EN

Case No COMP/M.3304 - GE / AMERSHAM

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REGULATION (EEC) No 4064/89
MERGER PROCEDURE

Article 6(1)(b) NON-OPPOSITION
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COMMISSION OF THE EUROPEAN COMMUNITIES

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PUBLIC VERSION

MERGER PROCEDURE
ARTICLE 6(1)(b) DECISION

To the notifying parties

Dear Sir/Madam,

Subject: Case No. COMP/M.3304 – GE/Amersham
Notification of 08 December 2003 pursuant to Article 4 of Council Regulation No 4064/89[1]

1. On 8 December 2003, the Commission received a notification of a proposed concentration, pursuant to Article 4 of Council Regulation (EEC) No 4064/89, as last amended by Regulation (EC) No 1310/97, by which the General Electric Company ("GE", USA) acquires within the meaning of Article 3(1)(b) of the Council Regulation sole control of the whole of the UK undertaking Amersham Plc ("Amersham") by way of a scheme of arrangement or a take-over offer. After implementation of the offer, Amersham will become a wholly owned subsidiary of GE.

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 functioning of the EEA Agreement.

I. THE PARTIES AND THE OPERATION

3. GE is a diversified company active in various manufacturing, technology and service businesses, including medical systems. GE Medical Systems specialises in medical diagnostic imaging technology, related services and health care products.

4. Amersham is a diversified healthcare and life sciences company, with two primary business divisions: Amersham Health, which produces diagnostic pharmaceuticals (contrast agents and radiopharmaceuticals) and Amersham Biosciences, whose activities relate to products used in the manufacture and development of biopharmaceuticals and drug discovery.

[1] OJ L 395, 30.12.1989 p. 1; corrigendum OJ L 257 of 21.9.1990, p. 13; Regulation as 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).

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II. THE OPERATION AND THE CONCENTRATION

5. The proposed operation concerns the acquisition of sole control of Amersham by GE. On 10 October 2003, GE launched a pre-conditional offer for Amersham and entered on the same date into an implementation agreement with Amersham. Both GE's and Amersham's boards gave approval for the transaction on 7 October 2003 and 9 October 2003 respectively. Obtaining clearance from the European and US antitrust agencies are pre-conditions to the implementation of the offer. The acquisition will be performed either by way of a scheme of arrangement or a take-over offer.

6. On the basis of the foregoing, the proposed acquisition, whereby GE acquires sole control over Amersham, constitutes a concentration within the meaning of Article 3(1)(b) of the Merger Regulation.

III. COMMUNITY DIMENSION

7. The undertakings concerned have a combined aggregate world-wide turnover of more than EUR 5 billion (GE EUR 139,215 million and Amersham EUR 2,572 million in 2002). Each of GE and Amersham have a Community-wide turnover in excess of EUR 250 million (GE EUR […] and Amersham EUR […] in 2002), but they do not achieve more than two-thirds of their aggregate Community-wide turnover within one and the same Member State. The notified operation therefore has a Community dimension.

IV. MARKET DEFINITIONS

A. Relevant product markets

8. GE's Diagnostic imaging (DI) equipment is used for the analysis or diagnosis of the human body's health status or to detect a specific disease through the production of images. Amersham's diagnostic pharmaceuticals (DPs) enable or enhance the clarity of the image produced by DI equipment. Therefore, DI equipment and DPs may be regarded as complementary products for the purposes of the present competitive analysis, in the sense that, for some imaging procedures, customers (i.e., hospitals) need to procure both diagnostic imaging equipment and pharmaceuticals in order to provide the most optimal imaging service to patients. As will be discussed further below, not all imaging modalities require the use of diagnostic pharmaceuticals. In the absence of horizontal overlaps, the varying levels of combined use of these two complementary products may have an impact on the relevance of market segmentation in the present case.

a. Diagnostic imaging (DI) equipment

9. In line with previous Commission decisions[2], the parties have submitted that DI equipment can be segmented according to the five main DI modalities and that each such segment may constitute a relevant product market. These markets are, (i) X-ray imaging equipment, (ii) Computed tomography (CT) imaging equipment, (iii) Magnetic resonance (MR) imaging equipment, (iv) Ultrasound (U/S) imaging equipment and (v) Nuclear imaging (NI) equipment. The market investigation has confirmed the parties' proposal that each one of the main DI equipment modalities constitutes a distinct

[2] Case COMP/M.2256 – Philips / Agilent Health Care Solutions, Case COMP/M.2537 – Philips / Marconi Medical Systems and Case No COMP/M.3083 – GE/Instrumentarium.

product market. As each modality serves a particular application[3], the limited degree of demand substitutability confirms the existence of distinct markets. Whilst all major players produce a wide range of imaging equipment, covering all modalities, the underlying technologies are significantly different from one another to such an extent that a hypothetical small but permanent relative increase in the price of one type of equipment would not prompt manufacturers of another type of equipment to switch production to the former type of equipment and market it in the short term without incurring significant additional costs or risks. Within each of the modalities considered, a further segmentation, as indicated in the following table, is possible.

