may be dried, sieved and graded for supply to the food and allied industries. British Salt supplies almost 30% of its production as UV salt. NCSW, however, processes all of its UV production for supply as PDV, compacted or pharmaceutical salt.

UV salt can be further dried to produce PDV salt. PDV contains less than 0.1% moisture and, as such, is free-flowing. PDV can be physically graded using industrial sieves.

Products with particular size distributions are produced to meet a wide range of customer applications, from food to chemicals.

PDV salt can be further processed by “compaction” into individual tablets, briquettes or salt chips for use in water softening applications. Both British Salt and NCSW are active in this added-value segment.

Since UV, PDV and compacted salt represent subsequent stages in the vacuum salt production process, all vacuum salt manufacturers will typically have the ability to produce and sell UV, PDV and compacted salt, and will balance production and sales between the three.

## **B. End-Use Applications**

The raw salt resulting from each of the above production processes (*i.e.*, rock salt from dry mining, solar salt from solar evaporation, and vacuum salt from solution mining) differs in shape, hardness, grade and purity. Vacuum salt is the purest, being 99.8% pure. Solar salt is 98-99% pure, while white rock salt is 96% pure.<sup>2</sup> Each salt type has therefore to be further processed in order to be suitable for most end-use applications. The required grain size, for example, is defined by the desired dissolving speed, with smaller particles dissolving more quickly. Dissolving qualities play a role in water softening, dishwasher salt and food processing. The methods for meeting grain size requirements differ according to the purpose and type of salt:

- **Rock salt** necessitates pre-crushing, grinding, screening and separating of grains in various fractions; and
- **Solar salt** and **vacuum salt** are already very fine in their raw state. To achieve larger grain sizes, the salt must therefore be pressed or compacted.

In its decision of January 10, 2003, approving the combination of the salt businesses of K+S and Solvay, the European Commission observed that the “*requirements for the different applications can be met by all three types of salt which can consequently be used interchangeably to a large extent.*”<sup>3</sup> That substitutability was also recognised by the then Monopolies and Mergers Commission in its 1986 White Salt Report.<sup>4</sup>

The only exception to that general substitutability noted by the European Commission was in pharmaceutical applications, which require a particularly high level of

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<sup>2</sup> Throughout this Submission, references to rock salt are to white rock salt only. While Salt Union is a major U.K. operator of dry mines, the resulting rock salt is brown in colour and is used primarily for de-icing. It is not therefore considered substitutable with the vacuum salt produced by British Salt and NCSW, and is excluded from the production and sales data presented in this Submission.

<sup>3</sup> Case COMP/M.2176, *K+S/Solvay/JV*, at paragraph 15.

<sup>4</sup> Cmnd. 9778, “*White Salt: A Report on the supply of White Salt in the United Kingdom by producers of such salt*”, June 1986 (the “MMC Report”). See, for instance, paragraph 5.44: “*Imported white rock salt ...has a higher level of purity than that of United Kingdom rock salt and thus in some cases can be used as a direct substitute for UV, PDV and granular salt.*”

purity (99.9%) that can be achieved only by vacuum salt. Pharmaceutical applications, however, account for only around 0.2% of European total consumption.

**Table 1** below provides an overview of the various applications in which salt is used, and the percentage use of the different salt types in each application.

**Table 1: European End-Use Applications By Salt Type**

Application	Total Volume		Rock Salt (%)	Solar Salt (%)	Vacuum Salt (%)
	Tonnes	%			
<b>De-icing</b>	<b>5,000,000</b>	<b>24</b>	<b>70</b>	<b>20</b>	<b>10</b>
<b>Non de-icing</b>					
- Food processing	1,907,000	9	15	40	45
- Table salt	802,500	3.8	15	40	45
- Water softening	728,500	3.4	10	20	70
- Dishwashing	196,900	0.9	10	20	70
- Pharmaceutical	36,600	0.2	0	0	100
- Industrial and technical	3,442,000	16	45	35	20
- Chlorine	8,934,000	43	28	14	58
<b>Total non-de-icing</b>	<b>16,000,000</b>	<b>76</b>	<b>28</b>	<b>23</b>	<b>49</b>
<b>Total White Salt</b>	<b>21,000,000</b>	<b>100</b>	<b>39</b>	<b>24</b>	<b>37</b>

Source: European Commission.

Of total annual salt consumption in the European Union of approximately 21 million tonnes, 24% (5 million tonnes) is used for the de-icing of highways. The salt used for that purpose is generally low-grade rock salt, or soiled solar or vacuum product.

The majority of salt usage (76%, or 16 million tonnes) is in non-de-icing applications:

- The largest users are in the chemical industry, where salt is employed mainly in the production of chlorine, caustic soda and sodium hypochlorite.
- It is also traditionally used as a fixing agent, process chemical and preservative in industries such as textiles, and hide and skin.
- Food processing accounts for significant usage, both as an ingredient in dairy products, snacks and convenience foods, and re-packaged for table use.
- Residential and commercial customers use salt as a water softener to enhance the quality of their water supply.
- Salt is also an essential mineral supplement for animal feeds and licks.

