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***Case No COMP/M.3099 –  
Areva/Urenco/ETC JV.***

Only the English text is authentic.

**REGULATION (EC) No 139/2004  
MERGER PROCEDURE**

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Article 8 (2)  
Date: 06/10/2004



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 06.10.2004

C(2004)3676 final

**PUBLIC VERSION**

**COMMISSION DECISION**

**of 06.10.2004**

**declaring a concentration to be compatible with the common market  
and the functioning of the EEA Agreement**

(Case No COMP/M.3099 – Areva/Urenco/ETC JV)

**Commission Decision**

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**(Case No COMP/M.3099 – Areva/Urenco/ETC JV)**

(Only the English text is authentic)

(Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to the Agreement on the European Economic Area, and in particular Article 57 thereof,

Having regard to Council Regulation (EEC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings<sup>1</sup>, and in particular Article 26(2) thereof,

Having regard to Council Regulation (EEC) No 4064/89 of 21 December 1989 on the control of concentrations between undertakings<sup>2</sup>, and in particular Article 8(2) thereof,

Having regard to the Commission's decision of 22 June 2004, to initiate proceedings in this case,

Having regard to the opinion of the Advisory Committee on Concentrations<sup>3</sup>,

Having regard to the final report of the Hearing Officer in this case<sup>4</sup>,

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<sup>1</sup> OJ L 24, 29.01.2004, p. 1

<sup>2</sup> OJ L 395, 30.12.1989, p. 1; corrected version OJ L 257, 21.9.1990, p. 13. Regulation as last amended by Regulation (EC) No 1310/97 (OJ L 180, 9.7.1997, p. 1).

<sup>3</sup> OJ C .....200. , p....

<sup>4</sup> OJ C .....200. , p....

WHEREAS:

## **I. JOINT REQUEST PURSUANT TO ARTICLE 22 OF THE MERGER REGULATION**

1. On 8 and 26 April 2004, the Commission received a joint referral request (“referral request”) from the authorities of France, Sweden and Germany, pursuant to Article 22 of Regulation (EEC) No 4064/89 (the “Merger Regulation”), to investigate a proposed concentration by which the undertaking Société de participations du Commissariat à l’Energie Atomique SA (“Areva”, France) acquires within the meaning of Article 3(1)(b) of the Merger Regulation joint control of the undertaking Enrichment Technology Company Limited (“ETC”, United Kingdom), formerly solely controlled by the undertaking Urenco Limited (“Urenco”, United Kingdom), by way of purchase of shares.
2. The Commission has found that that request meets the requirements laid down in Article 22(3) of the Merger Regulation. The referring Member States have dispatched to the Commission the documentation at their disposal, consisting mainly of parties’ submissions. That information was completed thereafter by the parties to the operation.
3. By decision dated 22 June 2004, the Commission found that the notified operation raised serious doubts as to its compatibility with the common market and the functioning of the EEA Agreement. The Commission accordingly initiated proceedings in this case pursuant to Article 6(1)(c) of the Merger Regulation.
4. On 3 September 2004, commitments were submitted by Areva and Urenco (the “Parties”).
5. The Advisory Committee discussed the draft of this Decision on 23 September 2004.
6. This Decision is adopted pursuant to Articles 8(2) and 10(2) of the Merger Regulation. Article 10(2) requires decisions taken pursuant to Article 8(2) of the Merger Regulation to be taken as soon as it appears that the serious doubts referred to in Article 6(1)(c) of the Merger Regulation have been removed. This applies in particular where the parties have offered commitments. The commitments offered by the parties remove the serious doubts as to the compatibility of the concentration with the common market, so that a conditional Decision pursuant to Articles 8(2) and 10(2) of the Merger Regulation clearing the concentration may be adopted.

## **II. THE PARTIES**

7. Areva is controlled by Commissariat à l’Energie Atomique (“CEA”), which is controlled by the French state. Areva is active in three main areas: (a) all stages of the nuclear power business, (b) the connector business, and (c) transportation and distribution of electricity. It is in particular, active on the uranium enrichment services market through its subsidiary Eurodif which owns the largest European enrichment plant. The plant is ageing and uses the outdated and expensive gas diffusion technology. Eurodif has a nominal capacity of 10,8 million separative work units (“SWU”) per year. In 2002, Eurodif made deliveries of approximately 9 million SWU.

8. Urenco Limited was established under the umbrella of the Treaty of Almelo which was concluded in the early 1970s between Germany, the Netherlands and the United Kingdom in order to develop and exploit centrifuge technology for uranium enrichment. The shareholders of Urenco include British Nuclear Fuels (BNFL), Ultra Centrifuge Nederland Limited, RWE and E.ON. Urenco is the holding company of the Urenco group, which includes two main companies, Uranium Enrichment Company (UEC) and Enrichment Technology Company (ETC). UEC is active on a worldwide level in the provision of uranium enrichment services with the modern and efficient centrifugation technology.
9. ETC, the subject of the operation, is involved in the development, design and manufacturing of centrifuges for uranium enrichment.

### **III. THE OPERATION**

10. The proposed operation consists of the acquisition by Areva of a 50 % interest in ETC which will become a joint venture between Areva and Urenco. ETC's activities will be limited to the upstream research and development, design and manufacture of centrifuge equipment, while Areva and Urenco will continue their activities on the downstream market for uranium enrichment.
11. Areva currently operates a gas diffusion plant, which it considers to be high-cost compared to centrifuge technology based facilities and to have a finite life-time, estimated between [5-20]\* years. After the CEA had put aside the development of its own centrifugation and laser enrichment technology, Areva started discussing with centrifuge manufacturers and decided to enter into a joint venture with Urenco since it was "by far the most economic, the least risky and the quickest solution" to have a centrifuge plant to replace the existing gaseous diffusion plant.<sup>5</sup> This new plant should start to operate in 2007 and when fully operational is currently planned to have a production capacity of 7,5 million SWU. This will enable Areva to remain an active competitor in the uranium enrichment market in the long term.
12. The rationale of this operation for Urenco is to receive a return on its past investments directly by selling Areva half of ETC and indirectly by enlarging ETC's customer base.

### **IV. CONCENTRATION**

13. Following the proposed operation, Areva and Urenco will each control 50% of ETC's capital and voting rights and thus will jointly control ETC. In particular, it is established that they will appoint an equal number of members of the Board of Directors and that the Directors appointed by each of them will have veto rights in connection with proposed strategic decisions, such as ETC's business plan and budget. All the other decisions of the Board of Directors will require the majority of the votes.

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\* Parts of this text have been edited to ensure that confidential information is not disclosed; those parts are enclosed in square brackets.

<sup>5</sup> "Lauvergeon: Areva's cheapest way to centrifuge program is with Urenco", Nuclear fuel, October 28, 2002.

14. Urenco has transferred to ETC all resources that are necessary to design and manufacture centrifuge equipment, including production facilities, technology (intellectual property rights), financial resources and employees. The joint venture has therefore been placed in a position to perform all the functions related to its business activity.
15. The full-functionality of the joint venture does not appear to be undermined by the fact that during a considerable period it will essentially sell centrifuge equipment to its parent companies. Considering the particularly long lead times prevailing in the nuclear industry, this could be regarded as an initial period, after which other operators can be expected to become ETC's customers.
16. In this regard, the Commission notes that, even if enrichment companies have generally produced their equipment in-house (with only one known significant exception), this is expected to change in the future. Some of the undertakings addressed during the Commission's market investigation confirmed the view of the parties that a broader market for enrichment equipment will develop within a reasonable period of time. None of the undertakings addressed in the course of the market investigation have expressed a different view on this point.
17. The Commission therefore considers that the joint venture will perform on a lasting basis all the functions of an autonomous economic entity within the meaning of Article 3(2) of the Merger Regulation and that the proposed operation thus constitutes a concentration. This view is supported by the German and French authorities.
18. This concentration has no Community dimension, since the thresholds of Article 1 of the Merger Regulation are not met, on the basis that Urenco does not achieve a Community-wide turnover exceeding EUR 250 million and neither of the parties achieves more than EUR 25 million in the same three Member States.

## **V. THE RELEVANT MARKETS AND THEIR COMPETITIVE ASSESSMENT**

### **Background**

19. The production of nuclear fuel comprises of a number of steps in transforming natural uranium into fuel for nuclear reactors. Uranium occurs in slightly differing forms known as isotopes. These isotopes differ from each other in the number of neutrons particles in the nucleus. Natural uranium as found in the earth's crust is a mixture of three isotopes: uranium-238 (U-238), accounting for 99,275%, U-235 – 0,720% and traces of U-234 – 0,005%. Uranium-235 is the only natural-occurring material which can sustain a fission chain reaction, releasing large amounts of energy.<sup>6</sup>
20. The first step in the fuel cycle is the mining of natural uranium. Uranium can be mined by underground or open-cast methods, mainly depending on its depth. After mining the ore is crushed and ground up. Then it is treated with acid to dissolve the uranium, which is then recovered from solution. Uranium may also be mined by in situ leaching ("ISL"), where it is dissolved from the ore body in situ and pumped to the surface. The end product of the mining stage or ISL is uranium oxide concentrate ("U3O8"). In order to be used as fuel the uranium oxide concentrate must undergo a number of

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<sup>6</sup> World Nuclear Organization: Uranium and depleted uranium.

processes to produce usable fuel. The next step in making a usable fuel is to convert the uranium oxide into a gas, uranium hexafluoride  $UF_6$ , which enables it to be enriched.

## Enrichment

21. The production of energy in nuclear reactors results mainly from the fission or splitting of the U-235 atoms, a process which releases energy in the form of heat. U-235 is the main fissile isotope of uranium. The U-238 isotope does not contribute directly to the fission process. Uranium U-235 and U-238 are chemically identical, but differ in their physical properties, particularly in their mass<sup>7</sup>. This difference between U-235 and U-238 allows the isotopes to be separated and makes it possible to increase or “enrich” the percentage of U-235. All present enrichment processes, directly or indirectly, make use of this small mass difference.
22. Some reactors, for example the Canadian-designed Candu and the British Magnox reactors, use natural uranium as their fuel. Most present day reactors (Light Water Reactors or LWRs) use enriched uranium where the proportion of the U-235 isotopes has been increased from 0,7% to about 2-5%.<sup>8</sup> This enables greater technical efficiency in reactor design and operation, particularly in larger reactors, and allows the use of ordinary water as a moderator.
23. Today enrichment of natural uranium is commercially conducted in two ways, either by gaseous diffusion or by centrifuge process. In both of these,  $UF_6$  gas is used as the feed material. Molecules of U-235 atoms are about 1% less dense than the rest, and this difference in mass is the basis for both processes. Two uranium streams exit gaseous diffusion or centrifugation plants: enriched natural uranium; and depleted natural uranium. This depleted natural uranium can also be enriched by diffusion or centrifugation.<sup>9</sup>
24. The capacity of enrichment plants is measured in terms of SWU. The SWU measures the quantity of separative work performed to enrich a given amount of uranium. It is a function of the amount of uranium processed and the degree to which it is enriched (that is to say, the extent of increase in the concentration of the U-235 isotope relative to the remainder) and the level of depletion of the remainder. The unit is strictly: Kilogram Separative Work Unit, and it is indicative of energy used in enrichment when feed and product quantities are expressed in kilograms or tonnes. For instance, to produce one kilogram of uranium enriched to 3% U-235 requires 3,8 SWU if the plant is operated at a tails<sup>10</sup> assay (a by-product) of 0,25%, or 5,0 SWU if the tails assay is 0,15% (thereby requiring only 5,1 kg instead of 6,0 kg natural uranium feed).

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<sup>7</sup> The nucleus of the U-235 contains 92 protons and 143 neutrons, giving it an atomic mass of 235 units. The U-238 also has 92 protons but has 146 neutrons – three more than U-235, and therefore has a mass of 238 units.

<sup>8</sup> World Nuclear Association: Uranium Enrichment, June 2003.

<sup>9</sup> When it has been enriched it is qualified as enriched depleted uranium.

<sup>10</sup> Depleted uranium resulting from the enrichment process.

25. About 100 000-120 000 SWU is required to enrich the annual fuel loading for a typical 1000 MWe light water reactor. Enrichment costs are substantially related to electrical energy used. The gaseous diffusion process consumes about 2500 kWh per SWU, while modern gas centrifuge plants require only about 50 kWh per SWU. Enrichment accounts for almost half of the cost of nuclear fuel and about 5% of the total cost of the electricity generated.

### **Gaseous diffusion process**

26. The diffusion process involves forcing uranium hexafluoride gas under pressure through a series of porous membranes or diaphragms. As U-235 molecules are lighter than U-238 molecules they move faster and have a higher likelihood of passing through the pores in the membrane. The  $UF_6$  which diffuses through the membrane is thus slightly enriched, while the gas which does not pass through is depleted in U-235. This process is repeated many times in a series of diffusion stages called a cascade. Each stage consists of a compressor, a diffuser and a heat exchanger to remove the heat of compression. The enriched  $UF_6$  product is withdrawn from one end of the cascade and the depleted  $UF_6$  is removed at the other end. The gas must be processed through some 1400 stages to obtain a product with a concentration of 3-4% U235.
27. At present gaseous diffusion process accounts for around 40% of world enrichment capacity and is operated commercially in USA by USEC and in France by Eurodif.

### **Centrifuge process**

28. Like the diffusion process, the centrifuge process uses  $UF_6$  gas as its feed and makes use of the slight difference in mass between U-235 and U-238. The gas is fed into a series of vacuum tubes, each containing a rotor one or two meters long and 15-20 cm diameter. When the rotors are spun rapidly, at 50 000 to 70 000 rpm, the heavier molecules with U-238 increases in concentration towards the cylinder's outer edge. There is a corresponding increase in concentration of U-235 molecules near the centre of the centrifuge. These concentration changes are enhanced by inducing the gas to circulate axially within the cylinder. The enriched gas forms part of the feed for the next stages while the depleted  $UF_6$  gas goes back to the previous stage. Eventually enriched and depleted uranium are drawn from the cascade at the desired assays.
29. Although the capacity of a single centrifuge is much smaller than that of a single diffusion stage, its capability to separate isotopes is much greater. Centrifuge stages normally consist of a large number of centrifuges in parallel. Such stages are then arranged in cascades similar to those for diffusion. In the centrifuge process, however, the number of stages may only be 10-20, instead of a thousand or more for diffusion. Today centrifuges are deployed on a commercial basis in Russia and in Europe by Urenco. Russia's four plants account for some 40% of world capacity and Urenco's capacity is around 12%.<sup>11</sup> In Japan, JNC and JNFL operate small centrifuge plants. China has also centrifuge plants imported from Russia.<sup>12</sup>

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<sup>11</sup> The Global Nuclear Fuel Market, World Nuclear Organization 2003.

<sup>12</sup> In addition to the suppliers mentioned above, there are a few countries that have limited enrichment capacities or are in the process of developing indigenous enrichment capacities, primarily for domestic



## After enrichment

30. After enrichment, the UF<sub>6</sub> gas is converted to uranium dioxide (UO<sub>2</sub>) which is formed into fuel pellets. The fuel pellets are placed inside thin metal tubes which are assembled in bundles to become the fuel elements for the core of the reactor. Spent reactor fuel is removed and stored, either to be reprocessed or disposed of underground.
31. Spent fuel assemblies taken from the reactor core are highly radioactive and give off a lot of heat. They are therefore stored in special ponds which are usually located at the reactor site, to allow both their heat and radioactivity to decrease. Afterwards, parts of the fuel can be re-used. The spent fuel undergoes chemical processing to recover any remaining fissile and fertile materials for the recycling purposes. The remaining uranium can be re-enriched and plutonium, which is created during the fission process, can be recycled for the production of mixed oxides (“MOX fuel”).

## Euratom Treaty and the Treaty on the Non-Proliferation of Nuclear Weapons<sup>13</sup>

32. The Euratom Treaty was adopted in 1957 by the 6 founding Member States. It has been put in place notably to guarantee security of nuclear fuel supplies and to encourage the development of nuclear industries. The relevance of this objective today, to provide the Community with a secure energy supply has been underlined in the recent Green Paper of the Commission “Towards a European strategy for the security of energy supply”<sup>14</sup>.
33. As was confirmed by the Court of Justice of the European Communities in its Ruling 1/78<sup>15</sup> the provisions of Chapter 6 of the Euratom Treaty “show the care taken in the Treaty to define in a precise and binding manner the exclusive right exercised by the Community in the field of nuclear supply in both internal and external relations.” In order to ensure the supply of nuclear materials by means of a common supply policy based on the principle of equal access to sources of supply, the Euratom Supply Agency was established by the Euratom Treaty. The Supply Agency has legal personality and financial autonomy.
34. The Euratom Treaty gives the Supply Agency the right of option to acquire ores, source materials and special fissile materials produced in the Community and an exclusive right to conclude contracts for the supply of such materials from inside the Community or from outside. In order to be valid under Community law, supply contracts must be submitted to the Supply Agency for conclusion.
35. Article 305(2) of the EC Treaty states that “the provisions of this treaty shall not derogate from those of the Treaty establishing the Atomic Energy Community”.
36. The Treaty on the Non-Proliferation of Nuclear Weapons (“NPT”) contains the multilateral regulatory framework related to enrichment technologies and nuclear

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fuel needs. These countries include Argentina, Brazil, India and Pakistan (Source: The Global Nuclear Fuel Market, World Nuclear Organization 2003).

<sup>13</sup> Reproduced as document of the International Atomic Energy Agency (IAEA), INFCIRC/140.

<sup>14</sup> (COM (2002) 321 final of 22 June 2002.

<sup>15</sup> 1978 [ECR] 2151.

material and was signed in 1968. The NPT constitutes the foundation of the control regime and is intended to ensure the peaceful use of nuclear material and technology. In addition, the signatories of the NPT have agreed to implement legislative measures governing export control of its sensitive technology. The International Atomic Energy Agency (“IAEA”) is entrusted with the task of verifying compliance with NPT principles with respect to fuel cycle facilities through its negotiated safeguards agreements with NPT signatories. From this it can be seen that the nuclear industry is highly regulated both in relation to objectives of the security of supply and the non-proliferation of nuclear materials.

## **RELEVANT MARKETS AND ASSESSMENT**

37. This operation involves two relevant product markets which are vertically related (i) the market for the supply of equipment to enrich uranium and (ii) the market for enriched uranium. These two markets are assessed separately.

### **SUPPLY OF EQUIPMENT TO ENRICH URANIUM**

#### **A. PRODUCT MARKET DEFINITION**

38. This market concerns the acquisition of technology and equipment for installing new enrichment capacities. The parties consider the relevant market to be the market for centrifuge technology and equipment.
39. Until recently anyone wanting to enrich uranium has had to develop the technology and build the production facilities himself<sup>16</sup>. The equipment market can be expected to develop in the future. However, in the longer term, it may include competing technologies, such as laser enrichment in addition to centrifuge technologies.
40. The market investigation indicated that for the medium term competitive pressure from other technologies is unlikely since (i) gaseous diffusion appears to be significantly more expensive in terms of operational costs and therefore not competitive<sup>17</sup> and (ii) other technologies are not developed to an industrial or commercial stage.
41. Therefore, the relevant product market for the proper assessment of this case can be either centrifuge technology equipment or enrichment equipment as a whole, since for the short to medium term the only equipment commercialised would be based on the centrifugation technology and therefore competitive assessment will remain unchanged.

