

R&D tax credits

Definition, eligibility criteria, eligible expenditure

An officials' issues paper on matters arising
from the Business Tax Review

November 2006

*Prepared by the Policy Advice Division of the Inland Revenue Department
and by the New Zealand Treasury*

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CHAPTER 1

Introduction

- 1.1 In July 2006 the government released the Business Tax Review discussion document for public comment. It set out a range of possible business tax initiatives that could help transform the New Zealand economy by enhancing productivity and improving our international competitiveness, particularly with Australia. Feedback was sought on the relative priority of the initiatives, given limited resources.
- 1.2 No decision has been taken on what initiatives will be introduced. In the meantime, officials are seeking further feedback on the definition of R&D, eligibility criteria and eligible expenditure. The challenge is to develop a tax credit that is sufficiently broad to capture expenditure that generates wider benefits, but is sufficiently precise to be clear and workable.
- 1.3 It is also important that the R&D tax credit is broadly consistent with that adopted in other jurisdictions. There is, in particular, an advantage to designing a tax credit that has similar eligibility criteria to those in Australia because of the number of companies that operate in both jurisdictions and the objective of the Business Tax Review to increase competitiveness with Australia.
- 1.4 This issues paper has been prepared by officials from the Policy Advice Division of the Inland Revenue Department and from the Treasury, as part of the continuing consultation process. If the government decides to proceed with the tax credit initiative, submissions on the ideas explored in this issues paper will be taken into account in the design of the credit.
- 1.5 Submissions should be made by 1 December 2006 and be addressed to:

Business Tax Review, R&D Tax Credits
C/- Deputy Commissioner
Policy Advice Division
Inland Revenue Department
PO Box 2198
WELLINGTON

Or email: policy.webmaster@ird.govt.nz with “Business Tax Review, R&D Tax Credits” in the subject line.
- 1.6 There is a very tight reporting timeframe and extensions to the deadline are not feasible. Late submissions cannot be considered.
- 1.7 Submissions should include a brief summary of major points and recommendations. They should also indicate whether it would be acceptable for officials to contact those making submissions and to discuss their submission, if required.

- 1.8 Submissions may be the subject of a request under the Official Information Act 1982, which may result in their publication. The withholding of particular submissions on the grounds of privacy, or for any other reason, will be determined in accordance with that Act. Those who consider there is any part of their submission that should be properly withheld under the Act should indicate this clearly.

SUMMARY OF A POSSIBLE APPROACH TO AN R&D TAX CREDIT

The definition of “R&D” would be:

- (1) systematic, investigative and experimental activities that either seek to resolve scientific or technological uncertainty or involve an appreciable element of novelty and are carried on for the purposes of:
 - acquiring new knowledge or
 - creating new or improved materials, products, devices, processes or services;
- (2) other activities that are required for, and integral to, the carrying on of the activities in (1).

“Systematic investigative and experiment activities” would not include:

- prospecting, exploring or drilling for, or producing, minerals, petroleum, natural gas or geothermal reserves;
- research in social sciences (including economics, business management and behavioural sciences), arts or humanities;
- routine collection of information;
- activities associated with complying with statutory requirements or standards, such as the maintenance of national standards, the calibration of secondary standards and routine testing and analysis of materials, components, products, processes, soils, atmospheres and other things;
- any activity related to the reproduction of a commercial product or process by a physical examination of an existing system or from plans, blueprints, detailed specifications or publicly available information;
- quality control or routine testing of materials, devices, products or processes;
- pre-production activities, such as demonstration of commercial viability, tooling-up and trial runs;
- the making of cosmetic modifications or stylistic changes to products, services, processes or production methods;
- market research, market testing or market development, or sales promotion (including consumer surveys);

- management studies or efficiency surveys;
- commercial, legal and administrative aspects of patenting, licensing or other activities.

Eligible claimants:

- would not need to have a particular structure (meaning claimants do not need to be incorporated);
- should be in business (except if they are an industry-based research co-operative); and
- would have to spend more than \$20,000 on eligible expenditure in each year a claim is made (except if R&D work is subcontracted to an approved research provider).

The tax credit would apply to R&D carried out overseas for up to 10 percent of the total cost of the project.

Foreign-owned firms doing R&D in New Zealand would be eligible.