DI modality	Main segments	Sub-segments
X-ray:	- X-ray:	- Mammography - Dental - General radiology
	- Fluoroscopic X-ray:	- Fixed C-arms - Mobile C-arms - R&F (radiography/fluoroscopy)
CT:	- Single-slice CT - Multi-slice CT	
MR:	- Open MR - Closed MR:	 - MR closed 0.5 – 1.0 T - MR closed 1.5 T - MR closed 3.0 T
U/S:	U/S	
NI:	- SPECT* Gamma cameras - Dedicated PET** Scanners	

* SPECT: Single Photon Emission Computed Tomography

** PET: Positron Emission Tomography

10. With regard to the question whether such a further segmentation is warranted for the purposes of a competition analysis in the present case, no clear answer was provided by the market investigation. On the basis of limited demand-side substitutability, it would be relevant to further define the above sub-segments as distinct product markets. This would be specifically the case for Nuclear Imaging (NI) equipment where a clear distinction can be made between PET Scanners and SPECT/Gamma Cameras. For the X-ray/CT/MR and U/S modalities, the market investigation has confirmed the Commission's previous decisions, in which it concluded that further market segmentation is possible. For CT, a distinction can be made between single-slice and multi-slice imaging, although the industry is gradually evolving towards the latter. With regard to MR, European demand is predominantly (90%+) for closed systems as opposed to open systems. No further segmentation is relevant for U/S. Within the X-ray modality, only Fluoroscopic X-ray uses DPs to an appreciable extent for diagnostic imaging procedures. Fluoroscopic X-ray can be segmented into radiography/fluoroscopy, fixed C-arms and mobile C-arms (comprising cardiac, vascular and low-end C-arms).

11. In any event, for the present case it is not necessary to decide whether further sub-segments ought to be defined for the X-ray, CT and MR imaging equipment markets, since the operation assessed under the various alternatives does not lead to serious doubts as to its compatibility with common market and the EEA agreement.

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[3] X-ray / CT is mainly used to detect abnormalities of the anatomy by indicating differing densities of body tissue. U/S is used to provide an image of soft tissues and fluid filled spaces through the reflection of sound waves. MR reflects disorders of the central nervous system (neurology). NI identifies abnormal cellular activity and is mostly used for oncology and cardiac examinations.

b. Diagnostic pharmaceuticals

12. According to the parties, a broad distinction between contrast agents and radioactive pharmaceuticals would be sufficient in order to define the DP markets (i.e., Amersham's activities). Contrast agents are used to assist the detection of structures, such as blood vessels and bones and may be used in X-ray, CT, MR and U/S procedures, whereas radioactive pharmaceuticals are used to detect cellular activity – hence they contain radioactive isotopes – and are used in NI procedures.

13. The market investigation has not supported this view, indicating that such a distinction is too broad. X-ray/CT[4], MRI, U/S contrast agents may each constitute distinct product markets, as they are based on different chemical properties and composition and serve different underlying imaging technologies, hence limiting their demand-side substitutability. In addition, there are differences in the way each DP product category is produced and distributed[5], hence limiting supply-side substitutability. For the same reasons, SPECT and PET tracers may constitute distinct radioactive pharmaceutical product markets.

14. Moreover, it appears that more than 80% of SPECT nuclear imaging procedures are performed with tracers that are not specific to the human organ they inspect and that can be used in applications as diverse as bone oncology, thyroid studies, lung perfusion and ventilation and kidney studies. The market investigation has suggested that tracers for all these procedures should form one single market. For the remaining 20% of SPECT procedures, organ-specific tracers are required for cardiac function (17% of all SPECT applications), and a number of niche applications such as cerebral perfusion, infection imaging, lung oncology and Parkinson diagnosis. Given that these SPECT procedures require organ-specific tracers, thereby reducing the possibility of demand-side substitutability, and given that suppliers could not easily and readily produce SPECT tracers for all applications, each one of these SPECT applications could constitute a distinct product market.

15. In any event, for the competitive assessment in the present case it is not necessary to decide on the exact scope of the DP markets, since the operation assessed under the various alternatives does not lead to serious doubts as to its compatibility with the common market and the EEA agreement.

