PATENTS ACT 1977

01/7/93

IN THE MATTER OF a reference under Section 8(1) by Christopher Ian Moir in respect of Patent Application No 9008389.0 (Published as GB2245057) in the name of Defence Technology Enterprises Limited (DTE)

DECISION

Patent Application No GB9008389.0 was filed on 12 April 1990 and is proceeding in the name of DTE with Christopher Ian Moir named as inventor.

The reference under Section 8 was filed on 24 October 1991. In support of his reference Mr Moir has filed, on 21st July 1992 as evidence-in-chief, an affidavit accompanied by 12 items, and on 9th February 1993, as evidence-in-reply, a second affidavit accompanied by 2 items. The applicants DTE have filed a Counterstatement on 31st December 1991 and a Statutory Declaration on 6th November 1992 from Mr Terence John McKenna, the Managing Director of DTE accompanied by 18 exhibits.

At the hearing before me on 20th May 1993, Mr Moir appeared in person, DTE having indicated that they did not wish to attend.

The form 2/77 on which this reference was made does not specifically ask a question of the Comptroller but states that Mr Moir opposes the grant of a patent to DTE and requests that

> "no grant is made to DTE, and that any priority of application be transferred to myself as Inventor, allowing independent patents application to be made."

It was agreed by Mr Moir at the hearing that the question to be determined is essentially "Who is entitled to the grant of a patent, DTE or Mr Moir?"

The patent application relates to a circuit for the "active" quenching of an avalanche photodiode, i.e. avalanching of the photodiode is sensed to initiate the generation of the quenching signal. It is not yet in order for grant and in fact the first section 18 letter has only recently issued. The main embodiment uses a transformer as the means for sensing avalanching, the primary winding being connected to the "high" voltage side of the diode and the secondary winding being connected to a high speed amplifier which triggers the feedback quenching pulse. It is mentioned that the transformer could be replaced by an optical isolator with or without a capacitor and that a video amplifier could be used to produce the quenching pulse. In a second embodiment (figure 5) a reactive power supply is sensitive to the avalanche current drawn by the photodiode and quenches the current by reducing the voltage supplied. There are four main claims, claims 1, 2, 10 and 11, the first three of which are concerned with an avalanche photodiode quenching circuit in which the sensing of avalanching triggers the feedback pulse. Claim 11 is directed to the second embodiment referred to above.

Mr Moir has not defined in precise terms the invention for which he argues that he is entitled to the grant of a patent. The patent application itself is also not of great assistance to me in defining the invention which is the subject of the reference because it is still progressing through substantive examination, and, as indicated above, has a plurality of independent claims, one of which is directed to an arrangement which is distinctly different in concept from the arrangements covered by the other main claims. Nevertheless, the reference has been made and I must determine the question posed under it as best I can. Whatever the invention or inventions may be, it is not disputed that Mr Moir was the inventor.

DTE was set up towards the end of 1984 for the purpose of providing a means by which Ministry of Defence (MoD) technology could be commercially exploited. Mr Moir, who had been employed by MoD some years previously, was recruited by MoD specifically

to be seconded to DTE to commence DTE activity at the Royal Signals & Radar Establishment (RSRE). The secondment was effective from 2 January 1985, and under it Mr Moir was graded as a Principal Scientific Officer. As well as his PSO salary Mr Moir received further payments from DTE under a consultancy agreement dated 18 November 1985 between himself and DTE which was designed to supplement his Civil Service salary to make adjustment for the importance of his position at DTE.

Mr Moir, together with his wife, also ran a private company called T Systems which was a computer systems and software design consultancy and this company on at least one occasion appears to have undertaken work on behalf of DTE for licensees of DTE.

The consultancy agreement with DTE came to an end on 4 September 1989 when Mr Moir became an employee of DTE under a contract of employment dated 1 August 1989. Throughout his time at DTE, both on secondment and as an employee, Mr Moir held a position of responsibility initially as sole executive of DTE at RSRE and subsequently as the general manager of the DTE Laser Division and the development laboratory which were set up at RSRE by DTE.

Mr Moir was responsible for causing the patent application to be filed on 12 April 1990 ie during Mr Moir's period of employment by DTE. He asserts that "the invention" was made on 22 January 1989 and was derived from other work dated 14 November 1988. In support of this he submits copies of pages from his work book. A page dated 22 January 1989 shows an active quenching circuit for an avalanche photodiode with a transformer as the sensor on the "high" voltage side of the photodiode and another page dated 26/2 suggests the use of a fast video amplifier or comparator. There is no evidence that this work was performed anywhere other than at DTE.