As demonstrated by **Table 1** above, rock salt (particularly white rock salt), solar salt and vacuum salt are substitutable in each of these primary applications. For the purpose of the current inquiry, British Salt therefore considers it appropriate to identify a single U.K.

market for the supply of white salt, comprising vacuum salt, white rock salt and solar salt. The only exception to this general rule is the production of pharmaceutical salt. Given the high degree of purity required for pharmaceutical applications, a designated production and packaging facility is required. There are also significant reputational and regulatory barriers to entry. In these circumstances, British Salt considers that a distinct product market can be identified for this product that is at least EEA-wide.

#### IV. MARKET CHARACTERISTICS

As described in Section I above, the production and supply of white salt in the U.K. is characterised by significant excess capacity, increasing production costs, declining demand, increasing imports and falling prices. Each of these market characteristics is considered in detail below.

- **Excess Capacity.** **Table 2** below sets out British Salt’s best estimates of the vacuum salt production capacity, volume and utilisation of each of the main northern European producers of white salt in 2004. (The estimated production capacities of each of these manufacturers in respect of non-vacuum salt products are described in Section VI below.)

**Table 2: Estimated Production Capacity, Volume and Utilisation of the Main Northern European Producers of Vacuum Salt in 2004**

<b>Company</b>	<b>Vacuum Salt Production Capacity (000 tonnes)</b>	<b>Production Volume (000 tonnes)</b>	<b>Capacity Utilisation (%)</b>
Akzo	4,800	4,570	95.2
ESCO <sup>5</sup>	2,040	1,400	68.6
Salt Union	1,000	480	48.0
British Salt	825	519	62.9
Salins du Midi <sup>6</sup>	600	570	95.0
NCSW	80	77	96.3
<b>Total</b>	<b>9,345</b>	<b>7,616</b>	<b>81.5</b>

Source: *British Salt Best Estimates.*

In 2004, British Salt and NCSW together accounted for just 9.7% of northern European production capacity, and for 7.8% of production volume. Akzo and ESCO were the largest northern European salt manufacturers by a significant margin, together accounting for around 75% of both production capacity and volume. Each of these manufacturers, as well as the competing U.K. manufacturer, Salt Union, has available *excess production capacity* that exceeds by a significant margin the *total production volume* of NCSW: the excess production capacity of ESCO (640,000 tonnes) is eight times the annual production volume of NCSW (77,000 tonnes); Salt Union’s excess production capacity (520,000 tonnes) is more than six times that of NCSW’s production volume; and the excess capacity of Akzo (230,000 tonnes) is almost three times greater than NCSW’s annual production volume. Each of these manufacturers would be able, at short notice, to increase production to meet additional demand from the U.K. were market circumstances to justify such an increase.

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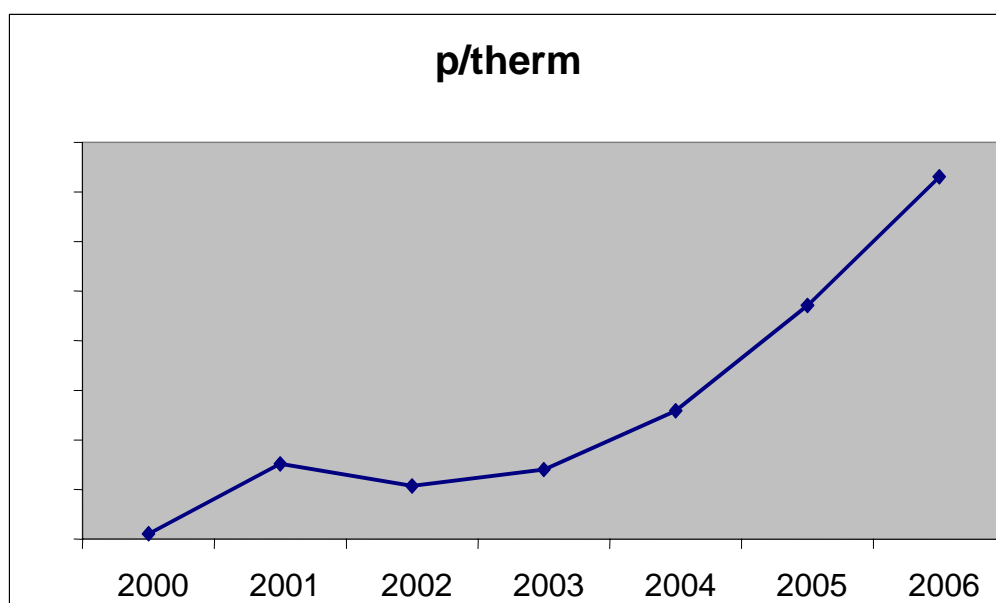
<sup>5</sup> ESCO also has the capacity to produce more than 5 million tonnes of white rock salt per annum.

<sup>6</sup> Salins du Midi also has the additional capacity to produce more than 3 million tonnes per year of solar salt.

Indeed, the only northern European manufacturer that is significantly capacity constrained is NCSW, which operates at around 96% capacity utilisation. As described in Section V below, as a result of environmental restrictions imposed upon it by reason of its brine extraction method, NCSW has limited, if any, scope to increase its production volumes in response to increased market demand.