#### **B. GEOGRAPHIC MARKET DEFINITION**

42. The parties consider that the relevant geographic market for centrifuge technology and equipment is world-wide. After the proposed concentration, ETC will offer their centrifuges on a global basis. Customers will search for suppliers on a global basis and

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<sup>16</sup> China has purchased centrifuges from Russia. Urenco is in the process of seeking permission to build a uranium enrichment plant in the USA through a majority owned subsidiary called LES, and if this project goes ahead ETC will sell centrifuges to LES. Before the ETC joint venture was agreed upon, there was discussion of Urenco or JNFL selling centrifuges to Areva.

<sup>17</sup> The electricity used for producing SWU based on gaseous diffusion is around [several orders of magnitude higher than the electricity used for producing] centrifuge diffusion.

transport costs for uranium centrifuge equipment are generally low compared with the total cost of construction of an enrichment plant. The parties submit that regulatory issues restricting trade/purchase of centrifuge technology and equipment are limited to countries that are considered at present a risk from a proliferation standpoint, given that the object of the NPT is to prevent non-weapon states from using nuclear materials or technologies for the production of nuclear weapons. To that end nuclear materials are subject to safeguards (controls) by the IAEA, established under specific agreements and protocols with the IAEA. In addition the Nuclear Suppliers Guidelines (NSG)<sup>18</sup> provide that supplies of materials and equipment depend on the condition of “full scope safeguards”, that is to say, that all installations are subject to safeguards.

43. The Commission’s investigation indicated that a world-wide market for enrichment equipment could develop. After the proposed concentration ETC would only be allowed, pursuant to the terms of the NPT and the NSG, to sell equipment to countries that have signed agreements with countries which are parties to the Almelo Treaty or have signed an agreement to prevent the proliferation of the technology with the signatories of the Almelo Treaty<sup>19</sup>. So far only the USA has signed such an agreement. France is expected to do so in the near future. The parties maintain that given the long lead times in the nuclear industry this is not a serious restriction because inter-governmental agreements could be negotiated when suitable customers for the equipment are found.
44. Based on the above it appears that the market for enrichment technology and equipment is world wide.

### **C. COMPETITIVE ASSESSMENT**

45. The parties maintain that the concentration has no effect on the market for equipment because Areva does not have access to a modern technology for equipment that it could supply and so is not a potential competitor on this market.
46. Currently three companies besides Urenco use centrifuge equipment to enrich uranium. These are Minatom/Tenex of Russia (“Tenex”), with a capacity of around 20 million SWU, (JNFL) of Japan, with a capacity of 1,050 million SWU and CNNC of China, with a capacity of 1 million SWU<sup>20</sup>. The Chinese centrifuges are based on Russian technology whereas Japan has developed its own centrifuge equipment. Prior to the proposed operation Areva was involved in discussions with JNFL of Japan concerning the development of centrifuge technology. Tenex could compete with ETC in the equipment market, since it has already sold centrifugation equipment to the Chinese enrichment company China National Nuclear Corporation (CNNC). In the future it is also possible that the American company, USEC, could market its enrichment technology. An Australian company is also developing a laser technology which could in the longer run provide a competing technology.

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<sup>18</sup> IAEA document INFCIRC 253, as revised.

<sup>19</sup> Signed by Germany, the Netherlands and the United Kingdom.

<sup>20</sup> The World Nuclear Association 2003.

47. Four respondents to the Commission's investigation consider that the concentration would limit incentives to innovate in this market, because Areva would stop its independent research or development. [The French government entity CEA] had previously been developing centrifuge technology but stopped this activity in 1978. [The CEA] has since concentrated its resources on the development of laser technology but stopped in 2003<sup>21</sup>. According to the parties, had Areva decided to re-initiate its own development of centrifuge technology it would be likely to take 10-15 years to reach the stage of industrial feasibility. USEC has had the same problems with the development of laser technology and has also recently ceased in its efforts to develop this technology and in 1998 restarted its centrifuge technology development programme. USEC expects to be fully operational in 2008, that is to say 10 years after the re-initiation of the development efforts in the centrifuge technology.
48. After joining ETC, Areva would no longer have an incentive to develop an alternative enrichment technology, as all research and development will take place at ETC. One third party argues it would end the competition between the two only enrichment companies in Europe to embark on new projects to further develop the technology.
49. In reply, the parties claim that (i) Areva has never engaged in any independent research in this area and the French government entity, CEA, which conducted such R&D programmes, stopped its research into centrifuge technology almost 30 years ago; (ii) the results of any research that Areva or the CEA could hypothetically begin today would be too late to permit the company to survive as a player on the enrichment market; (iii) such concerns would apply whatever the structure of the transaction, (Joint Venture, outright sale, supply arrangement or other); and (iv) ETC's incentives to invest into R&D will indeed be greater following the operation than absent the operation.
50. The fact that research activities have been undertaken by the CEA rather than by Areva should be seen as neutral as both are wholly owned by the French State and allocation of research programmes to specific undertakings or institutions owned by the French state should be seen as a matter of internal organisation. [The CEA] has invested very significant amounts in research into laser enrichment of uranium, which has proved to be unsuccessful and has now been abandoned.
51. The argument that any results of research by Areva (or CEA) would come too late to avoid Areva exiting the market is difficult to assess. At various times Areva has indicated publicly that its diffusion plant could be operated into the early 2020s. It would be possible for Areva or CEA to develop, either alone or possibly with a partner, an adequate centrifuge technology. However, it is extremely unlikely that this would be as effective as Urenco's which has been continuously developed for more than thirty years. In the meantime the anticipated rises in the cost of electricity will make the output of Areva's diffusion plant less and less competitive.
52. However, as mentioned at paragraph 46, Urenco currently faces competition from Tenex and JNFL, as well as potential competition from USEC. It is not certain that any research undertaken by Areva will result in a commercially viable product.

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<sup>21</sup> It is not excluded that this project will be revived in the future, given that its feasibility has been demonstrated in the laboratory, but certainly not be in the short or mid term.

Furthermore, if the research were to be successful it is very likely that Areva's product would only be able to offer effective competition in the long term. In this situation it appears that the effect of the operation on innovation may be marginal and speculative. Innovation markets are usually dependent on a large number of uncertain parameters and therefore often do not justify regulatory intervention. This is particularly true in a case such as uranium enrichment technology where the new product cycle is between 10 and 20 years. For these reasons, the Commission considers that the operation does not raise serious doubts as regards the market for centrifuge or uranium enrichment equipment.

## **(ii) ENRICHED URANIUM**

### **A. PRODUCT MARKET DEFINITION**

53. The supply of enriched uranium comprises a primary supply provided from commercial enrichment plants and a secondary supply provided primarily from the down blending of ex-military highly enriched uranium (HEU).

#### *Enriched natural uranium/enriched depleted uranium*

54. The enriched uranium used for nuclear fuel is commonly called low enriched uranium (LEU). Low enriched uranium can be manufactured using various production methods. First, natural uranium can, after conversion, be enriched to increase the fissile content of U-235 to 3-5% as described above (paragraphs 21-29). This product is normally called enriched natural uranium.
55. LEU can also be produced from the enrichment of depleted uranium (tails), whereby the remaining U-235 uranium in the tails is extracted. The enrichment of tails differs in terms of financial returns and is only performed in Russia by Tenex. Areva and Urenco supply tails to Tenex for enrichment and [...]. There is no difference between the equivalent natural uranium (as UF<sub>6</sub>) resulting from the enrichment of tails and from naturally occurring uranium (as UF<sub>6</sub>), and in particular, it meets the same feed specifications. Even though there may be insignificant differences due to the uranium isotope assay, both products correspond to the internationally accepted ASTM standard<sup>22</sup> specification for LEU produced from natural uranium that determines the requirements of the material according to isotope content and chemical admixtures. The Commission's market investigation showed that enriched natural uranium and enriched depleted uranium are considered fully interchangeable products by utilities. The utilities claim that there is no notable difference in price between the products and that there is full demand side substitutability.

#### *Down blended highly enriched uranium (HEU)*

56. Nuclear materials declared surplus to military requirements by the USA and Russia are now being converted into fuel for commercial nuclear reactors. The main material is highly enriched uranium (HEU), containing at least 20% and usually about 90% U-235. HEU can be down blended with uranium containing low levels of U-235 to produce LEU, typically less than 5% U-235, for nuclear power reactors. It is blended with

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<sup>22</sup> ASTM C990-96.

depleted uranium (mostly U-238), natural uranium (0,7% U-235) or partially enriched uranium.<sup>23</sup>

57. The Commission's market investigation showed that down blended highly enriched uranium plays a minor role on the European market but an important role outside Europe, especially in the USA. Utilities argue that LEU produced from HEU by down blending with natural or depleted uranium and fulfilling the ASTM specification can be considered as fully interchangeable products with enriched natural uranium or enriched depleted uranium.

#### *Enriched blended uranium (EBU)*

58. A possible category of LEU can be identified as enriched blended uranium. Instead of having the reprocessed uranium re-enriched by conventional equipment, some utilities, often in partnership with Community fabricators, are sending the material to Russia where it is blended with HEU of military origin. After blending the material is sent back to the Community in the form of enriched uranium product for further fabrication of fuel elements.<sup>24</sup> It consists of enriched uranium which contains traces of secondary isotopes in such proportions of uranium that have no technical or radiological impact on the fabrication, handling or irradiation of fuel. In this way enriched blended uranium has an advantage over enriched reprocessed uranium in terms of handling and licensing of power plants. However, the number of fabrication facilities licensed to accept such product may be restricted. EBU is produced in Russia and imported to the Community where it is delivered to fuel fabricators. EBU is used by very few utilities because of technical and regulatory constraints and accounts for only around [0-10]% of European LEU. The issue whether EBU should be included in the product market for LEU can be left open, since the quantity of EBU on the European or world-wide market is insignificant.

#### *Enriched reprocessed uranium/MOX*

59. When spent nuclear fuel is reprocessed, both plutonium and uranium are recovered separately. Uranium comprises about 96% of that spent fuel. The composition of reprocessed uranium depends on the time the fuel has been in the reactor, but it is mostly U-238. Typically it will have about 1% U-235 and small amounts of U-232 and U-236. The former is a gamma-emitter, making the material difficult to handle, even with the trace amounts. The latter, comprising about 0,5% of the material, is a neutron absorber which means that if reprocessed uranium is used for fresh fuel it must be enriched slightly more than is required for natural uranium.<sup>25</sup> Re-enriched reprocessed uranium, however, also has the negative effect that impurities are also enriched. This requires the enrichment to take place on dedicated cascades for enrichment of reprocessed uranium. For practical purposes re-enriching reprocessed uranium only takes place in centrifuge plants, where it is possible to reduce the contamination to individual cascades. The contamination risk also has a negative impact on the consequent manufacturing of the fuel assemblies containing reprocessed uranium and

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<sup>23</sup> World Nuclear Association: Military Warheads as a Source of Nuclear Fuel, July 2003.

<sup>24</sup> Euratom Supply Agency, Annual Report 2003, p. 20.

<sup>25</sup> World Nuclear Association: Uranium and depleted uranium, April 2004.

the utilisation of this fuel in nuclear power stations. Generally, the cost of producing SWU for the enrichment of reprocessed uranium is similar to the cost of enriching natural uranium. Nevertheless, in relation to the enrichment of reprocessed uranium Urenco [needs] to cover its additional costs related to the fact that reprocessed uranium is a non-standard feed and there are greater associated protection requirements, such as the need for extra [...] shielding. In addition, there are additional plant decommissioning costs associated with the contamination.

60. On the demand side the use of enriched reprocessed uranium requires the facilities to be specifically licensed to the use of enriched reprocessed uranium. Enriched reprocessed uranium does not normally fulfil the specifications required by most fuel fabricators and fabricating fuel from this material would be more costly. Enriched reprocessed uranium does not comply with the ASTM C-990/96 specification for fuel produced from natural uranium. The cost of using enriched reprocessed uranium is considerably higher than for natural enriched uranium.
61. The plutonium in the spent fuel can be re-used for the production of MOX. The production of MOX fuel does not include enrichment, but rather a mixture of the two products. MOX is used only in reactors dedicated to MOX. Like enriched reprocessed uranium, the cost of fabrication of MOX is considerably higher than low enriched natural uranium. The use of MOX sometimes requires technical modifications to the reactor, to accommodate its distinct reactor-dynamic behaviour. Also, after irradiation, MOX requires longer storage times to cool down before transport to a storage facility or reprocessing plant. The market investigation showed that mixed oxide and enriched natural uranium are very different products and that they are not interchangeable. There are many differences in functionality inter alia, such as higher radioactive protection by the fuel fabrication and difficult handling. Furthermore, the cost of using mixed oxide is significantly higher than enriched natural uranium.
62. The parties concur with the Commission that down-blended highly enriched uranium, enriched natural uranium and enriched depleted uranium with a 3-6% content of U-235 isotopes, are all substitutes. The parties believe, however, that the provision of enriched blended uranium may also be regarded as a substitute to low enriched uranium by either enrichment or down blending with HEU. While it is true that the price of enriched blended uranium appears to be higher at first sight, the economics of providing enriched blended uranium are more complex. The parties submit that even if enriched blended uranium or even MOX were not regarded as part of the market for enriched uranium, they constitute competitive constraints to pricing in this market and be considered as possible alternatives by utilities.

### *Conclusion*

63. Based on the above it can be concluded that the product market comprises enriched natural uranium, enriched depleted uranium and down blended HEU with a 3-6% content of U-235. On the basis of its different characteristics enriched reprocessed uranium and mixed oxide fuel should not be included in the relevant product market. For the purpose of this Decision it can be left open, whether enriched blended uranium should be included in the product market, as this will not significantly alter the competitive assessment of the proposed transaction.

## **B. RELEVANT GEOGRAPHIC MARKET**

64. The Commission Notice on the definition of relevant market for the purposes of Community competition law<sup>26</sup> (“Notice on Market Definition”) defines the relevant geographic market as follows:

*"The relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas".*

65. In the sections below the various facts and arguments relevant to the assessment of the appropriate geographical framework for this case are set out and discussed.

### **The Parties' Position**

66. The parties have suggested that the market for the provision of LEU is world-wide in scope. They essentially point out: (i) that in this market there are a limited number of providers which are all active world-wide; (ii) that LEU is a completely homogeneous product which is subject to international standards, irrespective of where it has been enriched; (iii) that the transport costs for LEU are relatively low and represent approximately only [0-10]% of the price per SWU for transatlantic shipment; (iv) that non-proliferation considerations do not prevent shipments of LEU between countries that are signatories of non-proliferation treaties; (v) that there are no quotas limiting the import of LEU into the Community; and (vi) that the restrictions on exports of LEU from the Community to other geographic areas, and in particular, the antidumping and countervailing duties imposed by the USA against the European enrichment companies, are not relevant in assessing the geographic dimension of the market from the point of view of the European customers.
67. As a fall back position they claim that the relevant geographic market is at least European as follows: “[I]f the Commission were to take the view that the uranium enrichment market does not have a world wide dimension, the geographic dimension of the market would be at least pan-European in scope.”<sup>27</sup>
68. To support their arguments the parties have commissioned a study from LECG Consultancy. The study, based on the prices the parties have obtained for sales and the offers they have made in different geographic areas, purports to provide evidence that the relevant geographic market is larger than the Community. This report is discussed below (paragraphs 84-100).

### ***The Results of the Commission's Investigation in relation to the Parties' Position***

#### ***The Limited Number of players***

69. The Commission's investigation has confirmed that globally there are only four major companies supplying LEU. These are Areva, Urenco, USEC (USA) and Tenex (Russia). There are two smaller players CNNC (China) and JFNL (Japan) which

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<sup>26</sup> OJ C 372, 9.12.1997, p. 5.

<sup>27</sup> Form CO p. 36.



essentially supply their national markets. Both Japan and China are net importers of LEU. However, even if one considers only the four main suppliers it cannot be said that they are all active worldwide. The Russian requirements are supplied exclusively by Tenex. In the USA, sales of down blended Russian military HEU are made to end users exclusively by USEC under the “Megatons to Megawatts” programme, Tenex is only involved as agent for the Russian Ministry of Atomic Energy (Minatom).

#### *Homogenous Product*

70. The market investigation has shown that LEU is a homogenous product sold to ASTM specifications.

#### *Transport Costs*

71. The Commission’s market investigation broadly confirmed the parties’ view that transport costs (around [0-10]%) have a marginal impact on the cost of LEU and that utilities buy LEU from undertakings located in different geographic areas.

#### *Non –Proliferation*

72. The investigation confirmed that non-proliferation considerations do not affect the transfer of LEU between countries which have signed the NPT and have, as requested by the “Nuclear Suppliers Guidelines” (NSG)<sup>28</sup>, a full scope safeguards system. These countries comprise the quasi-totality of LEU use.

#### *Regulatory situation of imports of LEU into the Community*

73. Although there are no quotas limiting the import of LEU into the Community, replies to the Commission’s enquiries show that there is almost unanimous agreement amongst Community customers of LEU that the Corfu Declaration (paragraphs 121-140) restricts the ability of European utilities to purchase material from Russia. The purpose of that Declaration is to ensure that Russian imports of LEU into the Community should not result in an appreciable reduction in the market shares of the European producers which could affect their viability as suppliers. The Declaration makes reference to the average combined Community market share of the European producers between 1991 and 1993, which was approximately 80%.

#### **The Commission’s Position**

74. The Commission’s view is that the restrictions placed on the exports of LEU of Community origin to other geographic areas and in particular the countervailing and anti-dumping duties in the USA are an indication of different competitive conditions in those areas.
75. In examining the relevant geographic market the Commission has followed the methodology set out in the Notice on Market Definition. On the basis of the distribution of market shares and prices in different geographical areas, a working hypothesis was developed. This was then further tested on the basis of both demand and supply side considerations.

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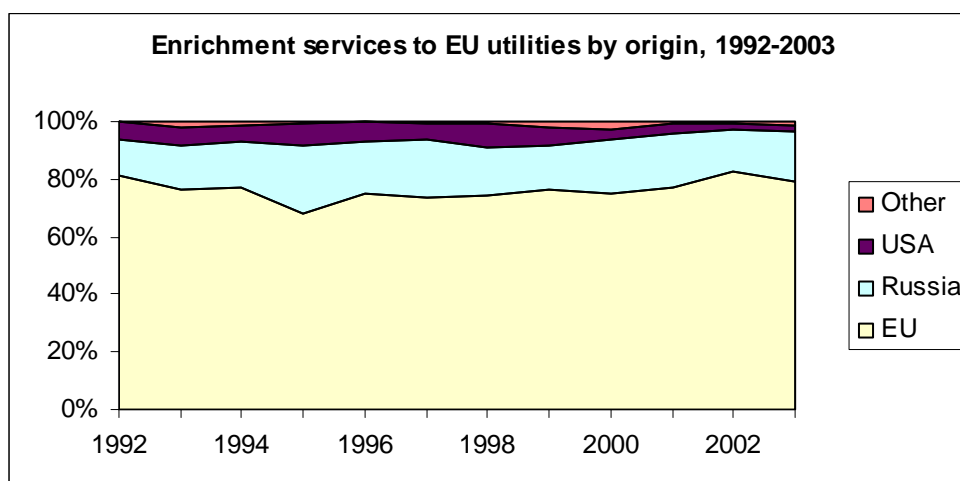
<sup>28</sup> IAEA document INFCIRC/245, as revised.

## Market shares

*The stability of the high market share of the two European producers in the European market*

76. The fact that suppliers are able to maintain for a long period high and stable market positions in a particular geographic area is an element indicating that they may not face substantial competitive pressure from forces outside that area. This pleads in favour of the definition of the area in question as a distinct geographic market from the competition point of view. On the other hand market share differences can be explained by historic reasons and are not in themselves incompatible with a broader market definition.
77. In the present case, during the last thirteen years the two European enrichment companies shared approximately 80% of the European market as figure 1 shows.