B. Relevant geographic markets

4 In X-ray and CT procedures the same contrast agent is used.

5 For instance, NI requires decentralised production due to the limited half-life of the radioactive isotopes.

16. According to the notifying party, the relevant geographic market is EEA-wide in scope for both the DI equipment and the DPs, mainly owing to the lack of any significant brand loyalty to national brands, the existence of low transport costs and the ease of establishment of local distribution and servicing networks. In addition, the parties also submitted that there are common legal requirements for medical devices (Medical Devices Directive[6]) concerning the registration and the mutual recognition of pharmaceuticals. Finally, the parties argued that medical equipment and pharmaceuticals are increasingly purchased through public tendering procedures, which are often subject to the European procurement directives.

17. The market investigation has not provided a clear view on this approach. Whilst for both DI equipment and DPs there exist differences across Member States with regard to national guidelines, approval, procurement and reimbursement procedures, the suppliers of both DI equipment and DPs consider that these differences are not substantial enough to define the scope of the markets narrower than EEA-wide.[7] Customers' replies, on the contrary, tend to suggest that markets are national. Customers require their suppliers to have local sales offices and training capabilities and insist on support from maintenance engineers' teams to resolve problems quickly and promptly in order to reduce equipment downtime.

18. In any event, for the present case it is not necessary to decide whether the DI equipment and DPs markets are national or EEA-wide in scope, since the operation assessed under the various alternatives does not lead to serious doubts as to its compatibility with common market and the EEA agreement.

V. COMPETITIVE ASSESSMENT

1. Structure of the market

1.a. Diagnostic imaging equipment

19. In the DI equipment markets, the number of suppliers appears to ensure a sufficiently competitive market structure. GE faces competition from a number of competitors. The most important seem to be Philips and Siemens who are active across the EEA and offer a complete range of medical imaging equipment. Other suppliers such as Toshiba and Hitachi also supply a wide range of equipment and are present in the EEA as well as at world-wide level. Furthermore, there are niche specialists such as Esaote (part of the Bracco group), Bruker and Shimadzu who generally focus on specific DI equipment.

20. The market positions of GE and its main competitors in the EEA are as follows.[8]

DI equipment: EEA-wide market shares

DI Equipment	GE	Siemens	Philips	Toshiba	Others
X-ray	[10%-	[30%-	[30%-		[20%-30%]

[6] Council Directive 93/42/EEC of 14 June 1993 concerning medical devices; *Official Journal L 169 , 12/07/1993 P.1-43*

[7] Previous Commission case law on DI equipment had generally left the question open, however in GE/Instrumentarium the DI equipment markets were defined as national.

[8] Market share figures are based on 2002 sales data as provided in the Form CO and confirmed by the market investigation.

	20%]	40%]	40%]		
Fixed C-arms	[10%-20%]	[30%-40%]	[40%-50%]	[1%-10%]	
Mobile C-arms	[30%-40%]	[20%-30%]	[20%-30%]		[20%-30%]
CT	[30%-40%]	[30%-40%]	[10%-20%]	[10%-20%]	
MR	[20%-30%]	[30%-40%]	[30%-40%]		[1%-10%]
Gamma (SPECT)	[20%-30%]	[30%-40%]	[30%-40%]		[1%-10%]
PET	[30%-40%]	[30%-40%]	[30%-40%]		

21. When assessed at EEA-wide level, it appears that Siemens and Philips exercise significant competitive pressure upon GE. Such a market structure reduces the possibility of a finding of pre-merger dominance on the part of GE, which is generally required for assessing the likelihood of market power leveraging.

22. On the basis of national markets, GE holds a number of market positions which may be indicative of a certain degree of market power. The following table indicates GE's positions in excess of 40% market share:

DI equipment: National market positions (volume, 2002)

X-ray mobile C-arms	**GE**	**Major competitor(s)**
Ireland	[60%-70%]	Philips [20%-30%]; Siemens [20%-30%]
France	[40%-50%]	Philips [20%-30%]; Siemens [10%-20%]
X-ray fixed C-arms		
Finland	[60%-70%]	Siemens [30%-40%]
Greece	[60%-70%]	Philips [30%-40%]
Portugal	[40%-50%]	Philips [20%-30%]; Siemens [20%-30%]
CT		
Spain	[40%-50%]	Philips [20%-30%], Siemens [20%-30%]
UK	[40%-50%]	Philips [10%-20%], Siemens [20%-30%]
MRI		
Portugal	[40%-50%]	Philips [20%-30%], Siemens [20%-30%]
SPECT		
Portugal	[80%-90%]	Philips [10%-20%]
Spain	[40%-50%]	Philips [20%-30%], Siemens [20%-30%]
UK	[50%-60%]	Philips [20%-30%], Siemens [20%-30%]
PET		
Italy	[50%-60%]	Philips [10%-20%], Siemens [30%-40%]
Spain	[60%-70%]	Siemens [30%-40%]
Portugal	[50%-60%]	Siemens [50%-60%]
UK	[50%-60%]	Siemens [50%-60%]