- **Production Costs.** Both British Salt and NCSW operate combined heat and power (“CHP”) facilities, whereby the gas used in the production process is used to provide all or a part of the electricity and thermal energy output to the plant. This is achieved at an overall energy efficiency that is greater than could be achieved if the electricity and thermal energy were being provided separately. Energy costs remain, however, the most significant cost element incurred in the production of vacuum salt. In the case of British Salt, this represents more than 60% of its materials cost base.
  - **Gas and Electricity.** Gas is the primary energy source used by both British Salt and NCSW in the brine evaporation process. As illustrated at **Figure 2** below, the gas costs of British Salt have increased from around [ ] pence per therm in 2001, to a year-to-date price in 2005 of [ ] pence per therm.<sup>7</sup>

**Figure 2: Price per Therm of Gas Paid by British Salt, 2000 – 2006 (forecast)**



In the production of a tonne of salt, British Salt uses approximately [ ] therms of gas. This would imply an increase in production costs

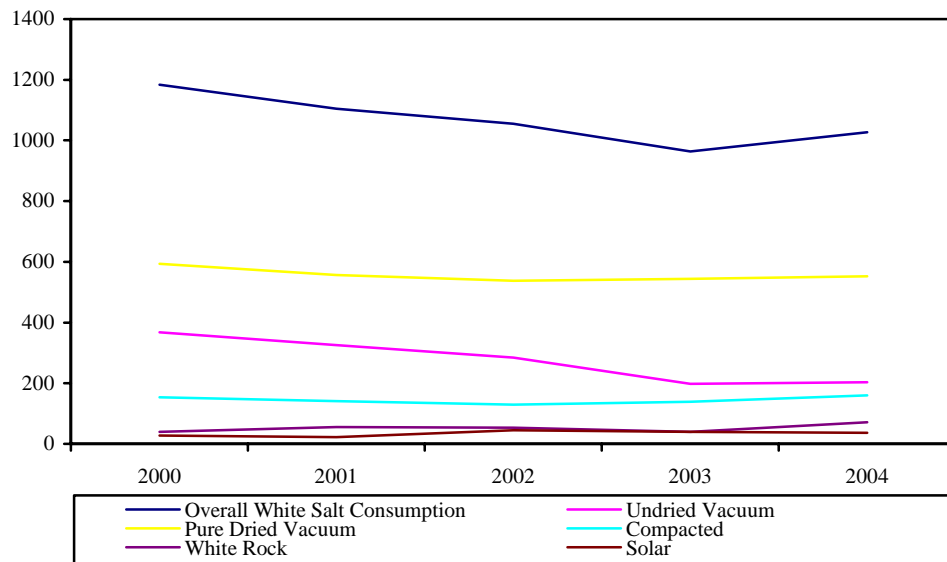
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<sup>7</sup> Such increases are common to U.K. industrial users. See, for example, the Update to OFGEM’s Gas Probe Findings of January 1, 2005, which reported that gas prices payable by U.K. industrial customers had risen in excess of 40% between October 2002 and October 2003.

attributable to gas price rises of around [ ] per tonne of salt between 2001 and 2005. With its smaller scale of production, the effect of increased gas prices has been and will continue to be more acute in respect of NCSW. NCSW uses [ ] therms of gas in the production of each tonne of salt, implying an increase in production costs of [ ] per tonne of salt between 2001 and 2005.<sup>8</sup> This significant cost disadvantage is a function of the limited production scale of NCSW<sup>9</sup>, and inevitably inhibits the ability of NCSW to compete effectively with the larger volume Continental and U.K. producers, particularly in the commodity market segments.

- **Soda Ash and Lime.** Once brine is extracted, it is subject to initial purification. Soda ash and lime are used in this purification process. The increases in energy costs discussed above have caused the price of soda ash to climb sharply, rising approximately 12% over the course of 2004. British Salt forecasts that soda ash prices will continue to increase through 2005. British Salt estimates that the price of lime has also risen by over 10% in the course of the last year.
- **Reduced Demand.** The U.K. salt industry is suffering from declining demand. This is illustrated in **Figure 3** below, which demonstrates the reduction in U.K. salt consumption, by product category, between 2000 and 2004.

**Figure 3: Overall Salt Consumption In The U.K., 2000-2004**



<sup>8</sup> This is based on forward market purchasing. In the event that British Gas or NCSW were to purchase at the current index price, the price per therm is [ ] pence in 2005, and [ ] pence for 2006.

<sup>9</sup> In 2001-2002, DEFRA's consultants advising on energy efficiency in industry, the Energy Technology Support Unit ("ETSU"), confirmed that NCSW's plant was operating as efficiently as possible given its size.

In 2000, total U.K. consumption of white salt amounted to 1,184,000 tonnes. By the end of 2004, consumption had fallen by 157,000 tonnes to 1,027,000 tonnes, representing a reduction in demand of 13.3%. While UV salt has seen the largest reduction (a fall of 44.8%),<sup>10</sup> demand for PDV salt has fallen by 6.9%. Moreover, the decline for PDV salt is set to continue over the coming years owing to the lessening demand for salt from the food sector. In order to address health concerns, particularly regarding rising levels of cardiovascular disease, the U.K. Government has undertaken to reduce public salt consumption by 30% within the next five years.<sup>11</sup> The food industry has indicated that it will cut levels of salt in consumer products in line with these targets. Further, it is likely that the reduction in public salt consumption will be greater than that targeted by the U.K. Government as consumers are made more aware of the perceived dangers of excess salt consumption.