If R&D is subcontracted, the party commissioning the R&D would be eligible for the credit, rather than the party providing the R&D services.

The following expenditure would be eligible:

- salaries and wages of R&D staff;
- depreciation of tangible assets* used in conducting R&D;
- other listed expenditure incurred directly in carrying on R&D activities including overheads and consumables; and
- payments to entities conducting R&D on behalf of the taxpayer.

The following expenditure would be ineligible:

- royalties;*
- interest expenditure;
- feedstock expenditure (other than net feedstock expenditure);
- expenditure in relation to which a grant is provided and the required co-funding;
- the making of donations;
- accounting and legal fees in calculating what is R&D.

* The cost of intangible assets (whether by way of depreciation or royalties) is to be excluded initially to allow officials to consider their inclusion in more detail.

CHAPTER 2

Definition of “research and development”

2.1 In developing a possible definition of R&D, we have drawn on best practice from the definitions in the tax incentive provisions in Australia, Canada, Ireland and the United Kingdom. The definitions in the first three jurisdictions and the key elements of the United Kingdom’s definition are set out in Appendix 1.

The definition

2.2 R&D would be defined as:

- (1) systematic, investigative and experimental activities that either seek to resolve scientific or technological uncertainty or involve an appreciable element of novelty and that are carried on for the purposes of:
 - acquiring new knowledge or
 - creating new or improved materials, products, devices, processes or services;
- (2) other activities that are required for, and integral to, the carrying on of the activities in (1).

2.3 This definition is, in substance, similar to the Australian definition. This is a relatively broad definition of R&D performed in a business setting. It recognises that most firms do not do basic research, so includes the development work involved in creating new or improved materials, products, processes or services. Nor does it require that the firm be in a high-tech industry, since qualifying activities can occur in any industry.

Clarification of terms

2.4 The meaning of some of the terms, either in primary or secondary legislation (or guidelines where the point is just explanatory) would need to be clarified. Some of the matters that would have to be clarified are set out below. For simplicity, we refer below only to development of products, but this includes development of processes, devices, services and materials.

2.5 There may also be a need for industry-specific guidelines (for example, for software, oil and gas exploration and pharmaceuticals). There would be extensive consultation with these industries in developing guidelines.

R&D need not be successful to qualify

- 2.6 It would not be necessary for the R&D activity to be successful – in other words, scientific or technological uncertainty need not be resolved or a new product created. To be R&D, it would be sufficient that the activities involved sought the resolution of scientific or technological uncertainty, or involved an appreciable element of novelty, and were carried on **for the purpose** of acquiring new knowledge or creating new or improved products.

Scientific or technological uncertainty

- 2.7 “Scientific or technological uncertainty” would exist when knowledge of whether something is scientifically or technologically possible, or how to achieve it in practice, is not publicly available or deducible by a competent professional working in the field.

Appreciable element of novelty

- 2.8 As set out in the Australian R&D guidelines, the element of novelty would have to be meaningful or significant in the context of the activities undertaken, and there would have to be some development of the technology or a new use of existing technology for activities to be novel. Firms should be able to identify what element of novelty in the form of new thinking or original ideas or inventive steps was introduced in the activities.
- 2.9 Novelty in this context would mean different from things known or seen before, not already known in terms of the existing state of knowledge in the technology, new knowledge or new features or attributes different from anything else on the market. To establish whether something is new or different, it should be compared with what is already available in the public arena on a reasonably accessible world-wide basis at the time in that technology.
- 2.10 Creation of a product that is the first of its type built by the company or even the first of its type in New Zealand would not in itself mean the activities involve an appreciable element of novelty.

Simultaneous R&D

- 2.11 Under either of the preceding tests, R&D could be done:
- by two firms simultaneously and independently doing the same innovative work; and
 - when work has already been done but this is not public knowledge because it is a trade secret, and another firm repeats the work.

Improvements to existing products

- 2.12 To qualify as R&D, the improvement that is sought to an existing product would have to be one that involved an appreciable element of novelty or resolution of scientific or technological uncertainty. It therefore should be more than a stylistic or cosmetic change or routine upgrading.

