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Case No COMP/M.6222 - GE ENERGY / CONVERTEAM

Only the English text is available and authentic.

REGULATION (EC) No 139/2004
MERGER PROCEDURE

Article 6(1)(b) NON-OPPOSITION
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PUBLIC VERSION

MERGER PROCEDURE

To the notifying party

Dear Sir/Madam,

Subject: Case No COMP/M.6222 – GE ENERGY / CONVERTEAM
Commission decision pursuant to Article 6(1)(b) of Council Regulation No 139/2004[1]

1. On 31 May 2011, the European Commission received a notification of a proposed concentration pursuant to Article 4 of the Merger Regulation by which the undertaking General Electric Company ("GE", United States), via GE Energy, acquires within the meaning of Article 3(1)(b) of the Merger Regulation sole control over Converteam Group SAS ("Converteam", France) (GE and Converteam are hereinafter designated as the "Parties") by way of acquisition of 90% of the shares in Converteam (hereinafter the "proposed transaction").

2. After examination of the notification, the Commission services have concluded that the proposed transaction falls within the scope of the Merger Regulation. After having been informed that it could not be excluded at that stage of the procedure, especially in the light of several complaints as regards the proposed transaction, that the proposed transaction might raise serious doubts as to its compatibility with the internal market given the absence at that stage of certain data with respect to drives (especially VSDs above 15MW and SFCS above 10MW) and propulsion train systems to be used in naval defence surface ships, on 1 July 2010, the Parties submitted commitments pursuant to Article 6, paragraph 2 of the Merger Regulation. More precisely, the Parties undertook the divestment of GE's minority stake in […].[2] On the basis of the additional elements

[1] OJ L 24, 29.1.2004, p. 1 ("the Merger Regulation"). With effect from 1 December 2009, the Treaty on the Functioning of the European Union ("TFEU") has introduced certain changes, such as the replacement of "Community" by "Union" and "common market" by "internal market". The terminology of the TFEU will be used throughout this decision.

[2] […]

provided by the Parties and third parties, the Commission considers that no serious doubts arise from a possible input foreclosure, conglomerate effects and access to sensitive information in the segments of drives used in large gas turbines in power plants and propulsion trains used in naval defence surface ships, so that the commitments submitted by the Parties are not necessary.[3]

I. THE PARTIES

3. GE is a global diversified manufacturing and services company including business units such as GE Energy, GE Healthcare, GE Aviation, GE Transportation, GE Capital and GE Home & Business Solutions. GE Energy comprises GE Power & Water, GE Energy Services and GE Oil & Gas. GE Energy supplies power generation and energy delivery technologies in a number of areas in the energy industry including coal, oil, natural gas and nuclear energy, as well as with renewable resources such as water, wind, solar and alternative fuels.

4. Converteam is active in power conversion providing engineering solutions to convert electrical energy into mechanical energy and *vice versa*. Converteam is active in the following segments where power conversion may be required: power generation, renewables, oil & gas/offshore, industry, marine, services.

II. THE OPERATION AND THE CONCENTRATION

5. By way of the proposed transaction, GE will acquire control over the whole of Converteam *via* the acquisition of controlling share in CVT Holding SAS (France) and Financière CVT SAS (France), which in turn hold the entire capital of Converteam.

6. Following the completion of the proposed transaction, GE will own 90% of Converteam's shares (shares in CVT Holding SAS) and 100% of the shares in Financière CVT SAS. The remaining 10% of Converteam's shares (in CVT Holding SAS) are held by […] and […] along with senior management. However, no veto rights related to strategic decisions on the business of the company (adoption of the budget and the business and the appointment of senior management) are attached to them[4]. Post-merger, GE will hold the majority of the voting rights in Converteam and will be in a position to determine the strategic commercial decisions of Converteam and GE will be the only undertaking capable of exercising decisive influence post-transaction over Converteam.

7. Consequently, the proposed transaction consists in an operation of concentration within the meaning of Article 3(1)(b) of the Merger Regulation.

III. EU DIMENSION

8. The undertakings concerned have a combined aggregate world-wide turnover in 2010 of more than EUR 5 000 million[5] (EUR 114.3 billion, GE: EUR 113.3 billion and Converteam: EUR 1 billion). Each of them has an EU-wide turnover in 2010 in excess of EUR 250 million (GE: EUR […], Converteam: EUR […]), but they do not achieve more

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3 […]

4 It is also agreed that GE […].

5 Turnover calculated in accordance with Article 5(1) of the Merger Regulation and the Commission Consolidated Jurisdictional Notice (OJ C 95, 16.04.2008, p. 1).

than two-thirds of their aggregate EU-wide turnover within one and the same Member State. The proposed transaction therefore has an EU dimension within the meaning of Article 1(2) of the Merger Regulation.

IV. COMPETITIVE ASSESSMENT

9. Both GE and Converteam are present in the field of power conversion equipment and solutions used to convert electrical energy to mechanical energy, mechanical energy to electrical energy, or electrical energy into another form of electrical energy.

10. There are only a few horizontal product overlaps between the Parties, notably as regards large electric motors, generators, static excitation equipment and solar photovoltaic inverters, and none of them lead to horizontally affected markets. The Parties also have overlapping activities for variable speed drives, start-up frequency converters, wind converters and wind generators, but GE self-supplies all of these. Thus, only vertically affected markets and some vertical relationships will be analysed in the present decision.

1. ELECTRIC MOTORS (UPSTREAM) – COMPRESSOR TRAINS (DOWNSTREAM)

11. The proposed transaction gives rise to vertically affected markets for large electric motors, including low-speed large electric motors in particular (upstream) and compressor trains, including compressor trains for use in the oil and gas industry in particular (downstream).