- **Increased Imports.** As demonstrated at **Table 3** below, absolute volumes of imported product have seen a significant increase in the last five years, rising from 137,000 tonnes in 2000 to 169,000 tonnes in 2004 (a rise of 23.4%). That increase is yet more striking considered against the overall decline in U.K. demand for white salt, which has fallen by 13.3% in the same period. Relative to total U.K. consumption, imports of white salt have increased by 42.2% in the last five years.

**Table 3: Total Supply of Domestic and Imported White Salt Products, 2000-2004**

	U.K. Producers		Imports		Total
	Volume (000 tonnes)	%	Volume (000 tonnes)	%	
2000	1,047	88.4	137	11.6	1,184
2001	965	87.3	140	12.7	1,105
2002	912	86.4	143	13.6	1,055

<sup>10</sup> There has been a significant decline in UV salt demand in recent years, particularly in light of the closure of a number of chlor-alkali plants. This includes the closure of Rhodia Chemical's chlor-alkali plant at Staveley, which was announced in December 2004, leading to an additional reduction in UV salt demand of around 45,000 tonnes per annum. The further closure of Albion Inorganic Chemicals' Sandbach plant in November 2005 will remove a further 110,000 tonnes of UV salt demand.

<sup>11</sup> The Food Standards Agency recently adopted targets for salt reduction originally proposed by the Committee on Medical Aspects of Food and Nutrition Policy in 1994. These targets seek a reduction in adult salt intake from 10g to 6g a day by 2010, with an interim target of a 10% reduction by 2005/6. Dietary targets have also been set for children following recommendations in 2003. See [www.salt.gov.uk](http://www.salt.gov.uk).

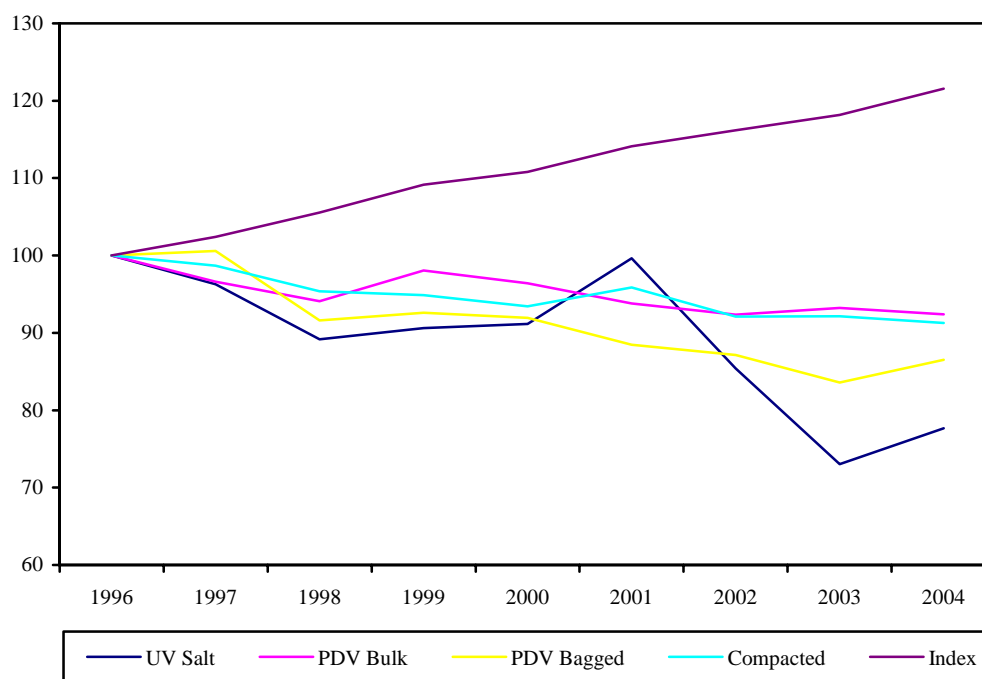
	U.K. Producers		Imports		Total
	Volume (000 tonnes)	%	Volume (000 tonnes)	%	
2003	838	86.9	126	13.1	964
2004	858	83.5	169	16.5	1,027
% Variation 2000/2004		-5.5%		+23.4%	-13.3%

Source: HMCE SATU and British Salt best estimates.

British Salt is of the opinion that import volumes, as a proportion of total U.K. white sales, will continue to increase for the foreseeable future, as the large overseas salt producers, in response to declining demand in their domestic markets, increasingly look to export markets, including the U.K., to utilise their excess capacity. This potential for increased imports will be further supported as the costs of U.K. manufacturers increase at a rate greater than those of Continental manufacturers, primarily as a result of the differential in energy costs.

- Reduced Prices.** The above-mentioned market trends have resulted in significant price erosion in recent years, as illustrated at **Figure 4** below, which shows the relative movement in British Salt's average realised prices, by vacuum salt type, between 1996 and 2004. **Figure 4** also illustrates the price movement that would have occurred had British Salt's prices increased each year in line with the retail prices index.

**Figure 4: Indexation of British Salt's Average Realised Prices, 1996-2004**



- **UV Salt.** Between 1996 and 2004, the average price realised by British Salt for UV salt fell from [ ] per tonne to [ ] per tonne, a decline of 22.3%. In real terms, that is equivalent to a price reduction of 56.6%.
- **PDV Salt.** In the same period, the average realised price of bulk PDV fell by 7.6%, from [ ] to [ ] per tonne (equivalent to a real price decline of 31.6%). In the same period, the average price per tonne of bagged PDV fell from [ ] to [ ], a reduction of 13.5% (or 40.5% in real terms).
- **Compacted Salt.** The average price per tonne realised by British Salt fell by 8.7%, from [ ] per tonne in 1996 to [ ] per tonne in 2004. In real terms, that equates to a price reduction of 33.2%.