**Figure 1**



78. In this regard, it is important to note that, even if during the period considered there have been fluctuations in the market shares of each of the two European producers, their cumulated market share remained constantly around 80% of the Community market. The great stability of the combined market shares of the two European producers may indicate that they were not subject to a very significant competitive pressure from enrichment companies located in different geographic areas which have never been able to expand in the Community at the expense of the European producers.
79. Irrespective of the reasons for this situation, the fact that the two European enrichment companies for a long period have had a very high and stable share of the market may be an indicator that the Community could be regarded a distinct geographic market.

*Different market shares in different geographic regions*

80. There are four main regions in which enriched uranium is consumed, the Community, the Americas (predominantly USA), Russia (including the Newly Independent States) and Asia (China, Korea, Japan and Taiwan). Russia is reserved entirely for Russian suppliers. In the Community Areva and Urenco together have a market share of approximately 80%, USEC less than 5% and Tenex, a little less than 20%.

81. Tenex of Russia provides down blended HEU which is subsequently sold by USEC in the US. As the down blended material could be regarded as USEC sales on the basis that USEC contracts with the customers, USEC would have a share of 64%. If not, the share of Russian producers would increase to over 30% and shares of USEC on the one hand and Areva and Urenco together on the other would be approximately 30% each.
82. In Asia, USEC is the largest supplier with over 50%. The Commission understands that enriched uranium supply has been part of nuclear co-operation arrangements in this region. The European suppliers together have just under 30% and the Russians less than 10%.

Table 1

SWU Market shares by Region 2003 (Source WNA 2003)

	Western Europe	North America	Asia	Eastern Europe (incl. Russia)
AREVA	48	17	19	2
Urenco	25	19	10	2
Tenex	26*	-	7	96
USEC	3	64**	52	-
JNFL/CNEIC	-	-	12	-

\* Includes approximately [0-10]% relating to the re-enrichment of tails carried out for Areva and Urenco

\*\* Includes Russian material sold by USEC

83. From the above it is clear that there are very substantial differences in market share between different regions. This may be an indication that there could be distinct relevant geographic markets. On the other hand the different market shares in different countries may be explained by historic reasons and are not in themselves incompatible with a broader market definition.

### **Prices**

#### *LECG Study*

84. The parties have submitted a report (the “LECG report”), which analyses the price levels in the various world regions. The report analyses the following types of price information: (i) average yearly contract prices (in EUR/SWU) of supplies made by Areva and Urenco into the EEA, the U.S., Japan, and other parts of the world (over the period 1994-2003); (ii) average yearly bid prices (in USD/SWU) of Urenco for the supply of enrichment across the world (1994-2003), and (iii) bid prices in individual bids (in USD/SWU) of Urenco for the supply of enrichment across the world (1994-2003). The parties submit that these price comparisons show that – with the exception

of one or two special cases<sup>29</sup> – Areva and Urenco charge similar prices per SWU [in different regions worldwide].

85. The Commission has examined whether the price comparisons provided by the parties show that prices are by and large similar across the world.
86. On the face of it, the data on average yearly contract prices do show some differences between the EEA, the U.S., Japan and other parts of the world in recent years, differences which are not insignificant. However, there is a tendency to convergence. In the case of Urenco, the data show that their average price per SWU in the EEA expressed in Euro has remained fairly constant [...] [...].<sup>30</sup> During that same period, prices have increased markedly both in Asia and the U.S. Between 1995 and 2000, the average Urenco price in the U.S. increased [...] <sup>31</sup> to over [...] <sup>32</sup>, an increase over [...] <sup>33</sup>. In 2001 and 2002, the average price of Urenco in the U.S. was [...] <sup>34</sup> higher than in the EEA due to anti-dumping duties imposed in 2001.
87. Average Urenco prices in Asia during 1995 and 2000 also increased [...] and in 2001 they stood at a level of around [...] <sup>35</sup> above EEA prices. Recent falls in the price differences are partly due to the depreciation of the US dollar, which depresses the value of the contract when expressed in Euro. A similar difference in trend and levels can be observed for average prices of Areva sales.<sup>36</sup> Average prices in Asia and the USA increased [...] between 1995 and 2000 while the prices remained stable or even decreased in the EEA during that same period. The increase in Urenco prices outside the EEA coincides with an [...] increase of more than [...] <sup>37</sup> of Urenco sales to non EEA customers between 1995 and 2002.<sup>38</sup>
88. [...]. Nevertheless, between 1995 and 2003, prices in all EEA countries were stable except for [...] where prices increased in the period 1995-1997.
89. A comparison of actual Urenco bid prices shows a certain discrepancy between EEA and non-EEA prices as of the year 1999 with [...] <sup>39</sup>, but also a tendency to convergence. This discrepancy cannot be fully explained by the countervailing duties imposed by the U.S., as these were only put into place as of 2001. [...].<sup>40</sup>

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<sup>29</sup> The Commission understands these relate to the enrichment services to EDF (France) and Synatom (Belgium), which are performed since 2002 under a toll manufacturing agreement where the electricity is not invoiced, and the increase in US prices, since the countervailing duties were imposed by the US authorities.

<sup>30</sup> [...] Figure 4 of the LECG Report.

<sup>31</sup> [...]

<sup>32</sup> [...]

<sup>33</sup> [...]

<sup>34</sup> [...]

<sup>35</sup> [...].

<sup>36</sup> Figure 2 of the LECG Report

<sup>37</sup> [...]

<sup>38</sup> The increase penetration of European enrichers in the U.S. actually caused a decrease in the average U.S. price in U.S. dollars during 1996-2001, date at which anti-dumping procedures were introduced (USEC response of 6/8/2004). The observed increase in prices in Euros during 1995-2001 does not translate in an increase in prices in US dollars due to currency fluctuations.

<sup>39</sup> Figures 6 and 7 of the LECG report.

<sup>40</sup> [...]

90. Prices of contracts actually signed by Urenco are a more relevant indicator of market prices. Those prices show [...].<sup>41</sup> If one expresses contract prices in Euro, one can see that prices in the U.S. increased faster than in the Community between 1995 and 2001 and that Urenco's European contracts have, on average, [...].<sup>42</sup> Also, the depreciation of the dollar in recent years has clearly depressed the prices of U.S. contracts in Euro while the price of European contracts in Euro has remained unchanged. The changes in relative prices brought about by currency fluctuations seem to indicate that arbitrage is not straightforward in this industry.<sup>43</sup>
91. The parties also present a regression analysis, with a view to more systematically analysing the link between Urenco's bid prices (both for all bids and bids won) and the region of supply, taking account of other variables that may explain the bid prices.<sup>44</sup> A regression on contract prices using the variables suggested by the parties (as being the relevant explanatory variables) indicates that significant differences in prices across regions cannot be excluded. Particularly, average prices in the USA [...].<sup>45</sup>
92. The selection of variables that characterize contracts also seems problematic. An examination of the underlying clauses of the contracts reveals a great complexity in the terms and requirements of each individual contract. Attempting to capture this complexity with a limited number of dummy variables seems overly simple and is likely to produce imprecise results. For instance, [...]. The extreme complexity and variability of the terms of the contracts make the use of linear regression analysis in this particular case problematic and probably also uninformative.
93. The Commission further questions some of the other conclusions in the report. The report notes that "If the Corfu Declaration<sup>46</sup> had a significant impact on European prices, this would be shown by a spike in contract prices in Europe (but not in the rest of the world) from 1996 onwards"<sup>47</sup>. However, it appears that the main impact – and indeed a main purpose – of the Corfu Declaration has been to prevent a price decrease in Europe, i.e. to keep prices stable (which effectively happened). Second, the report mentions that "Corfu did not raise EEA prices above world levels"<sup>48</sup>. However, in a context where each of the main markets benefits from some type of protection, it is not clear that prices in the EEA have to be higher than elsewhere for there to be an impact

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<sup>41</sup> [...]

<sup>42</sup> For the sake of comparison with the previous graphs presented by LECG, the Commission expressed Figure 7 of the LECG study in terms of Euros. Annual exchange rates used are from <http://www.federalreserve.gov/releases/g5a/current/>. Also, the updated data base (040804\_URENCODB.xls) sent by LECG was used to recreate the figure.

<sup>43</sup> In this industry, arbitrage seems to be limited by the higher costs of most international competitors compared in particular to Urenco.

<sup>44</sup> The Commission has not been able to replicate the results of the study using the updated database 040804\_URENCODB.xls. The specification used by the Commission drops five observations for which the contract year is missing. No outliers were dropped since the extensive underlying documentation for each contract indicated that all contracts were valid observations.

<sup>45</sup> A replication of the regression presented in Table 1 of the LECG study reveals that prices in the US are [...] with a 95% level of confidence, using both weighted and unweighted data and where weights are the maximum SWU requirement of the contract over the whole period of the contract. Specifying the regression such as to take the EEA as a region of reference, the Commission finds that the average US price is [...].

<sup>46</sup> This declaration is discussed below at paragraphs 121-140)

<sup>47</sup> LECG report, at p. 3.

<sup>48</sup> LECG report, at p. 8.

of the Corfu Declaration. Furthermore, the report did not show that EEA prices were equal to those in Russia.

*Further observations on pricing*

94. In interpreting the price levels as they exist in the world, the Commission notes that a key characteristic of this industry is that at present there are two competing, but substantially different enrichment technologies, one with high costs (gaseous diffusion), and one with low costs (centrifuges). In the view of the Commission, these technology differences as well as short term capacity constraints on the part of the more efficient company Urenco create an effective “focal price” in the market. Urenco prices [...].
95. The cost differences do not only relate to the total costs per SWU, but also, importantly, to the variable costs per SWU. As indicated by the parties, the proportion of variable costs in the operation of an (amortised) gas diffusion plant is very high [...] <sup>49</sup>, due to the high electricity input needed for gas diffusion, and quite low [...] for a centrifuge enrichment plant.
96. The differences in variable cost levels imply that the pricing [...]: the range of prices at which centrifuge enrichment is profitable at the margin (that is to say, for which marginal revenues exceed marginal costs) is significantly larger than that for gas diffusion. Gas diffusion players – as any normal company - would not price below their average variable cost. In this sense, the average variable costs of gas diffusion enrichment form a price floor for Areva, below which it cannot go. However, at this level, enrichment on the basis of centrifuge technology is still profitable, in the sense that the profit contribution margins are significant. Urenco enjoys this pricing flexibility because of its superior technology.
97. [...] This pattern is borne out by the data provided by the parties on average prices, and from the inspection of data on individual bidding contests. A significant number of customers have described Urenco’s pricing policy in these terms as well <sup>50</sup>. The business model that is followed by Urenco is to gradually expand capacity, and to price such that contracts are secured to fill capacity.
98. A similar pattern can be observed in Urenco’s pricing in the U.S., where USEC is the main player. USEC’s gas diffusion technology is older than Areva’s, and the efficiency of its enrichment plants is somewhat lower than that of Areva. USEC has been able to compensate its relative inefficiency to an extent by way of its ability to procure downblended Russian HEU due to the US-Russian decommissioning agreements. However, these supplies have also been fairly expensive for USEC. As indicated below (paragraphs 107-113), USEC is presently regarded as less competitive than Urenco.
99. The reference prices in both the Community and in the U.S. appear to be determined, therefore, by the price level at which the two main gas diffusion companies (Areva in the Community, and USEC in the USA) are able to operate. Urenco [...]. The fact that prices in both regions are determined by the same technology (gas diffusion), may

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<sup>49</sup> [...]

<sup>50</sup> See for example, Minutes of telephone conference with EnBW Kernkraft GmbH, Monday 19 July 2004 (“Urenco’s prices are usually slightly lower than Areva’s price level and slightly higher than Russian material.”) and - Minutes of telephone conference with [a consumer], 5 July 2004 (“Tenex normally offers the better price, AREVA is usually more expensive than Urenco which in turn bids higher than Tenex”).

mean that prices are not too much different in the Community and in the U.S. Nonetheless, [...].

#### *Conclusion on prices*

100. On the basis of the above considerations, the conclusion of the LECG report that its findings constitute powerful evidence that the relevant geographic market is wider than the Community must be considered not sufficiently substantiated. For this reason the Commission is unable to place any weight on the LECG report in its appraisal of the geographic market.

#### *Links between Community customers and producers*

101. Eurodif, the Areva subsidiary, which operates the Georges Besse gas diffusion plant, has [...], Synatom (the Belgian nuclear supply agency) and Enusa (the Spanish supply agency) as minority shareholders. [Areva has Electricité de France (the major French operator of nuclear power plants) as a minority shareholder]. Urenco's indirect shareholders include two major German utilities, RWE and E.ON.

102. While there is no requirement for the utilities to buy part or all of their requirements of enriched uranium from the undertaking in which they are a shareholder, they may be expected to have a certain preference for the supplier in which they have a financial interest. The utilities concerned account for over half of the nuclear electricity supplied in the Community. These links could point to an Community geographic market.

#### *The limited constraint from the other suppliers*

103. As stated in the Notice on Market Definition, the geographic definition of a market aims at identifying the competitors of the undertakings involved that are capable of constraining their behaviour<sup>51</sup>. Only Minatom/Tenex and USEC can be considered as offering the potential to restrain Areva and Urenco in the Community market.

#### *Tenex*

104. It is generally agreed by the parties, third parties and Euratom Supply Agency (ESA) that the Corfu Declaration restricts the supply of Russian material to a share of 20% of the Community market. The Corfu Declaration and the question of security of supply are discussed in detail below (paragraphs 120-139). Notwithstanding this, Tenex appears to constitute a certain competitive constraint on the parties.

105. Almost all respondents to the Commission's enquiry regard the Corfu Declaration as a restriction on supplies from Russia. A number believe that it also applies to other non-European suppliers. Tenex, the Russian supplier, states that the "the implementation of the Corfu Declaration constitutes a regulatory constraint which restricts Russian exports and reserves 80% of European market for Areva and Urenco."

106. It is therefore debatable whether Tenex can be regarded as a significant competitive restraint on Areva/Urenco. Its aggregate market share is limited by the Corfu Declaration. It may therefore have no incentive to reduce prices to gain market share as its total volume is limited and any reduction in price would result in a reduction in

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<sup>51</sup> See the Notice on Market Definition, point 2.

revenue and profit. Its incentives are to maximise its returns by setting its prices at a level that will enable it to sell its 'quota'. Rationally, if prices in the market were to increase, Tenex would increase its prices by the same amount. On the other hand, the Corfu Declaration is implemented on a case-by-case basis, and therefore Tenex could, in specific cases, exercise some pressure on the parties.

### *USEC*

107. Considering the regulatory barriers existing in Europe against the Russian company Tenex, it is important to evaluate whether the two European producers face an effective and significant constraint in Europe from the only other large enrichment company located outside Europe, the USA company USEC.
108. In this regard, it should be noted that the Commission's market investigation clearly showed that this company does not offer LEU in Europe at a competitive price. USEC's prices stand in the range USD [...], which have not been considered competitive by the respondents to the Commission's market investigation. It should be noted that its Community market share has been small and declining for many years.
109. Despite the recent falls in the USD/EUR exchange rate, USEC has not been a competitive force in Europe, supplying only a limited number of longstanding customers. The appointment of a European representative of USEC may indicate a more active stance but has not yet resulted in any increase in sales. One potential customer enquired about the possibility of Euro contracts in May and has had no reply.<sup>52</sup> The same company reported that USEC's contract terms are unfavourable. Furthermore, USEC appears to quote only in USD. European companies would therefore have to hedge at an additional cost of approximately 3% or bear the exchange rate risk themselves.
110. The paper prepared by the ESA Advisory Committee for the EU/Russian summit<sup>53</sup> states about USEC that, "In the USA, the enricher is drastically reducing its production and relies on imports of Russian enrichment and restrictions on competition to maintain a presence in its own and other markets. Currently (2002) it supplies only some 3% of EU utilities purchases and appears no longer an economic source for the EU. This leaves only 3 enrichers available for supply to the EU."
111. USEC's observed limited ability to compete can be explained by an analysis of its costs compared to those of its rivals. USEC's own enrichment facilities are even older than those of Eurodif and its costs are higher, despite the fact that its decommissioning costs have been taken over by the Department of Energy. In a 2001 report<sup>54</sup> for senior Areva management the production costs of the Paducah gas diffusion plant were estimated at [...] /SWU at an output of [...] million SWU/year. According to that report, USEC's product costs were [2-5] times those of Tenex.

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<sup>52</sup> See minutes of conference call dated 12 July 2004 with [a customer].

<sup>53</sup> Paper prepared by the Advisory Committee for EU/Russian summit to be held 29 May 2002.

<sup>54</sup> Dossier de Conviction 11 September 2002, page 45.



112. On this basis it appears that USEC has been bidding unsuccessfully in Europe against either of the centrifuge operating companies (Urenco and Tenex). Furthermore, its costs appear to be higher than those of Eurodif.
113. USEC's current limited ability to compete in Europe is demonstrated by its declining share of the market as its old and generally long term contracts expire. Since 1995 USEC has succeeded in obtaining only one new very small contract in the Community.
114. It appears that with its current plant USEC is not very successful in Europe. This conclusion would appear to hold for a wide range of exchange rates.

*USEC's role in the future.*

115. At present, approximately 50% of USEC's total current sales (around 5 million SWU/year) are of diluted HEU from Russia, a source of supply which is guaranteed until 2013. The remaining material is manufactured by USEC's gas diffusion plant at Paducah with a capacity of 8 million SWU/year and a current production of 6 million SWU/year. These sources are currently sufficient to account for USEC's sales in the USA and in the rest of the world, mainly Asia. There is a second, smaller and less efficient gas diffusion plant at Portsmouth (Ohio). This plant, which now belongs to the USA Department of Energy is on cold standby.
116. For the future USEC is developing a centrifuge design and hopes to be operational by 2010. It is foreseen that the enrichment plant equipped with such 'Super Jumbo' (USEC) centrifuges will have a capacity of approximately 3,5 million SWU<sup>55</sup>.
117. As regards the USA market, it must also be taken into account that Urenco's new centrifuge plant in New Mexico is planned to be operational in 2008 with a capacity of about 3 million SWU. The Commission understands that this plant is dedicated in particular to the supply of USA customers. The capacity added by Urenco may have the effect that the volume sold by USEC to the USA market will be reduced.
118. The total effective capacity in the USA will therefore be increased in the medium-term, in particular after 2008/2010. Even though USEC currently cannot be considered as an effective competitor in the Community, it cannot be excluded that after this timeline USEC will try to make better use of its capacity, re-direct part its capacity to sales in the Community and make much greater effort to compete in the Community. Given the long lead-times in this industry and the commercial practice to enter into supply agreements before the capacity is actually available, the effects of this may be noticed even before the dates mentioned.

*Conclusion on restrictions*

119. Tenex therefore does appear to be able to constrain only in a limited way the behaviour of Areva and Urenco. Tenex's market share is restricted by the Corfu Declaration and its interest in disciplining the other players is limited to specific cases. On this basis the Commission considers that Tenex would be a limited constraint in the Community. Currently, USEC does not appear to be able to compete very effectively in Europe. However, given the envisaged capacity increase in the USA in the 2008/2010

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<sup>55</sup> Dossier de Conviction 11 September 2002.

timeframe, it cannot be excluded that USEC will become a much more effective competitor and a competitive constraint on the European players by then.

### *Security of Supply considerations*

120. The Commission's investigation has shown that there is unanimous agreement amongst customers on the importance of secure and diverse supplies of LEU. This view is shared by the parties, third parties and ESA.