1.1. Relevant product and geographic markets

1.1.1. Electric motors

12. Electric motors transform electric energy into mechanical energy to power machinery[6]. They are used in a wide range of industries and applications[7]. Electric motors can be sold as part of a package including the machinery or as individual units.

13. The Commission considered that there is a separate product market for electric motors[8]. It also considered a possible segmentation into motors up to and including 100 kW and motors above 100 kW, but ultimately left the market definition open[9].

14. The Parties submit[10] that a distinction must be drawn between small and large electric motors and that the appropriate delineation could be at 200 kW. It is also submitted that power output of the motor is the most relevant criterion from a customer perspective. Alternative distinctions among electric motors can be based on the voltage and the speed rating. In addition, synchronous electric motors can be distinguished from asynchronous (induction) electric motors since they create motor rotation differently.

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6 See table showing relevant product relationships on pp. 28-30 of the Form CO. This definition was confirmed by the market investigation.

7 Case COMP/M.3809 – *Siemens / Flender*, paragraph 6.

8 Case COMP/M.3809 – *Siemens / Flender*, paragraph 7.

9 Case COMP/M.3809 – *Siemens / Flender*, paragraph 8.

10 Paragraph 110 of the Form CO.

15. The market investigation confirmed that a distinction should be drawn between small and large electric motors, in particular for electric motors used in compressor trains since compressors are normally powered by large electric motors. Most respondents considered that the threshold above which electric motors should be classified as large was well above 200 kW, with suggestions ranging from 350 kW to 3 MW. A majority of respondents also considered voltage as a relevant criterion to segment the market for electric motors. However, the correlation between voltage and power (also called Watt's Law, according to which when power requirements go up, the voltage also need to increase) indicates that the respondents only consider this criterion relevant inasmuch as the power output criterion is relevant. Market segmentation on the basis of the speed rating was supported by a minority of respondents only. The distinction between synchronous and induction electric motors was considered relevant by the producers of electric motors and compressor trains, but not by the end users of compression trains.

16. However, for the purpose of the proposed transaction these distinctions do not need to be made as according to the market investigation it is the end user of the compressor train who ultimately decides on the power source to be used.

17. Some producers of compressor trains mentioned that in the oil and gas industry end users of compressor trains often request low-speed large electric motors that are explosion proof in light of the flammable environment in which they have to operate. These motors are typically tailor-made taking into account the specific needs of the end user of the compressor train and could be considered as a niche market.

1.1.2. Compressor trains

18. A compressor train combines a compressor with a large electric motor which powers the compressor. Compressor trains are used to pressurise different types of liquids and gases (including air) by reducing their volume[11]. Most respondents to the market investigation agreed with this definition. However, some respondents stressed that compressor trains could be driven not only by large electric motors, but also by gas or steam turbines. The estimates submitted indicate that around three out of four compressor trains are powered by electric motors. The market investigation also confirmed the submission of the Parties[12] according to which 90% (or even more) of all compressors were sold within a compressor train.

19. In the past the Commission has considered a distinction between air and gas compressors[13] but ultimately left the question open. The Parties submit that for the purposes of the proposed transaction no distinction needs to be made between air, gas and other compressors, since the power source used is not influenced by whether an air, gas or other compressor is concerned[14]. This submission is broadly confirmed by the market investigation.

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11 Paragraph 139 of the Form CO.

12 Paragraph 145 of the Form CO

13 Case COMP/M.1775 – *Ingersoll-Rand / Dresser-Rand / Ingersoll-Dresser Pump*, paragraph 9 and Case COMP/M.2834 – *Alchemy / Compair*, paragraphs 5-6.

14 Paragraph 140 of the Form CO.

20. It was also submitted by the Parties[15] that from a technical point of view, one can distinguish displacement compressors (including reciprocating and rotary/screw compressors) and dynamic compressors (including centrifugal and axial compressors). However, for the purposes of the proposed transaction there is no need to make such a distinction since according to most respondents to the market investigation the power source applied does not differ between these different types of compressors.

21. In any event, for the assessment of the proposed transaction the precise definition of the product markets for electric motors, compressors and compressor trains can be left open since it does not affect the outcome of the competitive assessment.

1.1.3. Geographic market definition

22. In previous cases the markets for electric motors and compressors were considered to be EEA-wide, and possibly worldwide in scope[16]. However, the precise geographic scope of these markets was left open. The Parties submit that the geographic scope – EEA-wide or worldwide – of the markets for large electric motors and compressor trains can be left open for the purposes of the proposed transaction. A large majority of respondents to the current market investigation source electric motors, compressors and compressor trains at least at EEA level. Almost all respondents consider the geographic scope of the niche markets for low-speed large electric motors and compressor trains typically used in the oil and gas industries to be at least EEA-wide.

23. Nevertheless, for the purpose of the current decision, whether the precise geographic scope of the markets for large electric motors, compressors and compressor trains is EEA- or world-wide can be left open, since it does not affect the outcome of the competitive assessment.

1.2. Competitive assessment

24. At the upstream level, as regards the overall market for large electric motors (i.e. with a power output above 200 kW), both GE and Converteam are active. Converteam makes electric motors with a power output going from 200 kW to 28 MW, while GE makes electric motors with power outputs from 0.75 kW up to 75 MW.[17] Thus the Parties only overlap for large electric motors (i.e. above 200 kW). The Parties have estimated the market shares of GE and Converteam on the basis of market size estimates by the IMS and Goulden[18]:

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15 Paragraph 142 of the Form CO.