## V. TRANSACTION RATIONALE

For British Salt, the Transaction represents an opportunity to [ ] lower its marginal costs of production, while at the same time reducing its traditional reliance on high volume, commodity products by diversifying into higher value, niche product areas with demonstrated growth potential. More specifically:

- **[Sales Volume.]** Limited opportunities exist for British Salt to increase its current U.K. sales volume through organic growth. [ ] By achieving further production efficiencies, British Salt will be better placed to compete in an increasingly international marketplace.
- **Cost Savings.** [ ] The Transaction will enable British Salt to realise material procurement savings by combining purchasing volumes with common suppliers.
- **Diversification.** The Transaction will allow British Salt to diversify its product range by entering new markets where it is not currently active (*e.g.*, pharmaceutical salt, and salt for retail packs), and at a rate that would not be possible through purely organic growth. In the pharmaceutical sector, in particular, NCSW has spent several years developing its brand position and reputation with its customer base, and significant time and investment by British Salt would be required to develop a competing product offer. By enabling British Salt to broaden its product mix and develop higher value-added products, it will be able to mitigate to some degree the anticipated reduction in salt demand from the chemical, food and other sectors. Value-added products, such as pharmaceutical salt, have long been a part of the product ranges of European salt manufacturers, and are a logical line extension for British Salt.

By contrast, the sale of NCSW by its previous shareholders represents the conclusion of a long-held exit strategy. As production costs have increased in recent years, NCSW has become an increasingly ineffective competitor in the manufacture and supply of commodity salt products. While its diversification into higher value segments has provided some short-term relief for the business, its viability beyond the short-term continues to be threatened by a range of environmental concerns that are specific to the NCSW business:

- **No Possibility to Increase Production Volumes.** There is no possibility of expanding NCSW's production volumes since NCSW does not have access to a controlled brine supply. As explained above, whereas most European salt manufacturers obtain their brine supply through controlled brine extraction, NCSW obtains its brine from the "wet" rock-head by "wild" or "natural" brine pumping. [T]his method of brine pumping [ ] is now prohibited in almost all EU Member States. For this reason, the relevant local planning authority, Cheshire County Council, opposes the extraction of salt by this method. The 1999 Cheshire Replacement Minerals Local Plan states expressly that the authority "*will not permit further applications for the winning and working of brine by natural brine pumping.*" In practice, this means that any significant expansion of the NCSW business would likewise not be permitted. Access to rock which allows controlled pumping is not available. The geology of Wincham, where NCSW is located, would not support a controlled brine field,

and the capital cost of developing such a brine field elsewhere would be prohibitive.

- **Potential Environmental Liabilities.** At the time of the last planning review in April 1998, the Council made clear that it would not support any expansion of NCSW's natural brine pumping. The authority also took the opportunity of the review to impose conditions on the original planning permission. These conditions required the submission and implementation of a precise levelling survey across land in the Wincham area of Northwich. This involved the installation of monitoring points around NCSW's Wincham site. [ ]
- **Mines Stabilisation Programme.** Vale Royal Borough Council recently initiated a £30 million project, funded by English Partnerships, aimed at stabilising the collapsing salt mines below Northwich. With European Union funding, the authority proposes to pump out the brine from flooded salt mines and fill the cavities with solid material in order to stabilise them. An exercise on this scale has never before been attempted [ ].
- **Climate Change Levy.** The Climate Change Levy ("CCL") is charged on industrial and commercial users of energy in order to stimulate business improvements in energy efficiency.<sup>12</sup> Prior to the introduction of the CCL, NCSW gave detailed evidence to the Select Committee on Trade and Industry, estimating that the CCL would increase its energy costs by 35% and its total costs by 5%.<sup>13</sup> Both British Salt and NCSW currently participate in CCL agreements under which businesses that accept and subsequently meet energy reduction targets receive an 80% levy discount until the year 2013. As a result of its limited scale of production, and its already maximised efficiency, NCSW expects to lose the benefit of the CCL discount within the next two years, thereby increasing still further its already significant cost disadvantage relative to competing manufacturers.
- **Waste Management Licence.** Pursuant to Section 36 of the Environmental Protection Act 1990, a salt manufacturer requires a waste management licence in order to store lime slurry and other by-products on its premises. This licensing requirement is designed to ensure that the waste generated through the salt production process does not cause pollution to the environment, harm to human health or serious detriment to local amenities.

NCSW currently benefits from an exemption from this licensing requirement, since it removes the waste that it generates within a maximum period of 12 months, by selling it on to dairy farmers for soil conditioning. However, with the decline in dairy farming in and around Cheshire, NCSW faces increasing difficulties in removing its waste within this period and, as a result, expects to lose the benefit of the exemption in the future. It appears unlikely that NCSW

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<sup>12</sup> The CCL rate is 0.15 p/kWh for gas, coal and coke, 0.43 p/kWh for electricity and 0.07 p/kWh for LPG.

