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Case No IV/M.337 - KNORR-BREMSE / ALLIED SIGNAL

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REGULATION (EEC) No 4064/89
MERGER PROCEDURE

Article 6(1)(b) NON-OPPOSITION
Date: 15.10.1993

Also available in the CELEX database
Document No 393M0337

Office for Official Publications of the European Communities
L-2985 Luxembourg

COMMISSION
OF THE EUROPEAN
COMMUNITIES

Brussels, 15.10.1993

PUBLIC VERSION

MERGER PROCEDURE -
ARTICLE 6(1) B DECISION

To the notifying parties

Dear Sirs

Subject: Case No. IV/M337 Knorr-Bremse/Allied Signal
Notification of 14.9.1993 pursuant to Article 4 of Council Regulation No 4064/89

1. The above mentioned notification concerns an agreement between Allied Signal Inc (AS) and Knorr-Bremse AG (KB) to set up a worldwide joint venture for the design, development, manufacture, distribution and sale of air brake systems (and certain other related automotive products) for commercial vehicles over 6 tonnes.

2. After examination of the notification, the Commission has concluded that the notified operation falls within the scope of application of Council Regulation No. 4064/89 and does not raise serious doubts as to its compatibility with the common market.

I. THE PARTIES

3. AS is a US conglomerate active in the development, manufacture and distribution of aerospace products, automotive products and engineering materials.

4. KB is a German company active in the development, manufacture and distribution of railway brakes, automotive brakes, foundry products and torsional vibration dampers.

II. THE OPERATION

5. The JV to be established by the parties will operate on a worldwide basis through two legal entities, one based in North America, the other in Europe. The parties will transfer their European air brake businesses (and related products) for commercial vehicles over 6 tonnes to the European JV. AS will transfer its North American air brake business (and related products) for commercial vehicles over 6 tonnes to the North American JV while KB's contribution will consist of cash payment.

III. COMMUNITY DIMENSION

6. The aggregate worldwide turnover of AS and KB in their respective last financial year exceeded 5.000 million Ecus [...][1]. Their respective Community-wide turnover exceeded 250 million Ecus [...][1]. The parties did not achieve more than two thirds of their Community-wide turnover within one and the same Member State. Consequently, the proposed operation has a Community dimension.

IV. CONCENTRATION

Joint Control

7. The JV will operate through two legal entities - the European JV, in which KB will have a 65% equity interest and AS a 35% interest, and the American JV in which KB and AS will have an equity interest of 35% and 65% respectively. Each of the two JV entities will have its own management body, both of which will be composed of the same six members, three nominated by AS and three by KB [...][1].

8. In regard to matters of fundamental importance, defined by the parties as including annual and long-range business plans and strategies, operating and capital budgets, internal organisation and acquisitions and divestitures, a majority of the votes of the two management entities is required. More specifically, at least one of the two voting members nominated by each of the parties must vote with the majority on such matters. In addition, certain important business decisions of one JV entity [...][1] which may affect the interests of the other JV entity will require the agreement of both JV entities.

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[1] Deletion

9. In the light of this, it is concluded that AS and KB will exercise joint control over the JV.

Autonomous economic entity

10. The parents will contribute two existing businesses to the JV, which will thus have the necessary assets (notably manufacturing facilities and distribution network), personnel and expertise to perform on a lasting basis all the functions of an autonomous economic entity.

Absence of risk of coordination

11. KB will completely withdraw from all automotive brake markets in Western Europe by contributing its relevant subsidiaries to the JV. Having withdrawn from these markets and disposed of its plant and expertise, it would make little commercial sense for KB to re-enter the market. AS will contribute to the JV its business involved in the manufacture of air disc braking systems for commercial vehicles over 6 tonnes and the related products of operating cylinders and clutch servos.

12. AS will remain active in the following markets:

    a) hydraulic brake systems for passenger cars and light commercial vehicles (LCV's), and

    b) air drum brakes for medium and heavy trucks.

