5 Views of the main parties

A. The views of GEC and Siemens

Rationale for the proposals

5.1. GEC and Siemens told us that the proposed acquisition of Plessey was commercially sound and in the interests of the shareholders of all three companies. The revised proposals, which were intended to satisfy any concerns as to competition in defence electronics, national security and competition in traffic control systems, were radically different from those considered by the Commission in 1986. Furthermore, the conditions in the market identified by the Commission at that time had changed substantially in the relatively short intervening period. In telecommunications, the proposals would create an effective partnership between GPT and Siemens, which would be able to introduce a measure of commonality in the development of new generations of telecommunications systems. In electronics components the proposals would make the relevant Plessey businesses, with Siemens having overall management responsibility, a more effective force in world markets. GEC and Siemens therefore believed that there was a strong case for allowing the proposed merger to proceed.

5.2. GEC said that it would gain the following principal advantages from the merger:

(a) GPT's long-term success as a major international telecommunications company would be assured;

(b) the acquisition of Plessey's naval systems and avionics businesses would enhance GEC's range, particularly in defence electronics, and would strengthen its position in international markets including North America;

(c) GEC's possible future participation in Siemens' defence business by acquiring a shareholding of up to 35 per cent would enable GEC to exercise a useful influence on the Siemens defence business and provide it with increased access to European markets;

(d) it would be advantageous to GEC to have a 50 per cent participation in a Plessey electronics components business which would benefit from access to Siemens' technology; and

(e) the proposals should result in increased earnings for GEC's shareholders.

5.3. Siemens said that the principal advantages to it would be:

(a) participation in GPT, and collaboration with it on technical developments for the next generation of systems, which would strengthen Siemens' telecommunications business and enable it to increase its international sales;

(b) acquisition of Plessey's defence systems and radar businesses would enhance the competitiveness of Siemens' defence electronics activities and of the Plessey businesses, through complementary product ranges, mutual access to wider markets, and technical collaboration; and

(c) the 50 per cent share in Plessey's electronics components business, although not a major part of the overall proposals, would be a step towards achieving the necessary international presence and spreading R & D costs over a larger sales volume.

5.4. GEC and Siemens viewed the proposed arrangements as a means of enhancing the competitiveness of the businesses concerned and placing them in a better position to meet the increasingly demanding challenges of international competition. They indicated that the competition problems identified in the Commission's 1986 report would not apply under the new arrangements: specifically Siemens' participation was a pro-competitive factor and did not give rise to adverse effects on competition. GEC and Siemens also told us that they saw no reason to expect any reduction of employment as a result of the merger. In respect of some Plessey sites they had been able to give assurances to those who had expressed particular concern, but experience had shown that it was unwise to guarantee that there would be no reduction in employment given the uncertainties in some areas.

5.5. A summary of GEC's and Siemens' views on business arrangements, competition and co-operation, and the likely benefits for each of the market areas, is given below.

Defence electronics

5.6. GEC and Siemens said that under the original proposals Plessey's United Kingdom defence electronics businesses were to be owned 50:50 by GEC and Siemens, and were to operate as independent, autonomous entities under their own management. GEC and Siemens had been confident that such an arrangement could be operated successfully. Plessey's North American defence businesses were to be owned 51 per cent by GEC and 49 per cent by Siemens. GEC was also to take a 50 per cent interest in Siemens' defence electronics business, although that was an aspect of the proposals which had not been specifically referred to the Commission. After the reference had been made and taking into account the views of the MOD, the arrangements for the restructuring of Plessey's interests in defence electronics had been changed with a view to meeting the concerns of the MOD.

5.7. Under the revised proposals, GEC would acquire 100 per cent of Plessey Avionics and Plessey Naval Systems. GEC said that in both activities, but especially in Naval Systems, GEC's and Plessey's capabilities were highly complementary. A merger of the activities would provide an enhanced overall system capability and a company more competitive in the international market, with consequent benefits to the MOD. Siemens would acquire 100 per cent of Plessey Defence Systems (excluding Plessey's cryptographic interests which would be acquired by GEC) and Plessey Radar Systems. Similar advantages would be obtained by Siemens which had complementary capabilities in both radar and military communications. The businesses to be wholly owned by Siemens would be entirely independent of those wholly owned by GEC. The companies said that it was intended, however, that there would be future collaboration between GEC and Siemens in technology and development.

5.8. GEC and Siemens argued that the proposals thus took into account concerns with respect to potential loss of competition between GEC and Plessey, while at the same time maximising the merger advantages both between Siemens and Plessey on the one hand, and GEC and Plessey on the other, by grouping complementary businesses. GEC and Siemens would both develop their businesses in the field of defence electronics in a market in which the resources of competing US and European companies were larger than those of United Kingdom defence companies, the costs of developing new systems were increasing substantially, defence authorities were looking increasingly for better value for money and were opening up their defence procurements to competition from companies in other countries, and other European companies were strengthening their competitiveness by collaboration and mergers. The Plessey businesses would be strengthened by being part of GEC and Siemens through their access to larger R & D capabilities and wider international market outlets.

