EN

Case No COMP/M.3148 - SIEMENS / ALSTOM GAS AND STEAM TURBINES

Only the English text is available and authentic.

REGULATION (EEC) No 4064/89
MERGER PROCEDURE

Article 6(1)(b) NON-OPPOSITION
Date: 10/07/2003

Also available in the CELEX database
Document No 303M3148

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

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 10/07/2003

SG (2003) D/230576

In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EEC) No 4064/89 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus […]. Where possible the information omitted has been replaced by ranges of figures or a general description.

PUBLIC VERSION

MERGER PROCEDURE
ARTICLE 6(1)(b) DECISION

To the notifying parties

Dear Sir, Madam

Subject: Case No. COMP/M.3148 – SIEMENS / ALSTOM Gas & Steam Turbines
Notification of 23.05.2003 pursuant to Article 4 of Council Regulation No 4064/89

1. On 23.05.2003**,** the Commission received a notification of a proposed concentration pursuant to Article 4 of Council Regulation (EEC) No 4064/89[1] ("The Merger Regulation") by which the undertaking Siemens AG ("Siemens") proposes to acquire through a first transaction sole control over the Small Gas Turbines ("SGT") of Alstom, and through a second transaction, sole control over Alstom's Medium Gas Turbines ("MGT") and Industrial Steam Turbines ("IST") business, by way of the purchase of assets and shares. Alstom will remain an active and independent competitor in the markets for Large Steam Turbines ("LST") and Large Gas Turbines, as these businesses are not included in the transactions.

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

[1] OJ L 395, 30.12.1989 p.1; corrigendum OJ L 257 of 21.9.1990, p. 13, last amended by Regulation (EC) No 1310/97 (OJ L 180, 9.7.1997, p.1, corrigendum OJ L 40, 13.2.1998, p.17).

I. THE PARTIES

3. Siemens is a Germany-based diversified industrial corporation active in numerous fields including information and communication, automation and control, power generation, transmission products and related services, transportation, lighting and medical applications.

4. Alstom is a French company whose main activities are the production of equipment for energy generation, transmission and distribution, power conversion, shipbuilding and railway.

II. THE OPERATIONS

5. Both transactions mentioned in paragraph 1 above fall under the notion of "concentration" within the meaning of Article 3 (1) (b) of the Merger Regulation. As will be explained immediately below, they have to be treated as one single concentration, for the purpose of assessing their community dimension.

III. COMMUNITY DIMENSION

6. The acquisitions of the above businesses constitute two separate transactions which, however, are treated by the Commission as one single concentration in accordance with Article 5 (2) of the Merger Regulation. Indeed, the signing of both of the binding agreements has taken place on 26 April 2003 (and they have also been notified in a single form CO). The combined worldwide turnover of Siemens and Alstom's SGT, MGT and IST businesses exceeded EUR 5 billion in 2001. Each of Siemens and Alstom's combined SGT, MGT and IST businesses achieved 2001 aggregate EU-wide turnover in excess of EUR 250 million. Neither Siemens nor Alstom's combined SGT, MGT and IST businesses achieve more than two-thirds of their EU turnover within one and the same Member State. On the basis of the turnover figures of the parties, it can be concluded that the concentration has a Community dimension pursuant to the Article 1(2) of the Merger Regulation.

IV. PROCEDURE

7. Further to its request of 23 April 2003, Siemens was granted by the Commission on 30 April 2003, a derogation from Art. 7(1) for the acquisition of the SGT business, so that this transaction could be implemented immediately in order to avert serious harm to Alstom and the SGT business.

8. In order to remove any potential concerns raised by the operation, Siemens submitted undertakings as regards the anti-competitive effects of the proposed concentration pursuant to Art. 6(2) of the Merger Regulation in relation to the IST market. However, the Commission has come to the conclusion that the concentration does not give rise to serious doubts as to the creation or strengthening of a dominant position as the result of which competition would be significantly impeded in the common market or in a substantial part of it. The Commission has informed Siemens of the above, and on that basis the parties have withdrawn their remedies proposal.