13. There are two types of brake systems: air and hydraulic. The two systems differ in several respects:

    - technically there is a limit to the braking pressure which can be applied through a hydraulic system which limits their use to vehicles under six tonnes. Almost all vehicles above this weight use air systems;

    - air systems require space for an air compressor and reservoirs which is not usually available in passenger cars and LCV's;

    - hydraulic actuation systems are more than three times cheaper than air systems;

    - hydraulic systems for passenger cars and LCV's are manufacturered in highly automated plants and represent 98% of all automotive brake systems made; the remaining 2% is accounted for by air and air over hydraulic systems for medium and heavy vehicle brakes and are made mostly with non-automated machine tools;

    - air and hydraulic systems within AS are manufactured in separate plants and use different manufacturing equipment, technology, know-how and components. They are also sold through separate distribution and marketing operations to different customers.

On this basis, it is reasonable to consider air and hydraulic systems as separate product markets.

14. Air drum brakes for medium and heavy trucks is a mature product [...][1]. It accounts for a very small percentage of AS production.

15. For these reasons, it is not reasonable to expect that there will be any appreciable risk of coordination between AS and the JV company in relation to brake systems for cars and LCV's and air drum brakes for trucks because of AS's involvement in these markets and the market for air actuation systems for commercial vehicles over 6 tonnes.

16. In addition to the above, KB will transfer to the JV a small amount of business making air over hydraulic brakes for buses. Air over hydraulic brakes are a hybrid system which uses an initial air actuation system but then converts it to a hydraulic system for the final transfer of pressure to a hydraulic foundation brake. This business is small in volume, to be discontined [...][1], and the trend for bus brakes is toward air disc brakes [...][1]. Even if there were substantial overlap between this residual business being transferred to the JV and AS's hydraulic brakes business, the procurement decisions of vehicle manufacturers which make both cars and buses is totally separate and not vulnerable to any coordinated strategy between the JV and AS. In fact, of KB's existing customers for these brakes only one also makes cars and the turnover related to this part of the business is small. There is thus no scope for coordination betwen the JV and AS as regards their production of hydraulic brakes for buses and cars/LCV's respectively.

17. The Commission therefore concludes that the notified operation constitutes a concentration within the meaning of Article 3(2) of the Merger Regulation.

V. ASSESSMENT

Relevant product market

18. The JV's product range will be in the sector of braking systems for commercial vehicles over 6 tonnes. For the reasons outlined earlier in paragraph 13, this means that the actuation systems used for these vehicles are predominantly air, although there is a certain use of air over hydraulic systems and even a very limited and vestigial use of hydraulic systems for trucks between 6 and 7.5 tonnes. Within this overall set of products it is necessary to make the following distinctions:

19. **(i) foundation brakes and actuation systems** - a brake system consists of two parts: the actuation system, which creates and controls the braking power, and the foundation brake, which applies the braking power to the wheel. The two are manufactured separately, largely by different producers, and are purchased

[1] Deletion

separately by vehicle manufacturers. In a previous case (IV/M.149 - Lucas/Eaton), the Commission distinguished actuation systems and foundation brakes as separate markets, and it is also appropriate to do so in this case.

20. **(ii) trucks, buses and trailers** - braking systems for trucks and buses are substantially the same. Trailer systems differ only in that they have fewer components since the compressed air supply for trailers is supplied by the main truck system. The trailer and truck systems must be compatible.

21. **(iii) actuation systems and components of actuation systems** - the parties argue that air actuation systems should be regarded as a single product market on the basis that the competitive conditions for each component in the system do not differ significantly, and that brake system manufacturers focus their marketing effort on the supply of complete systems. It is understood by the Commission that companies with a full system capability discuss and establish with their key truck manufacturing customers yearly turnover targets and overall quotas of that customer's brake business. Based on these overall targets and quotas, prices and quotas are then agreed for individual components such as air dryers, actuators and air compressors. The aim of the brake suppliers is to obtain as large a share of each system as possible.

22. Not all suppliers of components for actuation systems are able to supply the whole system, however, nor do truck manufacturers necessarily buy an entire system from a single supplier. Many, if not most, equip their trucks with hybrid systems built from the components of several different manufacturers, and indeed may source the same part in the same system from more than one supplier.

23. In particular, ABS, is generally considered as an add-on product. In those systems in which it is present it may represent between one third and one half of the overall cost.