5.9. GEC and Siemens said that the extent of competition, including international competition, was not always apparent from market share estimates. Many defence systems were awarded to a principal contractor, which then sub-contracted a substantial proportion of the work to other firms. Fierce competition continued at the sub-contractor level even after the principal systems contract had been awarded. Market share information was also distorted by the fact that many contracts had a lifetime of 10 to 15 years, swinging market shares dramatically from year to year as projects were begun or terminated. The companies pointed out that under the revised proposals GEC would not be

acquiring any interest in those Plessey businesses essentially communications and radarwhere a GEC/Plessey combination would produce increased market shares at levels unacceptable to the MOD. In respect of the Plessey defence businesses which would be wholly owned by GEC, Plessey had only a limited interest in avionics, and GEC's and Plessey's activities in underwater systems tended to be complementary rather than competitive. Although the MOD had expressed concern in the earlier inquiry over the loss of potential competition between GEC and Plessey in relation to the Spearfish torpedo and in relation to sonar, GEC did not believe that there was any real cause for such concern. It did not regard Plessey Naval Systems as a realistic competitor to GEC Marconi for the role of prime contractor for Spearfish, nor could it accept the MOD's estimate that the financial loss through lack of competition on that project could be as high as 10 to 15 per cent of the total contract value: 90 per cent of the contract would be put out to sub-contractors on a competitive basis so that any hypothetical loss could only be a small percentage of the remaining 10 per cent of the total contract value. In any case, there was no place for two torpedo manufacturers in the United Kingdom. If, despite GEC's expertise over the last 10 to 15 years, Plessey did compete successfully for Spearfish, the competitive position would not be maintained thereafter as GEC could no longer afford to maintain a capability. There was only one contract; there would not be two producers.

5.10. We asked GEC and Siemens about the likely effect of the merger on the JTIDS contract, which was causing the MOD concern. Both companies said that they were surprised that there should be such concern. JTIDS was designed, and is currently being manufactured, in the United States. If the MOD were to place another production contract, at least half a dozen companies were capable of building the equipment. Current work on JTIDS in the United Kingdom was confined to maintenance, support and some overall testing of the equipment. The next stage of development would be for MIDS, on which Plessey, GEC and Siemens were already working together in a collaborative programme. As to the rest of the avionics programme, GEC told us that there was no competition between it and Plessey, except in a very small peripheral area.

5.11. Summarising the prospective benefits in the defence electronics area, GEC and Siemens said that they had the resources and the intention to secure the success of their acquisitions from Plessey and to promote these businesses in world markets. Siemens' ownership and control of Plessey's communications and radar businesses would provide the specific benefit of a major new investment by one of the largest EC groups, with a continuing commitment to massive R & D support. GEC's ownership of the other defence businesses would improve its competitiveness in a range of avionics systems and underwater defence systems to the benefit of the MOD and other customers throughout the world. It would also increase the prospects for collaboration generally. Technical collaboration between GEC and Siemens could also be expected to produce lower costs and better products.

Electronics components

5.12. GEC and Siemens told us that under the proposed arrangements each would acquire a 50 per cent interest in Plessey's electronics components business. Siemens would have management responsibility for the business. It was intended that Plessey's existing management would remain in place. It was also intended that close technical co-operation should be established with Siemens in order to maintain a viable and internationally competitive business. GEC and Siemens did not envisage any change in the location of the Plessey components business and they believed that the long-term effect on employment would be favourable.

5.13. The companies stressed that the Plessey electronics components business was in world terms quite small and did not represent a major element in GEC's and Siemens' proposals. It was far outweighed by the importance of the defence and telecommunications activities.

5.14. Siemens said that it was a major producer of electronics components. Although a primary objective was to produce components for its own use, its external sales in a fiercely competitive world market amounted to £1 billion in 1988. This volume of sales gave it the ability to maintain R & D at the level required to keep pace with the rapidly developing technology. Plessey sales of microelectronics and components, by contrast, amounted to £140 million in 1988.

5.15. Siemens and GEC told us that the market sector for components which would be most affected by the merger situations was that for semiconductors, and in particular integrated circuits which constituted 86 per cent of Plessey's electronics components activities. They said that in the United Kingdom, Plessey had 12 per cent of the integrated circuit (IC) market, GEC 1.2 per cent and Siemens 1.9 per cent, but there was very little overlap between them. Other major competitors were Texas Instruments, National Semiconductors, Motorola, Intel, Philips, NEC and Toshiba and there were many other potential sources of supply. In such a highly competitive market, GEC and Siemens argued, any loss of competition between GEC, Siemens and Plessey would be of no significance.