16 Case COMP/M.2834 – *Alchemy / Compair*, paragraphs 7-8; Case COMP/M.3809 – *Siemens / Flender*, paragraphs 20-21; and Case COMP/M.4878 – *Continental/Siemens VDO*, paragraphs 50-51.

17 GE manufactures smaller electric motors, with a power output below 200 kW, but it is uncommon that it sells these electric motors in the EEA. These smaller electric motors are far more standardized products.

18 IMS Research, "The World Market for Large Motors", 2009 edition; Goulden, "World Market for Industrial Motors 2008 -2015".

Large electric motor market shares in the year 2010 (> 200 kW)

	WW			EEA		
	Induction motors	**Synchronous motors**	**All large electric motors**	**Induction motors**	**Synchronous motors**	**All large electric motors**
GE[19]	[5-10]%	[10-20]%	[5-10]%	[0-5]%	[0-5]%	[0-5]%
Converteam	[5-10]%	[10-20]%	[5-10]%	[10-20]%	[10-20]%	[10-20]%
Combined entity	**[10-20]%**	**[20-30]%**	**[10-20]%**	**[10-20]%**	**[10-20]%**	**[10-20]%**
ABB	20-25%	25-30%	25-30%	20-25%	25-30%	30-35%
Siemens	15-20%	20-25%	20-25%	15-20%	20-25%	25-30%
TMEIC	5-10%	5-10%	5-10%	1-5%	1-5%	1-5%
WEG	5-10%	5-10%	5-10%	1-5%	1-5%	3-5%
TECO	1-5%	1-3%	1-5%	1-5%	1-3%	1-3%
Ansaldo[20]	1-5%	1-5%	1-3%	5-10%	5-10%	5-10%

Source: Parties based on IMS and Goulden

25. As regards the niche market of low-speed (<500 rpm) large (>1MW) electric motors used in compressor trains in the oil and gas industry, the Parties' best estimates of their market shares in 2010 result in a combined market share of [20-30]% both at the EEA- and world-wide levels[21]. The main competitors in this niche market are ABB and Siemens with estimated market shares of [20-30]% and [30-40]% in the EEA and [10-20]% and [30-40]% worldwide, respectively.

26. Thus, the merged entity will continue to face competition at least at the EEA level from other manufacturers in the upstream market for large electric motors, including the market for low-speed large electric motors.

27. Downstream, Converteam does not manufacture or sell compressors or compressor trains. GE estimates that its market share in the market for compressor trains was [20-30]% in the EEA and [20-30]% globally in 2009. The major competitors in this market are Siemens, MAN Turbo and Dresser Rand, which each have market shares above 10% at both the EEA- and world-wide levels. The Parties submit that while GE's market share in the market for compressor trains gives rise to a vertically affected market, the proposed transaction does not give rise to an input foreclosure concern. GE has neither the ability nor the incentive to foreclose competing suppliers of compressor trains, because there are several other suppliers of electric motors (including ABB, Siemens and Ansaldo), which would have the capacity to supply large electric motors to compressor manufacturers.

28. The Parties have also provided their best estimates of 2010 market shares in a possible market for compressor trains for use in the oil and gas industry requiring explosion proof motors because of the highly flammable environment. The estimated market share by order value of GE in 2010 was [30-40]% worldwide and [10-20]% within the EEA. Major competitors in this market are also MAN Turbo, Siemens and Dresser Rand with estimated market shares ranging from [5-10]% to [40-50]% within the EEA and [10-20]% to [10-20]% worldwide.

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19 Including captive sales to GE Oil & Gas.

20 Ansaldo Sistemi Industriali.

21 The estimated market share of GE equals [0-5]% within the EEA and [5-10]% worldwide, while that of Converteam is estimated at [20-30]% within the EEA and [10-20]% worldwide.

29. During the course of the market investigation, several producers of compressors and compressor trains raised concerns about the impact of the proposed transaction on the supply of low-speed large electric motors used in compressor trains for the oil and gas industry. According to the complainants, end users would prefer GE or Converteam motors for certain petrochemical applications, alternative European and non-European suppliers of electric motors often would not respond to calls for tender for reasons of capacity constraints and end-users are reluctant to use motors produced in Asia. As GE is a competitor in the market for compressor trains, it would have an incentive to restrict the access of other producers of compressor trains to low-speed large electric motors produced by GE and Converteam.

30. However, other producers of compressor trains have expressed no concern about the proposed transaction naming alternative EEA-based suppliers of low-speed large electric motors such as ABB, Siemens, Schorch and Ansaldo, which have all confirmed that they manufacture and sell low-speed large electric motors and that they have the capacity to supply the market if the merged entity were to adopt an input foreclosure strategy. Moreover, the Parties have provided evidence showing that ABB and Ansaldo sell electric motors to compressor manufacturers supplying the oil and gas industry on a regular basis. It appears therefore that there are several EEA suppliers of low-speed large electric motors that are capable and present alternatives to the merged entity. Finally, while some of the end users of compressor trains in the oil and gas industry expressed a preference for low-speed large electric motors made by EEA-producers, others were willing to consider using motors manufactured by non-EEA competitors. As a result, the proposed transaction does not raise competition concern in this regard and the concerns expressed by some respondents to the market investigation can be dismissed.