V. RELEVANT MARKETS

1. Introduction

9. Both Siemens and Alstom manufacture and sell equipment that can be used for purposes of power generation. Whilst Alstom has an established position at all power output levels for gas- and steam turbines, Siemens focuses on gas and steam turbines in the highest power output levels.

2. Relevant Product Market

10. Turbines are machines driven by the pressure, momentum or reactive thrust of steam, water, air or gas against a wheel or rotor. Turbines can be used either to produce electricity or to power mechanical equipment.

11. Gas turbines burn natural gas or fuel oil to power the turbine and are generally used when natural gas is readily available. Steam turbines are used where fossil fuel (coal or oil) is readily available for being burned in a boiler to produce steam. Steam turbines utilise the expansion of steam from high to low pressure to produce rotational shaft power. . On the basis of demand considerations (availability of energy inputs ranging from gas, fossil fuels to steam) and supply considerations (gas or steam turbine technology) it can be considered that steam turbines and gas turbines constitute different markets.

12. For both gas and steam turbines, the market investigation has revealed that it is not relevant to define distinct markets according to the applications they serve, as such is determined by the power output of the turbine. In the low output levels, gas and steam turbines are predominantly used by industrial customers for mechanical equipment drive. As the power output increases, mechanical drive applications become less relevant and the turbines are used by smaller utilities and independent power providers (IPPs) for power generation. Gas and steam turbines with high power output levels are almost exclusively used for power generation by utility plants and large IPPs. In power generation applications, steam turbines may be used as the primary source of energy or in combination with gas turbines as the secondary source of energy in combined cycle plants.

Gas Turbines

13. In previous decisions[2], the Commission has examined the market for gas turbines, whereby it has made a sub-division between gas turbines with a power output of below 10-13 MW (i.e. small industrial gas turbines or SGT) and gas turbines with a power output above 10-13 MW (Large heavy duty gas turbines). The parties submit that the upper limit for small gas turbines has gone up to 15 MW. The parties also propose to identify an intermediary segment that covers gas turbines with an output between 10-15 MW and 60MW on the basis of demand considerations (different customers and applications) and supply considerations (presence of aeroderivative gas turbine suppliers).

---

2 Case N° IV M. 440 GE/Nouvo Pignone, Case N° IV/M.1404 GE/Alstom, Case IV/M 1484 Alstom/ABB

14. In any case, the exact boundaries of the distinct gas turbine markets can be left open since the operation does not raise serious doubts as to its compatibility with the common market on the basis of alternative product markets.

Industrial Steam Turbines (ISTs) and Large Steam turbines (LSTs)

15. The parties have defined the IST market as comprising steam turbines up to 70 MW, distinct from Large Steam Turbines (LSTs), with the latter having a power output in excess of 70MW. In line with the Commission's decision in the ALSTOM - ABB case, the parties submit that this dividing line justifies the definition of two distinct markets, since steam turbines above and below 70 MW tend to serve different applications.

16. The market investigation has revealed that the line may be drawn at a level of 100 MW. Indeed, above that level, steam turbines are (almost) exclusively used for power generation. In addition, there is general consensus that beyond 100 MW, the underlying steam turbine technology is fundamentally different. As Siemens applies a technology shift for ISTs with a power output above 70MW, and as only a few ISTs with a power output between 70 MW and 100 MW have been sold in the EEA in the past five years, it does not matter for the present purposes where exactly the dividing line between the markets has to be situated (cf. the analysis futher below). However, the market investigation has pointed to a further cut-off point at 50 MW power output, which may be relevant to define a distinct relevant market. Indeed, the investigation has indicated that a number of the parties' competitors do not produce ISTs above 40-50 MW. In addition, the customer appears to be different with industrial customers in the below 50 MW segment and power generators in the above 50 MW segment.

