

Good Practice for Public Sector Research Establishments on Staff Incentives and the Management of Conflicts of Interest

July 2000

Introduction

1. The primary function of public sector research establishments (PSREs) is to undertake scientific research and service provision in pursuit of the Government objectives which they serve. However, knowledge transfer from PSREs can create benefits for the wider economy. For example, exploitation of intellectual capital may result in products which generate significant wealth and employment. For this reason the Government is committed to increasing the contribution that PSREs make to the wider economy, although this should not prevent PSREs from carrying out their core functions.

2. The Government recognises that encouraging PSREs to exploit their research outputs into the wider economy creates the potential for conflicts of interest to arise. Such conflicts may include those between, on the one hand, the need for PSREs to fulfil their core objectives and, on the other, the incentives which Government has provided to encourage commercial exploitation. As John Baker's report '[Creating Knowledge: Creating Wealth](#)':(1) recognised, "PSREs must ensure that they have proper measures in place for identifying and addressing conflicts of interest." (2)

3. Directors of PSREs which perform statutory, regulatory or advisory functions for Government will need to give particular attention to the potential for conflicts. They need to ensure that these duties are delivered, and seen to be delivered, in an impartial and independent manner and are not in any way compromised by commercial activities.

4. The Government recognises the potential difficulty in striking the balance between providing adequate staff incentives and retaining the core public sector values of probity and propriety. It has, therefore, produced the following guidance for PSRE Directors.

Incentive Schemes

5. If PSREs are to increase the rate at which they exploit their research outputs, they must develop a culture in which knowledge transfer is valued more highly than at present. The culture in research establishments has been to value the excellence of research almost exclusively, and to reflect this in the rewards available to scientific staff. The culture should now value not only the scientific excellence of research but also the impact it makes on the nation's prosperity and quality of life. One way to achieve this culture change is to provide staff with incentives which encourage them to maximise the economic potential of their research.

6. Incentive schemes should allow PSREs to share some of the benefits (financial or otherwise) with their staff when research has been successfully exploited, and so foster an institutional culture which values knowledge transfer.

7. Many PSREs already operate incentive schemes which form an integral part of their staffs' overall knowledge transfer commitment. The Baker Report recognised the value of these schemes and recommended that the Office of Science and Technology should develop a good practice framework to be promulgated among PSREs.

8. The most common form of incentive scheme, explicitly aimed at rewarding innovation and knowledge transfer, shares with the relevant staff (including the named inventors on patents) a

proportion of the PSRE's income from successful commercialisation projects. In their conceptual simplicity these schemes have much to recommend them and are likely to be applicable to most, if not all, PSREs. However, PSREs should not feel inhibited from developing more innovative schemes which may seek to reward staff whose work might otherwise go unrecognised.

9. PSRE incentive schemes should generally have mechanisms in place to:

- Allocate exploitation income amongst staff so that they are able to receive a significant proportion of the income from successful commercialisation projects. These schemes generally work on a sliding scale, allocating a higher proportion (up to 100%) of the first several thousand pounds of income to staff and a lower proportion of the income thereafter. Some examples of incentive schemes already operated in PSREs are highlighted at [Annex A](#).
- Ensure that staff see an early recognition of their efforts. Options for achieving this might include:
 - a) Funding a share of exploitation income from gross receipts. Schemes based solely on a share of net receipts may introduce a considerable delay while the up-front costs of patent protection and legal fees are recovered. On the other hand, the use of gross receipts as a basis for rewards should not prevent PSREs from recovering their costs and retaining a surplus from the more successful deals;
 - b) Making fixed bonus payments at milestones such as patent application and patent grant. Use of fixed rewards will, however, reinforce the responsibility on PSRE management to take a realistic view of the potential value of intellectual property and manage the patent filing process accordingly;
- Distribute rewards to all staff who have made a significant contribution to the development of the intellectual property as well as named inventors on patent applications. Most modern scientific research is conducted by teams and the contribution of other, often more junior, members of a team should not be ignored. PSRE's should also have formal mechanisms in place to ensure that the process of allocating rewards amongst staff is a transparent and fair one;
- Reward the Unit/Research Division's budget in which the successfully exploited intellectual property was generated. Again this will spread the benefit of a successful project to the wider team;
- Allow staff, if they wish, to waive some or all of their entitlement to a share of exploitation income, in favour of the scientific budget of their Unit/Research Division. This may be the preferred option for some members of staff. It is important, however, that no pressure is applied to staff to make them take this route if they do not want to;
- Reward staff whose inventions have been successfully exploited, regardless of whether they were generated as part of their core duties. Schemes which seek to disqualify staff on the basis that they were expected to be inventive are unlikely to foster a culture which values innovation and knowledge transfer;
- Reward staff, where appropriate, if intellectual property is successfully exploited through commercial routes other than licensing agreements. This should cover spin-outs and joint ventures, where income may arise from the sale of equity stakes, as well as deals where research contracts are used as 'payment in kind' for the use of intellectual property rights. These rewards should be distributed along the lines of the above guidance on the allocation of rewards from licensing agreements.