5.16. GEC and Siemens said that a benefit to be expected from the proposed arrangements in the electronics components area was that Plessey's IC business with adequate R & D investment would be able to maintain advances in technology so that volume could be increased to ensure the viability of the business in the longer term. Siemens pointed out that it had a very strong commitment to the maintenance of competitive R & D investment in this field, maintaining levels of at least 20 per cent of the value of sales of electronics components. The proposals would also be of direct benefit to Siemens. It would gain access for its products to the marketing and distributing networks of Plessey in the United Kingdom and North America and it would have the benefit of Plessey's experienced engineering staff. Similarly, Plessey would benefit from access to, and co-operation with, Siemens' outlets.

5.17. We asked Siemens whether, as had been put to us, in the longer term it would not wish to maintain Plessey's separate facilities in microwave components, and would transfer these activities eventually to German factories. Siemens said that on the contrary it would keep these facilities in the United Kingdom and expand the business. GEC pointed out that as a 50 per cent shareholder it too would have an interest in seeing that the business was not absorbed into Siemens.

Telecommunications

5.18. GEC and Siemens told us that, following an acquisition, Plessey would cease to have any shareholding in GPTa company owned equally by GEC and Plesseywhich would be owned as to 60 per cent by GEC and 40 per cent by Siemens. There would be joint decisions on the strategic aspects of GPT's business and provisions had been made to establish a technical co-operation agreement between GPT and Siemens. It was intended that the present GPT management would continue to operate with considerable autonomy, but under the supervision of GEC. Existing facilities and equipment would be maintained and expanded as necessary through capital investment. No transfers of functions to Germany were contemplated.

5.19. The companies said that GPT was the major player in the United Kingdom telecommunications market and had strength beyond its large United Kingdom market share. In particular, its research in engineering areas was highly regarded and valued. Nevertheless, it remained small and essentially domestic by comparison with its major international competitors which included A T & T, NEC, Alcatel and Northern Telecom. The creation of GPT had been a response to rapid changes in telecommunications technology, in the market and in the restructuring of the industry, particularly in North America and Japan. Although the creation of GPT had been a necessary step, it was not a sufficient step in the creation of a viable future United Kingdom telecommunications industry. GPT still faced many problems, particularly in the public switching sector. As the digitalisation of the United Kingdom public network neared completion, GPT's United Kingdom-based sales of System X must inevitably fall. From the mid-1990s, a new generation of systems would be needed by public network operators, and GEC and Siemens did not believe that GPT had the resources to develop this next generation of equipment unaided.

5.20. In private switching apparatus, GPT's business was, similarly, based almost entirely on the United Kingdom market. Furthermore, GPT was heavily dependent in this sector on the technology of other companies for certain of its products. It was clear to the companies that GPT was not well placed to maintain its competitiveness in this market. In transmission GPT had had a strong position in the United Kingdom market but this had recently been declining.

5.21. GEC and Siemens said that under their proposals GPT and Siemens would participate in the common development of technologies including switching technology related to next- generation switches; expertise in intelligent network architectures; fibre optic technologies for subscriber loop systems; and software tools. GPT and Siemens would continue to sell their existing products and systems. With new products, each partner would concentrate on its area of expertise relating to its network architecture according to a common development plan, to be agreed between the partners. GPT and Siemens would be able to offer, at the right time, a broader range of products for the next generation network. This would enable GPT and Siemens to remain competitive in the full range of telecommunications systems and products.

5.22. GEC and Siemens said that there was minimal product overlap between GPT and Siemens in the United Kingdom market. Siemens did not provide any public switches in the United Kingdom and the overlap was therefore confined to PABXs and key systems. Siemens' market shares for PABXs and key systems in 1987/88 were 2 per cent, 11 per cent and 3 per cent for large, medium and small switches respectively. Competition on the other hand was still increasing and the number of suppliers and the choice of systems had continued to grow rapidly since 1986.

5.23. Summarising the advantages which they believed would arise, GEC and Siemens said that the proposals for telecommunications would permit GPT and Siemens to achieve the world sales necessary to support the required depth and breadth of investment in R & D; reduce production costs by exchanging information on manufacturing processes; reduce the cost of manufacturing through common specification for components for new generations of products; widen their range of products; and ensure a broader distribution of the new generations of products at lower costs. Public network operators and United Kingdom consumers would both benefit from these developments.

5.24. We put to GEC and Siemens the concerns of BT (see paragraph 4.29). GEC and Siemens told us that they had given a pledge to BT that they would continue fully to support and develop System X and exploit it in full to get the best possible value out of the investment already made. The system would be kept in service, maintained in service, and developed as far as it was possible. Siemens added that it could not accept that a 40 per cent interest by it in GPT would limit access to North American technology. Siemens' EWSD system was operating in America and the features available compared favourably with those of A T & T and Northern Telecom. There were in any case disadvantages in overreliance on American technology. It was well known that the United States, for perfectly good reasons, wished to protect its IPR and its technology capability in electronics, and for this reason applied controls on the re- export of goods and technology of United States origin. It was up to Europe to develop its own standards of equipment to meet user demands, and not to abandon European technology in favour of American or Japanese. As to the suggestion that Siemens' record on price was not reassuring to BT, Siemens said that the orders it had received from Bell operating companies in the United States showed that it could be competitive there, and indeed its record in other countries confirmed its competitive position.