23. Whilst these market shares reflect leading positions, the parties have submitted that they may not necessarily reflect market dominance, given that the bidding nature of the markets, the buyer power of hospitals, the ease of switching suppliers and equipment, and the possibility for competitors to leapfrog on the basis of technological innovation[9]

[9] The market investigation has shown that the innovation cycle for DI equipment is 2 to 3 years, meaning that a manufacturer who fails to implement a technological innovation for a particular modality will not be forced out of the market. Instead, this competitor may decide to skip one technological cycle in order to be ahead of its competitors in marketing the next technological innovation.

are important drivers of competition in these markets. This is, according to the parties, to a certain extent illustrated by the volatility of market shares over a given number of periods (year-to-year fluctuations can be as high as 30%). In each of the national markets where GE holds a high market share, the main competitors are also active. The market investigation has not attributed to GE any specific characteristics (technological or other) that would provide it with an important economic advantage over competitors.

b. Diagnostic pharmaceuticals

24. In the diagnostic pharmaceuticals markets, Amersham competes with Schering, Tyco/Mallinckrodt, Bracco/Altana, Guerbet and Bristol-Myers Squibb (BMS) and with a number of smaller niche players. The market positions of Amersham and its main competitors in the EEA are as follows.[10]

Diagnostic Pharmaceuticals: EEA-wide market shares

Contrast agents	Amersham	Schering	Guerbet	Bracco	Tyco	BMS	Others
X-ray / CT	[20%-30%]	[30%-40%]	[10%-20%]	[20%-30%]	[10%-20%]		
MR	[20%-30%]	[50%-60%]	[10%-20%]	[10%-20%]			
Ultrasound	[10%-20%]	[60%-70%]		[20%-30%]			
SPECT	[30%-40%]	[20%-30%]			[20%-30%]	[10%-20%]	[10%-20%]
Cardiac function	[30%-40%]	[10%-20%]			[10%-20%]	[30%-40%]	[0%-10%]
Cerebral	[40%-50%]	[0%-10%]			[0%-10%]	[50%-60%]	[0%-10%]
Infection	[50%-60%]	[10%-20%]			[20%-30%]	[0%-10%]	[10%-20%]
Lung oncology	[10%-20%]	[0%-10%]			[0%-10%]	[0%-10%]	[80%-90%]
Parkinson	[70%-80%]	[20%-30%]					[0%-10%]
Other	[20%-30%]	[20%-30%]			[30%-40%]	[10%-20%]	[10%-20%]
PET[11]	[0%-10%]						

25. The parties suggested that Amersham's market shares do not reflect an uncontested position when assessed on the basis of an EEA market. Specifically for those DPs that show a high degree of complementarity with DI equipment (SPECT, PET, CT and to a lesser degree MR), Amersham faces strong competition from Schering, Tyco, Bristol Myers and Bracco.

26. On the basis of national markets, Amersham's most important positions are indicated in the following table.

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[10] Market share figures are based on 2002 sales data (volume) as provided by the parties' form CO, which have been broadly confirmed by the market investigation

[11] Amersham is currently not active in the PET market and claims that it is unable to calculate the rivals' market share. […]

Diagnostic Pharmaceuticals: National market shares (volume, 2002)

X-ray / CT	Amersham	Major competitor(s)
Denmark	[40%-50%]	Bracco [30%-40%]
Ireland	[40%-50%]	Bracco [20%-30%]
Norway	[60%-70%]	Bracco [20%-30%], Schering [10%-20%]
Sweden	[50%-60%]	Schering [10%-20%], Tyco [10%-20%]
UK	[50%-60%]	Schering [10%-20%], Bracco [10%-20%], Tyco [10%-20%]
MR		
Norway	[50%-60%]	Schering [30%-40%]
Sweden	[50%-60%]	Schering [20%-30%]
SPECT		
Cardiac function		
Finland	[70%-80%]	BMS [20%-30%]
The Netherlands	[60%-70%]	Tyco [10%-20%], BMS [10%-20%]
Norway	[80%-90%]	BMS [10%-20%]
Portugal	[70%-80%]	BMS [10%-20%]
Spain	[70%-80%]	BMS [20%-30%]
Sweden	[70%-80%]	BMS [20%-30%]
UK	[60%-70%]	BMS [20%-30%]
Cerebral		
Austria	[70%-80%]	BMS [20%-30%]
Denmark	[50%-60%]	BMS [40%-50%]
Finland	[60%-70%]	BMS [30%-40%]
Germany	[50%-60%]	BMS [40%-50%]
Greece	[60%-70%]	BMS [30%-40%]
The Netherlands	[70%-80%]	BMS [20%-30%]
Portugal	[50%-60%]	BMS [40%-50%]
Sweden	[50%-60%]	BMS [40%-50%]
UK	[90%-100%]	BMS [0%-10%]
Infection		
Belgium	[60%-70%]	Tyco [20%-30%]
Denmark	[90%-100%]	
Finland	[90%-100%]	
Ireland	[80%-90%]	Tyco [10%-20%]
Norway	[90%-100%]	
Sweden	[90%-100%]	
UK	[80%-90%]	Immunometrics [10%-20%]
Parkinson Diagnosis		
Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Norway, Portugal	[90%-100%]	
The Netherlands	[90%-100%]	Schering [0%-10%], Others [0%-10%]
Spain	[90%-100%]	
UK	[90%-100%]	Schering [0%-10%]
PET	[0%-10%]	