17. It is not sufficiently clear that there are distinct conditions of competition above and below 50 MW. Firstly, there are no technological or know-how related barriers that would make supply-substitutability impossible. From a technical standpoint and from the view of customer requirements, the materials and designs of the steam turbine are all the same for turbines below and above 40–50 MW. Whilst it is true that IST manufacturers not active in the above 40-50 MW segment[3] would need to invest considerable time and resources to adapt their production facilities for producing the larger ISTs, such is not to be excluded and needs to be seen within the context of the market characterised by lumpy demand, long lead times and high aftermarket service revenues during the 40 year lifetime of an IST. Secondly, and as indicated above, the market investigation has indicated that there is a continuum in terms of customer base. Whilst ISTs in the above 50 MW segment are predominantly used for power generation, there are industries where such high power output levels are required for mechanical drive applications.

18. In any case, defining a distinct market for ISTs between 40-50 MW and 70 MW does not significantly alter the competitive assessment of the operation. Therefore, for the purpose of the present case it is therefore not necessary to decide whether distinct markets above and below 50 MW ought to be defined since this would not change the outcome of this case.

---

3 The focus of certain IST manufacturers on the range below 40-50 MW can be explained by its relative importance as there is little demand for ISTs in the output segment between 40-50 MW and 70 MW. In the output range 40 – 100 MW, Siemens, Ansaldo and GE have each supplied […] ISTs in the past five years.

19. It was also investigated whether there is a scope for defining distinct IST markets according to the technology used. It is the Commission's understanding that in the IST market, a distinction can be made between back-pressure steam turbines and condensing steam turbines. However, from a technological point of view, condensing and back-pressure turbines are very similar. Condensing turbines can and regularly are used for the same applications as back-pressure turbines. From the supply-side, a manufacturer producing condensing turbines also has the capability to produce back-pressure turbines. Although the components used may differ to some degree, both types of turbines can be produced on the same line, with no specific resources, materials or tools required.

Relevant Geographic Market

20. The parties submit that the relevant geographic market for both gas and steam turbines is at least EEA-wide and probably world-wide on the basis that there are no national preferences, brands, regulatory or technical barriers that prevent competition across borders. Such is in line with previous decisions for the power generation equipment market. The market investigation has generally confirmed this.

21. In any case, as the operation does not raise serious doubts as to its compatibility with the common market on the basis of either an EEA or worldwide geographic market, the question of the exact definition of the geographic market for all gas and steam turbine markets concerned can be left open.

VI. COMPETITIVE EFFECTS

Functioning of the gas and steam turbine markets

22. Customers purchase turbines through tendering procedures. Proposals are sent to at least three manufacturers and no information is given on the number and identity of the other contenders. As there are different stages in the procedure, which may involve detailed technical specifications, the process may take from a few months to more than a year. The submission of the proposal is followed by a revision round in which the customer may adapt its specifications and the supplier can improve its proposal. The time lapse between the signature of a supply contract and the actual delivery of the turbine varies from project to project, driven by the customer's needs, but typically ranges between 6 and 18 months. Both gas and steam turbines are sold to variety of customers, ranging from the oil and gas industry to industrial customers and power utilities.

23. Aftermarket services account for an important part of the total gross profits generated over the lifetime of the turbine. Such is explicitly the case for gas turbines which are more service dependent than the mature technology based steam turbines.

24. As turbines are bidding markets, the key point in the competitive assessment is whether there is a sufficient number of bidders in the markets.

Barriers to entry and expansion in the gas and steam turbine markets

25. The market investigation has indicated that, for a turbine manufacturer to be considered as an established player, it needs to cover the regions where it is active with a sales and aftermarket service network. Apart from the technology and the significant production resources related investments, entrants in the market need to acquire a track record and customer base which may take five years.

26. Whilst 'de novo' entry in these markets is to be excluded, particularly in the mature IST market, it is more relevant to consider the ability of players with no established position outside their home markets to enter the EEA/world-wide market. Such investment needs to be evaluated in relation to the value of winning a project, both resulting from the sales of the turbine[4] and the significant aftermarket service revenues it generates over its lifetime.

27. Specifically with regard to ISTs, the market investigation has shown that, even without previous references and production capacity in the EEA, a number of Asian IST manufacturers (Fuji, Hitachi, Shin Nippon), US-based manufacturers (Dresser Rand) and East European manufacturers (Ekol, LMZ, Skoda) are increasingly winning significant projects in the EEA and are exercising competitive pressure upon the established players. The recent merger between the Russian manufacturers ZTL, LMZ, Electrosila and Kaluga Turbine Works, forming Power Machines Group, de facto creating an important IST manufacturer on a world wide scale, the expected entry of Chinese manufacturers and the increased presence of Japanese manufacturers in the EEA market can be expected to have an important impact on the competitive structure of the market.