Other Forms of Staff Incentives

10. PSREs and their sponsors should also consider:

- Promoting knowledge transfer among staff by providing a range of incentives in addition to the sharing of exploitation income. Incentives could be made available in various forms: small cash rewards or vouchers, fully funded sabbaticals, or improved laboratory facilities. Knowledge transfer could also, in some circumstances, be made an explicit criterion to be recognised through current remuneration systems;
- Allowing staff to take positions as paid consultants to outside companies, during official time. Senior PSRE managers should give their prior approval to each consultancy, and should consider setting a maximum limit on the amount of working time a member of staff can devote to outside activities. The terms of consultancies should also be checked to ensure that the PSRE's intellectual property is properly protected and that the PSRE does not incur any liabilities;
- Allowing staff to hold equity stakes or share options in spin-out companies, where such companies represent the best route for bringing the PSRE's intellectual property to market. However, PSREs should also ensure that staff are made fully aware of the risks as well as the potential benefits arising from such ventures;
- Allowing staff to transfer from full-time employment to part-time, in order to allow them, where circumstances favour this, to take further part-time employment with a spin-out company. The advantages of allowing continuity of scientific or other specialist input into the product or service development should be balanced against any possible detriment to the working of the institute. Such agreements should generally be time-limited, not open to indefinite renewal and enable staff to return to full time employment after an agreed time period. There will be an increased risk of conflicts of interest arising from these types of arrangement and this will have to be properly managed (see paragraph 11 below). The benefits, however, may well be sufficient to warrant such an approach.

Managing Potential Conflicts of Interest

11. A policy of using financial incentives to encourage a more commercial attitude among PSRE staff brings with it the danger of abuse or the appearance of abuse. For this reason, it will be necessary for PSREs to have in place clear procedures for managing potential conflicts of interest, in order to prevent the personal interests of individual scientists from interfering with the proper expenditure of Government monies, or from influencing, or appearing to influence, advice to Government.

12. A potential conflict of interest may arise in a PSRE when an individual's private interests conflict with their professional obligations, to such an extent that a reasonable member of the public might question whether the individual's professional activities are driven by considerations of a personal or financial nature. It should be emphasised that a potential conflict of interest may often depend on the context in which an individual finds themselves in, and not on their character or activities.

13. The Baker Report underlined the need for PSREs to develop policies to manage conflicts of interest rather than allowing fear of potential conflicts to prohibit involvement in commercial exploitation. The Government recognises that many PSREs whose staff are engaged in commercialisation projects have already developed policies covering conflicts of interest; the guidance below, however, should be followed by all PSREs, particularly where staff are, or may in the future be, involved in the development of intellectual property through the establishment of spin-out companies or joint ventures.

14. Policy should be operated around robust and transparent procedures. These should be based on three steps: active disclosure of interests; review of interests in terms of their materiality; and mechanisms to handle conflicts where they may arise.

Disclosure of Interests

15. Procedures for disclosure of possible conflicts of interest should generally cover the following:

- Staff should make an annual declaration of any interests (shareholdings, directorships, consultancies, etc.) which they or members of their immediate family (3) hold, to the extent that they are aware of them, and which a reasonable member of the public, knowing the facts

of the situation, could reasonably conclude that these interests might be furthered as a result of their official position. Staff should also declare any financial stakes or executive positions held in spin-out companies as and when they arise. All information should be held in a register of staff interests maintained at PSRE and, where appropriate, sponsor level.