### *The Corfu Declaration*

121. The question of the security of supply is inextricably tied to the Corfu Declaration. The European Atomic Energy Community's preoccupation with security of supply was demonstrated in 1994 when the Council and the Commission adopted the Corfu Declaration<sup>56</sup>. It followed the failure of the negotiations with the Russian authorities aimed at restricting the inflow of very low priced natural and enriched uranium which was threatening the stability of the European industry and in particular the manufacturing base of the European enrichment companies. The purpose of that Declaration is to ensure that Russian imports of LEU into the Community do not result in an appreciable reduction in the market shares of the European producers which could affect their viability as suppliers. The Declaration makes reference to the average combined market Community share of the European producers between 1991 and 1993, which was approximately 80%. The Commission has been recently given a mandate to negotiate an agreement on the trade on nuclear materials with Russia.

122. The application of the Corfu Declaration is administered by ESA which acts under the supervision of the Commission. The Agency has a right of veto over any contract for enrichment. This derives from its right of co-signature of all such contracts. In practice it rarely uses the veto. Utilities are aware of the constraints imposed by the Corfu Declaration. Customers routinely consult ESA when they are inviting bids for contracts, usually about two years in advance of the first deliveries under their proposed new contracts and they are all aware of the Agency's position. In that consultation ESA lets the utility know its views about the advisability of contracting with a given supplier and can steer the utility away from arrangements that would be contrary to ESA's policy. Thus the customers are informed well in advance of ESA's views and can anticipate problems. In that situation ESA does not need to use its veto powers to ensure that its policies regarding security and diversification of supplies are successfully implemented.

123. ESA has a wide discretion. The Court of Justice clearly confirmed, in the KLE case that, "where decisions concerning economic and commercial policy and nuclear policy are involved, warranting an assessment of complex economic circumstances, the Agency has a broad discretion and judicial review must be confined to identifying any manifest error of assessment or misuse of powers"<sup>57</sup>.

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<sup>56</sup> The Corfu Declaration is a policy declaration and not a formal act.

<sup>57</sup> Judgement in Case C-161/97 P *KLE v. Commission* [1999] ECR I-2057, paragraph 97.

124.ESA has applied the Corfu Declaration flexibly. Some countries like Finland<sup>58</sup> and Spain have historically higher imports from Russia. EDF, the largest Community consumer of enriched uranium takes up only a small proportion of its entitlement so that ESA is able to deal flexibly with other utilities. Another customer stated that it had been able to import over 30% of its requirements from Russia in 2003 over the last five years, because EDF has not used its 20% limit. Other customers reported an inflexible application of the declaration and stated that they do not exceed the 20% of non-Community suppliers. Some customers reported that they would be able to exceed the 20% limit in one year provided that they would reduce their Russian purchases in the following year/s. EDF has confirmed that ESA routinely checks how much it will buy from Russia. There is an effective mechanism by which contracting parties can sound out ESA's view on a given transaction and adjust their purchasing arrangement accordingly.

125.It is also important to clarify that, from a competition point of view, it is not relevant that "the role of the ESA" (which is empowered to approve all enrichment contracts) "is rather dissuasive"<sup>59</sup> or that any refusal to sign a contract could be challenged before the Commission under Article 53 of the Euratom Treaty. The mechanism described above (paragraphs 121-124) avoids the need for formal procedures.

126.In practice the declaration has been used only to control the flow of Russian enriched uranium into Europe. The only other significant non-European producer, USEC, has not been very effective in the past and its market share has fallen over the period.

*The Euratom policy on security of supply*

127.One of the main objectives of the Euratom Treaty is to ensure the security of supply of nuclear material for the European users. Under Article 2(d) of that Treaty, the Community is required to "ensure that all users in the Community receive a regular and equitable supply of ores and nuclear fuels". The implementation of that obligation is the subject of Title II, Chapter 6 (Articles 52 to 76), which establishes a common supply policy for ores, source materials and special fissile materials. In this context, Article 52(2)(b) provides, *inter alia*, that ESA has "an exclusive right to conclude contracts relating to the supply of ores, source materials and special fissile materials coming from inside the Community or outside".

128.In this respect, it should be underlined that in the KLE case the Court of First Instance stated that "the Agency may lawfully bar imports of nuclear materials if those imports are liable to jeopardise the achievement of the aims of the Treaty, in particular by their effect on sources of supply. Such a risk may be regarded as a legal obstacle, within the meaning of the first paragraph of Article 61 of the Treaty, to meeting an order (...). To put it differently, in order to ensure geographical diversification of external sources of supply, the Agency has a discretion - exercising its exclusive right to conclude contracts for the supply of ores and other nuclear fuels so as to ensure reliability of supplies in accordance with the principle of equal access to resources, in conformity

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<sup>58</sup> Two of Finland's four reactors are of Russian design and have long term supply agreements with TENEX.

<sup>59</sup> See the parties' answer to the Commission's questionnaire of 29 June 2004, point 9(d), where it is also stated that the "parties are not aware that any enrichment supply contract has ever been refused by the ESA in the past".

with the task conferred on it by the Treaty - to bar certain imports of uranium which would reduce such diversification”<sup>60</sup>.

129. In the development of its supply policy, the Agency clearly linked the security of supply objective to the viability of the Community nuclear manufacturing industry. In its view, maintaining the viability of the Community enrichment industry is the best way to ensure the long-term security of supply of LEU for European utilities. This is particularly important given the very small number of enrichment companies supplying the market, four major suppliers, Areva, Urenco, Tenex and USEC and occasional supplies from CNNC. This is shown for instance in ESA’s annual report for 2002, where, examining the distortions in the world-wide enrichment market caused by the restrictions on the sales of Russian enrichment and the trade disputes in the United States, the Agency stressed that it “continued to monitor the situation with a view to ensuring the viability of the EU industry and the long-term security of supply of the EU users”<sup>61</sup>.

130. ESA’s policy on security of supply is also reflected in a briefing prepared by the Uranium Institute’s Trade Issues Working Group, which has been provided by the parties to the Commission. In this briefing it is “pointed out that the ESA’s policy to maintain diversity of primary supply sources for nuclear fuel is not only applicable to CIS countries (Commonwealth of Independent States, that is to say, countries of the former Soviet Union). It has stated that it will monitor closely the effects of sales of any large inventory for potential negative effect of stability or long-term security of supply to the EU market. If the introduction of such inventories on the EU market were to take place to the detriment of the EU’s security of supply, the ESA has said that it will take ‘appropriate corrective measures’”<sup>62</sup>

131. This approach was further confirmed by the Commission in its Communication on Nuclear Safety in the European Union, which states, in the context of relations with Russia with regard to nuclear energy, that “the declaration stipulates that the share for European uranium enrichers should be maintained at around 80% of the European market”<sup>63</sup>.

#### *The Parties’ views on security of supply*

132. The parties agree that ESA has a duty to maintain the security and diversity of supply of enriched uranium to Community utilities and that it has used the Corfu Declaration to help achieve these objectives. Their position is set out in paragraphs 133-136 below.

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<sup>60</sup> Judgement in Joined cases T-49/94 and T-181/94 *KLE v. Commission* [1997] ECR II-161, point 92; emphasis added. This judgement has subsequently been confirmed by the Court of Justice in Case C-161/97 P *KLE v. Commission* [1999] ECR I-2057.

<sup>61</sup> Page 16. More generally, the link between the viability of the European nuclear industry and the long-term security of energy supply of the Community is also shown in the Opinion of the ESA Advisory Committee on the Commission Green Paper “Towards a European strategy for the security of energy supply”, where is stated that the “Community industry (...) masters the whole nuclear fuel cycle and plays a leading role from uranium mining, conversion, enrichment, fabrication (...), to reprocessing, interim spent fuel or waste storage and spent fuel or waste conditioning in preparation for final disposal (...). Nuclear energy can therefore contribute, as an essentially domestic source, to the long-term security of energy supply of the European Union, and is less susceptible to disruption than fossil energy sources heavily dependent upon fuel imports” (point 21).

<sup>62</sup> UI Trade Briefing, Issue 1, February 2000, page 3.

<sup>63</sup> Communication from the Commission to the Council and the European Parliament, COM(2002) 605 Final, point 7; emphasis added.

133. In the notification the parties stated that “according to the Corfu Declaration the regulatory policy designed to ensure the viability of the European enrichment industry may result in maintaining the current share of imports of enrichment services into the EU”<sup>64</sup>;
134. Again in the notification they specified that, “following the general Partnership and Cooperation Agreement with Russia that was signed in 1994, the EU Member States and the Commission have agreed on a policy designed to ensure the viability of the European industry as Russia or the United States threaten European production by importing material coming from the disarmament process. Through a so-called ‘Corfu Declaration’, the EU Member States and the Commission have agreed to maintain the current share of imports of separation work by companies located outside EU/EEA for utilities located in the EU/EEA using the provisions of the Euratom Treaty and monitored by Euratom Supply Agency”<sup>65</sup>;
135. In their response to the Commission’s decision to open an in-depth investigation the parties stated that the “[The Corfu] Declaration was meant as a regulatory mechanism to safeguard European SWU supply by preserving the viability of the European enrichment industry and preventing over-dependence by any single source”<sup>66</sup>;
136. In their answer to the Commission’s questionnaire of 29 June 2004 they then reiterated that the “provision of enrichment services by non-EU suppliers is covered by the Corfu Declaration, issued in the context of the EU’s discussions with Russia in the early 1990s, at the time when large quantities of diluted HEU became available at extremely low prices that could not be matched by the even most competitive enrichment service providers”<sup>67</sup>.

*Third parties’ views on security of supply*

137. The replies to the Commission’s market enquiries have indicated that LEU customers have three main preoccupations when choosing their suppliers, reliability and security of supply, diversity of supply and price. For instance a number of important European customers have indicated that they may not choose a less expensive supplier if they consider it not to be sufficiently reliable<sup>68</sup>.
138. That security of supply is of over-riding importance not only to ESA but also to the industry as a whole is evidenced by the minutes of the Euratom Advisory Committee (made up of representatives of all levels of the nuclear industry) which emphasise the importance of maintaining security of supply and the viability of the European enrichment business.

*Conclusion on Euratom policy*

139. It is clear from the above that ESA has a duty to ensure the continuing supply of LEU to Community utilities. It has appropriate powers to ensure security and diversity of supply for European LEU customers and enjoys a large measure of discretion in the use

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<sup>64</sup> Footnote 45.

<sup>65</sup> Page 56; emphasis added.

<sup>66</sup> Page 6, of observations of the Parties on the Article 6(1)(c) decision.

<sup>67</sup> Point 9(a).

<sup>68</sup> Minutes of conference call with [a customer] 13 July 2004.

of those powers. It has used them effectively to ensure that the viability of the two European enrichment companies, Eurodif and Urenco has not been threatened. The companies combined market share has remained at approximately 80% since 1990.

140. Given the emphasis placed on security and diversity of supply by all concerned and the precedent set by the Corfu Declaration, it is clear that ESA or the European Atomic Energy Community could take appropriate action to ensure the continued operation and viability of the European enrichment companies. It is not possible to predict the exact form that such action would take. Such measures would of course be confined to the Community. It appears that ESA considers that security of supply is assured if the European enrichment industry has a combined share of the European market of around 80%. In the past the threat has been from Russian supplies of LEU.

### **The referral requests**

141. In their referral requests pursuant to Article 22(3) of the Merger Regulation, the French and the German authorities argued that regulatory constraints significantly reduce LEU imports into the Community and that the relevant geographic market should therefore be defined as European in scope. The German authorities also pointed out that existing links between the major European nuclear power plant operators and Areva<sup>69</sup> and Urenco<sup>70</sup> strengthen the position of these two undertakings on the European market.

### *Overall conclusion on geographic market*

142. The Commission considers on the basis of the arguments set out above (paragraphs 64-142) that there are indications that the relevant market may be Community-wide since the conditions within the Community are sufficiently homogenous and are appreciably different in neighbouring areas. However, the Commission also found indications that there are certain competitive constraints currently exercised by Tenex. The conditions of competition may change in the foreseeable future as USEC might re-direct some of its planned new efficient capacity to Europe. In any case, the scope of the geographic market can be left open since the commitments submitted by the parties on 3 September 2004 remove the Commission's serious doubts as to the compatibility of the proposed concentration with the common market, whether the market is Community-wide or wider in scope. On that basis, the issue of whether the appropriate geographic market is Community-wide or wider may, for the purposes of this Decision, be left open.

## **C. COMPETITIVE ASSESSMENT**

143. The Commission recognises the potential benefits of this concentration which gives Areva access to gas centrifugation technology and thereby ensures that it will remain an active and competitive player on the market. The Commission notes that Areva's access to uranium centrifuge technology will contribute to the European security of supply which is an objective of the Euratom Treaty. Without a leading technology to replace its ageing gas diffusion plant, Areva is unlikely to remain on the market in the longer term.

144. However, the Commission's investigation has identified serious doubts related to the concentration in the form as notified by the parties. These doubts relate to the enhanced

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<sup>69</sup> Areva is the [one of the largest customer] of EDF and EDF is a shareholder in Areva.

<sup>70</sup> Urenco is partly owned by E.ON and RWE.

possibilities the joint venture ETC offers the parties to coordinate on enrichment capacity and output in the European market.

145. In the Commission's view, these serious doubts relate to the creation of a joint dominant position for Areva and Urenco on the Community enrichment market in the sense of Article 2(3) of the Merger Regulation, or to coordination in the sense of Article 2(4) of the Merger Regulation<sup>71</sup> on the enrichment market in the Community or any wider market.

146. The reasons underlying the Commission's views are set out in further detail below (paragraphs 147-220).

### **1. The LEU market – market shares and capacity levels**

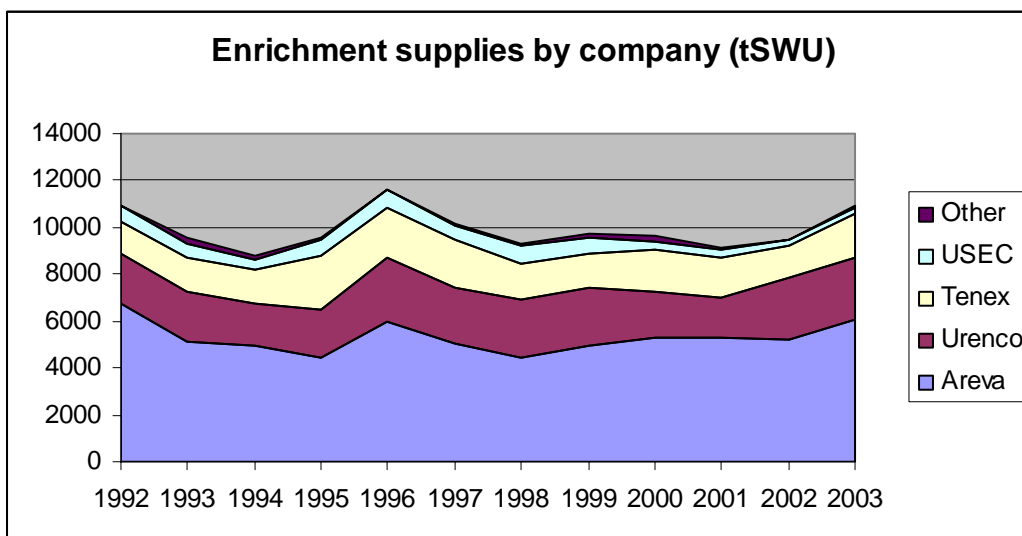
147. The world-wide market for LEU is about EUR 4 billion a year, while annual sales in the Community are approximately EUR 900 million.

148. The volumes of enrichment supplied by the main players (in tons SWU) in the Community over the period 1994-2003 are given in Figure 2 below (source: ESA):

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<sup>71</sup> On the relationship between the two aspects, the Court of Justice has noted that “an agreement, decision or concerted practice (whether or not covered by an exemption under Article 85(3) of the Treaty) may undoubtedly, where it is implemented, result in the undertakings concerned being so linked as to their conduct on a particular market that they present themselves on that market as a collective entity vis-à-vis their competitors, their trading partners and customers. The existence of a collective dominant position may therefore flow from the nature and terms of an agreement, from the way in which it is implemented and, consequently, from the links or factors which give rise to a connection between undertakings which result from it” (judgment in Joined Cases C-395/96 P and C-396/96 P, *Compagnie Maritime Belge Transports v Commission*, ECR 2000, I-1442; at points 44 and 45).

Figure 2



149. The corresponding market shares are given in Table 2 below (source: ESA):

Table 2

Table - Market shares in the Community enrichment market 1994-2003										
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Areva</b>	[50-60]%	[40-50]%	[50-60]%	[50-60]%	[40-50]%	[50-60]%	[50-60]%	[50-60]%	[50-60]%	[50-60]%
<b>Urenco</b>	[20-30]%	[20-30]%	[20-30]%	[20-30]%	[20-30]%	[20-30]%	[20-30]%	[10-20]%	[20-30]%	[20-30]%
<b>Tenex</b>	[10-20]%	[20-30]%	[10-20]%	[20-30]%	[10-20]%	[10-20]%	[10-20]%	(10-20]%	[10-20]%	(10-20]%
<b>USEC</b>	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%
<b>Other</b>	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%	[0-10]%
<sup>72</sup>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

150. As can be seen from Table 2, the combined Community market share of Areva and Urenco has been about 80% or higher since 1996, when contracts concluded after 1994 (when the Corfu Declaration was made) became operational.

151. On a world level, the market shares are as follows. Areva has 25%, Urenco 16%, Tenex 27%, USEC 29% (more than half of it on the basis of Russian HEU), JNFL 1% and CNNC 1% (figures of 2002)<sup>73</sup>. The combined market share of the parties on a world level is therefore 41%.

152. In terms of current enrichment capacity, Urenco has a capacity of 6 million SWU/year in the Community (with a production level close to capacity)<sup>74</sup>. Its production facilities

<sup>72</sup> CNNC has supplied small quantities of enrichment services in the EEA.

<sup>73</sup> Form CO, p. 46.

<sup>74</sup> Form CO, p. 47.



are located at Capenhurst (United Kingdom), Almelo (Netherlands) and Gronau (Germany) Urenco is gradually expanding its enrichment capacity in the Community. For the U.S. market, preparations are in place for building a new plant, LES (located in New Mexico), with a capacity of about 3 million SWU to be operational as of 2008<sup>75</sup>.

153. Areva's plant George Besse at Pierlatte ("GB", France) has a production capacity of 10,8 million SWU/year (current production [7,5–10,5] SWU/year)<sup>76</sup>. Through the transaction and the accompanying Centrifuge Supply Agreement ("CSA"), Areva's plant will be replaced by a new plant ("GB-2"). In the CSA, Areva has committed to procure a capacity of [1-5] million SWU/year, with two options to procure another [0,5-5] million SWU/year. If it exercises the option, which appears to be likely in view of Areva's current sales levels, Areva's capacity will equal [5-10] million SWU/year. This capacity is foreseen to be in place by 2016<sup>77</sup>. Further capacity increases may be considered at a later stage.
154. USEC has a nominal production capacity of 8 million SWU/year (current production 6 million SWU/year). This production stems from its gas diffusion plant in Paducah (Kentucky). It obtains around 5 million SWU/year as an importer of Russian defence HEU (not available for the Community market)<sup>78</sup>. USEC has very limited sales in the Community.
155. Tenex has a production capacity of 20 million SWU/year, which is fully used. Its current production is 10 million SWU/year of enrichment. It employs the remainder of its capacity for the re-enrichment of tails<sup>79</sup>.
156. JNFL and CNNC have about 1 million SWU/year production capacity each, which is mostly used for domestic consumption.