27. The parties have argued that these positions do not necessarily reflect market dominance and that the markets remain competitive, as illustrated by the downward price evolution and the significant price rebates that suppliers provide as an incentive for customers to switch suppliers, as well as by the rivals' varying levels of market penetration to the different national markets.

28. As can be seen in the preceding table, in certain DPs Amersham holds very high market shares. The market investigation indicated that such DPs constitute niche applications in which Amersham has been the first supplier to place its R&D focus on. Competitors in

SPECT such as Schering, Tyco and Bristol Myers Squibb have focused their R&D efforts on other new applications where they hold comparable market positions. In addition, even in those DPs where Amersham has a 100% market share in some countries, the investigation suggested that this is only a temporary position as in general, innovation and the resulting ability of competitors to leapfrog with new products is considered by the market as an important competition driver.

29. For the rest, the market investigation has not attributed to Amersham any extraordinary or non-replicable capability (either R&D, distribution or brand related) that would place it in a better position to compete in the market. Amersham's R&D spending is comparable to its main competitors, and as discussed below, a large part of the fundamental research is conducted by universities and therefore accessible to all players in the market usually through licenses.

30. The possible theories of competitive harm addressed below will also take into account Amersham's high market shares for certain DPs in various national markets.

2. Types of competitive harm

31. The proposed concentration does not give rise to any horizontal overlaps. The respective products of GE and Amersham may be viewed as complements, in that customers (i.e., hospitals) need to procure both of them in order to provide an imaging medical service to patients. The market investigation therefore explored the possible competitive effects of a merger of complements, that is to say whether or not the merged entity may acquire, as a direct and immediate result of the merger, the ability and economic incentive to foreclosure competition, by leveraging its pre-merger market power from one market to another through exclusionary practices, such as bundling and/or tying. In particular, it explored, firstly, whether the merged entity would be able to foreclose competition through bundling, thereby inducing combined sales of DI equipment and DPs through price reductions on the product bundle; and secondly, through technical tying, thereby making its products work most optimally or exclusively with one another at the exclusion of competing products.

32. It has to be reminded that the combinations of DI equipment and DPs show varying degrees of complementarity. The use of DPs is very limited in U/S and general X-ray procedures – therefore the complementarity of the two products is less pronounced – whilst all NI procedures, roughly half the CT procedures and one in four MR procedures require diagnostic pharmaceuticals. As the analysis of potential market power leveraging becomes redundant when there is no or limited complementarity between the products assessed, the competitive assessment focuses on those procedures where there is currently a significant level of product complementarity.

2.a. Commercial bundling

33. Following the transaction, GE will have the ability to offer its customers a complete diagnostic imaging solution, comprising both the DI equipment and the DPs. As a result, GE could attract customers by proposing to them a bundle of DI equipment and DPs at a lower price than the sum of the components purchased on a stand-alone basis. Some of GE's competitors have claimed that the merged entity would not only have the ability, but also the economic incentive to engage in such a commercial bundling strategy with the aim to exclude competitors from the market. These competitors argued that the merger would harm their profits and would result in "unfair competition".

34. For instance, a competitor of GE stated that locking-in customers into long-term contracts for the supply of DPs may provide GE with an attractive profit stream which could be used to finance sharp discounts on associated DI equipment. Some of Amersham's competitors have indicated that the merged entity could decide to discount the prices of equipment maintenance services in order to lure hospitals that are already equipped with GE technology into buying Amersham's DPs or to discount DPs pricing through cross-subsidisation. These third parties alleged that the result of these commercial bundling strategies would be an increase in pricing pressure, which would then reduce their revenues streams and thus their ability and incentive to invest in R&D. This, possibly in combination with other exclusionary strategies, might gradually marginalise them up to the point that they would be forced to exit the market.