Gas Turbines

28. Siemens is currently absent from the SGT market where the acquired Alstom business holds an EEA market share of [10-20]% and competes with Turbomach/Solar ([45-55]%), GE ([10-20]%) and Centrax ([5-15]%). On a world-wide level, Alstom holds a [5-15]% market share.

29. If a MGT market (with a power output of 15 MW – 60 MW) were to be retained, Siemens currently would not have sales, with Alstom accounting for [5-15]% of the EEA market compared to [50-60]% for GE, [5-15]% for Dresser Rand, [5-15]% for Rolls Royce and [5-15]% for MAN. On a world-wide level, Alstom holds a [0-10]% market share. If no distinct MGT market were to be defined, the combined entity would account for [25-35]% of the market covering all gas turbines above 15 MW. This compares to [40-50]% for GE, [5-15]% for Ansaldo, [0-10]% for Mitsubishi, [0-10]% for Dresser Rand, [0-10]% for Rolls Royce and [0-10]% for MAN. On a world-wide level, the combined Siemens/Alstom would account for [20-30]%, compared to [55-65]% for GE, [0-10]% for Mitsubishi and [0-10]% for Ansaldo. In all instances, the market investigation has indicated that a sufficient number of bidders will remain in the market.

Large Steam turbines (LSTs)

30. Alstom will remain a competitor in the LST market, independent from Siemens. However, as the Alstom IST business acquired by Siemens involves steam turbines up to 100 MW, the transaction creates an, albeit minimal, overlap in the LST market if that market is defined on the basis of a power output above 70 MW). In this market, an calculated on 5 year average sales data as presented by the parties, the combined entity will hold a [20-30]% EEA market share (Siemens [20-30]% + Alstom acquired business [0-10]%). This compares to [20-30]% for Alstom (retained LST business), [15-25]% for GE, [10-20]% for Ansaldo and [5-15]% for Mitsubishi. On a world-wide market level,

4 The average price of a 30-40 MW IST is around 5 Mio EUR.

the enlarged Siemens accounts for [5-15]%, compared to [10-20]% for Alstom, [10-20]% for GE, [5-15]% for Toshiba, [5-15]% for Mitsubishi, [0-10]% for Hitachi and [0-10]% for Ansaldo. Hence, it can be concluded that the competitive structure of the market will not be altered. The market investigation has indicated that a sufficient number of bidders will remain in the market.

Industrial Steam Turbines (ISTs)

Horizontal overlap

31. The parties estimate[5] that their combined share for ISTs in an EEA market for ISTs up to 70 MW output will be close to [30-40]% (Siemens [5-15]% and Alstom [15-25]%), with Blohm und Voss ([5-15]%) in second place, followed by GE/Nuevo Pignone ([5-15]%), Franco Tosi/Ansaldo ([5-15]%), MAN ([5-15]%), Mitsubishi ([0-10]%), Peter Brotherhood ([0-10]%) and Skoda ([0-10]%). Apart from these established players, there are a number of manufacturers that can expand their strong position in their home markets. These include Toshiba (through a partnership with Skoda), Hitachi, Fuji and a number of Russian and Eastern European manufacturers that have up to now competed only occasionally in the EEA.

32. On the basis of a world-wide market, the combined Alstom/Siemens would have a combined share of [20-30]% ([5-15]% + [10-15]%), compared to Mitsubishi ([0-10]%), GE ([0-10]%), MAN ([0-10]%), Dresser Rand ([0-10]%), Blohm und Voss ([0-10]%). A large number of competitors hold market shares below 1%.