Materiality of Interests

16. Procedures for review of the materiality of possible conflicts of interest should generally include the following mechanisms:

- Before any new agreement (a commercial contract or a grant application) is considered, the interests of the staff involved should be examined to determine whether or not the agreement might lead to a material conflict of interest. While it is not possible to draw up rules to cover every eventuality, the following points should be taken into account:
 - a) The financial value of the interest. Shareholdings with a low financial value are unlikely to be material;
 - b) The proportion of the total equity value of a company which is held. Modest holdings in large established companies are less likely to be material than holdings of the same value in small companies whose share prices may be more volatile;
 - c) The likely impact of the proposed agreement on the value of the interest. For example, clinical trials are more likely to have a significant impact on the value of a pharmaceutical company, than would the licensing of an early-stage technology, or placing of a modest research contract. Indeed, the conflict of interest is so marked in this example that an individual within a PSRE who holds a significant interest in an outside company should never be permitted to conduct, or take part in, a PSRE's clinical trial where one of that company's products is being examined;
 - d) The extent to which an individual member of staff, due to their position of seniority within an organisation, has the scope to further their financial or personal interests. For example, senior PSRE managers and technology transfer professionals are likely to be responsible for assessing the viability and propriety of projects; procedures must therefore be in place to ensure that they are prohibited from benefiting personally by commercialising their own work or that of others.
- PSRE Directors and their sponsors should ensure that probity arrangements are in place, requiring staff to seek prior approval for the proposed acquisition of an equity stake or share options in a spin-out company. These arrangements should take into account the above guidance on materiality (see points a-d). Some examples of probity arrangements already established by PSREs are highlighted at [Annex B](#).
- Staff involvement in spin-out companies should be reviewed annually (by PSRE directors and sponsors) to ensure that a potential conflict of interest does not occur from the holding of equity or their position within the spin-out company.

Mechanisms for Handling Potential Conflicts of Interest

17. There are many possible mechanisms for handling potential conflicts of interest. Some, such as PSREs declining to become involved in commercial deals, forcing staff to divest interests, or preventing scientists from taking part in research programmes for which they would otherwise have been key members, should be used only in exceptional circumstances.

18. It will generally be preferable to consider options along the following lines:

- PSREs should ensure that staff are made fully accountable for their research and that commercial objectives do not divert staff from carrying out the PSRE's core research programme;
- Senior PSRE Directors should ensure that where a member of staff has a financial interest in a spin-out company (e.g. shareholding, personal directorship, or consultancy agreement), this individual should not also act as a PSRE contact with that company on day to day matters;
- Where staff are nominated as non-executive directors to the board of a spin-out company in which the PSRE or its sponsor holds an equity stake, they should have a clear duty to ensure that the PSRE's interests are not compromised by their role. These individuals should not have any personal financial interest in the company, or receive any material benefit from their relationship with the company;
- PSREs should take steps to ensure that collaborative research with a spin-out company is governed by a formal agreement. Licensing arrangements should not be negotiated, authorised or enforced by PSRE staff who are to form part of the spin-out company.

Civil Service Management Code

19. This good practice guidance must be read alongside the local terms and conditions which apply to staff. In particular, where staff fall under the rules of the Civil Service Management Code, the above should be read in conjunction with that Code. This document in no way supersedes or amends the Code or the guidance which accompanies it.

Annex A

EXAMPLES OF CURRENT PSRE INCENTIVE SCHEMES

BBSRC's Incentive Scheme

The BBSRC's incentive scheme is operated by all of the Institutes it sponsors. It distributes exploitation receipts to relevant staff who have been involved in the commercialisation process according to the following scale:

Income from commercialisation (based on gross and net receipts)	Proportion of receipts paid to relevant staff involved in the commercialisation process
Gross receipts	
First £1K	100%
£1k to £50K	20%
Net receipts	
£50K to £500K	10%
£500k to £1m	5%
Over £1m	2.5%

MRC's Incentive Scheme

MRC's incentive scheme applies to all MRC's units. It distributes exploitation receipts to relevant staff who have been involved in the commercialisation process according to the following scale:

Income from commercialisation (based on gross and net receipts)	Proportion of receipts paid to relevant staff involved in the commercialisation process
£0.5K to 1.4K	100%
£1.4K to £80K	33.3%
£80K to £600K	25%
£600K to £1.5m	20%
£1.5m to £15m	15%
Over £15m	10%

Both the MRC and BBSRC incentive schemes contain key good practice (4) points:

- Staff receive a high proportion of initial income generated from commercialisation, incentivising them to commercialise even relatively small projects;
- Staff receive early rewards because their share of commercialisation income is based on gross rather than net receipts;
- Staff retain an interest in generating additional profit from the more successful projects;
- Sliding scales of reward enable the PSRE to engage in exploitation in the expectation of substantial profit from the more successful deals.