24. The Commisssion acknowledges that manufacturers expect component suppliers to have an overall know-how and production capability regarding the air brake system as a whole as well as the capacity to develop and offer complete air brake systems and that in the future manufacturers may move to make their procurement decisions increasingly on the basis of systems. Nonetheless, the Commission considers that since, for the time being at least, sales are made on the basis of components, the relevant product markets are for individual components rather than systems. In any event, the conclusions of the competitive analysis would be unchanged were it to be made on the basis of complete systems.

25. **(iv) OEM and aftermarket sales** - identical JV products are supplied both to original equipment manufacturers (OEMs) and to independent resellers on the independent aftermarket (the IAM). Parts are not specially developed for the aftermarket. OEMs use the JV products for their production of new vehicles and also as replacement parts on the aftermarket (OES). Truck manufacturers can insist on being supplied with replacement parts for OES use on the same terms and conditions as can be obtained for OEM use, at least for the lifetime of a model. As such sales destined for OES use are indistinguishable from OEM sales, they form part of the OEM market rather than a distinct market on their own.

26. Prices of parts sold to independent resellers are much higher than to OEMs [...][1]. The reasons given for the differences include: lower volumes per customer than for OEMs; the requirement for rapid delivery which necessitates stockholding; marketing support; packaging; additional sales personnel and technical training on maintenance and repairs.

27. For these reasons the conditions of competition for OEM/OES sales are different from those for IAM sales, and the two should be considered to be distinct markets.

Related products

28. The JV will also sell a number of "related products": levelling control components, operating cylinders and clutch servos. For the purposes of the present case each of these constitutes a relevant product market. Since in any event the operation does not raise doubts with regard to these products in the common market, there is no need to assess whether they form part of a wider product market.

29. The Commission has thus identified, for the purposes of evaluating this operation the following relevant product markets:

- components for air actuation systems (including ABS) for commercial vehicles over 6 tonnes;
- air foundation braking systems for commercial vehicles over six tonnes;
- levelling control components;
- operating cylinders;
- clutch servos;
- independent aftermarket sales of the above.

Geographic reference market

30. In Lucas/Eaton the Commission concluded that the geographic reference market for braking systems is the Community as a whole. This clearly applies in this case to the OEM/OES products, with each of the parties selling to vehicle manufacturers across the EC. Both parties also sell to at least one EFTA state and the geographic reference market may thus be larger, extending to all of Western Europe. This issue can be let open because the conclusions of the competitive analysis are the same in both cases.

31. The position in respect of the independent aftermarket is more complex. While, as stated above, the market for trucks is at least EC-wide, the distribution chain

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[1] Deletion

for replacement parts appears to be more national with brake system manufacturers frequently having national sales subsidiaries in each of the larger Member States. Whilst there also considerable variations in market shares between Member States, this appears to be primarily due to a tendency to use a replacement part of the same make as the original part. Thus a brake manufacturer's share of the IAM in a particular Member State depends largely on the strength of its historic sales to the principal suppliers of trucks to that country. Accordingly the large variations in the IAM market shares of the parties should not necessarily be interpreted as an indication that IAM markets are national. Moreover, there are no differences in the nature of the product sold in different Member States and there would appear to be no barriers to cross-border purchases. Nonetheless, the geographic extent of the IAM market can be left open since it does not affect the conclusions of the competitive analysis.

Dominance

32. The proposed JV will combine the parties' current activities in air actuation systems, including ABS, for trucks, buses and trailers. In addition, the JV will combine the parties' interests in certain related products. The Commission's analysis is at the level of individual components.

33. **Air compressors -** the JV will have a market share of [...][1] of the EC market for air compressors (valued at around 45 million ECU), thereby taking it ahead of the current market leader, Wabco, which has between [...][1]. The only other player on this market is Grau Bremse whose market share is [...][2] .

34. **Brake actuators** - (valued at around 95 million ECU), the JV will have a market share of [...] [3] and Wabco one of [...][4]. The other players on this market include Bosch with [...][5], Grau Bremse, Neway Anchorlok and MGM Brakes.

35. **Air dryers** - (valued at around 25 million ECU), the JV will have a market share of [...][6] again reinforcing KB's market leadership. Wabco, the next largest player has [...][7], while Haldex, a specialist company, has a share of [...][8] and Bosch [...][9]. Grau Bremse is also active on this market.