2. GENERATORS (UPSTREAM) – GAS GENSETS (DOWNSTREAM)

2.1. Relevant product and geographic markets

2.1.1. Generators

31. Generators convert mechanical power into electrical power and are used in combination with reciprocating engines in gensets, or with turbines, in order to generate electricity. There are no precedent Commission decisions concerning generators in power generation plants, but the Commission has held that generators in wind turbines should be considered separately.[22]

32. The Parties submit that a distinction between small (<20 MW), medium and large (>35 MW) generators may be relevant in view of the Parties' activities and the potential interactions of their products. The Parties further argue that competition for generators takes place at least EEA-wide, and perhaps even at a worldwide level.

33. In any event, for the purposes of this decision, the exact delineation of the product and geographic market can be left open as no competition concerns arise under any conceivable market definition.

[22] Case COMP/M.3809 – *Siemens / Flender*, paragraph 9.

2.1.2. Gas gensets

34. A gas generator set or genset is a package that combines a reciprocating engine fuelled with gas with various ancillary equipment, such as a generator, switching gear and possibly other equipment at the customer's option.

35. The Commission has viewed the diesel gensets market a possible single relevant product market but did not reach a definitive conclusion in this respect[23]. For both diesel and gas gensets, the Commission has indicated that the basic components of diesel and gas gensets (such as engines, alternators, switching gear, etc.) constitute upstream markets.[24]

36. The Parties submit that the geographic scope of the markets for gas gensets is at least EEA-wide, and perhaps worldwide. The Commission has held in previous decisions that genset markets are at least EEA-wide.[25] For the purpose of the proposed transaction, the exact definition of the product and geographic market for gas gensets can be left open as it does not raise any competition concerns under any alternative market definition.

2.2. Competitive assessment

37. With regard to the upstream market, the Parties submit that GE does not sell stand-alone generators in the EEA, and does so only in exceptional cases outside the EEA. Converteam manufactures generators within a range of 5-20 MW, as well as a very small amount of generators in the range between 0.5-5 MW and very few generators with a power output above 20 MW. […]. The Parties estimated the following market shares for generators for Converteam and its most important competitors:

Converteam market shares (0-20 MW)

Generator Power Rating	Worldwide (value)			EEA-wide (value)		
	2008	2009	2010	2008	2009	2010
0 – 5 MW	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%
5 – 10 MW	[10-20]%	[5-10]%	[10-20]%	[0-5]%	[5-10]%	[10-20]%
10 – 20 MW	[10-20]%	[50-60]%	[40-50]%	[5-10]%	[50-60]%	[60-70]%
0 – 20 MW	**[0-5]%**	**[0-5]%**	**[0-5]%**	**[0-5]%**	**[0-5]%**	**[0-5]%**

Source: Parties' best estimates

23 See Case No IV/M.700 – *Emerson/Caterpillar*; Case COMP/M.6039 – *GE/Dresser*.

24 For diesel gensets: Case No IV/M.700 – *Emerson/Caterpillar*, 24 April 1996, paragraphs 15-17; Case No IV/M.1094 – *Caterpillar/Perkins Engines*, 23 February 1998, paragraphs 15-16. For gas gensets: Case COMP/M.6039 – *GE/Dresser*, 4 January 2011, paragraph 10.

25 Case COMP/M.6039 – *GE/Dresser*, paragraphs 26-27.

Market shares in the year 2010 (0-20 MW)

Name	Worldwide	EEA-wide
Converteam	*[0-5]%*	*[0-5]%*
Emerson	[10-20]%	[10-20]%
ABB	[10-20]%	[20-30]%
Cummins	[5-10]%	[10-20]%
WEG	[5-10]%	[5-10]%
Brush HMA	[5-10]%	[10-20]%
Hyundai Heavy Industries	[5-10]%	[0-5]%
Siemens	[0-5]%	[5-10]%
Others	[40-50]%	[20-30]%

Source: Parties' best estimates

38. Downstream, as regards gas gensets, only GE is active, yet GE's gas gensets currently do not have a power output above 4.5 MW. The Parties submit the following market shares based on the same power output ranges:

GE market shares (0-20 MW)

Gas Genset Power Rating	Worldwide (value)			EEA-wide (value)		
	2008	2009	2010	2008	2009	2010
0 – 5 MW	[40-50]%	[30-40]%	[40-50]%	[40-50]%	[30-40]%	[30-40]%
5 – 10 MW	-	-	-	-	-	-
10 – 20 MW	-	-	-	-	-	-
0 – 20 MW	**[30-40]%**	**[20-30]%**	**[30-40]%**	**[40-50]%**	**[30-40]%**	**[30-40]%**

Source: Parties' best estimates

39. It has to be noted that Converteam is a very minor player below 5 MW, while GE is not present above 5 MW. Therefore there is currently no vertical link between the Parties' actual product offerings.

40. Following the proposed transaction, the merged entity will not have the ability to foreclose competing suppliers of gas gensets as it will have a minimal share of supply regarding generators with a power rating below 20MW (Converteam currently only has a share of [0-5]% in the EEA and [0-5]% worldwide) and several significantly more powerful generator competitors will remain. In addition, the proposed transaction will not likely incentivise GE to foreclose competing gas genset suppliers because none of GE's gas genset competitors currently source their generators from Converteam, so any foreclosure attempt by GE is unlikely to lead to expansion of its own gas genset sales.

41. Similarly, post-transaction, GE would not have the ability to foreclose suppliers of generators from access to downstream suppliers of gas gensets as generators (including smaller generators that can be used within gas gensets) can be coupled with different drivers, including turbines and diesel engines so that the generator suppliers do not depend on sales to gas engine manufacturers.

42. Therefore, the proposed transaction does not give rise to competition concerns as regards this vertical relationship.