<sup>13</sup> "ECOTEC Report, Who Gains from the Climate Change Levy?" A Final Report to WWF-UK, September 1999, published by ECOTEC Research and Consulting Ltd, page 8.

would be successful in gaining a waste management licence as the cost of building storage lagoons, or of transporting the waste to a landfill site, would be cost prohibitive.

- **Brine Supply.** In light of the above considerations, the former shareholders of NCSW took the view that, to stand a reasonable prospect of disposing of the business to one of the overseas manufacturers, or to a non-trade buyer, it would be necessary as a minimum to resolve the brine supply issue. The nearest source of controlled brine is the brinefield at Holford, previously owned by ICI and now by Ineos Chlor. A pipeline runs within a short distance of NCSW's plant at Wincham from that brinefield to Runcorn. NCSW had initially discussed the possibility of brine supply from Holford with ICI in the late 1980s. ICI, however, had estimated that it would cost in excess of [ ] to construct a pipeline from there to NCSW. Moreover, the estimated supply price was [ ] per tonne of raw brine. This would have resulted in an increase of about [ ] per tonne in the production cost of salt. That offer was therefore rejected. In around 2000, NCSW revisited this possibility, and contacted Ineos Chlor, which now operated the brinefield following the market exit of ICI. Similar terms were proposed, and again rejected. NCSW therefore approached British Salt to inquire whether it might be able to supply brine. NCSW recognised that the cost of constructing the supply pipeline would necessarily be higher given the longer distance over which the pipeline would need to travel. In the event, the estimated construction cost was around [ ]. This option was also therefore rejected.

In these circumstances, the exit strategy of the previous shareholders was driven by a recognition that, considered on an independent, stand-alone basis, NCSW is a depreciating asset with a finite operating life. NCSW currently operates at full capacity, and has no ability to increase its current production volumes:

- The environmental impact of NCSW's natural brine pumping is such that the local authority "*will not permit any further applications for the winning and working of brine by natural brine pumping*";
- There is no source of controlled brine pumping available to NCSW; and
- NCSW has explored, and rejected, the feasibility of sourcing brine from third party suppliers, including British Salt, as a result of the significant capital cost of constructing a supply pipeline.

There is therefore no realistic prospect that NCSW might emerge as a more effective competitor to British Salt in the future. Rather, its acquisition by British Salt will create a more efficient, lower cost, diversified U.K. salt manufacturer able to compete with the larger European players.

## VI. COMPETITIVE ASSESSMENT

For the reasons described below, the combination of British Salt and NCSW will have no material impact on the competitive conditions for the supply of white salt in the U.K.

- Limited Competitive Dynamic.** First, there is very little existing competitive dynamic between British Salt and NCSW, reflecting the divergent commercial strategies that each company has adopted in response to the challenging U.K. market conditions described above. Of a total combined 2004 customer base of 1,624, only six customers switched their supply volumes from British Salt to NCSW between 2003 and 2004, accounting for just 0.4% of British Salt's total U.K. sales volume. In the same period, nine customers switched from NCSW to British Salt, representing around 6% of NCSW's total sales volume.

In terms of bidding competition, **Table 4** below details the limited interaction between British Salt and NCSW in each of the last two years.

**Table 4: Summary of NCSW Bidding History, 2003 and 2004**

	2004	2003
Pre-existing business/retained	54	62
Pre-existing business/lost to a third party	2	1
Pre-existing business/lost to British Salt	3	1
New tender/won by NCSW from a third party	1	4
New tender/won by NCSW from British Salt	0	2
New tender/lost to a third party	6	12
New tender/lost to British Salt	4	4

*Source: British Salt/NCSW.*

In 2004, NCSW participated in 70 competitive bidding situations, of which 59 related to the business of existing NCSW customers. In 54 cases, NCSW successfully retained its existing customer, losing to British Salt in three cases, and to third party suppliers in two cases. NCSW also participated in a further 11 competitive bids, succeeding in just one case. In no situation in 2004 did NCSW compete for and win a British Salt customer account.

- Complementarity between the activities of British Salt and NCSW.** As described in Section I above, British Salt and NCSW have adopted largely divergent commercial strategies in recent years. As a volume manufacturer of largely commoditised vacuum salt products, British Salt's growth strategy has focused increasingly on export markets. Unable to achieve the scale efficiencies available to the larger manufacturers, and faced with increasingly high production costs, NCSW has sought to develop its business in niche product areas, including pharmaceutical salt, salt blocks, and retail salt. The implementation of this strategy at NCSW is illustrated at **Table 5** below, which details the contribution of each of NCSW's product lines to NCSW's EBITDA in each of the years 2002, 2003 and 2004.

**Table 5: Contribution of NCSW Product Lines to EBITDA, 2002-2004**

	2002	2003	2004
PDV/Compacted	[ ]	[ ]	[ ]
Pharmaceutical	[ ]	[ ]	[ ]
Block	[ ]	[ ]	[ ]
Retail	[ ]	[ ]	[ ]
TOTAL	[ ]	[ ]	[ ]
Less Fixed Costs	[ ]	[ ]	[ ]
EBITDA	[ ]	[ ]	[ ]

Source: NCSW.

As **Table 5** demonstrates, almost the entirety of NCSW's profitability is today derived from the added-value product ranges that it has recently developed, with sales of PDV and compacted product serving only to meet NCSW's fixed costs.