35. In contrast to these claims, other competitors of the parties as well as the vast majority of customers have seriously questioned the feasibility of such a strategy, pointing to the fact that combined offers of DI equipment and DPs are generally uncommon in this industry. They explained that there exist significant differences in the procurement procedures and supply chains for DI equipment and DPs, as well as completely different procurement timelines. For instance, DI equipment has a long lifecycle of a minimum of 10 years, it is therefore purchased infrequently and represents a one-off major capital expenditure. DPs, being consumables, are purchased more frequently and in much smaller volumes and thus represent a smaller-scale purchasing decision taken regularly throughout the lifecycle of the corresponding DI equipment. Respondents said that whilst the above differences do not exclude commercial bundling from taking place, they however complicate its successful implementation.

36. Hospitals said that they would value the lower prices that could result from bundling in the short term, but have also indicated that price is not their key selection criterion; it is rather the technological attributes of the products and the resulting quality of the image that they value most. Hospitals have therefore indicated that they would continue selecting best-of-breed DI equipment and DPs and that they would refuse the incentives resulting from bundled offers, if buying the bundle would negatively affect their ability to select the best product for a given application.

37. In assessing commercial bundling, the Commission examined whether or not each one of the various conditions that would render it anti-competitive are met in the present case. Indeed, for commercial bundling to result in foreclosure of competition it is necessary that the merged entity is able to leverage its pre-merger dominance in one product to another complementary product. In addition, for such strategy to be profitable, there must be a reasonable expectation that rivals will not be able to propose a competitive response, and that their resulting marginalisation will force them to exit the market. Finally, once rivals have exited the market, the merged firm must be able to

implement unilateral price increases and such increases need to be sustainable in the long term, without being challenged by the likelihood of new rivals entering the market or previously marginalised ones re-entering the market.

38. As outlined above, neither GE nor Amersham have strong enough market positions in the EEA to be qualified as dominant pre-merger. In certain member states, however, either GE or Amersham enjoy high market shares in some product markets, although such market shares do not in themselves indicate dominance in the particular context of these markets (i.e., bidding nature of the markets, lumpy and infrequent procurement of equipment, existence of credible alternative suppliers, leapfrogging through innovation, absence of switching costs, countervailing power of hospitals and so on).

39. Concerning the response of rivals, the market investigation has revealed that there exist a sufficient number of viable and resourceful rivals in DI equipment and DPs, who would be able to respond to the merged entity's commercial bundling through various counter-strategies, such as for instance price reductions, similar bundles (through teaming or counter-mergers) and technological leapfrogging as a result of innovation. For instance, GE/Amersham will not be the first combined supplier of DI equipment and DPs; Esaote, the Italian DI equipment manufacturer, has become a full subsidiary of Bracco, a competitor of Amersham, and is in theory in a position to offer both DI equipment and DPs.

40. The market investigation has not substantiated either the possibility that as a result of commercial bundling competing manufacturers would be marginalised and/or forced to exit the market. Concerning existing products, as indicated in the preceding paragraphs, all major suppliers are present in almost all product markets and all national markets, although at varying levels. Their exit would be conceivable only if it took place at global level, not in some specific member states. Rivals may suffer from lower profits in certain member states as a result of the erosion of their market shares due to bundling and price discounts, but all customers and the majority of competitors said that the effect of such a practice would not be sufficient to drive rivals overall out of the market. Concerning future products, the Commission investigated whether lower profits resulting from bundling and price discounts may negatively affect the rivals' incentive to invest in R&D and in the development of new products. However, it turned out that to the extent that R&D is not linked to sales in specific member states, the likelihood of rivals curbing significantly on their global R&D expenditure was also excluded.

41. Finally, the Commission examined whether or not as a result of a hypothetical foreclosure of rivals, prices might rise in the long term and remain unchallenged by market entry or re-entry. The investigation indicated that barriers to entry or re-entry in specific member states are not significant. To the extent that no local manufacturing facilities are required in order to sell products in a member state, the investment to enter a market for an existing player would be limited to the establishment of a sales force and the provision of an after-sales maintenance and training support, which can also be outsourced locally. Given that all rivals are global companies and will continue to be active in other parts of the EEA or the world, they will be able to continue competing effectively in those member states where they might suffer profit losses as a result of bundling.

42. Concluding from the above, the Commission's inquiry resulted in the finding that commercial bundling of DI equipment and DPs may materialise, but for the reasons explained, it would be unlikely to lead to any significant foreclosure of competition.