Mr Moir has produced no evidence as to the date of invention of the modifications which provide the subject matter of claims 6, 7 and 11, namely the use of an optical isolator in circuit with

a capacitor as an avalanche sensor, and the use of a reactive power supply to provide automatic quenching of the avalanche current. On the other hand, DTE have produced letters between Mr Moir and DTE's patent agents, Wynn Jones Laine & James, which indicate that the optical isolator option at least was thought of in February 1990 and the reactive power supply modification a little later than that, again during Mr Moir's employment by DTE.

Mr Moir conceded that these modifications were thought up subsequent to discussion with the patent agent and that they belonged to DTE. After the hearing Mr Moir confirmed in writing that he was not claiming any right in anything except the principal invention disclosed in the application and specifically not the reactive power supply modification.

After Mr Moir's employment had been terminated by DTE, their new patent agents, Beresford & Co., filed a patents form 7/77 on which they claimed the right to the grant of a patent by virtue of their employment of the inventor. Mr Moir disputes the existence of this right. It is Mr Moir's case that, during the period of his secondment to DTE, the performance of technical design work formed no part of his normal duties, his assigned work being concerned with commercial research, assessment and sales of MoD technology to industrial concerns and management of the RSRE office of DTE.

Mr Moir produced in evidence a memo dated 27 April 1989 that he sent to the then Managing Director of DTE, Mr B Herdan, and which I now reproduce in full:-

> "I have recently been working on a private project for T Systems which involves high speed switching circuits, and in the process have come up with a possible improvement to the rather complex APD quench circuit developed by MoD (Oros, Hartnell etc).

> There are no previous published references that I am aware of, and therefore the idea may be patentable. The improved circuit is smaller, faster (? - to be proven), cheaper, and therefore could be used to good effect in some of our minature (sic) systems, especially our LDV.
>
> If the idea proves to be viable, could DTE patent it on my behalf (terms to be agreed!!), and would MoD clearance be needed."

The reference to "LDV" was to a laser Doppler velocimeter developed by RSRE. Mr Herdan replied with a manuscript note which simply said :-

> "No problem - I agree with your proposal No need for MoD clearance."

In July 1990 Mr Moir wrote to the new Managing Director of DTE, Mr McKenna, pointing out that no agreement had been reached over ownership of the intellectual property rights in the APD technology, and he wrote a further letter on 14th November 1990 denying DTE any rights in the circuitry.

As indicated earlier, Mr Moir has produced evidence to show that on at least one occasion DTE made a payment for work T Systems had been engaged to do apart from the payments made to Mr Moir under the consultancy agreement he had with DTE as an individual. It is not suggested that any invention now in dispute was made as a result of work which DTE had requested T Systems to do, and it is to be noted that the invention was founded on the recognition that some earlier work in a different context had application to APD quenching circuits. I must conclude therefore that the invention(s) must have been made by Mr Moir as a direct consequence of his activities on behalf of DTE which necessitated close co-operation with RSRE, for I can find no other reason for him becoming involved in APD technology at all.

According to Mr McKenna for DTE the company began trading in 1985 and at this time Mr Moir was its only full-time executive with a high degree of autonomy and discretion in technical matters. He maintained an office in RSRE which gave him privileged access to the research programmes. RSRE's laser doppler velocimeter was a key target for licensing and it is asserted that Mr Moir therefore, as part of his duties, had a special obligation to bring to the attention of management any improvement in the APD quench circuit for the velocimeter which would make the product more attractive to (potential) licensees.

Section 39(1) of the Patents Act 1977 reads:-

> (1) Notwithstanding anything in any rule of law, an invention made by an employee shall, as between him and his employer, be taken to belong to his employer for the purposes of this Act and all other purposes if-
>
> > (a) it was made in the course of the normal duties of the employee or in the course of duties falling outside his normal duties, but specifically assigned to him, and the circumstances in either case were such that an invention might reasonably be expected to result from the carrying out of his duties; or
> >
> > (b) the invention was made in the course of the duties of the employee and, at the time of making the invention, because of the nature of his duties and the particular responsibilities arising from the nature of his duties he had a special obligation to further the interests of the employer's undertaking.

It seems clear to me on a reading of section 130(1) which defines "employee" as "a person who works or (where the employment has ceased) worked under a contract of employment or in employment under or for the purposes of a government department or a person who serves (or served) in the naval, military or air forces of the Crown", and "employer" as "the person by whom the employee is or was employed", that DTE was not Mr Moir's employer in early 1989 when the principal invention appears to have been made.

There was never any formal agreement between MoD and DTE which would determine entitlement to an invention made by an employee of MoD on secondment to a company. However, the evidence indicates that MoD policy was that any such inventions should belong to the company, and in any event, MoD have expressed the intention to assign any rights they may have in the subject inventions to DTE. For the purposes of this decision therefore, which is now to establish, as between Mr Moir and DTE, whether or not Mr Moir is entitled to the grant of a patent for the principal invention, I need to look at Mr Moir's duties in relation to MoD.