Traffic control systems

5.25. GEC and Siemens said that under the revised proposals, Siemens would own 100 per cent of Plessey's automated traffic control systems business. This would remain a separate company and would continue its national and international activities in full competition with GEC. It was intended that the existing management of Plessey's traffic control systems would remain in place although Siemens Traffic Control Munich would be represented in the management team to ensure that at the operational level information was exchanged between the two businesses and that the best practices were adopted in both places. Siemens foresaw no adverse impact on the structure or location of the Plessey traffic control business, or on United Kingdom employment. Given the difference in technology in particular markets, it would not be in Siemens' interest to relocate Plessey's traffic control activities in Germany.

5.26. GEC and Siemens argued that the proposed arrangements would not lead to any reduction in competition in the United Kingdom market, which was in fact significantly more competitive than it had been at the time of the Commission's last report. For example, Ferranti had strengthened its position considerably, Elequip had entered the market and was able to supply and maintain signals, and Microsense Systems had entered the market as a supplier of pedestrian signal controllers. If the

merger went ahead, there would be no reduction in the number of existing suppliers or in the extent of the competition between them. Siemens' only involvement in the United Kingdom market, at present, related to the proposed Autoguide scheme, where Siemens was already in the same consortium as Plessey. The proposed arrangement would have no material effect either on that consortium or on competition with the consortium in which GEC participated.

5.27. GEC and Siemens said that implementation of the proposals would offer significant benefits in the United Kingdom and overseas markets. The link between Siemens' and Plessey's traffic control businesses would make a positive contribution towards reconciling technical standards, promoting competition in the European market, and providing an EC-based counter to increasing world-wide competition. Users would also benefit from the pooling of Siemens' and Plessey's resources in a high technology area where development costs are high in relation to potential sales.

Research and development

5.28. Under the revised proposals Plessey's research establishments at Caswell and Roke Manor would be jointly owned by GEC and Siemens. GEC and Siemens told us that these establishments would be operated as autonomous units and it was their expectation that the increased flow of work resulting from the new ownership would enhance the scope of these establishments. The laboratories would concentrate largely on pre-competitive research, and product development work would be carried out as far as possible within operating units. This was intended to ensure that the disciplines of the market-place, of economic production and reliability in services, were taken into account. Product development carried out by the research laboratories would be part of a specific programme for a specific operating unit. In this regard, GEC and Siemens would ensure that the close working relationship between Caswell and Plessey's electronics components business would be maintained. There would also be general co-operation and dialogue between Caswell, Roke Manor and the research facilities of GEC and Siemens. In addition the Plessey companies acquired by GEC and Siemens would continue to use on commercial terms the research facilities at Caswell and Roke Manor.

Intellectual Property Rights (IPRs)

5.29. We asked GEC and Siemens what would happen to Plessey's existing IPRs. They told us that those relevant to the 100 per cent owned units would become the property of the company to which those units were transferred after the acquisitionand would become available to other parts of the company concerned according to their general practice. In the case of both GEC and Siemens, IPRs arising from centrally funded, pre-competitive research were generally available without cost to their operating units.

The synergy between Plessey companies

5.30. We put to GEC and Siemens Plessey's views that the breaking up of the Plessey businesses would destroy the benefits that arise from `horizontal' integration of the production companies as well as the `vertical' integration between the production companies and the research establishments. GEC and Siemens said that the extent of any cohesive structure within Plessey in the use of all resources that were directed to improving its competitive performance in the four distinct areas of defence electronics in issue, and through the use of R & D facilities and the semiconductor business as resources applied to defence electronics, was a matter of fact and degree. Even assuming in Plessey's favour that it had established a case on cohesion to a degree that gave rise to public interest concern, the question that had to be addressed was the likelihood that the revised proposals would so weaken the businesses that they would be less competitive in new hands. In GEC's and Siemens' judgment, there was no such likelihood. In respect of horizontal links, Siemens would have a commitment to the development of Plessey's radar and defence systems businesses; it had complementary skills and substantial resources. If there were some relevant technology that was not available to the new grouping it could be developed or bought in.

5.31. In respect of the businesses to be wholly owned by GEC, they would be transferring to a company with significant interests itself in radar and defence systems and enjoying the full support of GEC's R & D resources in these fields. If Plessey's naval business cohered in some way with businesses in radar and defence, it was most unlikely that it could cohere only with other Plessey businesses in that area. Again any want of technology could be developed or bought in.