33. If a separate market for ISTs with a power output between 40-50 MW and 70 MW were to be defined, the parties' market share would be comparable to those in the overall IST market. The Parties estimate that Siemens' share of steam turbines in the between 40-50 MW and 70 MW range in the EEA is around [10-20]% and that of Alstom [15-25]% ([30-40]% combined). On a world-wide level, their combined market share would be around [20-30]% (Siemens [5-15]% and Alstom [15-25]%). Enlarging the relevant market to also include ISTs with an output between 70 MW and 100 MW would not change the above analysis as both Siemens and Alstom have made very few sales in this segment.

34. Given the lumpy nature of the market and the variations in market demand, and as a significant proportion of the total gross profits in this business are generated by aftermarket services provided by the IST OEMs, it is relevant to consider market shares on the basis of the installed base of ISTs as a relevant complementary indicator for market strength. On the basis of the parties' calculations, their combined share for installed base of ISTs in the EEA is around [30-40]% (Alstom [15-25]% and Siemens [10-20]%), followed by Franco Tosi/Ansaldo ([5-15]%), GE ([0-10]%), Blohm und Voss ([0-10]%) and Mitsubishi ([0-10]%). From a world-wide market perspective, the market share figures calculated on the installed base equally follow the market shares on the basis of sales data. The combined Alstom/Siemens has [15-25]% ([5-15]% + [5-15]%), GE has [5-15]%, Mitsubishi [5-15]%, Franco Tosi/Ansaldo [0-10]%, Skoda [0-

5 Market share calculation based on the average of sales in terms of MW installed during the period 1997 – 2002. Source: Mc Coy reports as complemented and corrected by the parties.

10]% and players such as Toshiba, Fuji, Hitachi, Dresser, Blohm und Voss between [0-10]% and [0-10]%.

35. As ISTs are procured through bidding procedures, market shares (either calculated on the basis of sales or installed base) only reflect previous wins and may be an unreliable proxy for the competitive strength of the players in the market. Whilst the combined Siemens / Alstom leaves its next competitor at significant distance, customers have indicated that the large number of viable alternative manufacturers will ensure that the market maintains its highly competitive nature. As the underlying IST technology is mature and as there are no costs involved in switching suppliers to whom requests for proposals may be sent, customers will be able to turn to alternative suppliers if the combined Siemens/Alstom would attempt to act independently in the market. Especially Eastern European and Asian manufacturers could find it profitable to expand their activities in the EEA market on the basis of their lower cost structure. The consolidation of the IST market could entice European customers to increasingly include these players in their bidding requests provided that they are able to establish a service capability in Europe. Finally, it is to be noted that the parties direct competitors are either large industrial conglomerates (GE, Mitsubishi, Fuji) or are part of a larger industrial group (Ansaldo is part of Finmecanica, Skoda belongs to the Volkswagen group and Blohm und Voss is part of the ThyssenKrupp group) which alleviates concerns on their ability to enlarge their presence in the market.

36. A third party has indicated that there is little alternative to the combined Siemens/Alstom for ISTs with a power output above 40-50 MW, and that this is particularly true for backpressure ISTs used for mechanical drive applications. The market investigation has not supported this assessment. It is correct that a number of suppliers (such as Ekol, Shin Nippon, Peter Brotherhood and Blohm und Voss) concentrate on the largest part of the market, ISTs below 40-50 MW. The parties main competitors, including GE, Ansaldo, Mitsubishi, MAN, Skoda, LMZ, Dresser, Hitachi and Fuji cover the entire IST range and beyond into the LST range. Secondly, the parties' market shares on the basis of a market for ISTs with a power output between 40-50 MW and 70 MW do not differ significantly from their position on the overall 0 – 70 MW market. Thirdly, the market investigation has confirmed that there are only very few industrial customers having requirements for ISTs with a power output of more than 50MW. As the number of IST projects for a given power output decrease, it can be expected that the customer increases its buyer power, leading in extreme cases to a degree of monopsonist power. Thirdly, in the above 50 MW power output segment, Siemens has built up a reputation for mechanical drive backpressure steam turbines, whilst Alstom has focused on the demand for condensing type ISTs for power generation customers. As such, Alstom cannot be considered to have been in a better position to compete with Siemens than its competitors prior to the operation with regard to backpressure steam turbines.