3. (MOTOR) DRIVES (UPSTREAM) – ELECTRIC MOTORS (DOWNSTREAM)

3.1. Relevant product and geographic markets

3.1.1. Electric motors

43. The product and geographic market definitions for electric motors are discussed in paragraphs 12 to 17 and 22 above.

3.1.2. Drives

44. Drives are processor-based control units used, inter alia, to accelerate or decelerate motor[26] speed in function of need. A variable speed drive (VSD) controls speed *via* changes in the frequency of the electrical power supplied to the electrical motor. Therefore, they are used to convert power and adjust the speed in electronic processes[27].

45. The Commission has concluded on the existence of the market for drives[28] but not on further sub-segmentation even if it considered along the delineation of 100kW[29] of power rating.

46. The Parties submit that it would be more appropriate to segment drives on the basis of voltage. From a supply-side perspective, the manufacturing of drives is dictated by voltage, irrespective of the power (Watt) of the drives. Indeed, specific regulation dictates the standards to be complied with in the manufacturing of drives, and thus the manufacturing processes and the related security norms according to voltage and not power. For example, low-voltage drives are subject to specific regulation and standards, and bear additional security constraints as they can be used by consumers (see for example EC Directive 2006/95/EC and IEC standards) rather than trained and certified technicians, so the health and safety requirements need to be more stringent than for medium-voltage drives. Therefore, the supply of drives can be divided into: (i) low-voltage industrial drives (LV), falling below 690V /1 kV; (ii) medium-voltage industrial drives (MV) between 690 V /1 kV up to 35 kV / 100 kV depending on sources; and (iii) high voltage industrial drives (HV) above 35 kV / 100 kV[30].

47. The Parties also suggest a number of alternative distinctions by applications: Variable Speed Drives (VSDs) (control of speed *via* changes in the frequency of the electrical power supplied to the electrical motor), Start-Up Frequency Converters (SFCs) (used for power generation applications, in large turbines), Static Excitation Equipment (SEEs) (used as an excitation system to operate and control generators) and Wind Converters (connect the generator with a variable frequency reference to be connected to the electricity grid with a (fixed) frequency reference) and Solar Inverters (transforms DC power to AC power with a quality level sufficient to be connected with the power grids).

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26 Within the course of the market investigation one respondent indicated that drives are also used for generators.

27 Paragraph 130 of the Form CO and Table A under paragraph 81of the Form CO.

28 Case COMP/M.3809 – *Siemens / Flender*, paragraphs 10-13.

29 Case COMP/M.3809 – *Siemens / Flender*, paragraph 11.

30 Paragraph 133 of the Form CO.

48. The results of the market investigation carried out by the Commission services confirmed that sub-segmentation on the basis of voltage, power rating or by applications would be correct and conceivable. In any event, the precise scope of the market for drives can be left open since under any of the contemplated alternatives the proposed transaction does not give rise to competition concerns.

49. As for the geographic scope, the Parties put forward that competition takes place at least at EEA level and perhaps at world-wide level[31], which the large majority of respondents to the market investigation confirmed.

50. In any event, the precise geographic scope of the market for drives can be left open since under any of the contemplated alternatives the proposed transaction does not give rise to competition concerns.

3.2. Competitive assessment

51. The Parties' combined market shares post-merger in the drives sector are relatively modest (between [5-10]% – [20-30]% depending on the exact segment) and the increment resulting from the proposed transaction is limited or inexistent ([0-5]%).

52. Within the course of the market investigation one complainant put forward that in the segments for (i) VSDs above 15 MW and (ii) SFCs above 10 MW following the proposed transaction, no "*independent*" supplier would remain on a market already characterized by a small number of market players (three including GE/Converteam with ABB and TMEIC[32]) since Converteam is the last independent manufacturer and supplier of such products. An independent manufacturer should in this context be understood as a producer of such drives that is not integrated into one of the competitors of the complainant in the field of the supply of large gas turbines used in power plants. Therefore, post merger the complainant would not have any supplier of these products left for the following reasons: (i) the merged entity can gain access to commercially sensitive information regarding the activities of the complainant; (ii) the post merger entity (and the other vertically integrated entities) would have ability and incentive to refuse to sell to the complainant (input foreclosure); and (iii) the post merger entity (and the other vertically integrated entities) will have ability and incentive to offer integrated products (conglomerate effect of the proposed transaction). Therefore, the proposed transaction, by which the last independent operator would disappear, would result in serious supply problems for entities such as the complainant that are offering large gas turbines used in power plants without having internal production of VSDs above 15 MW and SFCs above 10 MW. However, as for VSDs above 15MW, they are currently only used for hydro turbines, a segment in which GE is not present. With regard to SFCs above 10 MW, it was indicated by one of the main competitors, Ansaldo, that it produces SFCs above 10 MW without being a producer of large gas turbines. In addition, the complainant has already purchased SFCs above 10 MW from a vertically integrated operator, namely ABB. As a result, the proposed transaction will not result in competition problem from a vertical view point.

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31 Case COMP/M.3809 – *Siemens / Flender*, paragraph 20.

32 TMEIC is a 50/50 joint-venture between Toshiba and Mitsubishi Electric.

4. PROPULSION TRAIN SYSTEM FOR MARINE APPLICATION: POWER GENERATION EQUIPMENT (DIESEL ENGINE OR GAS TURBINE) – MECHANICAL/ELECTRIC PARTS

4.1. Relevant product and geographic markets

53. A propulsion system train for naval applications typically consists of the following key components: power generation equipment (driver: diesel engine, gas turbine), alternator or generator, electric distribution or control, VSD, electric motor, shaft line and propeller.

