PRODUCTIVITY COMMISSION
SUBMISSION COVER SHEET
COMMENTS ON DRAFT REPORT

ORGANISATION: **Roy Roderick Rose (private submission)**

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1 Why this submission is being made

This submission is being submitted after the deadline for comments to the Commission on the draft report "Public Support for Science and Innovation" but given that the final report is not due until March, I trust that these comments will be considered by the Commission.

In making these comments, the Commission should consider my background in R&D management which includes the following roles:

- Technical Manager – Industrial Coatings Dulux Australia Ltd (then a division of ICI Australia, later to become Orica);
- R&D Manager ICI Paints Asia-Pacific Region;
- General Manager Technology, Orica Ltd.

In addition, I am the immediate past President of the Australian Industrial Research Group (AIRG). I stress however, that I am making this submission on a ***personal basis*** and my comments are not intended to represent the views of either Orica or the AIRG.

2 Summary of what is being recommended in this submission

The key points being made in this submission are:

2.1The standard R&D tax concession has outlived its usefulness and should be scrapped in its entirety.
2.2 The incremental (175%) R&D tax concession has some value in encouraging increased spending on R&D but it appears to complex to administer and gives rise to variable outcomes. As such, it too should probably be scrapped.
2.3 The R&D tax offset is structurally flawed and should be modified to make it fairer in its application and to reduce the risk of abuse.
2.4 Savings achieved from making these changes should be directed at the development and commercialisation of leading edge science that would not otherwise be funded and in encouraging a greater degree of collaboration between the private, public and academic research sectors.

3 Why the Tax Concession and Tax Offset schemes should be revised

3.1 The R&D Tax Concession is ineffective as a measure to increase the quantum of R&D undertaken in Australia

In evaluating the value of existing support for R&D, in this case the R&D tax concession, it is necessary to ask what is intended to be achieved by providing tax incentives for the expenditure of public resources in

supporting private sector R&D. From the perspective of a (former) practising R&D manager this might include:

- Encouraging increased (and presumably more effective) private sector R&D;
- Encouraging a greater degree of research collaboration between the public, academic and private sectors;
- Improving the degree of technology transfer or diffusion between the public and academic research providers and the private sector;
- As a corollary of the above, encouraging the use of science and technology to drive a more knowledge intensive economy. Note that this should not preclude a strong primary sector that continues to depend on sound technological underpinnings – examples are the use of a range of advanced technologies in mineral exploration and processing and the use of Australia's strength in plant genetics to improve agricultural competitiveness.

In practice for most Australian firms expending resources on R&D, the work that gets funded in the R&D laboratory is that which is required by the business to either maintain a competitive edge or to win new business. In my experience, the availability of the R&D tax concession has ***never*** influenced either the quantum or nature of the R&D undertaken. From discussions with other technology managers (largely at AIRG meetings) the same can be said for most other large research intensive companies. Indeed, I am yet to meet a technology manager who has claimed that there is connection between the availability of the concession and the amount of R&D undertaken in his or her organisation!

While it may be argued that the this is not the case with smaller R&D intensive companies, I have not yet been presented with a well argued case to support this proposition. At meetings attend by the author, the strongest support for the concession for smaller companies appears to come from the consulting firms providing R&D tax advice to these companies whose motivation may possibly be driven by issues other than the value of the R&D.

In addition, it has occasionally been stated that if there is a choice between undertaking R&D in Australia or another location, then the availability of the concession can influence the decision in Australia's favour. It seems to me that this argument retains only theoretical attractiveness because:

- There are many overseas locations where high quality R&D can be undertaken at much lower cost than Australia regardless of the availability of the tax concession. Countries such as India, Russia and China spring to mind;
- The nexus between the R&D and the marketing functions is critical in terms of the ***market effectiveness*** of the R&D function. Separating these functions geographically, even within a country or city, lowers this effectiveness.

3.2 The incremental (175%) tax concession introduces administrative complexity and variable outcomes for users.

The incremental (175%) concession continues to have attractions in that it rewards increases in R&D over a previously agreed baseline. In this sense it can be argued that it serves the purpose leading to increased R&D and the development and application of new knowledge. However it also has some difficulties as follows:

- As with the standard concession, there is no reference to the quality of the increased R&D, only the fact that the quantum has increased, regardless of the starting level;
- For a company to continue to receive the concession, there needs to be a steadily increasing expenditure on R&D which is an unrealistic expectation over the medium term;
- The concession requires a greater degree of information gathering and recording and as such is likely to attract a greater administrative burden.

It is acknowledged however that the changes recommended in the draft report go a long way to alleviating these deficiencies.