2.b. Forced bundling

43. The Commission also examined whether or not the merged entity would have the ability and economic incentives to engage in forced bundling (or pure tying). Under this practice, the merged firm would no longer make its respective products available on a stand-alone basis, but exclusively as a bundle. The investigation suggested that the merged entity would lack the economic incentive to engage in such a practice. Indeed, tying GE's DI equipment with Amersham's DPs would deny the merged entity significant sales of DPs to the current users of non-GE equipment. Mutatis mutandis, GE would need to forego sales for DI equipment to users that would prefer to continue using non-Amersham DPs, were it to deny customers the sales of stand-alone GE DI equipment. Therefore, forced bundling of DI equipment and DPs seems unlikely to occur as a result of the proposed transaction.

2. c. Technical Tying

44. The Commission also examined whether or not the merger may lead to foreclosure of competition as a result of technical tying.

45. At present, the diagnostic imaging environment is an open one. All DI equipment works with all available DPs. During the market investigation, a third party was of the opinion that, through the merger, today's open-system environment is likely to be transformed into a closed one. This would occur through technical tying which would ultimately have as a result to foreclose rivals. This foreclosure would come a result of two events: first, as a result of the lack of interconnectivity of the merged entity's products with competing products; secondly, as a result of a so-called time-to-market advantage that the merged company would gain by internalising the knowledge on development plans in DI equipment and DPs carried out by each one of the merging parties.

46. It goes without saying that such a concern would be relevant only to new products. Indeed, current products of existing suppliers cannot be affected by technical tying as at present they work optimally with each other in an open-system environment.

47. The Commission examined both aspects of a possible technical tying strategy and came to the conclusion that either this would not be feasible or that, even if it were, it would not have any significant adverse effect on competition.

48. First, the Commission examined whether or not there exist strong technological links between the manufacturing of DI equipment and the development of DPs, in other terms whether it would be possible that new Amersham DPs could de tailored to function exclusively or most optimally with GE equipment.

49. The above scenario was not confirmed by the market investigation. The significance of the alleged technological links was not confirmed by the Commission's inquiry, which possibly explains the current insignificant number of agreements on technological collaboration for equipment optimisation between DI equipment manufacturers and DP suppliers. Respondents to the Commission's questionnaires mentioned it would be desirable for DI equipment manufacturers and DP suppliers to collaborate more closely in the future with a view to achieving better technological advancements. However, none suggested that such collaboration may be commanded by strong technological

links between the two products or that it may give rise to proprietary and non-replicable results. Moreover, in their reply to the market investigation, both customers and competitors have stated that currently there are no interoperability issues with existing products and that no interoperability issues can be foreseen for future products, unless Amersham would develop breakthrough DP products that no other competitor is able to replicate without the parties' co-operation and which cannot be used on other DI equipment (so called "smart" DPs) than GE's. Technically speaking and according to a third party, such a development would be, if at all possible, most likely to take place in the field of nuclear imaging, and in particular PET.

50. With regard to non-nuclear DPs, Amersham has no products in clinical testing for […] that could result in new products. It has one existing MR product that is currently in clinical trial (Phase II) for new indications. Therefore, it seems highly unlikely that technical tying could occur for fluoroscopic X-ray applications. Concerning NI DPs, Amersham has several products in the pipeline for both SPECT and PET procedures. These SPECT pharmaceuticals concern applications such as […]. Other competitors also have pipeline products, some of which are in direct competition with Amersham's pipeline products. For instance, Schering has a radiopharmaceutical for the detection of Parkinson in Phase III of clinical testing. Bracco is also active in cardiac function. For oncology and internal medicine, competitors are developing products, although for different indications.

51. With regard to PET, a third party claimed that, through the present transaction, GE would acquire the best funded R&D and patent portfolio of PET tracers. Amersham is indeed spending more than […] of […] on radiopharmaceuticals. However, the Commission's analysis of Amersham's portfolio of PET patents and PET pipeline products did not support such a conclusion. Amersham has no product yet on the market. […]. FDG is supplied by many other firms, including the Belgian company IBA. It is not patent-protected. A comparable reasoning applies to F-Dopa, […]. For the rest, Amersham has […] in the pipeline, which concerns […]. This product is at a very early stage of development and is not expected to be commercialised before the year […].

52. Regarding patents, Amersham currently owns […] patents related to PET. Of these, […]. They do not put Amersham in any unique position since these […] products are already marketed by competitors who have their own patents. The remaining […] patents concern PET tracers, and more precisely possible future PET tracer applications. […]. Therefore, the patents held by Amersham cannot be considered as conferring a unique position to Amersham with regard to PET.