36. **ABS -** (valued at around 120 million ECU). AS currently has [...][10] sales although its own system has been undergoing approval by certain manufacturers, so it is likely that it would have entered the market on its own in the near future. The

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[1] Deletion
[2] Deletion - less than 10 %
[3] Deletion - between 30 and 50 %
[4] Deletion - between 30 and 50 %
[5] Deletion - under 20 %
[6] Deletion - between 30 and 50 %
[7] Deletion - between 30 and 50 %
[8] Deletion - below 20 %
[9] Deletion - below 20 %
[10] Deletion - minimal

JV will have a market share of [...][11], thereby remaining well behind Wabco with [...][12] of the market and also behind Bosch with [...][13]. Grau Bremse also operates on this market.

37. On the basis of these figures, the parties' market position for all the abovementioned components, except for ABS, will be strengthened by the JV, and in respect of air compressors and air dryers the JV will be the market leader. However Wabco remains a significant player on all the markets concerned. Bosch is a major competitor on the ABS market and is also present on the markets for brake actuators and air dryers. Grau also supplies all the main actuation system components although it specialises in the trailer segment. Gau is a subsidiary of a large US corporation, ECHLIN Inc. Finally there are certain other specialist component suppliers such as Haldex for air dryers.

38. Notwithstanding the fact that competition occurs primarily at the level of individual components, full-range suppliers will wish to sell as much volume of as many components as they are able to when negotiating and so will have an incentive to price all components at a competitive level, in order to offer the best price overall.
Considering air actuation systems as a whole (including ABS), the operation will give the JV an estimated market share of [...][14]. Wabco has a market share of [...][15] and Bosch one of [...][16]. Thus Wabco remains the market leader overall. The parties, however, though, the JV will become a more equal competitor.

39. The suppliers are dependent on a relatively small number of European truck manufacturers, five of whom account for over 90% of total Western European production. These manufacturers are extremely knowledgeable and price sensitive. Moreover, as a result of the decline in production which has taken place in the market over the last three years, there is a trend for manufacturers to reduce the number of their suppliers and to increase pressure on their remaining suppliers to cut costs, increase productivity and invest in R&D.

40. The suppliers are also aware that truck manufacturers have at least the technical capability to design and develop components while perhaps subcontracting production. MAN actually produces air compressors itself for one particular line of trucks. Alternatively, most of the truck manufacturers questionned were confident that they could source at least the less sophisticated components from suppliers outside Europe.

41. The various different categories of actuation system and foundation brake products for vehicles of different types frequently share certain common techology and manufacturing processes. Thus it is possible that price increases in one sector or sub-sector will encourage players on neighbouring markets such as truck

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[11] Deletion - below 25 %
[12] Deletion - over 50 %
[13] Deletion - below 25 %
[14] Deletion - between 30 and 50 %
[15] Deletion - between 30 and 50 %
[16] Deletion - under 20 %

foundation brakes or braking systems for off-road vehicles to enter the truck air actuation systems markets.

42. Innovation in this sector is taking place primarily in the field of electronically controlled braking systems, incorporating ABS. The latter is increasingly required by national and EC legislation for trucks and buses. Wabco is currently the recognised market leader, its system having been approved by almost all of the major truck manufacturers and a large proportion of the bus and coach builders. Bosch's system is also more established than that of KB, although the latter has been making inroads into its competitors' market share since its introduction in 1991.

43. Truck manufacturers thus expect their suppliers to be capable not only in ABS but also in the emerging "brake by wire" technology which is expected to become available on the market from late 1995. As such, expertise in both is essential for competitive survival. Bosch has expertise in depth in the automotive electronics sector and a high reputation for innovation. In addition, Wabco has the critical mass necessary to support sustained and extensive R&D spending on new technology, in a way that the parties themselves consider they could not justify. Thus both Wabco and Bosch are in a strong position vis-à-vis this new technology.

44. On the basis of these factors, and in particular the strength of Wabco, the proposed operation does not create or strengthen a single dominant position for the JV as a result of which competiton would be significantly impeded on the common market or a substantial part thereof.