54. In line with the Commission precedents[33] stating that "*the Commission made a first distinction within the shipbuilding market between (i) merchant ships and (ii) naval (military) ships*", respondents to the market investigation indicated that naval (military) ships are distinct from other ships such as merchant ships. A large majority of the respondents to the market investigation also put forward that propulsion system trains to be used for naval defence surface ships are not substitutable with propulsion trains used in merchant surface ships from a demand–side perspective since they have specific characteristics including the requirement of stricter specifications (for certification) in terms of robustness than propulsion systems used in naval civil surface ships. Special requirements also exist for shock, noise or vibration.

55. The Parties also put forward that marine propulsion systems can be either mechanical or electrical. In this respect, in COMP/M.1164 - *GEC Alsthom/CEGELEC*, the Commission considered the possibility to distinguish between mechanical and electrical propulsion systems but ultimately left the question open.

56. In any event, the precise scope of the market for marine propulsion system trains can be left open since under any alternatives the proposed transaction does not give rise to competition concerns.

57. The Parties put forward that competition for both marine propulsion systems as for gas turbine or engines for marine applications takes place at an EEA-wide level, if not at global level.

58. As for the military segment, the Parties take the view that defence markets are deemed national only if there is one or more domestic suppliers (due to the assumed national preference of the military). However, when there is no domestic supplier, markets are deemed international (or defined as a "*rest of the world*" markets). The rationale for such distinction would be that without a preference for a national buyer, competition is open to suppliers on an international basis[34].

59. In its recent decision of 11 May 2009, the Commission also held this position[35], however it is not necessary to conclude on the precise geographic scope of this market since under any of the contemplated alternatives the proposed transaction does not give rise to competition concerns.

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33 See e.g. Case COMP/M.5473 – *Fincantieri / ABB / JV*, paragraph 21.

34 Case COMP/M.3821 - *Rheinmetall/Diehl/AIM*, paragraphs 21-22; Case COMP/M.3418 - *General Dynamics / Alvis*, paragraph 15; Case No IV/M.1413 - *Thomson-CSF / Racal Electronics*, paragraph 22.

35 Case COMP/M.5473 – *Fincantieri / ABB / JV*, paragraph 29.

4.2. Competitive assessment

60. GE produces diesel engines and gas turbines for marine applications while Converteam supplies electrical propulsion solutions for marine and naval ships including military vessels, especially generators, VSDs and electric motors integrated as an electric propulsion for surface ships.

61. With regard to electric propulsion solutions to civil marine application, Converteam's market shares are estimated as between [10-20]% – [30-40]% depending on the geographic segmentation (worldwide, EEA-wide), the number of contracts won, units sold and value. GE's presence in the civil marine segment is insignificant.

62. With regard to naval electric propulsion, according to the Parties' best estimates, depending on the number of contracts won, units sold and value, GE has between [20-30]% - [60-70]% and less than [0-5]% market shares with regard to respectively gas turbines and diesel engines used in naval electric propulsion systems at world-wide and EEA-wide levels. On the same basis, Converteam would have a market share of [30-40]% in France, [50-60]% in the Netherlands and [90-100]% in the UK if considered at national level, and between [30-40]% - [50-60]% at world-wide and EEA-wide levels. The Parties submit that, given the very limited number of tenders in naval electric propulsion, the resulting market shares above should not be seen as a proper indication of competitive strength. In particular, other competitors of Converteam in naval electric propulsion with relatively significant market shares are Siemens, Jeumont, ABB, Ansaldo and Bakker Siedrecht.

63. Within the course of the market investigation several market players raised the issue that as the propulsion train equipment for naval defence surface ships is composed of (i) electric components and (ii) engines and mechanical parts, the purchasers of such propulsion train systems need to consult, separately, the suppliers of electric components and the suppliers of engines and mechanical parts. GE, as a supplier of (ii) engines and mechanical parts, could have full knowledge of the technical interface and performances developed by the competitors of Converteam on electric components (i), and vice versa, as a result of the consultation process. In addition, the post merger entity might have the ability and incentive to impose an integrated product instead of the components currently supplied separately.

64. With regard to the access to information, the market investigation indicated that only limited data is necessary to interface the motor or generator with an engine and that the shipyards generally communicate to the suppliers of each product only what they strictly need to know about the other suppliers' products. More importantly, these suppliers have been able to use "proprietary information agreements" in order to protect their confidential information regarding their respective products. With regard to the integration scenario, the Parties put forward that such scenario cannot be envisaged taking into account the combined market shares of the Parties and the significant buyer power that national Navies / Ministries of Defence have with regard to the ordering of propulsion trains. Public authority respondents (national Ministries of Defence / Navies) to the market investigation indicated that very often integrated solutions are preferred in order to reduce risks and integration problems, and that they have the possibility to indicate their specific needs and maintain a choice on whether to procure an integrated solution or to purchase the different components separately within the course of the tendering process.

65. Another potential issue raised in the course of the market investigation is that propulsion train equipment/system for the naval defence surface ship market may become subject to the US International Traffic in Arms Regulations ("ITAR") control as a result of Converteam being acquired by a US company. As a consequence, uncertainties may arise with regard to the use of propulsion train equipment/system purchased from Converteam for the naval defence surface ship market in national (Europe) and export markets. This regulatory change would significantly diminish the number of potential suppliers in the EEA.

66. However, ITAR control is product specific and the change to US ownership for Converteam in itself does not impact the status of its products with regard to ITAR. In other words, the products of Converteam that would be or are already subject to ITAR before the merger would not change post transaction, and those which are not subject to ITAR will not become subject, simply because of the proposed transaction.