37. It has also been investigated whether the combined Siemens/Alstom would be in a position to fund a predatory pricing strategy, with the aim to drive weaker competitors out of the market or to deter new players from entering the market, through the constant revenue stream of its enlarged installed base of ISTs. The market investigation indicated that such is not likely to be a viable strategy as ISTs need little or no service for at least around 10 years after installation and customers do not tend to enter into a service agreement at the time of purchase of the IST. In addition, there are a number of

independent service providers that compete for such aftermarket services with the OEMs.

38. It can be concluded from the above that, under all possible definitions of the IST market and when assessed on the basis of a world-wide market, there are a large number of actual and potential competitors. When the relevant geographic market would be restricted to the EEA or when a more narrow product market definition of the IST market would be applied, it remains the case that there is a sufficient number of established bidders on the market. The market investigation has indicated that the combined entity's competitors are not constrained, either in their ability to increase the number of bidding contests they engage in, or their ability to increase their production capacity. The majority of the players could increase this capacity by 10% to 20% in the short term and with relatively little investment. In addition, and as described above, non-EEA based competitors can and are increasing their presence in the EEA.

39. For all the reasons listed above, it is unlikely that Siemens could act independently of its customers and competitors in the EEA post transaction.

Vertical foreclosure concerns

40. In the steam turbine mechanical drive segment, it is not uncommon for a client to select the driver (Steam Turbine) from one manufacture and the driven equipment (compressor) from another even when the driver supplier has a competitive offering for the compressor. A third party, competitor to Siemens in the compressor market, has indicated that the merger will lead to an increased dependency of compressor manufacturers that need to acquire ISTs as part of a complete power train (IST+compressor). As such, the increased vertical integration of Siemens in the supply of compressors and ISTs could provide it with the incentive to deny its compressor competitors from free and open (in terms of price, quality, delivery conditions) access to the Siemens –Alstom steam turbine products.

41. It could be argued that the present transaction does not change Siemens' ability and incentive to engage in such foreclosure practices. Siemens' market share for compressors is around [25-35]% in the EEA ([15-25]% worldwide) and Alstom is absent from this market. Siemens will reinforce its position for ISTs, but as indicated above, there are several viable alternative IST manufacturers. In addition, the market investigation has indicated that Alstom is not Siemens' closest alternative for mechanical drive applications as Alstom has only rarely sold ISTs for mechanical drive applications[6]. Finally, it is unlikely that Siemens' refusal to supply an IST to a competitor for compressors would be in its economic interest when the final customer had already selected the competitor's compressor. In such case, Siemens would risk missing out on the significant commercial opportunity of selling the IST whilst not being selected for the compressor.

Conglomerate issues

42. Customers have indicated that they are interested to receive offers from suppliers that are capable of offering a wide range of power generation equipment ranging from small gas

[6] Alstom has only sold […] ISTs to be combined with compressors in the EEA in the last five years ([…] worldwide).

turbines to large steam turbines for combined cycle operations. Customers have also indicated that such one-stop approach becomes mandatory when they look for suppliers that are capable to deliver turn-key projects. Only a limited number of power generation equipment suppliers, including the parties, have this ability. However, Siemens' ability to make combined offers will not significantly change as a result of the merger. Indeed, prior to the transaction, Siemens was already present in all markets concerned apart from small gas turbines which are not primarily sold to its existing customer base. In this respect, the market investigation has indicated that the concentration would make Siemens a more powerful player to compete with GE, the overall power generation equipment market leader. Finally, with regard to turn-key projects, Alstom will retain this business which is in any case almost exclusively targeted at power utilities for Large gas turbines and Large Steam turbines.

43. It can therefore be concluded that the concentration does not give rise to serious doubts as to the creation or strengthening of a dominant position as the result of which competition would be significantly impeded in the common market or in a substantial part of it.

VII. CONCLUSION

44. For the above reasons, the Commission has decided not to oppose the notified operations and to declare them compatible with the common market and the EEA Agreement. This decision is adopted in application of Article 6 (1) (b) of Council Regulation (EEC) No 4064/89.

For the Commission
(Signed)
Mario MONTI
Member of the Commission