53. All in all there are four competing firms which undertake extensive research for new NI DPs, some of which, like BMS, have a higher number of patents than Amersham. In addition, there are several universities and research institutes, which have become specialised in one or more areas of disease indications, such as the Emory University or Harvard University. These universities also own patents which are often licensed to third parties for commercialisation. Furthermore, contrary to the claim by a third party, there appears to be no correlation between the number of patents a DP supplier holds and its future market share or market power in the end-use DP markets. A review of patents portfolio and actual market positions of several suppliers, presented by the merging parties, showed that the number of patents held in the pharmaceutical industry and especially in diagnostic pharmaceuticals does not necessarily translate into future market success.

54. As a result of the above, the Commission concluded that Amersham's development plans in DPs, and in particular in PET tracers, do not raise any concerns as to its capability of marketing in the foreseeable future any product that would be able to work most optimally with GE future equipment at the exclusion of other rival DI equipment.

55. Secondly, the Commission looked at another potential event that a third party claimed it could arise from the merger: the fact that GE will be able to obtain much earlier access to Amersham's development plans would enable its engineers to adjust their DI equipment accordingly and to market their improved bundled solution earlier than competing DI equipment suppliers. According to the third party, this information advantage could translate into a time-to-market advantage over competitors in the race for the introduction of new DI equipment usable with new Amersham DPs.

56. Replies to the Commission's market investigation questioned the feasibility of such a practice and suggested that, even if this would be a realistic scenario, such a time-to-market advantage would be short-lived. Only in the case of a smart tracer would it be able to provide a certain time-to-market advantage to the merged entity; however, this advantage would last for up to one or two years at most, after which rivals would be able to adjust their DI equipment and their detection software, thus making full use of the new Amersham products. This is basically due to the very long time frame within which radiopharmaceuticals are under development. Indeed, generally it takes more than 10 years for a new radiopharmaceutical to be developed (i.e., from conception to the market), after which it has a commercial lifecycle of at least another ten years.

57. Moreover, replies to the questionnaires and comments submitted by the parties made it clear that it would be very difficult and against the current process of scientific discovery for the developer of a new product to keep development plans away from publicity. Indeed, patents registration, clinical testing and regulatory certification procedures for new DPs impose on developers a high level of information disclosure to other manufacturers and to the scientific/academic and medical community. The degree of information disclosure is such that it would be unrealistic for a supplier of DPs developing a new product to keep competing suppliers unaware of its development plans. It is also in the interest of the DP producers to generate as much favourable commentary from the scientific and research community as possible. Therefore, it is unrealistic that a new DP would come to the market as a surprise.

58. On the basis of the above, the Commission considers that, if at all possible, an alleged time-to-market advantage could not confer on the merged entity the ability to foreclose competition in a sustainable manner.

59. Finally, the Commission examined the economic incentives underlying a possible technical tying strategy and concluded that this would not be a profit-maximising strategy. Making Amersham's products work exclusively or most optimally with GE-only equipment, e.g., by withholding competitors from access to data, would deny the merged entity significant sales of Amersham's products to the installed base of competing DI equipment. Given that GE's market share in the EEA for SPECT gamma cameras is around [20%-30%] and for PET scanners around [30%-40%] at most, the new GE/Amersham would not be able to sell DPs to [70%-80%] of the SPECT gamma cameras and to [60%-70%] of PET scanners installed base. Specifically concerning PET, Amersham is not expected to have […]. It has to be noted here that such a timeframe is too distant and unforeseeable in the future for the purposes of competitive assessment, and that some of Amersham's major competitors already have a PET tracer

on the market at present. Moreover, due to the significant fixed and sunk costs, Amersham will need to recoup the significant up-front R&D investments made, by selling as much DPs as possible. Therefore, for a new PET tracer competitor, such as the merged entity, it would not make much commercial sense to introduce exclusive interconnectivity between the DI equipment and DPs, thus denying itself sales to a substantial part of the market.

60. In sum, and for the above reasons, technical tying of DI equipment and DPs appears unlikely to lead to foreclosure of competition as a result of the proposed transaction.

3. Conclusion on the competitive assessment

61. In view of the foregoing, it can be concluded that the proposed operation, in any of the markets considered, does not raise serious doubts as to the creation or strengthening of a dominant position as a result of which effective competition would be significantly impeded in the EEA or any substantial part of that area.

VII. CONCLUSION

62. For the above reasons, the Commission decides not to oppose the notified operation and to declare it compatible with the common market and with the functioning of the EEA Agreement. This decision is adopted in application of Article 6(1)(b) of Council Regulation (EEC) No 4064/89.

For the Commission
Mario MONTI, signed
Member of the Commission