5.32. On vertical cohesion, similar arguments prevailed. Roke Manor, Caswell and the Plessey semiconductor activities would be maintained in this country and would be used by GEC and by Siemens to improve competitive performance in defence electronics. Plessey's analysis of the difficulties facing companies such as GEC and Siemens in the restructuring of former Plessey companies was essentially static and pessimistic; it ignored the dynamic element of competition in the markets to which GEC and Siemens must respond.

5.33. We sought the views of GEC and Siemens on hypothetical undertakings including a number related directly to matters of national security. GEC and Siemens confirmed their willingness to give appropriate undertakings provided these did not limit the competitive or financial viability of Plessey businesses in the future and that the undertakings dealt only with concerns raised by the revised proposals put before the Commission, and then only to the extent necessary to meet those concerns. GEC and Siemens said that they could accept in principle many of the suggested undertakings on security provided that they were confined to activities in the United Kingdom. Some aspects, however, would have to be clarified, or modified in part, to make them appropriate and practicable.

B. The views of Plessey

5.34. Plessey told us that it was strongly opposed to any merger with GEC and Siemens. Plessey believed that the proposals put forward by those companies, both in their original form and as revised, were irremediably against the public interest. The multiplicity of objectionable features could not be, and would not be, avoided and there would not be any, or any sufficient, countervailing benefits.

5.35. Plessey said that GEC and Siemens had originally claimed that a 50:50 joint ownership of Plessey's defence activities would lead to a new and more competitive Plessey and thereby enhance competition in the defence markets. The incredulity with which the original proposals had been greeted and the impossibility of putting together any plausible explanation of how they would work had led to the revised proposals. What was now proposed was little more than an old-fashioned carve-up, which defied industrial logic and completely ignored the interactive, interdependent nature of Plessey's businesses.

5.36. Plessey told us that to achieve commercial advantage by the use of internally developed technology and to obtain maximum utilisation of resources, it had deliberately fostered the development of interrelationships between businesses and this had resulted in extensive interdependency across the Plessey businesses. It was unique in its degree of integration, which put it in a particularly strong position to take advantage of the significant growth expected in the electronics industry. The interdependencies were both `vertical' and `horizontal'. For example, Plessey Semiconductors specialised in the design and production of ASICs which are ICs tailored to particular requirements rather than for general use. This `vertical' relationship between ASICs and the Plessey Systems businesses was therefore important. Among other things, it enabled Plessey Semiconductors to make use of experience gained when working for one Plessey business in order to assist another Plessey business.

5.37. As examples of `horizontal' interdependence, Plessey pointed to the benefits that Plessey Naval Systems, Plessey Radar and Plessey Defence Systems, derived from access to the centre of excellence in Man-Machine Interface which was located in Plessey Naval Systems, and to the close working relationships between Plessey Radar, Plessey Defence Systems and Plessey Avionics which had allowed them to bring together various major sub-systems in ground and air aspects of air defence. The dividing up of Plessey's businesses in the way suggested in the revised proposal would break the vertical and horizontal links that now exist and this would have serious adverse effects on the competitiveness of the separated businesses.

5.38. Plessey stressed that its objection to a `carve-up' did not mean that it in any way accepted the original proposals. Under those proposals, GEC and Siemens would have had joint shareholdings in the various Plessey businesses, while at the same time having wholly-owned competing businesses, and this would have resulted in an inherently anti-competitive structure, riddled with conflicts of interest. As a partly-owned entity in such an arrangement, the Plessey businesses concerned would inevitably be severely weakened.

5.39. Plessey said that it could not accept GEC's and Siemens' claim that Plessey had little hope of obtaining sufficient scale to compete effectively in the future. An assertion that sheer size was somehow a virtuous commercial necessity was rejected by the Commission in 1986 and has been refuted by both academic research and by Plessey's own experience. Over the last five years Plessey's operating profits had remained in excess of 10 per cent of turnover in all years, and this demonstrated Plessey's continuing ability to compete profitably in its chosen sectors. It did not need a merger to survive, and in respect of this particular merger Plessey had been unable to identify any material benefit arising from the proposals for any of its operations or for the public interest. The case against it, however, was overwhelming. It would, in Plessey's view, damage competition, lack industrial logic, harm national security, and have a devastating effect on the morale of Plessey employees.

5.40. A summary of Plessey's views on the proposals for each area of its activities is given below.

Defence electronics

5.41. Plessey said that it was an actual and direct competitor to GEC in many areas in the supply of defence electronics equipment, and competition between them had afforded the MOD cost benefits and enlarged technological choice. Moreover, Plessey and GEC were potential competitors over a still wider field; each company stood at the sidelines of activities currently pursued only by the other, ready to enter where opportunities arose. The most striking recent example of this, Plessey said, was its decision to bid for the Spearfish main production order which had been welcomed by the MOD. Further examples could be found in sonar, where Marconi Underwater Systems was bidding for Project 2075 in competition with Plessey, and in airborne sonar processing where Plessey expected to enter in competition with GEC. Under both the original proposals and the revised proposals, Plessey argued, such actual and potential competition would be either eliminated or severely distorted.