## **2. Impact of the transaction on competition**

157. The serious doubts of the Commission can be grouped into the following main elements:
- (a) the joint venture enables the parties to control each other's decisions on adding enrichment capacity;

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<sup>75</sup> Presentation by the Nuclear Fuel Working Group (Enrichment Services Sub-Group), World Nuclear Association, Madrid, 30.03.2004, p.2.

<sup>76</sup> Form CO, p. 47.

<sup>77</sup> Presentation by the Nuclear Fuel Working Group (Enrichment Services Sub-Group), World Nuclear Association, Madrid, 30 March 2004, p.5.

<sup>78</sup> Form CO, p. 47.

<sup>79</sup> Tenex has a large nominal capacity, but the real capacity does not correspond to the nominal capacity and is close to estimated supplies because about half of the nominal capacity is used directly or indirectly, for recycling of HEU resulting from the decommissioning of nuclear warheads. (Form CO, p. 47).

- (b) the control on capacity levels is likely to lead to higher prices in the Community and, to a more limited extent, in the rest of the world (explicitly enforceable coordination on capacity);
- (c) the joint venture facilitates tacit coordination on supply into the Community.

These elements are developed further below (paragraphs 158-219).

**The joint venture enables the parties to control each other's decisions on enrichment capacity.**

158. In the Commission's view, the transaction establishes that any purchase of new machines, that is to say, any new increase in capacity, on the part of Areva or Urenco will require the unanimous approval of the ETC board which will be nominated in equal parts by Areva and Urenco. In other words, both parties will be able to prevent capacity increases by the other.

159. According to the ETC Shareholders' Agreement, a series of decisions are reserved for the Board ("Reserved Board Matters"), including several decisions having an impact on the supply of centrifuges to ETC's parents:<sup>80</sup>

- 9.2 (a). Approval or amendment of strategy, the Budget or Business Plan;
- 9.2 (b). Approval of capital expenditure by ETC in excess of EUR [...] million;
- 9.2 (c). Approval of new sales contracts with a value outside the parameters of the then current Budget
- 9.2 (k). Any agreement or arrangement (or amendment, variation or termination thereof) between ETC and/or its subsidiaries and a Shareholder or a member of that Shareholder's Group;

160. The Reserved Board Matters require the unanimous approval of all the Directors present at the meeting, [Confidential: details of Board Arrangements]<sup>81</sup> appointed by Areva and two Directors appointed by Urenco.<sup>82</sup> Therefore, each of the Parties has a veto right in relation to the Reserved Board Matters.

161. The Reserved Board Matters enable each of the Parties to block any additional machinery sales contract between ETC and the respective other Parent Company (beyond the number of cascades already committed to Areva and Urenco in the Cascade Supply Agreement, the Interim Plan and the Business Strategy).<sup>83</sup> Their veto rights

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<sup>80</sup> Clause 9.2 of the ETC Shareholders' Agreement.

<sup>81</sup> Clause 8.1 of the ETC Shareholder's Agreement

<sup>82</sup> Clauses 8.8 and 8.9 of the ETC Shareholders' Agreement.

<sup>83</sup> According to these documents GB II is supposed to reach an annual capacity of [2-5] million SWUs in [...] and of [5-10] million SWUs in 2016 whereas Urenco (UEC) is expected to expand its annual capacity to [5-10] million SWUs by 2008 and to reach an annual capacity of [2-5] million SWUs in its planned U.S. plant in 2012.

relating to the annual Business Plan and the Annual Budget (Clause 9.2 (a)) will regularly confer upon each of the parties, decisive influence over the determination of the number of centrifuges to be delivered to the other party.

162. Even if, for some reason, an envisaged sales contract is not covered by the annual Budget, it cannot be concluded by ETC without the unanimous approval of its Board (Clause 9.2(c)). Moreover, any additional sales contract with a parent company constitutes an agreement between ETC and a Shareholder within the meaning of Clause 9.2(k) and is therefore subject to unanimous Board approval. Furthermore, any substantial delivery of additional centrifuges to a parent company requires a corresponding capacity expansion that is likely to exceed the -relatively low-<sup>84</sup> threshold of EUR [<10] million above which a unanimous Board approval is necessary pursuant to Clause 9.2(b). On the basis of the Shareholders' Agreement, it is therefore excluded that either Areva or Urenco would be able to purchase centrifuges from ETC without the prior explicit approval of the other parent company.

163. This conclusion is not altered by Clause 9.3 concerning "Related Party Agreements". Pursuant to that clause, "where a decision on an operational matter in respect of a Related Party Agreement is a Reserved Board Matter, the Directors shall take all reasonable steps, taking into account the best interests of ETC, to ensure that ETC performs its obligations in a timely fashion under the relevant Related Party Agreement." However, Related Party Agreements as defined in Clause 1.1 of the Shareholders' Agreement mean only agreements which have been entered into between ETC and Urenco or Areva, respectively.<sup>85</sup> Therefore, Clause 9.3 only applies to sales contracts which have already been concluded or which may be concluded in the future with the unanimous approval of the ETC Board according to clause 9.2(c) and/or 9.2(k). By contrast, Clause 9.3 cannot be invoked with respect to the conclusion itself of sales contracts (or other contracts) between ETC and Areva or Urenco.

**The control on capacity levels is likely to put upward pressure on prices in the Community and the rest of the world.**

164. As indicated under a) (paragraphs 158-163) the joint venture provides each party with the ability to control the capacity level of the other party. As a result, the two European competitors in the uranium enrichment market will be able to establish perfect coordination of capacity decisions. Given the strong link between capacity and output, this is likely to lead to upward pressure on prices in the Community and the rest of the world.

*The link between capacity and output*

165. In the field of centrifuge technology, there is very strong link between capacity levels and total output. First of all, from a technical viewpoint the technology mandates that

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<sup>84</sup> EUR [<10] million represents less than [0-10]% of ETC's annual sales expected for 2004.

<sup>85</sup> With respect to Areva, this means any of the Project Agreements, namely the Cascade Supply Agreement, the Technology transfer agreement and other agreements entered into between ETC and Areva in connection with the building and operation of GB II. In the case of Urenco, this means any cascade supply agreement, technology transfer or other agreement entered into between ETC and the UEC group, also in relation to Urenco's U.S. project.

the centrifuges, once they have started spinning, should not be turned off during their entire life time ([...]). Turning the centrifuges off and restarting them significantly increases the risk of the centrifuges being damaged. Centrifuge technology and equipment is designed to operate continuously without requiring maintenance during its lifetime.

166. Furthermore, enrichment plants on the basis of the centrifuge technology are highly capital intensive. Their initial investment (in the plant building, and the actual centrifuges) is very high relative to the variable costs of production. This mandates that full economic use is made of the available capacity. Marginal costs being extremely low, even relatively low prices for enrichment would cover operating costs and contribute towards recouping the capital investment. Therefore, firms have an incentive to produce as much as possible and to use their entire available capacity.

167. The parties have indicated that although centrifuge plants have to run during their entire life time, this does not mean that the level of production is constant. LEU output (in terms of enriched uranium product) would depend on the feed (the amount of enriched uranium put in, and its level of enrichment). One example would be to use capacity for the re-enrichment of tails. Nonetheless, the possibilities for varying LEU production in this way appear to be low, as re-enrichment of tails is not an activity that is economically very attractive<sup>86</sup>. More importantly in this context, it seems unlikely that the parties would base their investment decisions on the prospect of being able to re-enrich tails.

168. The link between capacity and output in the context of centrifuge technology is also borne out by of Urenco's historic and current capacity utilisation rates, which have been [90-100]%.

*Capacity levels have a strong impact on price*

169. With an increasing adoption of the centrifuge technology, the market for enrichment is one where capacity levels will have an increasingly strong impact on the price levels that will eventually arise in the market.

170. Demand for enrichment services is fairly inelastic. Most customers have indicated that in the event of an increase in the price of enrichment services of 5%, they would reduce the amount of SWU ordered by 2% (most respondents<sup>87</sup>) to 7% (one respondent). This translates into an own-price elasticity of demand for enrichment services of about 0,4. This is due to the fact that all operators of nuclear plants have overriding incentives to operate their plants at full capacity.

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<sup>86</sup> Currently, both companies have re-enrichment done by Tenex, which uses a substantial part of its enrichment capacity for this purpose. In their submission dated July 30 2004, in response to question 4 of the Commission's Article 11 request, the parties stated as follows: "[I]n most cases, it is uneconomical for a provider of enrichment services to re-enrich tails. However, since the production of HEU for military purposes have ceased in Russia a significant amount of its enrichment capacity has become surplus. Due to this excess enrichment capacity, the Russian company Tenex has found it economic to use some of this excess capacity to re-enrich tails."

<sup>87</sup> For example, Syntom, E.ON.

171. Suppliers of centrifuge enrichment have the incentive to produce at capacity, but cannot produce more than capacity in any given year<sup>88</sup>. Some supply elasticity is likely to remain present for the foreseeable future through the supply of Russian LEU (on markets where expansion of such imports is possible<sup>89</sup>) and through the use of stocks by traders. Still, given existing regulatory constraints and the preference of customers for secure sources of supply, these additional sources of LEU are unlikely to prevent price increases of LEU. Similarly, a fall in LEU demand would depress prices since excess production would have to be cleared in the market. Given the lack of flexibility of the output/capacity ratio inherent to the centrifuge technology, capacity levels will be one of the main drivers of the price level for enrichment.

172. Companies understand very well the impact of capacity levels on the price level. It is well understood by companies that adding capacity on the market may depress the price level. In this regard, Urenco states the following on its internet website:

“[I]n the past two decades, the enrichment market has been in a situation of significant oversupply and new entrants into the market have largely supplied new reactor requirements or have taken business from incumbents. In recent years, some suppliers have been driven by market share targets, ignoring the importance of selling above cost and earning a long-term rate of return. Older, high prices long-term contracts have supported supply from high cost production. The factors have pushed perceived market prices down to artificially low levels in recent year. [...] as a result of capacity closure and other factors, there is a new equilibrium between demand and supply and this, coupled with less aggressive selling, has resulted in a strengthening of price levels.”<sup>90</sup>

173. This awareness is furthermore apparent in Urenco’s business plans, where it is stated that [...] <sup>91</sup>.

*Increased incentive to limit expansion of capacity, leading to upward pressure on prices*

174. The fact that market players in a given market are aware of the impact of their capacity decisions on prices, and hence on profits, is unproblematic when market players continue to develop their plans independently.

175. The joint venture has, however, the effect of centralising the decisions on capacity extensions on the part of Areva and Urenco. In this case, it is likely that the total capacity installed by the two European will be chosen to maximize Areva and Urenco’s joint profit. In such a scenario, the level of the capacity of Areva and Urenco will end

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<sup>88</sup> By contrast, gas diffusion technology allowed for more flexibility in varying enrichment output within a given capacity.

<sup>89</sup> In the Community, Russian supplies are limited through the Corfu Declaration (see the section on geographic market definition).

<sup>90</sup> See [www.urengo.com](http://www.urengo.com) – corporate papers – Atom Forum May 2001, p. 9-10.

<sup>91</sup> [...].

up being lower than would have been the case if decisions on capacity were taken independently and the two firms were competing for each other's market share.

176. A limitation on the overall capacity of the parties is likely to result in the limitation of capacity that is available to European customers. Even in the absence of any subsequent tacit coordination at the level of enrichment supply, this is likely to put upward pressure on prices in the Community, as a result of the change in the balance of supply and demand.
177. The impact on European prices can be expected to be significant, not least because Areva and Urenco are themselves significant players in the Community. Currently Areva and Urenco hold over 80% market share in the Community, a market share that has been rather stable over the past decade.
178. In addition, the market itself is very concentrated, with few other players being present. The Herfindahl-Hirschman Index (*HHI*) index of market concentration equals 4320 in the Community, which can be considered to be very high. The other two main players at the world level, Tenex and USEC, are constrained in what they are able to sell into the Community. In such a context, the coordination of capacity decisions by the two only significant players in the Community is bound to have a significant upward pressure on European prices.
179. Specifically, Tenex is constrained because of the Euratom supply policy, and the hesitation on the part of some of the customers in the Community to rely for a significant part on Russian imports (see the section on geographic market definition).
180. USEC is presently only marginally active in the Community due to its higher prices resulting from the use of its ageing and inefficient enrichment plants based on gas diffusion technology.
181. As regards USEC's foreseeable future, USEC plans to replace its obsolete enrichment plants as of 2010 by a newly developed centrifuge technology.
182. Furthermore, according to current estimates, the planned capacity of the USEC centrifuge facility would be only 3 - 4 million SWU, which covers about a third of US requirements (around 11 million SWU per year)<sup>92</sup>. At the same time, USEC's current gas diffusion facility at Paducah is to be closed. It is likely that USEC would first try to use its capacity to increase/maintain its market share in its domestic market<sup>93</sup>.
183. The Commission recognises that a limitation of capacity need not in every case translate into a limitation of output sold in the Community. Areva and Urenco sell a significant amount of enrichment services outside Europe<sup>94</sup>, so that their total capacity is larger than their current European sales. If there was an increase in demand in

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<sup>92</sup> ESA information received on 10 August 2004. The parties specify that the planned capacity is 1 million SWU/year in 2010, and 3 million SWU/year in 2012-2013 (Form CO, p. 43). On the capacity increase figures on the part of USEC, see also the presentation by the Nuclear Fuel Working Group (Enrichment Services Sub-Group), World Nuclear Association, Madrid, 30.03.2004, p.4.

<sup>93</sup> ESA information received on 10 August 2004.

<sup>94</sup> Urenco sells [60-70]% of its production outside the EU (mainly to the U.S.), Areva [20-30]%.

Europe, supplies could be potentially redirected from other areas. However, there is likely to be a strong correlation between overall capacity of the parties and the output that is available to European customers.

184. First, a significant part of the capacity used to supply non-Community customers is normally committed to long term contracts, as is common in the industry. Consequently, at each point in time, part of the capacity is unavailable for selling into the Community. Indeed, as is the case for Urenco at the moment, there would appear to be no reason for Urenco or Areva to decide post-merger on any expansion of capacity unless each is certain that the export market will absorb the capacity. Centrifuge enrichers such as Urenco typically add capacity after they have secured contracts for the purchase of enrichment from that capacity.
185. Second, when the overall capacity level is limited for each of the parties, making a sale into the Community means giving up a sale in the rest of the world. As long as margins outside the Community are positive, there is a certain opportunity cost associated with selling in the Community, at least compared with the situation where capacity is not a binding constraint<sup>95</sup>. This reduces the elasticity of supply into Europe at any given time.
186. Also at the world level, the impact of capacity coordination by Areva and Urenco is likely to be substantial. Currently Areva and Urenco hold over 40% market share on the world level. The market is very concentrated at the world level, although less than at the Community level. The *HHI* index equals 2460 at the world level, which is substantial. There are only two other main players in the world, Tenex (centrifuge technology) and USEC (which currently survives mainly on the basis of Russian HEU supplies and which is currently developing its own centrifuge technology).
187. JNFL from Japan and CNNC from China are modest players on the world level, and are likely to remain so. As the parties note, JNFL currently uses centrifuge technology and equipment, but its Rokkashomura plant will not be technically and economically viable in the mid-term. JNFL announced that it intends to increase its enrichment capacity in the years following 2000. The project is to build a plant by 2010-2015 with a capacity of 1,5 million SWU per year based on a new Japanese centrifuge technology still under development and which is not yet industrialised, qualified or licensed<sup>96</sup>. CNNC has procured some centrifuges from Russia, but its capacity is limited (approximately 1 million SWU/year) and used for domestic purposes. Consequently, these two players are unlikely to prevent the upward pressure on prices resulting from the capacity decisions of the parties.
188. It is very unlikely that other players will enter the enrichment market in the foreseeable future. For a company that has never invested in the development of centrifuge technology before, the parties estimate that the entry would take approximately 20 years. The investments involved are substantial. The construction of the GB-II plant alone costs EUR 3 000 million; Urenco's new plant in the USA costs USD [...] million.

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<sup>95</sup> Furthermore, in a market where long term contractual relations are important, the choice not to extend existing supply contracts where the option to do so is available might harm the enricher's long term reputation.

<sup>96</sup> Form CO, p.41.

189. Customers, likewise, cannot be considered to be a position to prevent capacity coordination by the two parties. It is not possible for any party to expand capacity without the approval of the other party. Customers cannot undermine the stability of such coordination. Neither are there, for the reasons set out in paragraphs 176-191 above, sufficient economic alternatives to by-pass the two parties.
190. Finally, the fact that the parties have certain concrete plans for building capacity does not dispel the serious doubts. First, the existing business plans do not suggest a likely net increase of available capacity. New capacity based on centrifuge technology will be built, but existing capacity based on gas diffusion technology is leaving the market<sup>97</sup>. Second, in a context where demand for enrichment is on the increase under most realistic scenarios (especially due to rising demand in Asia), the fact that both parties can control each other's capacity increases must be seen as problematic.
191. For the reasons stated above (paragraphs 164-190), coordination on the capacity levels by Urenco and Areva is likely to result in a more limited supply both at the Community level and in other geographical markets. This, in turn, will result in higher prices for enrichment services, particularly in Europe where the responses of potential competitors are likely to be more limited for regulatory and security of supply reasons.

**The joint venture facilitates tacit coordination on supply into the Community.**

192. The previous section (paragraphs 164-191) set out that even in the absence of any subsequent tacit coordination on enrichment supply into the Community, the coordination on world-wide capacity levels (through the joint capacity decisions) is likely to put upward pressure on prices, including in the Community. This section sets out that over and above the likely negative impact on prices resulting from the joint capacity decisions, the transaction may also facilitate tacit coordination on supply into the Community. These serious doubts would exist only in the event that the geographic market were considered Community wide. On a world-wide basis, the potential for tacit co-ordination on supply is very limited due to the relatively stronger positions of USEC and Tenex.
193. The factors that make coordination on supply in the Community more likely after the transaction than it was in the past are: (i) the centralisation of capacity decisions in ETC, (ii) the structural link of ETC foreseen by the transaction as notified, and (iii) increased scope for information exchange.
194. The centralisation of capacity decisions is likely to make the total level of capacity available to each of the parties smaller, reducing the ability and incentive to expand output into the Community market. There is no incentive to attract a higher share of

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<sup>97</sup> In terms of current enrichment capacity, Urenco has a capacity of 6 million SWU/year. Urenco is gradually expanding its enrichment capacity in the EU towards [...] [Urenco business secret]. For the U.S. market, preparations are in place for building a new plant, LES (with a capacity of about 3 million SWU per year). While this is capable of freeing up capacity in Urenco's European plants, [...] [Urenco business secret] Areva's plant GB with a production capacity of 10.8 million SWU/year will be replaced by GB-2, with a capacity of [5-10] million SWU/year.



customers at the expense of the competitor if a firm cannot install the capacity needed to supply the newly acquired demand.

195. The creation of a structural link through ETC, foreseen by the transaction as notified, is likely to have the effect of aligning the incentives among the two firms to keep competition in the Community market moderate. The joint venture fulfils an important function in the operation of the two companies. The fact that each party is dependent on the other party for such vital strategic decisions as capacity decisions increases the likelihood that some sort of understanding will develop for each other's market positions in Europe.

196. Despite a number of measures envisioned by the parties to stop information flows, ETC is likely to improve transparency, for example, in the context of discussing capacity needs. Even though formal firewalls have been proposed as part of the notified operation, it may be difficult to control informal sharing of information once sensitive information becomes available to individuals with strong links to parent companies (see paragraphs 212- 214 below).