5. WIND GENERATORS (UPSTREAM) – WIND TURBINES (DOWNSTREAM)

5.1. Relevant product and geographic markets

5.1.1. Wind Generators

67. Wind generators are used in wind turbines and transform the mechanical power of the wind turbine's rotor into electrical energy. The Commission has looked at a potential product market definition for wind generators in 2005[36] and has concluded that wind generators constitute a product market separate from other types of generator (steam, hydro and heat recovery) on the basis of their wind-specific design features, such as the fact that the wind turbine rotor supplies fluctuating mechanical power depending on wind speed, the swept area and the density of the air.

68. The Parties put forward that further distinctions may be possible, based on power rating and technology used. With regard to power rating, the Parties submit that, from the supply-side perspective, substitution between generators of different ratings is possible and many wind generator suppliers manufacture generators with different ratings. While there is no substitution possible on the demand side, downstream substitution between wind turbines of nearby power ratings could exercise a competitive constraint which unifies the supply of generators of different ratings into one single product market. In addition, the Parties submit that there are different technologies used in the generator drive train, such as induction generators, excited synchronous generators and more recently, synchronous permanent magnet generators. Wind generators can also be distinguished based on direct drive (gearless) technologies and technologies which include the use of a gearbox between the rotor and the generator. The Parties submit that direct drive turbines are generally more expensive but have potential for fewer parts, lower maintenance costs and higher efficiencies, making them a preferred choice for off-shore wind farms.

69. The Commission's market investigation confirmed that wind generators are distinct from other types of generators since they need to operate under special circumstances, which requires the use of specific technologies and materials that can withstand environmental

36 Case COMP/M.3809 – *Siemens / Flender*, paragraph 9.

conditions such as corrosion and cycles of acceleration and deceleration due to different wind conditions.

70. With regard to a further segmentation by power rating, it appears from the market investigation that on the demand side, the choice of a generator of a specific power rating generally depends on the overall design of the wind turbine, in particular the size of the turbine. On the supply side, the design criteria are generally the same for all the wind generators with different power ratings and wind generator manufacturers are generally capable of producing different ranges of wind generators.

71. With regard to a further segmentation based on technology, in particular between direct drive (gearless) technologies and technologies which include the use of a gearbox, the market investigation showed that from a production point-of-view, a wind generator manufacturer might not have the ability to switch production between one technology and the other without significant time and investment. However, from the customers' point-of-view, it is at the time they define the technical specifications that they choose between the different technologies depending on such criteria as price, quality, weight, size, efficiency, availability, long-term maintenance costs, and therefore the different technologies generally compete against each other.

72. Regarding the geographic market, in line with the Commission's precedent[37], the Parties submit that the market for wind generators is at least EEA-wide in scope as competition for wind generators takes place at least at EEA level. The market investigation has broadly confirmed this.

73. In any event, for the purposes of this decision, the exact delineation of the relevant product and geographic market can be left open as the proposed transaction will not give rise to competition concerns irrespective of the market definition retained.

5.1.2. Wind Turbines

74. Wind turbines convert wind energy into electricity, in most cases for supply to the electrical grid. Wind turbines are installed on-shore and off-shore (including coastal applications).

75. The Commission has looked at a potential product market definition for wind turbines in 2002 when GE acquired the wind turbine business of Enron and considered that wind turbines can be distinguished from other forms of power generation, however it left open whether wind turbines constitute a market in itself.[38]

76. With regard to a further segmentation between on-shore and off-shore wind turbines, the Parties put forward that both are based on similar technologies and manufactured by the same OEMs, but are distinguished due to their specifications. The power ratings of off-shore wind turbines are generally higher and off-shore turbines tend to be bigger due to stronger wind potential and high installation costs that would make a small turbine not profitable.

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37 Case COMP/M.3809 – *Siemens / Flender*, paragraph 20.

38 Case COMP/M.2780 – *GE Wind Turbines / Enron* of 30 April 2002, paragraphs 9-10.

77. The market investigation has indicated that to the extent that wind turbines and other forms of power generation (e.g. steam and gas turbines, gensets, etc.) are all used to generate electricity and that the "cost of energy" for wind turbines is being reduced year on year, reaching near parity with other forms of power generation, these generally compete with each other. However, from a supply-side perspective, there are clear technological differences between wind turbines and even other turbine products, in terms of dimensions, materials, operational conditions, environment loads and necessary production capabilities. Thus, manufacturers of other types of turbines do not generally have the necessary financial resources and technical know-how to produce wind turbines.

78. With regard to a further segmentation between on-shore and off-shore wind turbines, the market investigation showed that from a supply-side perspective, the fundamental technology is the same but for some specific features in terms of resistance to corrosion. The difference lies more in the overall installation, operation and maintenance costs, which are affected by the harsher environmental conditions and difficulty to access turbines in off-shore installations. Thus, to off-set these higher costs and reduce the number of turbines to be installed and serviced off-shore, these wind turbines generally are as large as technically feasible and hence have a higher power output than on-shores ones.

79. Regarding the geographic market, the Parties submit that competition for the supply of wind turbines is at least EEA-wide, as wind farm construction firms or operation firms will source wind turbines from across Europe and even from outside Europe. The market investigation has broadly confirmed this.

80. In any event, for the purposes of this decision, the exact delineation of the relevant product and geographic market can be left open as the proposed transaction will not give rise to competition concerns irrespective of the market definition retained.