5.42. Implementation of the revised proposals, Plessey said, by tearing Plessey apart and depriving the Plessey businesses of the present unique relationship with Plessey Research and Technology, the powerhouse of their technology, would greatly weaken the Plessey businesses as a competitive force in the market. In addition, for those parts of Plessey's defence business to be wholly owned by GEC (naval systems, avionics, and cryptography), there would be an immediate and clear loss of the actual and potential competition between Plessey and GEC. The consolidation of Plessey Naval Systems and Marconi Underwater Systems would result in a business unit with an initial annual turnover of £380 million, completely dominant in the United Kingdom in underwater weapons and sonar and with twice the turnover of the nearest European competitor, Thomson. The potential for future competition by Plessey in torpedoes, airborne sonar processing and intercept sonar would be removed at a stroke. Implementation of the proposal would virtually remove the prospects of competition in the United Kingdom, and even at the Community level would unbalance the competitive situation.

5.43. In avionics the consolidation of Plessey Avionics with GEC Avionics would remove the alternative focus provided by Plessey for international collaborative programmes. In the United Kingdom, with regard to JTIDS where Plessey intended to compete for future production, GEC would own the United Kingdom prime contractor (GEC Avionics) and the major sub-contractor (Plessey Avionics). GEC would also own 75 per cent of the United States JTIDS prime development contractor (PESC) which will be involved in supplying the system to the United Kingdom. All semblance of competition in the United Kingdom for this major programme would therefore be eliminated. In addition, Plessey Avionics and PESC would cease to provide competition with GEC in relation to future programmes for integrated communications, navigation, identification and avionics systems. Future competition in aircraft telephones and weapons electronics would also be eliminated.

5.44. As for cryptography, Plessey explained, this was an area where Plessey had competed successfully with GEC, which had lost ground. The proposals for Plessey Crypto seemed to envisage that there would be no relationship of any sort with Siemens or companies owned jointly by GEC and Siemens. This would preclude the continuation of Plessey Crypto's relationship with Plessey Defence Systems, with which it was critically interwoven, with Plessey Research and Technology on which it was dependent for formal methods software research, and with Plessey semiconductors from which it gained access to special silicon technology.

5.45. In the case of those Plessey activities to be wholly owned by Siemens (defence systems and radar), Plessey said that while superficially an appearance of competition would be maintained, the fact was that competition between former Plessey businesses and GEC would be severely distorted. Plessey Defence Systems and Plessey Radar derived much of their competitive success from the R & D work carried out by Caswell and Roke Manor and from their close relationship with Plessey's components businesses, which under the proposals would be owned as to 50 per cent by GEC, the main competitor of Plessey Defence Systems and Plessey Radar Systems. The benefit suggested by Siemensof access to Siemens' marketswas of no value, since Siemens had few in the way of relevant markets to offer, and itself recognised that Plessey had a good sales record and was already well represented in overseas markets.

5.46. Turning to the extent of competition or potential competition from other United Kingdom and overseas suppliers in the defence markets, Plessey said that the following considerations had to be kept in mind. First, there were many aspects of Plessey's defence business in relation to which, for reasons of national security, overseas suppliers could not offer alternative sources of competition to that which currently exists between Plessey and GEC. Second, to the extent that it might be suggested that potential competition would afford an effective substitute for the loss of actual competition between Plessey and GEC, the certainty of Plessey's presence as an actual competitor was much to be preferred to the uncertainty of effective competition from potential new entrants. Third, Plessey's defence businesses, like Marconi's, had an intimate knowledge of the organisation, operation and requirements of the British armed forces. New entrants would be substantially handicapped by their lack of such knowledge. Fourth, to conduct a successful defence equipment business in the United Kingdom a supplier needed to have a substantial United Kingdom corporate presence capable of providing long-term post-sales support. Finally, the MOD would have to be satisfied that any supplier controlled from outside the United Kingdom could be relied on to support the United Kingdom's separate political objectives, especially in times of crisis.

5.47. From the foregoing, Plessey concluded that competition and potential competition from overseas-based suppliers could not be regarded as a substitute, let alone a fully effective substitute, for the preservation of Plessey as an independent company.