*Reaching a common understanding*

197. The primary way for the parties to achieve tacit coordination on supply into the Community is by maintaining a broad market share allocation in the Community market. Rather than tacitly coordinating directly on price, which appears to be difficult in this market, coordination on supply in the form of maintaining a broad market share allocation in the Community market is feasible. Ultimately, of course, coordination on supply does have the effect of raising the price level that will result in the market (or of preventing it from falling, in the context of costs going down).

198. Under the hypothesis that the relevant geographic market is the Community, it should be noted that a common understanding has to be reached between two market players only, Areva and Urenco. USEC is not a competitive threat for the near future, and Tenex faces constraints to supply into the Community market.

199. Coordination on supply is, by itself, not too complicated. Not bidding for a specific contract, or bidding for it at non-attractive terms, is a way to leave a customer (or sales opportunity) to the other party so as to maintain a broad market share allocation in the Community market. The number of customers in the Community market is very limited. There are only 13 customers: those European utilities that operate nuclear power plants<sup>98</sup>. The number of supply opportunities, such as tenders for the supply of (part of) the requirements of European utilities, or the opportunity to conclude contract extensions, is somewhat very limited, in the range of 10 - 20 per year.

200. When approaching suppliers, customers normally specify in rather precise terms the supply they need, either in the form of requirements contracts (sometimes with minimum and maximum levels) or in the form of fixed supply contracts. From these specifications, it is quite feasible to infer the expected amount of enrichment they represent, and to gauge the effect the contract has in terms of market share allocation.

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<sup>98</sup> These are EDF (France), RWE (Germany), E.ON (Germany), EnBW (Germany), British Energy (United Kingdom), ENUSA (Spain), EPZ (the Netherlands), Vattenfall (Sweden), OKG/Sydkraft (Sweden), Synatom/Electrabel (Belgium), TVO (Finland), Fortum (Finland), and KKB (Germany).

201. The parties maintain that the incentives to coordinate on supply will be limited, given that Areva and Urenco are very different companies. Areva is an integrated supplier, active at various stages of the nuclear fuel cycle (mining, conversion, enrichment, fuel assembly fabrication, reprocessing) whilst Urenco is only active in the manufacture of centrifuges and in uranium enrichment. However, the Commission is of the opinion that the incentive to coordinate on enrichment supply is present, given that enrichment represents one of the more expensive stages in the nuclear fuel cycle<sup>99</sup>.

### *Transparency*

202. If the geographic market is the Community, the degree of transparency in this market appears to be sufficient to maintain coordination on supply. As indicated above (paragraph 199), there are a few European customers and a few supply opportunities each year. More importantly, it requires only coordination by two players, Areva and Urenco.

203. It is true that it may not always be known to each of the parties who is supplying which customer with what amount exactly. However, what matters more is that each of the parties can derive a lot of information from winning or losing a particular sales opportunity. In this context it is important to note that there are very few potential suppliers in the first place (essentially Areva, Urenco, and Tenex).

204. While pointing out that the company does not have a practice of releasing information concerning the bid invitations or the names of the bidders, the Finnish utility TVO notes that “It is our understanding that the bidders are usually well aware about the market situation”<sup>100</sup>. Vattenfall (Sweden) notes in this respect: “There is no public information regarding the suppliers’ delivery contracts to customers. We do not tell the bidders who are competing and who has won the contract. However, the nuclear fuel market is so small that these information are difficult to keep strictly confidential for a long time.”<sup>101</sup> According to Fortum (Finland): “we have a feeling that the bidders know very well who are their main competitors in each bid competition”.<sup>102</sup>

205. Occasionally, more detailed information on the individual bids transpires during the bidding process, when customers give feedback on the terms and conditions offered by other contenders<sup>103</sup>. Synatom (the Belgian procurement organisation for enrichment services) notes that “For open bidding, we believe the enrichers quickly know the

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<sup>99</sup> According to the parties, enrichment costs represent an important part ([40-50]%) of the total costs of fuel assemblies (Form CO, p.28-29). Furthermore, only in rare instances has a customer contracted for the purchase of fabricated fuel rather than paying separately for the concentrates, conversion, enrichment and fabrication components needed to produce the fabricated fuel (USEC reply of 6 August 2004, Q15).

<sup>100</sup> TVO reply to 2<sup>nd</sup> Commission questionnaire to customers, question 2.

<sup>101</sup> Vattenfall reply to 2<sup>nd</sup> Commission questionnaire to customers, question 2.

<sup>102</sup> Fortum reply to 2<sup>nd</sup> Commission questionnaire to customers, question 2.

<sup>103</sup> Vattenfall reply to 2<sup>nd</sup> Commission questionnaire to customers, question 2.

prices offered by their competitors, that it be through requests to rebid, or through market intelligence.”<sup>104</sup>

206. The Commission recognises that the degree of transparency is higher in the context of tender processes, where suppliers are invited to bid, than in the context of off-market operations, for example, for the extension of existing supply contracts. However, also when considering whether to extend existing contracts, utilities seek to gain information from other potential suppliers<sup>105</sup>.

207. Furthermore, though admittedly with a certain delay, information on aggregate supply levels of the players into the Community can be deduced from ESA’s official supply statistics. Given that there are only two European suppliers, it is possible for each to ascertain the sales of the other European player in a given year. In view of the long duration of enrichment supply contracts, the time delay with which the parties obtain information from the ESA reports must be considered as limited for the purpose of detecting, and reacting to any deviations from the common understanding by the other party.

*Transparency increase in relation to the structural link*

208. Special consideration must be given to the position and role of ETC in increasing transparency for the parties.

209. The joint control of ETC by Areva and Urenco will increase transparency between the Parties with respect to each other’s capacity plans and other competitive parameters (for example, operational efficiency of installed capacity, market objectives). This is mainly due to the information flows from ETC to its shareholders and more particularly to the decisive role of ETC’s Board of Directors which is appointed by Areva and Urenco.

210. Permanent and exhaustive information of Areva and Urenco is ensured by ETC’s obligation to prepare and deliver, on [...] basis, financial statements and unaudited management accounts as well as statements of progress [...].<sup>106</sup>

211. Moreover, Areva and Urenco will constantly be informed about the development of ETC’s business by means [...] Board meetings [...] as they each appoint [...] Directors of ETC’s Board.<sup>107</sup> According to ETC’s Articles of Association “the business of the Company shall be managed by the directors who may exercise all the powers of the Company”.<sup>108</sup> The prominent role of the Board is not substantially limited by the Executives who are appointed by the Board to carry out the day to day running.<sup>109</sup> First,

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<sup>104</sup> Synatom reply to 2<sup>nd</sup> Commission questionnaire to customers, question 2.

<sup>105</sup> [A large component of] off-market transactions in the EU concerns transactions between Areva and EDF.

<sup>106</sup> Clause 7.1 of the Shareholders’ Agreement.

<sup>107</sup> Clause 8.1 and 8.8 of the Shareholders’ Agreement.

<sup>108</sup> Article 68 of ETC’s Articles of Association.

<sup>109</sup> Clause 8.2 of the Shareholders’ Agreement.

the Board always remains responsible for overall supervision of ETC. Second, the Executives may be both candidates from the Shareholders and external candidates. Third, the Executives may even be Directors if the Shareholders agree.<sup>110</sup> Therefore, all essential matters of ETC's business will be dealt with by its Directors who will thus be aware of any important issue, including Areva's and Urenco's demand and orders of centrifuges.

212. The likelihood of flows of information, relating to ETC or its shareholders, from ETC via its Directors to its shareholders is not effectively reduced by the confidentiality rules set out in the notification, and in particular the Information Guidelines.<sup>111</sup> According to those Information Guidelines the shareholders are not to be involved in the day to day running of ETC. Instead there is to be an independent management structure.<sup>112</sup> However, as discussed above (paragraph 211), Executives may be chosen from the Shareholders and may even be Directors if the Shareholders agree. The ETC Board organigramme foresees that some members of the ETC Board will also serve on the boards of the parent companies. Although Executives are required not to circulate any commercially sensitive information to either of the shareholders, there is no severance of their links to the shareholders and no efficient mechanism to enforce and monitor compliance with that obligation.

213. According to the Information Guidelines, Directors appointed by Areva or Urenco must not receive any commercially sensitive information other than strictly required for any matter connected with their Board function and must not use commercially sensitive information for any other purpose.<sup>113</sup> However, as explained above (paragraphs 210, 211), the "Board function" of the Directors has a broad scope as they exercise all the powers of the company and are responsible for the overall supervision of the business. Consequently, the Information Guidelines implicitly accept that the Directors will receive information on individual agreements between ETC and its shareholders although they must not be involved in the negotiation of such agreements.<sup>114</sup> Again, there is an evident lack of efficient enforcement and monitoring of compliance with this obligation. More importantly, it is almost impossible to implement such an obligation as the same person is acting as a Director of ETC and as a representative of its shareholder. Although the Directors must act in the best interests of ETC, it is inconceivable that they can simply erase the information received in their function as Director when they are acting in their commercial function within Areva or Urenco. In addition, the notion of "in the best interests of ETC" could also be interpreted as meaning the common interest of its shareholders.<sup>115</sup> Moreover, under the current

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<sup>110</sup> *Idem*.

<sup>111</sup> Clause 12 and Schedule 3 of the Shareholders' Agreement.

<sup>112</sup> Point 2 of the Information Guidelines.

<sup>113</sup> Point 2.2 of the Information Guidelines.

<sup>114</sup> Point 2.4 of the the Information Guidelines, which states explicitly that "no information on any such individual agreements shall be disclosed to the Shareholders by any A Director or B Director".

<sup>115</sup> The parties argue that the ETC Directors must, at all times, act in the best interests of ETC. Any director who does not act in the best interests of ETC will be in breach of his fiduciary duties and could incur personal liability under English law, which is the law applicable to ETC. The Commission notes that the

structure of the Agreements the Directors appear to be rather delegates of the shareholders whose task is to safeguard the shareholders' interests within ETC. This is remarkably illustrated by the fact that the Directors are not entitled to any remuneration in their capacity as Directors<sup>116</sup> but continue to be remunerated by the shareholder they represent. In addition, Directors may serve on the boards of both ETC and the parent companies.

214. It is thus concluded that the proposed Information Guidelines do not provide sufficiently efficient measures to prevent the flow of sensitive information, including on capacity demand by the other shareholder, from ETC via its Directors to its shareholders. Therefore, transparency between Areva and Urenco is increased by their joint venture ETC as they regularly receive sensitive information by means of [...] reports and the Directors they send to ETC's board.

#### *Discipline mechanisms*

215. The scope for deviating and increasing sales into the Community may be limited. In the event that any party were to deviate from the tacit agreement, retaliation could be brought about by temporarily reverting to intense competition. Furthermore, the creation of a structural link through ETC is likely to have the effect of aligning the incentives among the two firms to keep competition in the Community market moderate. The joint venture fulfils an important function in the operation of the two companies. The fact that each party is dependent on the other party for such vital strategic decisions as capacity decisions increases the likelihood that the companies will adhere to a common understanding.

#### *Reactions from competitors or customers*

216. On a hypothetical Community market, third parties, such as competitors or customers, may not be able to counter coordination on supply by the two main enrichment companies in the Community.

217. The only two other significant competitors in sight, Tenex and USEC, may not be in a position to destabilise any common understanding between two parties. Tenex faces certain supply constraints linked to the declaration of Corfu. USEC is not very competitive, and may remain so for the foreseeable future. If and when USEC becomes competitive, the situation may change.

218. Customers, likewise, cannot be considered to be in a position to prevent coordination on supply by the two parties. Although there are not many customers, none of them individually (with the possible exception of EDF (see below paragraph 218) represent a significant enough share to be pivotal in undermining coordination.

219. The only exception, if there is any, is EDF. In view of its size, it must be considered capable of maintaining at least a certain degree of competition between the two parties.

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plaintiff in any potential civil proceedings under English law would be ETC itself and that the commencement of any such litigation would require unanimous approval of the ETC Board (Clause 9(2)(l), Shareholders' Agreement).

<sup>116</sup> Clause 8.3 of the Shareholders' Agreement.

However, it is here where the joint capacity decisions play an important role. When the overall level of capacity is tight for both parties, the leverage of EDF is likely to be comparatively smaller.

### **3. Efficiency effects of the joint venture**

220. The parties have indicated that the proposed transaction produces significant efficiencies in the sense of the Merger Regulation. The Commission has serious doubts that the submitted efficiencies are merger specific. However, for the purposes of this Decision it is not necessary for the Commission to conduct a detailed assessment of the efficiency claims put forward by the parties because the final version of the commitments proposed by the parties on 3 September 2004 (the Commitments) remove the serious doubts identified by the Commission with respect to the compatibility of the operation with the common market (see section VI below).

### **4. Conclusion**

221. In view of the foregoing, the Commission has serious doubts as to the compatibility of the operation with the common market as the proposed transaction is likely to lead to the creation of a joint dominant position for Areva and Urenco on the Community enrichment market within the meaning of Article 2(3) of the Merger Regulation.

222. Pursuant to Article 2(4) of the Merger Regulation, to the extent that the creation of a joint venture constituting a concentration pursuant to Article 3 of the merger Regulation has as its object or effect the co-ordination of the competitive behaviour of undertakings that remain independent, such co-ordination is to be appraised in accordance with the criteria of Article 81(1) and (3) of the Treaty, with a view to establishing whether or not the operation is compatible with the common market. A restriction of competition under Article 81(1) of the Treaty is established when the co-ordination of the parent companies' competitive behaviour is likely and appreciable and results from the creation of the joint venture.

223. The market for enriched uranium is downstream to the activities of the joint venture, namely, the development, design and manufacture of centrifuges for uranium enrichment. There is no evidence that the joint venture would have as its object the co-ordination of the parties' competitive behaviour in enrichment of uranium. There is, however, the risk that the creation of the joint venture would have as its effect the co-ordination of the parties' competitive behaviour in uranium enrichment on either the Community or wider market.

224. For the reasons as set out above in the assessment under Article 2(3) of the Merger Regulation, the Commission has serious doubts as to the compatibility of the operation with the common market as the creation of the joint venture will lead to a coordination of the parties' competitive behaviour in the market for uranium enrichment. In view of the enhanced possibilities the joint venture ETC offers the parties to coordinate downstream on enrichment capacity and output in the European market, any such coordination would be causally linked to the creation of the joint venture. Therefore, the Commission has serious doubts arising from the participation of Areva in the joint venture which is likely to appreciably restrict competition in the sense of Article 81(1) of the Treaty in conjunction with Article 2(4) of the Merger Regulation. It further cannot be concluded with sufficient certainty that the conditions for an exemption pursuant to Article 81(3) of the Treaty are fulfilled. In particular, there are no

indications that any such restrictions imposed by the agreements would be likely to benefit the consumer nor that the restrictions imposed are indispensable.

225. However, it is not necessary to determine the issue as the Commitments remove the serious doubts as to the compatibility of the operation with the common market in relation to coordination of the parties' competitive behaviour in the market for uranium enrichment, in the sense of Article 2(4) of the Merger Regulation.

## **VI. COMMITMENTS PROPOSED BY THE PARTIES**

226. On 20 August 2004, the parties submitted a package of undertakings in accordance with Article 8(2) of the Merger Regulation, for the purpose of achieving clearance of the concentration. On 3 September 2004, the parties submitted a revised package of commitments (hereinafter referred to as "Commitments"). The Commitments are set out in the Annex to this Decision.

227. The Commission is of the view that that the commitments submitted on 3 September 2004 address and resolve in a satisfactory manner the serious doubts raised by the concentration.

### *Summary of the Commitments offered by the parties*

228. The Commitments consist of the following key elements: (i) removal of the parties' veto rights over capacity increases; (ii) reinforcement of firewalls to prevent information flows between the parties and the joint venture and (iii) provision of information to ESA to enable it to monitor prices of enrichment and allowing ESA, if necessary, to take corrective actions by increasing third party imports. These elements are discussed in turn below.

### *Removal of veto rights on capacity expansion*

229. As outlined in detail above (see paragraphs 158-163), the shareholders' agreement for the joint venture foresees that the supply of centrifuges to Areva or Urenco, be it as part of the joint venture's business plan/budget or beyond that, will require the unanimous approval of the ETC board (as "reserved board matter"). As both parties will nominate an equal number of board members either of Areva and Urenco would be in a position to prevent capacity increases by the other beyond what is foreseen in the current business plan.

230. In order to eliminate the Commission's concerns the parties have made a commitment that the Shareholders' Agreement will be amended in such a way that, when it is proposed that the joint venture enters into a new supply agreement for centrifuges with one of the parties, such a decision will not require the approval of the board, but will be left to the executives provided that: (a) the commercial terms comply with the Shareholder agreement and are therefore not more favourable than other contracts with Areva or Urenco; (b) the contracts are conditional upon approval of the Joint Committee<sup>117</sup> and the Quadripartite Committee<sup>118</sup>, or any other required governmental

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<sup>117</sup> Established and regulated pursuant to Article II of the Almelo Treaty.

regulatory approval or requirements, such approvals are granted and (c) the proposed additional investment into fixed assets does not exceed EUR [<20] million. The parties' compliance with these provisions will be monitored by the statutory auditors of the joint venture.

#### *Firewalls and related undertakings*

231. In order to eliminate the Commission's concerns that the formation of the joint venture would lead to coordination between Areva and Urenco as a result of increased scope for information exchange through ETC, the parties committed to reinforce firewalls between the parties and ETC and between each of the parties.
232. The firewall mechanism involves a number of individual points directed at reducing the information flow between ETC and the parent companies and vice versa. The firewall mechanism includes that Areva/Urenco will not have access to commercially sensitive information relating to the ETC group and vice versa, that Areva and Urenco will not be involved in the day to day running of ETC and that the management structure of ETC will be independent of the parties. It also sets out specific duties of the members of the board of ETC who may not hold commercial responsibility in the field of uranium enrichment of either of the parties. This includes that any board member of ETC must not request or receive any commercially sensitive information not connected to reserved board matters, that he must not use commercially sensitive information for any other purpose and that he must not communicate any commercially sensitive information, if received, to the parent companies. Furthermore, no board member is to be involved in the negotiation of any contracts with shareholders or third parties and no information on such individual agreements is to be disclosed to the shareholders. The board of ETC will only receive the information necessary to enable its members to fulfil their fiduciary duties. The parties' compliance with these provisions will be monitored by the auditor of the joint venture.

#### *Monitoring by the Euratom Supply Agency*

233. To enhance the monitoring role of ESA, the parties further committed to supply all essential contractual elements of their current and future enrichment contracts to ESA. In addition the parties undertake to supply all relevant information in relation to enrichment contracts as requested by ESA for fulfilment of its monitoring role. This information includes prices and payment conditions as well as all other relevant price information for contracts with enrichment customers, whether located inside or outside the Community. This information will enable the ESA to closely monitor the development of prices of enriched uranium charged by each of the parties. As the Court stated that "where decisions concerning economic and commercial policy and nuclear policy are concerned, the Agency has a broad discretion when exercising its powers",<sup>119</sup>

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<sup>118</sup> Treaty between the Governments of the Republic of France, the Republic of Germany, the Kingdom of The Netherlands and the United Kingdom of Great Britain and Northern Ireland which is expected to be signed and enter into force as a result of the proposed transaction.

<sup>119</sup> Judgement of 15 October 1995 in joined cases T-458/93 and T-523/93 *ENU v. Commission* [1995] ECR II-2459, point 67.



as it operates under the supervision of the Commission<sup>120</sup>, the Commission is of the view that ESA already has the power to monitor prices of enrichment contracts and that it continues to have, post merger, the power and discretion to adapt its supply policy. ESA's past application of the Corfu Declaration shows that the declaration can be flexibly applied to achieve its objectives. ESA has confirmed that it is prepared to take on such a monitoring role.