45. The structural features of the components markets, however, could indicate a situation of oligopolistic dominance. In relation to air compressors, AS, KB and Wabco are currently the only players, other than Grau whose presence is minimal. For brake actuators, air dryers and for systems overall their combined market share is [...][17], with the next competitor having [...][18]. The JV will thus result in two rather than three players having this share of the market with the two players being more equal than was previously the case. However, the factors referred to earlier (the buyer power of truck manufacturers, potential entry and the importance of innovation) are equally relevant in addressing concerns of oligopolistic dominance in this particular case. Furthermore, the lack of transparency in prices resulting from the fact that suppliers negotiate individually with vehicle manufacturers, together with the importance of non-price criteria (such as quality, delivery and technical competence), means that overall coordinated behaviour would be extremely difficult.

46. In the light of these factors the Commission also concludes that the proposed operation will not lead to the creation or strengthening of a position of oligopolistic dominance as a result of which competition would be significantly impeded on the common market or a substantial part thereof.

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[17] Deletion - over 75 %

[18] Deletion - below 25 %

RELATED PRODUCTS

47. The proposed operation will not lead to any increase in market share in levelling control components since AS is not present on this market. KB is the current market leader with [...][19], followed by Wabco with [...][20], The total value of this market in the EC is around 18 million ECU, In respect of operating cylinders, the market share increment will be minimal since AS has [...][21] of the market, KB's current market share is [...][22]. The value of this market is around 9 million ECU. Finally with regard to clutch servos, a market valued at around 14 million ECU in the EC, the JV will have a market share of 30-35%. Wabco remains the leader with an estimated 55-60% market share.

48. On this basis and in the light of the arguments made above in respect of air actuation system components, the proposed operation does not create or strengthen a single or oligopolistic dominant position for the JV as a result of which competiton would be significantly impeded on the common market or a substantial part thereof.

AIR FOUNDATION BRAKES

49. The parties estimate their combined share of the EC free market for air foundation brakes to be less than 10 %, Competitors on this market(s) include Lucas, Rockwell and Perrot. In addition, in-house production by vehicle manufacturers accounts for around one and a half times the size of the free market. On this basis the proposed operation does not give rise to any competitive concerns.

INDEPENDENT AFTERMARKET

50. Following the proposed operation, the parties estimate their combined EC market share of overall IAM replacement sales, valued at around 200 million ECU, will be [...][23]. Wabco, the market leader in this sector has a market share of [...][24], while Bosch has [...][25]. It follows that while the degree of concentration on the market concerned is significantly increased by the proposed operation, it does not lead to a dominant position for the joint venture on the EC market as a whole.

51. In France and the UK the estimated market shares of the parties are [...][26], and [...][27] in Italy. As stated above IAM sales tend to follow OEM historical market shares. This will become less so in future as a result of standardisation taking place under national and EC legislation. These market shares are thus the result

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[19] Deletion - between 30 and 50 %
[20] Deletion - between 30 and 50 %
[21] Deletion - below 10 %
[22] Deletion - below 30 %
[23] Deletion - between 20 and 40 %
[24] Deletion - between 30 and 50 %
[25] Deletion - less than 20 %
[26] Deletion - between 30 and 50 %
[27] Deletion - over 50 %

of the historical competitive situation and would in any case persist in the short term irrespective of the joint venture.

52. In addition, it should be noted that the IAM accounts for some 50% of overall sales of replacement parts. Strong competition comes from parts sold through the OES network which are identical. Component manufacturers' ability to raise prices in the independent aftermarket is thus limited by the price at which OES parts are sold through the vehicle manufacturers' own concessionaires. These prices, in turn, reflect the buying power of truck manufacturers in the OES market.

53. The parties also contend that there is strong competition from recycled parts sold by independent reconditioners. This may be true although other component suppliers have pointed out that users are very sensitive as regards product safety and potential product liability problems.

54. In the light of these factors the proposed operation does not create or strengthen a dominant position on the independent aftermarket for the JV as a result of which competiton would be significantly impeded on the common market or a substantial part thereof.

V. FINAL ASSESSMENT

55. Based upon the above findings the Commission has come to the conclusion that the proposed operation does not raise serious doubts as to its compatability with the common market.

For the Commission,