- **Limited Market Share Accretion.** **Table 6** below sets out British Salt's best estimate of the share of U.K. white salt sales of each of the main northern European manufacturers in 2004.<sup>14</sup>

**Table 6: Estimated Market Shares of Each of the Main Suppliers of White Salt Products in the U.K. in 2004**

	Total (1,027,000 tonnes) <sup>15</sup>	UV ([ ] tonnes)	PDV ([ ] tonnes)	Compacted ([ ] tonnes)	Solar ([ ] tonnes)	White Rock ([ ] tonnes)
British Salt	44.3%	[60-65]%	[50-55]%	[20-25]%	-	-
NCSW	6.3%	0.0%	[5-10]%	[5-10]%	-	-
<b>Combined</b>	<b>50.6%</b>	<b>[60-65]%</b>	<b>[60-65]%</b>	<b>[25-30]%</b>	-	-
Salt Union	32.9%	[35-40]%	[30-35]%	[55-60]%	-	-
Akzo Nobel	2.7%	-	[0-5]%	[5-10]%	-	-
ESCO	9.9%	-	[0-5]%	[5-10]%	-	100.0%
Salins du Midi	1.7%	-	[0-5]%	[0-5]%	40.5%	-
Dead Sea Works	1.2%	-	-	-	32.4%	-
Others	1.0%	-	-	-	27.0%	-

Source: British Salt.

The Transaction results in only a modest increase in British Salt's share of white salt sales of 6.3%. Following its acquisition of NCSW, British Salt continues to

<sup>14</sup> These data do not include around 5,000 tonnes of rock salt sold by Cleveland Potash for certain animal feed applications, or certain limited quantities of solar salt sold by The Maldon Crystal Salt Company Limited.

<sup>15</sup> This includes an estimated [ ] tonnes of pharmaceutical salt. Market share estimates for pharmaceutical salt are not available.

be subject to vigorous competition from Salt Union and the other northern European salt manufacturers. There remain at least five other salt manufacturers active in the U.K. post-Transaction.

- **UV Salt.** The UV salt segment is not affected by the Transaction since NCSW is not active in this segment. In the UV sector, from which NCSW is absent, average realised prices have fallen by 22.3% (56.6% in real terms) between 1996 and 2004. It is notable that this greatest price decline has occurred in a segment in which NCSW is not present, demonstrating that these price trends are independent of any competitive constraint from NCSW.
- **PDV Salt.** As regards PDV salt, there will remain five manufacturers active post-Transaction. British Salt accounts for [50-55]% of PDV sales (an increment of [5-10]%), Salt Union for [30-35]%, while imports from ESCO, Akzo Nobel and Salins du Midi account for [5-10]% of sales. Moreover, the white rock salt imported by ESCO, and solar salt imported by Dead Sea Works, are generally used in the same end-use applications as PDV salt. Including these volumes, imports from international suppliers would represent [20-25]% of sales in the U.K. (ESCO accounting for [10-15]%, Salins du Midi for [0-5]%, Akzo for [0-5]%, Dead Sea Works for [0-5]%, and others for [0-5]%), while British Salt and NCSW's combined share would reduce to [50-55]%.
- **Compacted/Granular Salt.** There will remain five players active post-Transaction, with British Salt accounting for [25-30]% of sales combined (an increment of [5-10]%). Salt Union accounts for [55-60]% of compacted salt sales with a brand ("Granular") that is regarded as the strongest in the U.K. Imports of compacted salt from ESCO, Akzo Nobel, and Salins du Midi account for [10-20]% of sales. Moreover, ESCO (with "Axal") and Akzo Nobel (with "Broxo") also have two of the strongest compacted salt brands within Europe. Such limited accretion in share of sales should not raise any competition concern. Moreover, it should be noted that the vast majority of British Salt's sales of compacted salt products in the U.K. is to domestic distributors. These distributors would be able to switch their supply requirements at short notice to any of the major northern European salt suppliers, or to Salt Union.
- **Competitive Constraint from Northern European Manufacturers.** The salt manufacturers in northern Europe are well-resourced companies, with the Continental producers achieving significantly higher revenues from salt sales than British Salt and NCSW.
  - **Salt Union** is British Salt's most direct, U.K.-based competitor, with operations located at Runcorn, Cheshire. Its activities comprise the manufacture of vacuum salt products, as well as the mining and sale of rock salt. Its UV and PDV vacuum salt, which is produced at Weston Point in Cheshire, is sold for a range of applications, including food and industrial applications. It sells vacuum and rock salt for de-icing applications. Salt Union is the only company in the world to make Hydrosoft Granular salt for

use in water softening applications via a unique process patented by the company. The nameplate capacity of its vacuum plant is 1 million tonnes. With sales in over 50 countries worldwide, its 2003 revenues amounted to approximately €64 million.