5.2. Competitive assessment

81. At the upstream level, GE does not sell generators for wind turbines to third parties[39] and Converteam currently sells only permanent magnet generators, which it has started to supply in the last two years.[40] Converteam's wind generators have a power rating of between 2 MW to 6 MW and more. Converteam is an extremely small player in the wind generators market overall, either globally or in the EEA. In 2010, the newly installed capacity for wind turbines was 38,265 MW worldwide and 9,295 MW in the EEA[41], of which Converteam supplied a total rated power of […] MW, all in the EEA. Therefore, in 2010, Converteam's share of supply of generators for wind turbines was [0-5]% worldwide and [0-5]% in the EEA (in terms of MW newly installed).

82. With regard to permanent magnet generators in particular, the Parties submit that it is a nascent technology in wind energy. In 2010, the newly installed capacity for wind

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39 GE sources most wind generators used in its wind turbines from third parties (but not Converteam). […]. Therefore, GE is not an alternative to Converteam for the supply of wind generators to wind turbine manufacturers.

40 Converteam could also design and manufacture other types of generators, such as fully-fed induction generators but it has not done so the past 9 years (see Paragraph 327 and footnote 105 of the Form CO).

41 Source: Global Wind Energy Council, Global Wind 2010 Report, of April 2011.

turbines coupled with permanent magnet generators was 4,863 MW worldwide and 241 MW in the EEA[42], of which Converteam supplied a total rated power of […] MW, all in the EEA and all on-shore. Other permanent magnet generator suppliers include ABB, The Switch, Ingeteam, Hitachi, Elin and VEM. In addition, like GE, several wind turbine manufacturers, such as Siemens/Winergy, Enercon, Gamesa and Vestas, produce their own permanent magnet wind generators. The Parties submit that permanent magnet generators compete with other wind generator technologies but that, even if one were to consider only permanent magnet generators for wind turbines, Converteam's share of supply would be less than [0-5]% worldwide and approximately [5-10]% in the EEA. Converteam is thus a marginal player in this technology. In this respect, based on the Parties' best estimates as regards average shares for projected supplies of permanent magnet wind generators for the next three years, Converteam may increase its market shares in off-shore permanent magnet wind generators to […]% both at worldwide and EEA level. At the same time, independent manufacturers such as ABB, The Switch and Ingeteam are also projected to increase their markets shares to […]% and […]%,[…]% and […]% as well as […]% and […]%, respectively, at worldwide and EEA levels in this specific segment.

83. Downstream, GE is a supplier of wind turbines while Converteam is not. GE makes wind turbines with rated capacities from 1.5 MW, to 2.75 MW (for on-shore) and 4.1 MW (for off-shore). GE's global share for the supply of wind turbines in 2010 was [10-20]% worldwide and [5-10]% in the EEA (on-shore and off-shore combined).[43] Based on the installed wind turbine capacity in the EEA during 2010 (on-shore and off-shore combined), the two leading suppliers are Vestas with [20-30]% and Enercon with [20-30]%. Other suppliers with more than 5% are Gamesa ([10-20]%), Siemens ([5-10]%), REpower ([5-10]%) and Nordex ([5-10]%). All others have a share of 5% or lower.[44] If one considers on-shore applications separately, GE's share is also around [10-20]% worldwide and [5-10]% in the EEA. Off-shore, GE's share is marginal (less than [0-5]%) and GE is hardly present in off-shore wind turbines in Europe.[45]

84. During the market investigation, one complainant put forward that the proposed transaction would remove one of the only suppliers of permanent magnet wind generators not integrated into a wind turbine manufacturer. According to the complainant, the merged entity would gain access to commercially sensitive information regarding the activities of other wind turbine manufacturers such as the complainant and would have ability and incentive to refuse to sell permanent magnet wind generators to them. The complainant's concerns pertained to off-shore installations in particular, which are expected to grow rapidly as public sentiment and space saturation limit on-shore expansion.

85. However, as described above, GE's market share in the downstream market for overall wind turbines is only [10-20]% worldwide and it is marginal for off-shore wind turbines. Thus, from the supply-side point of view, GE's limited presence in the wind turbine

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42 Source: Parties' best estimates.

43 Share figures refer to share of total new installations (measured in terms of capacity) for the year 2010. Source: "Wind Turbine OEM Market Share 2010" research note by MAKE Consulting of March 2011.

44 Source: MAKE Consulting "Wind Turbine OEM Market Share 2010", p. 4, 7, 10.

45 GE has installed a very limited number of off-shore turbines in the past, withdrew for a while and has recently re-entered via its acquisition of ScanWind. […].

market will not preclude Converteam's rivals from supplying their products downstream. In addition, several independent permanent magnet wind generator manufacturers will remain on the market (e.g., ABB, The Switch, Ingeteam, Hitachi, Elin and VEM). Moreover, based on the Parties' best estimates as regards average shares for projected supplies of permanent magnet wind generators for the next three years, Converteam may increase its market shares in off-shore permanent magnet wind generators to […]% both at worldwide and EEA level. However, independent manufacturers such as ABB, The Switch and Ingeteam are also projected to increase their markets shares to […] and […]%, […] and […]% as well as […] and […]%, respectively, at worldwide and EEA level in this specific segment. Consequently, the proposed transaction will not result in competition concern from a vertical view point and the concerns expressed by the complainant can be dismissed.

V. CONCLUSION

86. For the above reasons, the European Commission has decided not to oppose the proposed transaction and to declare it compatible with the internal market and with the EEA Agreement. This decision is adopted in application of Article 6(1)(b) of the Merger Regulation.

For the Commission

(signed)
Maria DAMANAKI
Member of the Commission