Mr Moir was recruited by MoD because of his particular expertise and experience. During the period of secondment to DTE his job description was:

> "1) Responsible for management of DTE offices at RSRE Malvern, also for other (shared) functions within DTE (commercial and technical seminars)
>
> 2) The primary job function was to review the R&D programme at RSRE and evaluate technology/processes/patents for commercial exploitation potential and then identify possible licencees within industry, and conclude suitable licences and financial arrangements to transfer the technology to the licensees on the most advantageous terms to MoD/DTE."

In the process of evaluating technology for commercial exploitation it seems to me that the circumstances of Mr Moir's employment were likely to be such that an invention might reasonably be expected to result from carrying out his duties. There is some evidence to support this view. Mr Moir was recruited for his expertise in the area of technology to which the invention relates. It is clear from several of the exhibits accompanying Mr McKenna's statutory declaration that Mr Moir maintained close ties with research projects and was involved in intellectual property matters. For example he produced, as part of his normal duties, a technical information sheet on avalanche photodiode detector circuitry and a patent invention report for

an invention jointly conceived by himself and a Dr Brown in May 1988. At the hearing Mr Moir admitted that, if an invention was made, it was he who sent in such reports, yet he maintains that it was not part of his duties to do technical design work. I find these difficult to reconcile with one another, and equally I find it difficult to accept that in his collaboration with RSRE staff Mr Moir was not expected to make any technical contributions.

More significant perhaps is the stipulation in MoD Manual 11, Chp10, paragraph 1010 - that civil servants must not engage in any occupation or undertaking which might conflict with the interests of the MoD. Any attempt by Mr Moir to retain and exploit his particular invention independently would be clearly in breach of that regulation in my view, and I consider that the balance of the evidence indicates that under the informal agreement between DTE and MoD the invention should have been the property of DTE.

There are two further but related aspects of this case which argue against Mr Moir having any entitlement to the invention. Firstly, when Mr Moir wrote to the managing director of DTE, Mr Herdan, accepting his contract of employment by that company on 30 June 1989, he quite properly disclosed his interest in T Systems and in doing so indicated that he would not be seeking further business (unless obliged to do so by existing arrangements) and would not compete with his activities as an employee of DTE. If that assurance applied to T Systems it would seem to be equally applicable to Mr Moir as an individual.

Secondly, there is no evidence to suggest that, when Mr Moir became an employee of DTE, his activities for that company changed in a significant way from those during his period on secondment with regard to the making of inventions. The contract of employment with DTE makes it quite clear that rights in any invention made by Mr Moir would belong to the company, the implication being that his duties were such that an invention might be expected to result from the carrying out of those

duties, and Mr Moir has conceded that any invention contained in the modifications to the principal invention and derived in 1990 belongs to DTE. Prior to that, whilst still an employee of MoD, Mr Moir filed at least one patent invention report for an invention jointly conceived by himself and another MoD employee during a technical discussion concerning one of the DTE licences and was one of the authors of at least one research paper.

Mr Moir argued that his contributions were commercial rather than technical and that he was not employed to do technical design work, but I find this argument difficult to accept in the face of the undisputed facts before me. Mr Moir's case also rests on Mr Herdan's reponse to the memo dated 27 April 1989, but I am unable to place much weight on this because there is no evidence which clearly establishes what Mr Herdan's understanding of the nature of the invention was or what he might have had in mind at the time.

Consequently Mr Moir has failed to convince me that the principal invention was not made in the course of his normal duties in circumstances in which an invention might reasonably be expected to result. I am reinforced in this view by the fact that Mr Moir accepts that, subsequently, during the time of his employment by DTE the making of inventions was clearly considered part of his normal duties, and there is no evidence of substantial change in the nature of his work when his status changed from secondee to employee.

DTE, or at least its operation at RSRE was very small and Mr Moir was the lynch pin in it. Clearly, as initially their only full-time executive, and subsequently the senior DTE member at RSRE where he was responsible for overseeing all aspects of DTE work, Mr Moir's status was such that he had a very wide brief and, so it seems to me, in all probability he had a special obligation to further his employer's interests - in particular to bring about whatever improvement in their products was within his capabilities.

I am not satisfied therefore that Mr Moir has discharged the onus upon him of demonstrating on the balance of probabilities that he is entitled to be granted a patent for any invention contained in the patent application.

It follows from my findings above that there is no need for me to make any order under Section 8.

Since DTE have not asked for costs I make no award.

Dated this 5 day of July 1993

PATENT OFFICE

K E PANCHEN
Superintending Examiner, acting for the Comptroller