#### *Reporting and Monitoring*

234. The parties also undertake to submit reports to the Commission on the implementation of the Commitments after the completion of the joint venture and then every [...] months thereafter. As regards the issues which will be monitored by the auditor of the joint venture, the Parties will submit the resulting compliance reports to the Commission.

#### *Assessment of the Commitments offered by the notifying parties.*

235. Article 10(2) of the Merger Regulation requires the Commission to adopt a decision pursuant to Article 8(2) as soon as it appears that the serious doubts concerning the operation have been removed. In this case the serious doubts were removed by the undertakings given by the parties on 3 September 2004. The Commitments will transfer the decision on the supply of machinery to the parties to the ETC executives; the board will only in very exceptional circumstances be competent to decide on such a matter. The executives, who are not members of the board and have no contractual arrangements with the shareholders, will fulfil any orders of the parent companies alone on the basis that the order is not contrary to the economic interest of the JV. The assignment of the supply decision to the executives will therefore exclude the parties' veto rights concerning the other party's expansion of capacity.

236. The Commission also considers the limitations for such a decision to be assigned to the executives to be acceptable. The provision that the contracts have to comply with the normal commercial terms under which such contracts are concluded does not affect the removal of the parties' veto rights. The approval of the competent governmental committee for such contracts is necessary for reasons of non-proliferation of technology for uranium enrichment. Also the threshold of EUR [<20] million for additional investment into fixed assets for ETC appears appropriate although the Commission could not verify the underlying information in-depth due to the classified nature of such information. According to the information submitted by Urenco, the amount of EUR [<20] million corresponds to more than half of the investment into additional capacity undertaken by ETC in order to be able to supply the George Bess II plant with centrifuges. As the Areva project involves the replacement of its entire enrichment capacity, it exceeds by far any project to (gradually) increase capacity of an existing enrichment facility. The Commission therefore expects that the amount specified will cover any investment practically necessary to supply the parent companies in case of an increase of existing enrichment capacity. Furthermore, ETC's current plans foresee a considerable increase in capacity in order to be able to supply simultaneously centrifuges for Urenco's gradual expansion plans, the project in the USA and the first expansion stage of the George Bess II plant. After the completion of these projects, it is

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<sup>120</sup> Article 53 of the Euratom Treaty.

likely that ETC will have sufficient spare capacity to fulfil demand for centrifuges without the necessity of any capacity increase.

237. The Commission therefore considers that this commitment will remove its serious doubts concerning possible coordination between the parties on capacity extensions on the basis of the rights of the board.
238. The Commission further considers that the outlined firewall mechanism will significantly reduce the information flow between the parties and thereby reduce the transparency resulting from the joint ownership of ETC. The members of the board, who will not have commercial responsibilities in the parent companies, will only receive commercially sensitive information as far as necessary to fulfil their duties and function on the board. They will not be allowed to share such information with the parent companies. The executives will not be allowed to communicate such information to the parent companies, either. The contractual arrangements with the executives and the members of the boards will include the appropriate provisions to implement the firewall mechanism and sanctions in case of non-compliance. The firewalls will prevent the Parties from sharing information on their future competitive behaviour in the enrichment market via the joint venture.
239. Both commitments, the commitment to remove the veto rights of the board and the commitment to establish firewalls, will be monitored by ETC's statutory auditors. Beside monitoring that appropriate confidentiality provisions will be included into the contractual arrangements with executives and directors, the auditors will in particular monitor that the executives only take account of the commercial and economic best interests of ETC on a stand-alone basis in deciding on new cascade supply agreements with the parent companies and that the board of ETC acts pursuing to such an interest in its supervision of the joint venture. The resulting compliance reports, in addition to the reports submitted by the parties on issues not covered by the auditors, will enable the Commission to closely monitor the compliance of the parties with these commitments.
240. By receiving a comprehensive set of contractual information, ESA will be in a position to monitor the pricing behaviour of the parties and, if pricing information is considered to be inconsistent with the overall development of the enrichment market, ESA will be able to take corrective measures, primarily by increasing the import of enriched uranium from Russia. In addition to the automatic provision of information explicitly mentioned in the text of the Commitments, ESA will be able to require additional information if this is necessary for ESA to fulfil the monitoring role. The Commission expects that this will discipline the pricing behaviour of the parties.
241. The first commitment – the removal of the parties' veto rights over capacity increases of the respective other party – addresses the risk of explicit coordination of the parties on capacity. The second commitment – the firewall mechanism to avoid information sharing between the Parties – will further contribute to eliminating the risk that the parties coordinate on actual supply into the Community on the basis of the information received from the joint venture, such as information on the planning of capacity, supply, etc. In the same way, this commitment will also contribute to eliminating the risk that the parties will – in the absence of formal veto rights on capacity expansion – tacitly coordinate on capacity on the basis of information received via the joint venture. Both commitments also address the possible risk of coordination of the competitive behaviour of the parties as referred to in Article 2(4) of the Merger Regulation. The envisaged monitoring role of the ESA will form a safeguard in order to eliminate any

remaining risk of coordination of the parties in the market for enrichment of uranium. The Commission expects that already the threat by ESA to take appropriate action will undermine the possible risk of coordination of the parties.

242. The Commitments have to be viewed in the context of the specific circumstances of the transaction. On the one hand, the serious doubts arise out of specific features of the concentration: the likelihood of explicit coordination of the parties in the market for uranium enrichment, involving the two main players in the Community, is based on the veto rights granted by the Shareholders' Agreement to each of the parties over the respective other party's expansion of capacity; the likelihood of tacit coordination is based on the sharing of information on capacity, output and general planning by the parties via the joint venture. On the other hand, the creation of the joint venture as such will lead to a transfer of the centrifuge technology to Areva and will allow Areva to produce enriched uranium much more economically since, according to the information provided by the parties, the centrifuge technology is much more economic in terms of the required initial capital investment, and in terms of operating costs. The transfer of technology as a result of the concentration will therefore make Areva a much more competitive player than if it were if it was to continue to operate with the ageing gas diffusion plant. In these specific circumstances, the Commitments submitted by the parties directly address the serious doubts arising from specific features of the concentration and modify the concentration in such a way as to specifically remove those serious doubts. However, the Commitments leave the positive effects arising from the concentration as such untouched.

243. This was also reflected in the results of the market investigation and the market test. In the market investigation, most customers were, by and large, positive about the transaction. It is clear that the market sees the continuing existence of Areva as a supplier of enrichment as being very important for the security of supply, and for the future of the nuclear industry in Europe. However, customers also expressed reservations about the operation as they perceived that the unmodified operation would go beyond the procurement by Areva of a new technology, and constitute a link up between historically strong competitors. In the two market tests of the Commitments, the customers, overall, confirmed that the commitments are suitable to remove the serious doubts of coordination between the two players while securing Areva's access to the lower cost centrifuge technology.

244. The Commission therefore considers, given the specificity of the nuclear industry and the regulatory function of ESA under the Euratom Treaty (see paragraph 34) the commitments sufficient to remove its serious doubts with regard to the compatibility of the operation with the common market.

## **VII. CONDITIONS AND OBLIGATIONS**

245. Pursuant to the first sentence of the second subparagraph of Article 8(2) of the Merger Regulation, the Commission may attach to its decision conditions and obligations intended to ensure that the undertakings concerned comply with the commitments they have entered into vis-à-vis the Commission with a view to rendering the concentration compatible with the common market.

246. The achievement of the measure that gives rise to the structural change of the market is a condition, whereas the implementing steps which are necessary to achieve this result are generally obligations on the parties. Where a condition is not fulfilled, the

Commission's decision declaring the concentration compatible with the common market no longer stands. Where the undertakings concerned commit a breach of an obligation, the Commission may revoke its clearance decision, acting pursuant to Article 8(5)(b) of the Merger Regulation, and the parties may also be subject to fines and periodic penalty payments in accordance with Articles 14(2)(a) and 15(2)(a) of the Merger Regulation<sup>121</sup>.

247. In view of the foregoing, this Decision is conditional upon full compliance with the undertaking that the concentration will not be implemented unless and until the Parties have signed the letter agreement as foreseen in Section A1, second sentence of the Commitments. The other parts of the Commitments are obligations.

### **VIII. CONCLUSION**

248. It must accordingly be concluded that the Commitments as set out in the Annex modify the notified concentration to such an extent that the serious doubts of the Commission as to the compatibility of that concentration with the common market are removed. The concentration should, therefore, be declared compatible with the common market pursuant to Article 8(2) of the Merger Regulation and with the EEA Agreement pursuant to Article 57 thereof, subject to compliance with the commitments set out in the Annex,

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<sup>121</sup> See Commission Notice on remedies acceptable under Council Regulation (EEC) No 4064/89 and under Commission Regulation (EC) No 447/98, OJ C 68, 02.03.2001, p. 3.

HAS ADOPTED THIS DECISION:

*Article 1*

The notified operation whereby Société de participations du Commissariat à l'Energie Atomique SA and Urenco Limited acquire joint control within the meaning of Article 3(1)(b) of the Regulation (EEC) No 4064/89 of Enrichment Technology Company Limited is declared compatible with the common market and the EEA Agreement.

*Article 2*

Article 1 is subject to compliance with the condition set out in Section A1, second sentence of the final version of the Commitments submitted by the parties on 3 September.

*Article 3*

Article 1 is subject to compliance with the obligations set out in Sections A (with the exception of the second sentence of A1), B and C of the final version of the Commitments submitted by the parties on 3 September.

*Article 4*

This decision is addressed to:

**AREVA**  
27-29 Rue Le Peletier  
75009 Paris  
France

**URENCO LIMITED**  
18 Oxford Road  
SL7 2NL Marlow, Buckinghamshire  
United Kingdom

Done at Brussels, 06.10.2004

For the Commission, signed,  
Mario MONTI  
Member of the Commission

**By hand and by fax: 00 32 2 296 4301**  
European Commission  
DG Competition  
Rue Joseph II 70 Jozef-II straat  
B-1000 BRUSSELS

## **CASE No COMP/M.3099 - AREVA/URENCO/ETC**

### **Commitments to the European Commission Pursuant to Article 8 of Council Regulation (EEC) No 4064/89**

Pursuant to Article 8.2 of Council Regulation (EEC) No 4064/89 (as amended) (the "**Merger Regulation**"), Urenco Limited ("**Urenco**") and Société des Participations du Commissariat à l'Energie Atomique ("**AREVA**" and, together with Urenco, the "**Shareholders**") in the context of the concentration between Urenco and AREVA hereby give the following commitments (the "**Commitments**") to the European Commission (the "**Commission**") in order to enable the Commission to declare the concentration compatible with the common market by its decision pursuant to Article 8.2 of the Merger Regulation (the "**Commission Decision**").

The concentration consists of the creation of a full function joint venture between the Shareholders pursuant to the acquisition of 50% of the ordinary share capital of Enrichment Technology Company Limited ("**ETC**") by AREVA (the "**Transaction**"). The Transaction is at present being reviewed by the Competition Directorate General of the Commission. In order to enable the Commission to declare the Transaction compatible with the common market by a decision pursuant to Article 8.2 of the Merger Regulation, it may be necessary for the Shareholders to give certain undertakings to the Commission.

In particular, the Commission believes (i) that certain provisions of the Shareholders Agreement may give each of the Shareholders the ability to veto any increase in capacity of the other and should be amended; (ii) that a firewall mechanism and related undertakings are required to prevent the communication of commercially sensitive information, as defined below, between each of the Shareholders and ETC; and (iii) that the Shareholders should provide the information required to monitor effectively the provision and pricing of enrichment services for utilities as set out in detail in the Commitments below. To be able to offer the appropriate remedial undertakings to the Commission, it is necessary for the Shareholders to enter into these Commitments.

As provided below, to the extent legally possible, these Commitments shall take effect upon the receipt of the Commission Decision for the lifetime of the Joint Venture. These Commitments shall be null and void if the Agreement for the Sale and Purchase of Shares in ETC between the Shareholders and Ultra-Centrifuge Nederland Limited, Uranit UK Limited and BNFL Limited (the "**Sale and Purchase Agreement**") and the related agreements providing for such proposed concentration are terminated prior to Completion and/or if the Commission Decision is not issued.

This text shall be interpreted in the light of the Commission Decision to the extent that the Commitments are attached as conditions and obligations, in the general framework of

Community law, in particular in the light of the Merger Regulation, and by reference to the Commission Notice on remedies acceptable under Council Regulation (EEC) No 4064/89 and under Commission Regulation (EC) No 447/98.

## DEFINITIONS

The words and phrases set out below have the following meanings in this document:

"**A Director**" means a director appointed by Urenco.

"**Almelo Treaty**" means the inter-governmental agreement between the Governments of the Federal Republic of Germany, the Kingdom of the Netherlands and the United Kingdom of Great Britain and Northern Ireland, signed on 4 March 1970 and which came into force on 19 July 1971 (and any amendment or other inter-governmental protocol or agreement from time to time supplemental to the Almelo Treaty).

"**B Director**" means a director appointed by Areva.

"**Board**" means the board of Directors of ETC from time to time.

"**Budget**" means a budget for the ETC Group for a particular financial year in a format agreed from time to time by the Board.

"**Business**" means the Technology Business and the Diversification Business.

"**Business Plan**" means the rolling [...] year business plan (with forecasts for a further [...] year period) from time to time in relation to the ETC Group.

"**CFO**" means the chief financial officer of ETC from time to time.

"**Chief Executive**" means the chief executive of ETC from time to time.

"**Commercially Sensitive Information**" means information used in or related to the business, financial or other affairs of the ETC Group or one of the Shareholders. This shall include, without limitation: recent, current or future price or customer data; marketing strategies; status of negotiations with present or potential customers; information about present customers, including costs, prices, profitability; cost of specific processes or products; information about recent, current or future capacity and/or utilisation or other confidential business data. For the sake of clarity, any information coming into the public domain shall not be considered to be "Commercially Sensitive Information", irrespective of its content.

"**Commission Decision**" means the European Commission's Decision in Case COMP/M.3099 - AREVA/Urenco/ETC declaring the concentration between AREVA and Urenco compatible with the common market pursuant to Article 8.2 of the Merger Regulation.

"**Completion**" means Completion of the sale and purchase of the ordinary shares in ETC in accordance with the Sale and Purchase Agreement.

"**Controlled Company**" means in relation to an undertaking, that a Shareholder for the time being, whether directly or indirectly, and whether by ownership of shares or otherwise, controls:

- (a) over 50% of the voting rights exercisable at general meetings of the members of that undertaking on all, or substantially all, matters; and/or
- (b) the right to appoint or remove directors having over 50% of the voting rights exercisable at meetings of the board of directors of that undertaking on all, or substantially all, matters; and/or
- (c) all, or substantially all, business decisions of that undertaking,

and which has, in the case of a company incorporated outside of any of the UK, the Netherlands, Germany or France, been specifically approved by the Quadripartite Committee.

**"Directors"** means the directors of ETC from time to time.

**"Diversification Business"** means:

- (a) the composite materials business including rollers carried on at Julich, Germany; and
- (b) any associated diversification activities to be carried on by members of the ETC Group with the approval of the Shareholders.

**"ETC Business Strategy"** means the long term development plan for the ETC Group.

**"ETC Group"** means ETC and its subsidiary undertakings from time to time and **"member of the ETC Group"** and related expressions shall be construed accordingly.

**"Executives"** means the executives of ETC, including the Chief Executive and CFO.

**"Fiduciary Duties"** means a Director's principal duties under English common law, namely to: (i) act in the company's interests and for a proper purpose; (ii) not allow interests to conflict with those of the company; and (iii) respect the company's property.

**"Interim Plan"** means the business plan setting out the intended operation of the Business from 1 January 2003 until Completion of the proposed concentration.

**"Joint Committee"** means the committee established by and regulated pursuant to Article II of the Almelo Treaty.

**"Joint Venture"** means the full function joint venture created pursuant to the Transaction and as outlined in the Shareholders Agreement.

**"Project Agreements"** means [the agreements] entered into between ETC and Areva in connection with the building and operation of the Georges Besse II enrichment plant in France and any future cascade supply agreement(s) entered into between ETC and Areva and **"Project Agreement"** means any one of them (as applicable).

**"Quadripartite Committee"** means the inter-governmental committee to be established by the Quadripartite Treaty consisting of representatives from the Governments of the Republic of France, the Federal Republic of Germany, the Kingdom of the Netherlands and the United Kingdom of Great Britain and Northern Ireland.



**"Quadripartite Treaty"** means the inter-governmental agreement to be entered into between the Governments of the Federal Republic of Germany, the Kingdom of the Netherlands, the United Kingdom of Great Britain and Northern Ireland and the Republic of France in connection with the concentration.

**"Reserved Board Matter"** means matters which are reserved for the Board of ETC and require the unanimous approval of all of the Directors pursuant to the Shareholders Agreement.

**"Shareholders"** means Urenco and Areva.

**"Shareholders Agreement"** means the shareholders agreement in the agreed form to be entered into between Urenco, Areva and ETC at Completion, including any amendments thereto entered into from time to time.

**"Technology Business"** means all or any of the following:

- (c) the research, development, design, manufacture and declassification of centrifuges/cascades, enrichment plant design, engineering and project management, research and development relating to plant components and processes and other technology activities relating to the design, establishment, operation and decommissioning of plants capable of enriching uranium by the gas centrifuge process, in accordance with the Almelo Treaty and the Quadripartite Treaty;
- (d) (subject to the terms of this Agreement) licensing and provision of technical assistance to other parties carrying on, or intending to carry on, operations within the field of enrichment of uranium by the gas centrifuge process in accordance with the Almelo Treaty; and
- (e) the research, development, design, manufacture and declassification of centrifuges/cascades, enrichment plant design, engineering and project management, research and development relating to plant components and processes and other technology activities relating to the design, establishment, operation and decommissioning of plants capable of enriching stable isotopes (which for the avoidance of doubt excludes isotopes of uranium) by the gas centrifuge process as currently carried on at Almelo.

## Section A. **The Shareholders Agreement**

### Commitment to amend the Shareholders Agreement

A1. In order to maintain effective competition, the Shareholders commit to enter into a letter agreement in the form set out in Annex A, which will amend or modify the existing contractual obligations between the Shareholders pursuant to the Shareholders Agreement. The proposed concentration shall not be implemented unless and until the Shareholders have signed the letter agreement.

A2. In order to maintain the effect of the Commitments, the Shareholders shall, after the date of adoption of the Commission Decision, maintain in force for the lifetime of the Joint Venture, the letter agreement in the form set out in Annex A.

## Section B. **The Exchange of Commercially Sensitive Information**

### Commitment to adopt firewall mechanism and related undertakings

B1. In order to prevent the communication of Commercially Sensitive Information between each of the Shareholders and ETC, the Shareholders commit to enter into a firewall mechanism and related undertakings in the form set out in Annex B, which will restrict the flow of Commercially Sensitive Information relating to the ETC Group or each of the Shareholders. The proposed concentration shall not be implemented unless and until the Shareholders have implemented this firewall mechanism and the related undertakings.

B2. In order to maintain the effect of the Commitments, the Shareholders shall, after the date of adoption of the Commission Decision, maintain in force for the lifetime of the Joint Venture, the firewall mechanism and the related undertakings in the form set out in Annex B.