- **ESCO**, which was formed from the combination of K+S and Solvay in 2002, is by far the largest European salt producer with an overall vacuum salt production capacity more than double that of British Salt and NCSW combined, and considerable capacity to produce white rock salt. K+S acquired sole control over ESCO in 2004, following its purchase of Solvay's 38% stakeholding. ESCO has the capacity to produce, in total across its plants, over 2 million tonnes of vacuum salt and 5.8 million tonnes of rock salt per annum. ESCO's plants include the following in northern Europe: (i) Harlingen (Netherlands) with a production capacity of 1.2 million tonnes of vacuum salt; (ii) Borth (Germany) with a capacity to produce 280,000 tonnes of vacuum salt and 2.5 million tonnes of white rock salt; (iii) Bernburg (Germany) with a production capacity of 250,000 tonnes of vacuum salt and 2.7 million tonnes of white rock salt; (iv) Dombasle (northern France) with a production capacity of 200,000 tonnes of vacuum salt; and (v) Jemeppe (Belgium) with a production capacity of 70,000 tonnes of vacuum salt. In 2003, ESCO's revenues amounted to around €335 million.
- **Akzo** is a Dutch multinational group with interests in a wide range of bulk and speciality chemicals and speciality materials. Its salt interests are focused on Europe and a relatively new business at Onslow, Australia.<sup>16</sup> In 1996, Akzo Nobel sold its salt interests in the United States to Cargill, but in recent years has commenced shipping salt into the United States from its European plants. Akzo Nobel is the largest producer of vacuum salt in mainland Europe and has the capacity to produce approximately 4.8 million tonnes per year, more than five times that of British Salt and NCSW combined. Its production sites, which are all located in northern Europe, are as follows: (i) Hengelo (Netherlands) with a capacity of 2.2 million tonnes; (ii) Delfzijl (Netherlands) with a capacity of 2 million tonnes; and (iii) Mariager (Denmark) with a capacity of 600,000 tonnes. The Hengelo plant is the largest vacuum producing plant in the world. Akzo Nobel's revenues from the sale of salt amounted to approximately €267 million in 2003.
- **Salins du Midi** is the principal salt manufacturer in France. The company owns the only rock salt mine in France for de-icing and produces almost all solar salt manufactured in France. In addition, it has the third largest sales volume of vacuum salt in northern Europe. It has the capacity to produce just over 3 million tonnes per year of solar salt, and 600,000 tonnes of vacuum salt at its Varangéville plant in northern France. In 2003, Salins du Midi achieved total revenues of approximately €335 million.

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<sup>16</sup> Akzo Nobel has announced plans to sell the Australian business.

- **Strong, Independent Distribution Sector.** The U.K. market benefits from a strong, independent distribution sector, which represents a range of U.K. and overseas manufacturers, supplying salt products to both large and small customers.

Distributors operate a different business model to that of the salt manufacturers, and will commonly present themselves to customers as a “one-stop” option, capable of providing the full range of commoditised inputs that the customer may require. By purchasing from a distributor, a customer can mitigate management and haulage costs. By sourcing numerous inputs and feedstocks from a single distributor, customers avoid having to negotiate and maintain multiple sets of supply arrangements. Equally, numerous deliveries of materials, normally of variable value, are replaced by a single delivery, in which salt will be transported with higher-value materials. Salt producers cannot offer the same proposition to their customers.

As a result of distributors’ ability to supply salt as part of a wider product shipment, and of the desire among industrial users to purchase chemical products from a single supplier, an increasing volume of salt product is being handled via distributors. Between 2001 and 2004, the volume of salt sold by British Salt through U.K. distributors rose from [ ] tonnes to [ ] tonnes. This trend is expected to continue, thereby providing a ready route to market for overseas manufacturers seeking increased U.K. market penetration.

- **No Likelihood of Co-ordination between Competing Manufacturers.** At least five competing manufacturers will remain present in the U.K. post-merger, together with a far larger number of specialist and non-specialist distributors. The market structure, and market trends, will continue to ensure that there is no prospect of co-ordination among manufacturers and distributors: most prices are negotiated bilaterally between the customer and manufacturer, or distributor, resulting in an absence of price transparency; demand is generally declining in the commodity sectors, while increasing in the added-value areas; the additional combination of excess capacity, increasing production costs and declining prices adds further volatility to the market operation; and the vastly different business models and cost structures of each of the competing manufacturers and resellers results in a strong asymmetry in market position, and divergent commercial incentives. In these circumstances, there is no likelihood of co-ordinated activity.
- **No Ability or Incentive for NCSW to Price Aggressively.** Within the network of alternative suppliers to British Salt, NCSW is the least credible given its structural capacity constraints, and its lack of excess production capacity. As a result, NCSW has little ability to respond to increased demand from new or existing customers, and no incentive or ability to destabilise the market. In particular, an aggressive pricing strategy by NCSW would produce a negative impact on its margin, since it has little or no ability to increase production in response to greater demand.

## **VII. CONCLUSION**

In the supply of white salt products in the U.K., British Salt and Salt Union are each other's closest competitors. Both face significant and increasing competitive constraints from overseas manufacturers, and in particular from Akzo, ESCO and Salins du Midi. That principal competitive dynamic will be unaffected by the Transaction. Each of these companies supplies white salt products directly to U.K. customers, and is also represented in the U.K. through a range of distributors. As a result, all U.K. customers have access to a competitive range of white salt products available, either directly or through U.K.-based distributors, on short lead times.

Given its capacity constraints, and high production costs relative to those of competing manufacturers, NCSW has sought to diversify its product offer away from the commodity products produced by each of the main northern European manufacturers, and instead focused on niche product segments in which British Salt is not active. NCSW remains, however, subject to significant environmental and other pressures that continue to threaten its viability beyond the short-term.

The Transaction will create a more efficient, lower cost, diversified U.K. salt manufacturer better able to compete in the long-term with the larger European players.

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