3.3 The R&D Tax Offset is excessively generous and leads to the possibility of abuse

The R&D Tax Offset has a laudable aim i.e. to provide R&D intensive companies that are making losses, and therefore would not otherwise qualify for the R&D tax concession, with access to hard cash to support their R&D programmes. While this is to be commended, it necessarily begs the following questions:

- If the net value of the tax concession is worth approximately 7.5 cents for every dollar of money expended for viable companies that are earning profits, why does the tax offset scheme return 37.5 cents in the dollar as a rebate for R&D expenditure of companies of questionable viability?
- If the offset scheme is to support valuable R&D, why is it capped at R&D expenditure of $1M with no rebate payable if the expenditure exceeds this cap?
- Why is it (based on anecdotal evidence) that firms claiming the R&D Offset rebate spend close to (in fact just below) the $1M cap?

To a casual observer, it might appear that there are some issues here. To the experienced R&D manager, it appears that the scheme is excessively generous given the difference in the reward provided to unprofitable companies as opposed to profitable companies. It also appears to be potentially (if not actually) subject to gaming, given the opportunity to undertake R&D in a number of separate entities with the same (ultimate) beneficial ownership each able to remain below the cap, although in making this comment it is to be admitted that no evidence has been seen

to support this possibility. Nevertheless, it is obvious that this programme is seriously flawed and needs to be overhauled to limit its generosity, to eliminate the cap and to reduce the risk of abuse.

3.4 The resources can be applied more effectively by encouraging new science and increasing collaboration between industry, academia and the public sector

There are, however, areas of research which can be difficult to fund even in those organisations that otherwise demonstrate a high degree of commitment to R&D. These areas include:

- R&D with a low probability of success or with a long period to commercialisation, so-called horizon 3 research with a 5-10 year time frame to commercialisation. This is typical of the R&D for which there is no immediate commercial requirement that underpins future products;
- The transfer of new science from public sector or academic research providers for which commercial outcomes are either unknown or at least uncertain in the near to medium term.

Within current funding mechanisms, the best way to fund such work is via the ARC Linkage programme which allows companies to work with universities on a shared cost basis with matching funds provided by the ARC. This programme allows for the transfer and potential commercialisation of leading edge science from universities to industry with spin-off benefits relating to the training and employment in industry of post-graduate and post-doctoral students.

If there is any research that is deserving of government support it is this. The key points of the ARC Linkage programme are:

- The programme supports the acquisition and application of new knowledge as opposed to supporting R&D that would occur anyway via the tax concession;
- The programme supports the development and maintenance of linkages between the university sector and industry;
- The programme provides viable employment opportunities in industry for our best practising scientists which in turn increases the technological skills of our leading companies;
- In every sense the programme is aimed at skewing industry towards an improved knowledge economy by leveraging the research outcomes of the academic sector.

If there is problem with the Linkage programme it is that is perhaps less supportive of broader collaborations. The CEO of the CSIRO, Dr Geoff Garret, has often remarked that because of the small size of the Australian economy, and therefore our total available research funds, that it is *imperative* that every research dollar be used as effectively as possible. It is for this reason that collaborative research is becoming increasingly

important. One way of improving our performance in this area might be to add another dimension to the ARC funding process that supports broader collaborative projects, with perhaps a greater degree of funding by the ARC. Such a scheme, which might be called ARC Collaborative Grants, could provide matching funding based on the contribution from all parties, say academia, industry and the CSIRO or other publicly funded bodies. Such a new fund could be financed from the savings made by scrapping the existing R&D tax concession and would support the diffusion and transfer of new knowledge from the academic and public research sectors to industry.

4 Some recommendations for new way of doing things

4.1 Scrap the existing R&D tax concession in its entirety. While there may be options to retain the scheme in some form eg by retaining the scheme for high R&D spending, this continues to suffer from the flaws of the existing scheme i.e. it does not encourage *new* or *additional* R&D.

4.2 While there is some merit in retaining the incremental (175%) tax concession, administrative complexity and unevenness in its application suggest that this too should be scrapped.

4.3 Modify that tax offset scheme as follow

4.3.1 Remove the $1M cap on R&D spend.

4.3.2 Reduce the effective subsidy to a more reasonable rate of say 20% on the first $1M of expenditure, 15% on the next $1M, 10% on the next $1M and with no subsidy thereafter.

4.3.3 Ensure that the offset does not allow opportunities for abuse by reviewing the corporate arrangements for companies claiming the offset to ensure that R&D is not split across a number of associated companies all claiming the maximum offset. This may require close collaboration with the ATO to ensure that there is suitable scrutiny of companies within the same tax consolidation regime claiming the tax offset.

4.4 Recycle the savings from scrapping or modifying the tax concession to fund additional collaborative research via a broader version of the ARC Linkage scheme (ARC Collaborative?) that would make it easier to fund collaborations involving industry, academia and the public research sector.