Annex B

COMMERCIALISING GOVERNMENT SCIENCE: PROBITY ARRANGEMENTS FOR PSRE's

The Defence Evaluation and Research Agency (DERA)

DERA has a track record in commercialising intellectual property. In the past, however, this has tended to be through licence agreements with commercial companies where the inventing scientist has remained in full time employment with DERA. In an attempt to encourage its scientists to become more entrepreneurial, DERA has been developing a framework that would allow scientists to remain attached to DERA, either in part-time employment or on special unpaid leave, while they sought to exploit their innovation either in a company of their own, or working in someone else's company. In an attempt to facilitate these arrangements but at the same time to guard against impropriety, DERA has established a procedure for budding entrepreneurs based on the existing Business Appointments procedure.

Scientists wishing to exploit technologies arising in DERA through commercialisation in the civil sector are designated "DERA entrepreneurs".

A scientist wishing to become a DERA entrepreneur has to follow the modified business appointment rules laid down in DERA's Business Management System. In cases such as these, there are two variations to the standard business appointment application and procedure. They are:

- a series of additional considerations which must be addressed by the potential DERA entrepreneur and by the relevant line and functional department managers;
- a different clearance procedure. Under the procedure for business appointments, the approving authority is an individual personnel officer or other more senior manager (depending on grade). However all applications from DERA entrepreneurs are considered by the DERA Probity Board, which is established specifically to consider commercialisation projects.

Procedure for DERA Entrepreneurs

Potential DERA entrepreneurs are required to complete the normal business appointments form. They are also encouraged to provide their own statement of compliance with the list of issues set out at [Appendix A](#).

The application is submitted to the DERA entrepreneur's Business Group Manager and forwarded to the Personnel Department.

The Personnel Department, a member of whom acts as Secretary to the Probity Board, consults with other relevant parties within DERA to see that the list of issues at Appendix A are satisfactorily dealt with.

When all the necessary information has been assembled, the potential DERA entrepreneur's case and the material from the review is forwarded to the DERA Director of Corporate Affairs who chairs the DERA Probity Board.

The DERA Probity Board is an ad hoc committee established to consider applications by DERA entrepreneurs. The membership of the committee comprises, in addition to the Director of Corporate Affairs, the Managing Director responsible for science, the Personnel Director and one external member.

DERA entrepreneurs are provided with a written response and, where a proposal is rejected, applicants are invited to re-submit taking account of the concerns raised.

The Medical Research Council (MRC)

The Medical Research Council's (MRC's) mission is "to promote and support high-quality basic, strategic and applied research, and related post-graduate training in all branches of biomedical science, with the aim of maintaining and improving human health, placing special emphasis on meeting the needs of users of its research and training output, thereby enhancing health, the quality of life and the United Kingdom's industrial competitiveness." It has attached a high priority to the exploitation of its research findings and has a relatively long track record of exploiting technology both through licensing and spin-out companies.

Ownership and Control of Intellectual Property The MRC is a Research Council, a Non-Departmental Public Body, established under a Royal Charter, funded by the Office of Science and Technology, part of DTI. Unlike those of DERA, the MRC's staff are not civil servants. The MRC funds research in its own institutes and units, and in response to successful grant applications made by staff within universities and medical schools. Research Council exploitation activities focus on its institutes and units. Higher Education Institutes manage the exploitation of their own research output.

MRC institutes and units do not have their own separate legal identity. Staff are employees of the Research Council, which determines all relevant conditions of employment, including those relating to the management of intellectual property. The MRC retains ownership of the intellectual property and only senior staff in the MRC's Technology Transfer Group (TTG) can assign or licence MRC intellectual property. The principle upon which probity arrangements in the MRC are based is that of separation between the scientist wishing to undertake technology transfer and the decision-makers in the Council's TTG. TTG works closely in partnership with MRC researchers, but final exploitation decisions and negotiations and signature of formal agreements are made by TTG.