## Section C. **Monitoring by the Euratom Supply Agency**

### Commitment to provide information to the Euratom Supply Agency

C1. In order to maintain effective competition and to address the Commission's competition concerns in relation to any coordinated effects resulting from the concentration, the Shareholders commit to providing to a person or persons within the European Supply Agency (the "**Agency**") to be entrusted by the Agency with the monitoring role under these Commitments (the "**Monitor(s)**") all elements of their current contracts with utilities required to effectively monitor the provision and pricing of enrichment services for utilities (such contracts being referred to as "**Enrichment Contracts**") and the relevant elements referred to as "**Contractual Elements**"). The Shareholders shall arrange the modalities of providing the required information to the Monitor(s) with the Agency. Under their arrangement with the Agency, the Shareholders will provide within a period of [...] after Completion a complete set of the Contractual Elements of all their Enrichment Contracts (including the Contractual Elements of all Enrichment Contracts concluded by any Shareholder Controlled Company) to the Monitor(s). Also, the Shareholders shall provide to the Monitor(s) the Contractual Elements of any additional Enrichment Contracts they may enter into within a period of [...] after execution of such Enrichment Contracts for the lifetime of the Joint Venture. This Commitment is made exclusively to enable the Commission to declare the concentration compatible

with the common market by a decision pursuant to Article 8.2 of the Merger Regulation. It is without prejudice to the application of the arrangements and obligations specified at Annex C3.

C2. The Shareholders commit to comply with the terms set out in Annex C. Their commitment shall take effect upon Completion and shall remain in force for the lifetime of the Joint Venture.

#### **Section D. Reporting and Monitoring**

##### Commitment to provide information to the Commission and to ETC's statutory auditors

D1. The Shareholders shall submit a written report in English on the implementation of the Commitments to the Commission within a period of [...] from Completion and every [...] thereafter for the lifetime of the Joint Venture. The report will include, without limitation, to the extent such information is not yet covered in the report mentioned in D2 below, information about any decisions by ETC related to capacity increases by the Shareholders not provided for in the Budget or the Business Plan; the identity and appointment details of the members of the ETC Board of Directors and ETC Executives, and excerpts of the relevant contractual arrangements with A Directors and B Directors and with ETC Executives in compliance with Annex B.

D2. The Shareholders shall provide to ETC's statutory auditors in the course of the regular annual audit of the company the information that is reasonably required to monitor compliance with Annexes A and B as further explained therein and shall ensure that the resulting compliance report will be submitted to the Commission within [...] months from the completion of the regular annual audit.

D3. The Shareholders shall provide and shall cause their advisors to provide the Commission with all such cooperation, assistance and information as the Commission may reasonably require to perform its tasks within the framework of the present procedure.

#### **Section E. The Review Clause**

The Commission may, where appropriate, in response to a request from the Shareholders, modify or substitute one or more of the undertakings in these Commitments provided that the Commission has previously found that the structure of the market has changed to such an extent that the undertaking(s) is/are no longer necessary to render the proposed concentration compatible with the common market.

September 2004

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duly authorised for and on behalf of  
**Urenco Limited**  
**Limited**  
Helmut Engelbrecht  
Group Strategy Director

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duly authorised for and on behalf of  
**Enrichment Technology Company**  
Helmut Engelbrecht

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duly authorised for and on behalf of  
**Société de Participation du Commissariat à l'Energie Atomique**  
Frédéric van Heems  
Programme Director of Georges Besse II

## ANNEX A

### Commitment to amend the Shareholders Agreement

Urenco Limited  
18 Oxford Road  
Marlow Bucks SL7 2NL

[•] 2004

To:

(1) Société des Participations du Commissariat à l'Energie Atomique ("**Areva**")

and

(2) Enrichment Technology Company Limited ("**ETC**")

Dear Sirs

#### **Side-letter to the Shareholders Agreement relating to ETC**

This letter agreement is made in relation to the Shareholders Agreement dated [•] between Urenco Limited ("**Urenco**"), Areva and ETC in the context of the acquisition of joint control by Areva and Urenco in ETC. Terms and phrases defined in the Shareholders Agreement shall have the same meaning in this letter agreement.

The acquisition by Areva of 50% of the ordinary share capital of ETC is at present being reviewed by the Competition Directorate General of the European Commission. In order to enable the Commission to declare the creation of the full function joint venture between the Shareholders compatible with the common market by a decision pursuant to Article 8.2 of Council Regulation (EEC) No 4064/89 (as amended), it may be necessary for the Shareholders to give certain undertakings to the Commission.

The Commission believes that certain provisions of the Shareholders Agreement may give each of the Shareholders the ability to veto any increase in capacity of the other. For the Shareholders to be able to offer the remedial undertaking to the Commission, it is necessary for the Shareholders to enter into this letter agreement.

Nothing in this letter agreement shall prejudice the Shareholders' absolute right to use the provisions of the Shareholders Agreement in order to give effect to the will of the Joint Committee or Quadripartite Committee, as appropriate.

#### **IT IS THEREFORE AGREED AS FOLLOWS:**

1. This letter agreement shall prevail over any contrary provision in the Shareholders Agreement and in particular [...].

2. Where it is proposed that ETC enters into a new cascade supply agreement with a Shareholder or a Shareholder Controlled Company which is not provided for in the Budget or Business Plan, such decision shall not be a Reserved Board Matter.
3. The decision in relation to such matter shall be reserved to the Executives provided that the Executives have to act within the parameters set out in Clause 9 (the "**Parameters**").
4. When taking any decision pursuant to Clause 3, Executives shall at all times act in the commercial and economic best interests of ETC permitting ETC to act on a stand-alone basis.
5. When acting pursuant to Clause 3, the Executives shall inform the Board of ETC prior to taking a decision of all relevant facts to the extent necessary for the fulfilment of the Directors' fiduciary duties under English common law.
6. Any decision taken by the Executives pursuant to Clause 3 shall remain subject to the express approval of the Joint Committee and the Quadripartite Committee, as appropriate.
7. Once the approval required by Clause 6 has been granted, the Executives shall amend the Budget and the Business Plan.
8. For the avoidance of doubt, any amendment to the Budget or Business Plan pursuant to Clause 7 shall not be subject to approval or amendment by the Board of ETC under Clause 9.2(a) of the Shareholders Agreement.
9. No decision shall be taken by the Executives pursuant to Clause 3 unless:
  - (i) the commercial terms comply with Clause 3.3.2 of the Shareholders Agreement;
  - (ii) the proposed contractual arrangements are expressly conditional upon approval by the Joint Committee and the Quadripartite Committee, as appropriate, and on receipt of any other required governmental or regulatory approvals or requirements; and
  - (iii) the proposed additional investment into fixed assets by ETC does not exceed Euro [<20] million.
10. Any decision outside the Parameters shall remain a Reserved Board Matter.
11. The Shareholders shall provide to ETC's statutory auditors in the course of the regular annual audit of the company the information that is reasonably required to monitor compliance with Clauses 3, 4 and 9 and shall ensure that the resulting compliance report will be submitted to the Commission.
12. This letter agreement shall be governed and construed in accordance with the laws of England.
13. Any dispute, controversy or claim arising out of or in connection with this letter agreement shall be referred to and finally be resolved by arbitration in accordance with the terms of the Shareholders Agreement.

Please confirm your agreement to the terms of this letter agreement by signing and returning the enclosed copy of this letter.

Yours faithfully

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For and on behalf of **Urenco**

We agree to the terms of this letter

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For and on behalf of **Areva**

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For and on behalf of **ETC**

## ANNEX B

### Commitment to adopt firewall mechanism and related undertakings

1. The Shareholders commit that they shall not have access to Commercially Sensitive Information relating to the ETC Group or each other and that they shall not provide any such information to ETC from the date of Completion and for the lifetime of the Joint Venture other than in accordance with these Commitments. In this regard, the Shareholders shall procure that the ETC Group adopts a "firewall" mechanism in accordance with the undertakings set out below and commit that they shall adhere to any such mechanism.
2. The Shareholders commit that, in order to ensure that no Commercially Sensitive Information is provided by ETC to the Shareholders and vice versa, they shall not be involved in the day to day running of ETC.
3. The Shareholders commit that ETC shall have an independent management structure. Overall supervision of ETC shall be the responsibility of the Board of ETC acting, as the Board of ETC considers, in the commercial and economic best interests of ETC, permitting ETC to act on a standalone basis. The day to day running of ETC shall be carried out by Executives who shall be appointed by the Board. In this regard, the Shareholders shall procure that:
  - 3.1 any Executives appointed by the Board of ETC will be independent of, and have no contractual obligations to or contractual arrangements with, either of the Shareholders, including any employment rights; and
  - 3.2 any Executives appointed by the Board of ETC shall not circulate any Commercially Sensitive Information to either of the Shareholders.
4. The Shareholders commit that they shall, subject to customary limitations, not solicit any serving Executive of ETC.
5. Urenco commits that no A Director appointed to the Board of ETC by Urenco will concurrently have contractual arrangements with Urenco or with any Urenco Controlled Company under which he/she has commercial responsibilities in the field of uranium enrichment services. For the avoidance of doubt, "commercial" responsibilities include operational responsibilities in marketing and sales but not purely technical responsibilities in enrichment plant management.
6. AREVA commits that no B Director appointed to the Board of ETC by AREVA will concurrently have contractual arrangements with AREVA or with any AREVA Controlled Company under which he/she has commercial responsibilities in the field of uranium enrichment services. For the avoidance of doubt, "commercial" responsibilities include operational responsibilities in marketing and sales but not purely technical responsibilities in enrichment plant management.
7. The Shareholders commit that A Directors and B Directors shall not request or receive, and shall procure that ETC shall not provide, any Commercially Sensitive Information other than that connected with any Reserved Board Matters, any matter connected with assessing compliance with the ETC Business Strategy and any matter connected with their Fiduciary



Duties and shall not use Commercially Sensitive Information for any other purposes than for the fulfilment of such functions.

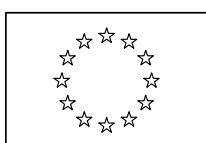
8. The Shareholders commit that the contractual arrangements with any A Director or B Director shall provide that, in the event that any A Director or B Director receives Commercially Sensitive Information, he/she shall not communicate the Commercially Sensitive Information to either of the Shareholders.
9. The Shareholders commit that the contractual arrangements with any A Director or B Director shall provide that any A Director or B Director on the Board of ETC shall not be involved in the negotiation of any contracts with Shareholders or any third parties and no information on any such individual agreements shall be disclosed to the Shareholders by any A Director or B Director.
10. The Shareholders commit that any the contractual arrangements with any A Director or B Director will provide that, if any A Director or B Director has received any Commercially Sensitive Information, he/she shall return or destroy (with no copies being retained) such Commercially Sensitive Information if the Shareholders Agreement is terminated or the term of his/her appointment comes to an end.
11. The Shareholders shall procure that ETC ensures that any senior staff employment contracts, including those of Executives and the managing director, shall provide that no Commercially Sensitive Information will be communicated to either of the Shareholders for the duration of the employment with ETC or thereafter and shall have appropriate confidentiality clauses and that there is compliance training for the employees of ETC. Further, the Shareholders shall procure that ETC reserves the right in any such employment contracts of immediate employment termination in cases of breach of confidentiality.
12. The Shareholders shall procure that ETC adopts a competition compliance programme for the ETC Group as soon as practicable after Completion.
13. The Shareholders commit that the ETC plants shall be separate from those used by the Shareholders.
14. The foregoing is without prejudice to:
  - (i) the exchange of information between ETC and AREVA before Completion required in order to enable AREVA to determine that the Business is carried on in its usual and normal course as regards its nature, scope and manner and in accordance with the Interim Plan;
  - (ii) the exchange of information between ETC and AREVA post Completion in order to enable AREVA to conduct the post-Completion review, pursuant to, and as defined in, the Sale and Purchase Agreement, which is required to determine that the Business is carried on in its usual and normal course as regards its nature, scope and manner; and
  - (iii) the exchange of information between ETC and the Shareholders after Completion required in relation to any decision relating to any matters which require the unanimous approval of both Shareholders pursuant to the Shareholders Agreement.

15. Save as otherwise provided in these Commitments, the ETC Group and the Shareholders are permitted to share any information which is Commercially Sensitive Information strictly for the purposes of project management, technical support and certain other services pursuant to the Project Agreements.
16. The Shareholders shall provide to ETC's statutory auditors in the course of the regular annual audit of the company the information that is reasonably required to monitor compliance with Clauses 3, 5, 6, 8, 9, 10 and 11 and shall ensure that the resulting compliance report will be submitted to the Commission.

## ANNEX C

### Commitment to provide information to the Euratom Supply Agency

1. The Shareholders commit to providing to the Monitor(s) all Contractual Elements of all their Enrichment Contracts (including the Contractual Elements of all Enrichment Contracts concluded by any Shareholder Controlled Company) required to effectively monitor the provision and pricing of enrichment services for utilities. The Shareholders shall arrange the modalities of providing the required information to the Monitor(s) with the Agency. Under their arrangement with the Agency, the Shareholders will provide within a period of [...] after Completion a complete set of the Contractual Elements of all their Enrichment Contracts to the Monitor(s). Also, the Shareholders shall provide to the Monitor(s) the Contractual Elements of any additional Enrichment Contracts they may enter into within a period of [...] after execution of such Enrichment Contracts for the lifetime of the Joint Venture.
2. The Shareholders will provide the following information to the Monitor(s): (i) the identities of the parties to the Enrichment Contract where the utility concerned is based within the Euratom area or the country in which the contracting utility is located if it is based outside the Euratom area; (ii) the volume of material to be supplied; (iii) the schedule and place of delivery; (iv) the nature, physical and chemical form of the materials to be supplied; (v) the contract duration including flexibilities and options (*e.g.*, additional quantities or contract extensions); and (vi) the price and conditions of payment. The Shareholders shall provide additional elements to the Monitor(s) to the extent that they are required by the Monitor(s) to fulfil his/her monitoring role under the arrangement with the Agency pursuant to these Commitments.
3. The above commitment is made exclusively to enable the Commission to declare the concentration compatible with the common market by a decision pursuant to Article 8.2 of the Merger Regulation. It is without prejudice to the application of the Euratom Treaty to the Shareholders' enrichment activities and to their position with respect to their obligations under the Euratom Treaty. In addition, the above commitment is without prejudice to [the 1998 Memorandum of Understanding between the French Republic and the EU].
4. The provision of information pursuant to this Commitment is made on the basis that none of the information to be supplied to the Monitor(s) be: (i) communicated to any person not entrusted by the Agency with the monitoring activity pursuant to this Commitment or to any third party, including, without limitation, customers and competitors of the Shareholders, and European as well as non-European governmental agencies; (ii) used for purposes other than the monitoring required to enable the Commission to declare the concentration compatible with the common market by a decision pursuant to Article 8.2 of the Merger Regulation; or (iii) published in any form.



**EUROPEAN COMMISSION**

Competition DG

Policy and Strategic Support

Brussels, 23 September 2004

**OPINION OF THE  
ADVISORY COMMITTEE ON  
CONCENTRATIONS  
GIVEN AT ITS 128<sup>TH</sup> MEETING ON 23 SEPTEMBER 2004  
CONCERNING A PRELIMINARY DRAFT DECISION  
IN CASE COMP/M.3099-AREVA/URENCO/ETC**

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- 1) The Advisory Committee agrees with the Commission that the notified operation constitutes a concentration within the meaning of Article 3(1)(b) of the Merger Regulation.
- 2) The Advisory Committee agrees that the relevant product market definitions given in the draft decision namely:
  - a) supply of equipment to enrich uranium
  - b) enriched uraniumare correct.
- 3) The Advisory Committee agrees with the geographic market definitions given in the draft decision concerning the following markets:
  - a) supply of equipment to enrich uranium as worldwide
  - b) enriched uranium as European or wider, but left open.
- 4) The Advisory Committee agrees with the Commission that the proposed concentration could lead to the creation of a joint dominant position for Areva and Urenco on the hypothetical EU enrichment market within the meaning of Art. 2(3) of the Merger Regulation.
- 5) The Advisory Committee agrees with the Commission that there is a risk that the creation of the joint venture could have as its effect the coordination of the parties' competitive behaviour in uranium enrichment on either the EU or wider market, in the sense of Article 2(4) of the Merger Regulation.
- 6) The majority of the Advisory Committee believes that the commitments submitted on 3 September 2004 by the parties remove the serious doubts raised in the case and make the concentration compatible with the common market.
- 7) The Advisory Committee agrees with the publication of its opinion in the Official Journal of the European Union.
- 8) A minority of Member States in agreeing to these Commitments clarified their position by reference to the "serious doubts" status of the decision, and also by reference to the specificities of the nuclear industry, which is highly regulated.
- 9) The Advisory Committee asks the Commission to take into account all the other points raised during the discussion.

<u>BELGIË/BELGIQUE</u>	<u>ČESKÁ REPUBLIKA</u>	<u>DANMARK</u>	<u>DEUTSCHLAND</u>	<u>EESTI</u>
---	---	---	A. BUSSMANN	---
<u>ELLADA</u>	<u>ESPAÑA</u>	<u>FRANCE</u>	<u>IRELAND</u>	<u>ITALIA</u>
J. KATRAKAZIS	---	C. NOEL DU PAYRAT	---	A. CARUSO
<u>KYPROS/KIBRIS</u>	<u>LATVIJA</u>	<u>LIETUVA</u>	<u>LUXEMBOURG</u>	<u>MAGYARORSZÁG</u>
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<u>MALTA</u>	<u>NEDERLAND</u>	<u>ÖSTERREICH</u>	<u>POLSKA</u>	<u>PORTUGAL</u>
---	W. van HEESCH	S. FISCHER	E. SYKUT	R. BAIÃO HORTA
<u>SLOVENIJA</u>	<u>SLOVENSKO</u>	<u>SUOMI-FINLAND</u>	<u>SVERIGE</u>	<u>UNITED KINGDOM</u>
---	---	L.PASSI	M. PETTERSSON	T. KRAJEWSKA



EUROPEAN COMMISSION

The Hearing Officer

**FINAL REPORT OF THE HEARING OFFICER**  
**IN CASE COMP/M.3099 - AREVA/URENCO**

**(pursuant to Article 15 of Commission Decision (2001/462/EC, ECSC)  
of 23 May 2001 on the terms of reference of Hearing Officers  
in certain competition proceedings – OJ L162, 19.06.2001, p.21)**

On 8 and 26 April 2004, the Commission received a joint referral request from the authorities of France, Sweden and Germany, pursuant to Article 22 of Council Regulation (EEC) No 4064/89 (the “Merger Regulation”), to investigate a proposed concentration by which the undertaking Société de participations du Commissariat à l’Energie Atomique SA (“Areva”), acquires within the meaning of Article 3 (1) (b) of the Merger Regulation joint control of the undertaking Enrichment Technology Company Limited (“ETC”), formerly solely controlled by the undertaking Urenco Limited (“Urenco”), by way of purchase of shares.

Upon examination of the evidence submitted by the referring Member States and the parties to the proposed concentration and after conducting a market investigation, the Commission concluded that the concentration raised serious doubts as to its compatibility with the common market and decided to initiate proceedings under Article 6 (1) (c) of the Merger Regulation on 22 June 2004.

Upon the parties’ request of 22 June 2004, a review of key documents was provided in accordance with the best practices on the conduct of EC merger control proceedings on 14 July 2004.

On 20 August 2004 the parties offered commitments that modified the original concentration plan, some aspects of which were amended following the market test conducted by the Commission. Final commitments were submitted on 3 September 2004. On the basis of these undertakings the relevant Commission service considered that the serious doubts had been removed. Accordingly no statement of objections was sent to the parties. No queries were raised before the Hearing Officer by the parties or other companies as to the market test. The case does not call for any particular comments as regards the right to be heard.

Brussels, 27 September 2004.

*(signed)*  
Karen WILLIAMS