Electronics components

5.48. Plessey said that neither GEC nor Siemens had achieved the same degree of success or growth in electronics components as had Plessey in its chosen fields. GEC in particular had withdrawn from R & D in the main stream of semiconductor development and had substantially reduced its R & D on gallium arsenide. Siemens, despite its acquisition of Microwave Semiconductors Corporation in the USA, had failed to develop a competitive gallium arsenide product range. In these circumstances Plessey believed that, particularly given the problems inherent in a jointly-owned business, its components business would lose the impetus that had contributed to its success. This would be a substantial detriment of the United Kingdom public interest. Despite GEC's lack of success in the electronics components market, the proposals put forward by GEC and Siemens could be expected to result in some loss of competition in this area, between Plessey and GEC. More significant, however, would be the effects resulting from the participation of Siemens. Siemens was a more important competitor than GEC in relation to semiconductors and other components and, despite Siemens' stated intentions, there was a danger that Plessey's components business under Siemens management would be rationalised, perhaps to the extent of concentrating CMOS production (and its associated R & D) in Germany.

5.49. Such a development would have a number of adverse consequences. For example, it would deprive the United Kingdom of its own indigenous manufacturing capability in a strategically significant sector of the industry recognising that the added value in electronics systems is becoming increasingly concentrated in ASIC components; it would remove the strategic advantages of synergy between different research operations; and it would tend to lead to less effective marketing, particularly in the United Kingdom, which is presently the largest market in Europe for ASICs. But even if Siemens kept everything as it was, it would be difficult, if not impossible, for Plessey Semiconductors to retain its special qualities if it were part of the mammoth Siemens organisation. Moreover with Plessey's components business under the joint control of GEC and Siemens, there would be a risk of loss of confidence among those customers of the business who are competitors of GEC or Siemens: much highly confidential commercial and technical information had to be disclosed by the customer to the supplier, particularly in relation to ASICs. Customers have been satisfied that the confidentiality of such information is maintained in Plessey Semiconductors, but they might be more reluctant to disclose it if both GEC and Siemens were involved.

5.50. In summary, Plessey said that its own components business would gain nothing from co-operation with the existing components business of GEC, and would gain little from co- operation with Siemens other than in the area of pre-competitive research, where Siemens and Plessey already collaborate.

Telecommunications

5.51. Plessey said that the proposals for telecommunications were unsatisfactory. They did not provide for a total merger of the telecommunications interests of GPT and Siemens, but would leave Siemens with 100 per cent of its own telecommunications business and a 40 per cent share in a competitor. In consequence it would be impossible to realise the potential benefits that would arise from a full merger; yet competition between GPT and Siemens' wholly-owned telecommunications business would be almost as fully eliminated as if there had been a merger. Notwithstanding GEC's 60 per cent ownership, Siemens, by reason of an infinitely greater in-house competence in the field of telecommunications than GEC, would be able effectively to mould the direction of GPT's future developments in ways which would reflect its greater interest in its own German-based business. It was not possible for Plessey to predict how that distortion of competition would manifest itself, but clearly it was not in the British public interest that GPT should be liable to be constrained, for example in the development of its export business, expansion of which would reduce or help to contain its unit costs in the mid-1990s when BT's requirement for System X would be slowing down.

5.52. Furthermore, in Plessey's view, the proposals would lock GPT into a most unsatisfactory position as Siemens' junior partner. It would be better for GPT to remain fully viable as a free-standing entity collaborating with a number of suppliers on a case-by-case basis where partners have agreed in advance on marketing arrangements; where the partners were approximately equal; and where there was some `glue' to hold the partners together. The proposals put forward by GEC and Siemens did not mark out the right way forward for GPT into the European market. It might be that the best way forward for GPT would be to continue to enhance and extend System X for the indefinite future at an on-going cost to GPT of the order of £40 to £50 million a year, which the business should be well capable of bearing. However, Plessey would not rule out the possibility that a full merger of GPT and Siemens' telecommunications businesses might one day appear to be in the best interests of GPT.

Traffic control systems

5.53. Plessey pointed out that despite the fact that Plessey Controls Ltd had an annual turnover in excess of £20 million and a share of the United Kingdom road traffic systems market in excess of 50 per cent, and despite the fact that the Commission's 1986 report identified the loss of competition that would result from the acquisition of Plessey by GEC as a detriment to the public interest, the original proposals for the present merger did not condescend to mention how Plessey's traffic control systems business was to be dealt with. Presumably it was intended to be included in the 50:50 GEC/Siemens company, which would have resulted in a manifest and serious distortion of the competition between Plessey Controls Ltd and GEC's corresponding business. Similar distortions in competition would arise in respect of Plessey Traffic Systems International Ltd and Siemens' continental traffic control systems business.

5.54. Plessey believed that the proposals as revised, providing for 100 per cent of ownership of Plessey's traffic control interest by Siemens, had their own significant disadvantages. There could be no confidence that GEC would be a vigorous competitor with Siemens in the field of traffic control equipment when it would be so closely linked with Siemens in other areas. Nor could Ferranti be expected to step into the breach. Ferranti's traffic control business was an offshoot of its computer activities rather than being, like Plessey's, a separate activity in its own right. Even if Ferranti responded positively to the effective extension by Siemens of its dominant position in the European traffic control systems market to the United Kingdom, it was a relatively small competitor in the United Kingdom.