TTG has 12 staff with a wide range of commercial, scientific and legal skills to assist MRC staff in choosing the appropriate route to commercialise intellectual property.

The MRC's approach is, in process terms, less prescriptive than that of DERA. Every MRC unit has an allocated Technology Transfer Manager, based in the central Technology Transfer Group. It falls to such technology transfer managers to respond initially to requests from scientists regarding exploitation, but their main function is wider than this; they are themselves expected to identify and take steps to exploit technology with a commercial application.

At the point where a project arises, the MRC Technology Transfer Group:

- examines the project and identifies the most suitable route for exploitation;
- instructs external patent agents;
- consults with investors and other scientists within the MRC as appropriate;
- begins the process of establishing a spin-out company (or licensing), as appropriate.

The three criteria the Technology Transfer Group use to decide whether new research results should be commercialised are essentially those which underpin patent application. They are:

- is the technology in question novel?
- is it inventive?
- is it commercially applicable with sufficiently good prospects of a financial return to MRC?

If both TTG and the MRC scientists concerned consider it worth developing the idea of a start-up company as the exploitation route, the embryo company will be formed in the light of MRC's conflicts of interest policy which covers such issues as:

- are there possible conflicts of interest with the Council and the Unit concerned in identifying itself with the company?
- are there conflicts of interest for MRC staff holding equity shares?
- to what extent could the collaboration between MRC staff and the company lead to undisclosed transmission of Council-owned intellectual property to the company?
- what is the appropriate size of any equity stake held by staff in relation to the MRC's stake?

- what possible conflicts of interest are there for Council nominees for Directorships in the start up company?

The MRC has created its own venture capital arm, UK Medical Ventures Fund Ltd, which draws on private sector funds and expertise to support the commercialisation of technologies developed by the MRC. Where it is likely that the formation of a spin-out company will be the preferred commercialisation route, UK Medical Ventures Fund, through its General Partners, MVM Ltd, will be offered the investment opportunity and will participate in determining the role of, including the size of any stake taken, the scientist(s) involved in the creation of the spin-out company. MRC views its own equity stake as consideration (in whole or part) for whatever MRC intellectual property is fed in to the company.

APPENDIX A

ADDITIONAL CONSIDERATIONS FOR DERA ENTREPRENEURS

In the case of a DERA Entrepreneur, the Resource Manager will have to ensure that the following additional criteria have been satisfied and evidence provided to the BAM and/or Sector Director in order that the required documentation can be produced. They must ensure that:

1. the Entrepreneur's business will not significantly detract from any part of DERA's business;
2. the Entrepreneur's business will be focused on opportunities that DERA would not otherwise want to pursue;
3. the individual has been informed that the Civil Service Management Code applies equally to this activity as with any carried out by a DERA employee;
4. the necessary arrangements regarding intellectual property are in place;
5. the arrangement allows DERA to share the economic benefits of the exploitation of DERA technology;
6. the arrangement does not enable the Entrepreneur to make use of their position within DERA to further their own interests to the detriment of DERA and/or the taxpayer;
7. potential conflicts of interest are understood and arrangements are in place to manage them; and
8. the necessary employment arrangements have been agreed.

In addition, to the Business Appointments Form, the following documentation will need to be submitted to DERA Personnel Department for consideration by the DERA Probity Board:

1. a summary of the proposed venture, including the agreed employment arrangements (e.g. Special Unpaid Leave, Part Time Working) and the proposed timescales;
2. a letter from the individual's Business Area Manager or Sector Director confirming that all of the above criteria have been satisfied;
3. a copy of agreed draft Licence Agreement (as appropriate).

Footnotes

1. 'Creating Knowledge Creating Wealth'. Realising the Economic Potential of Public Sector Research Establishments. Published by HM Treasury, August 1999.
2. As above, Para 3.16
3. Immediate family members include personal partners, parents, children (adult and minor), brothers, sisters and the personal partners of any of these.
4. The level of incentive payments provided by the MRC and BBSRC schemes should not be seen as benchmarks applicable to all other organisations. Individual departments and PSREs should establish payment levels which maintain an equitable balance between rewards for the individual and the organisation recognising, *inter alia*, the extent to which exploitation activity is centered at the individual or organisational level.