5.55. Even if Plessey's traffic control systems remained in place in the United Kingdom, it was clear that Plessey's plans to create a pan-European business to compete with Siemens would be dead. The French and Spanish interests acquired by Plessey would be transferred to, and be controlled directly from, Germany. Hence, the effect of the revised proposals would be to enable Siemens to achieve German leadership of an important Community market, rather than having to fight it out in the market-place with Plessey. The United Kingdom's national interest would therefore be adversely affected by the probable loss of exports from the United Kingdom (worth £2.4 million to Plessey in 1987/88). Nor, despite Siemens' declared intentions, could the possibility be ruled out that Plessey Controls would be managed from Germany and that product development would be undertaken there. Plessey might well then become a distributor/installation and service arm, perhaps undertaking some assembly of Siemens' traffic equipment for the United Kingdom market, with a resulting reduction in the United Kingdom export potential and hence employment.

Research and development

5.56. Plessey said that, on the evidence available to it, it appeared unlikely that the merger would provide economies of scale in R & D, at any rate without a more than countervailing distortion of competition; and it was indisputable that the resulting arrangements would have an adverse effect on the development of alternative technological approaches. The point that had already been made about the destruction of vertical and horizontal integration was particularly relevant to consideration of R & D. In particular the proposal that Caswell and Roke Manor should be used for common pre-competitive programmes, and contract on `commercial terms' with the Plessey businesses, would eliminate the role that Plessey Research and Technology played as a catalyst between all the present Plessey businesses, both civil and military. It would radically change the character of the Plessey research establishments and remove them as centres of excellence in competition with the research facilities of GEC and Siemens. At the same time it would sever the intimate relationship between PRT and the operating businesses, from which those businesses derived their competitive edge.

5.57. Plessey said that the crucially important question of the proposed arrangements relating to intellectual property rights had not been properly addressed. It was far from clear how existing and future IPRs were to be parcelled out, nor how the work which would generate new IPRs was to be decided upon by GEC and Siemens. Plessey's concern was exacerbated by the fact that, whereas many of the businesses which would exploit research undertaken at Roke Manor would be owned separately either by GEC or Siemens, Roke Manor itself would be owned jointly by GEC and Siemens. Plessey stressed that the existence of such problems in itself both immediately and for, at the least, a considerable time ahead, would distract the scientists and the engineers involved from

their primary and intellectually exacting tasks of invention and development, with a consequential and serious adverse effect on their productivity.

5.58. We asked Plessey for its views on how the proposals for R & D would adversely affect the development of alternative technical approaches. Plessey said that a greater diversity of independent decision centres in respect of technical approaches was a far more effective guarantee of technical progress than entrusting the relevant decisions to a few overlords in one or a few organisations. Furthermore, independent centres of innovation provide the customer with a choice of technical approach whereas in centres with common ownership technical choice is made inside the organisation, thereby depriving the customer of that benefit. The problem with GEC and Siemens' proposals for PRT was that the inevitable difficulties of finding any solution would be greatly aggravated by the need for that solution to be agreed between two companies with divergent interests. Plessey was convinced that it would prove impracticable to find any coherent plan that would overcome these difficulties.

Employment

5.59. We asked Plessey for its views on employment trends in the absence of the proposed merger taking place, and the likely effect of the merger on employment in Plessey in the United Kingdom should the merger proceed.

5.60. Plessey told us that in its most recent strategic plans, drawn up prior to the announcement by GEC and Siemens of their proposed bid, Plessey forecast that its United Kingdom workforce overall would increase from the present level of around 15,000 to approximately 18,000 by 1993. The increase was expected to be mainly by organic growth. As to the effect of the merger, Plessey was in no position to satisfy itself that the proposals would not result in redundancies and worsening of employment prospects. The concerns of Plessey's employees had been expressed to the Commission, and it was for GEC and Siemens to establish to the satisfaction of the Commission that implementation of their proposals would not have a substantial and serious effect on employment and employment prospects. In this context Plessey asked the Commission not to confine their attention to immediate reduction in numbers of persons employed. The proposals were capable of having adverse effects that went well beyond that. They were likely to diminish the job satisfaction and worsen the career prospects of Plessey's employees.

Hypothetical remedies

5.61. We asked Plessey whether, assuming that the Commission found the merger to be against the public interest, there were any remedies which it believed might remove the detriments that it perceived. Plessey said that no practical or effective remedies could be devised. If the Commission found the merger against the public interest, they should recommend that it be not permitted to proceed. Plessey could not accept that there could be any compromise which would not destroy the coherence, virtue and value of Plessey as an integrated company. We also sought Plessey's comments on a number of hypothetical remedies to specific possible adverse effects (for example, on competition for production of JTIDS, and on United Kingdom national security requirements): Plessey argued that these remedies would also be impractical or ineffective.