Other definitions

2.13 The following terms would also be defined:

- “Science” is the systematic study of the nature and behaviour of the physical and material universe.
- “Technology” is the practical application of scientific principles and knowledge.
- “Systematic, investigative and experimental” activities are planned activities directed towards a particular purpose and following a logical progression of work involving hypothesis, experiment, observation and evaluation.

Exclusions from “systematic, investigative and experimental activities”

2.14 Certain activities are routinely excluded from R&D definitions for tax concession purposes. Activities may be excluded because governments do not wish to incentivise particular activity through an R&D concession (such as research in the arts, humanities or social sciences that may be considered less likely to lead to economic growth). Other exclusions remove uncertainty over whether a particular activity could be considered R&D (for example, oil exploration), or clarify the boundary between development and post-development activity, or innovative and routine work.

2.15 The definition put forward here broadly follows the Australian approach in relation to excluded activities, although with some minor modifications.

2.16 As in Australia, activities would be excluded only from the part of the definition relating to “systematic, investigative and experimental activities”. This means that the excluded activities could come within the supporting limb of the definition of R&D, which is discussed later. So, for example, while routine data collection would not be a core R&D activity, it might be eligible as an activity that is required for and integral to a core R&D activity.

2.17 The following activities would be excluded:

- prospecting, exploring or drilling for, or producing, minerals, petroleum, natural gas or geothermal reserves;
- research in social sciences (including economics, business management and behavioural sciences), arts or humanities;
- routine collection of information;
- activities associated with complying with statutory requirements or standards, such as the maintenance of national standards, the calibration of secondary standards and routine testing and analysis of materials, components, products, processes, soils, atmospheres and other things;

- any activity related to the reproduction of a commercial product or process by a physical examination of an existing system or from plans, blueprints, detailed specifications or publicly available information;
- quality control or routine testing of materials, devices, products or processes;
- pre-production activities, such as demonstration of commercial viability, tooling-up and trial runs;
- the making of cosmetic modifications or stylistic changes to products, services, processes or production methods;
 - market research, market testing or market development, or sales promotion (including consumer surveys);
 - management studies or efficiency surveys; and
 - commercial, legal and administrative aspects of patenting, licensing or other activities.

2.18 Some of these exclusions (such as routine data collection and cosmetic or stylistic changes), are self-explanatory and are commonly excluded from the definition of R&D in other jurisdictions but we comment on two exclusions below.

Oil and gas exploration

2.19 It is possible to have R&D in these industries – for example, R&D to develop new exploration techniques – but the exploration in itself is not R&D.

Management studies or efficiency surveys

2.20 This exclusion covers, for example, studies relating to inventory control, work practices and industrial relations, and time and motion studies.

Further Australian exclusions

2.21 The Australian R&D definition specifically excludes preparation for teaching, specialised routine medical care, and the making of donations. In our view, these activities could not be “systematic, investigative and experimental activities” and we do not propose specifically excluding them. The making of donations seems to fit better into excluded expenditure, rather than being excluded from the definition of R&D.

Software

2.22 In Australia, for computer software activities to be eligible as systematic, investigative and experimental activities, they must also be carried out for the purpose, or for purposes that include the purpose, of sale, rent, licence, hire or lease to two or more non-associates of the company.

2.23 In our view, New Zealand should not have a similar restriction. However, we consider guidelines as to what constitutes R&D in the software industry would be desirable. Should the government proceed with a tax credit for R&D, there would be extensive consultation on such guidelines.

Supporting activities – limb (2) of definition

2.24 Supporting activities that are required for, and integral to, the primary R&D activities but which in themselves are not systematic, investigative and experimental would be considered to be R&D. Such activities are part of an R&D project (as opposed to indirect supporting activities such as cleaning and administration, which are dealt with as expenditure on overheads). The following activities are examples of support activities:

- scientific or technological planning activities;
- mathematical analysis/modelling used to analyse the results of experiments;
- data collection when the data are used in experiments;
- literature searches or other investigatory work undertaken in the early stages of a project to establish the knowledge and experience in the public arena; and
- development of specialist computer software to assist in the design of experiments.

2.25 For activities to qualify under the second limb, there would need to be a primary R&D activity.

CHAPTER 3

Who should qualify for the tax credit?

- 3.1 The eligibility criteria should be as inclusive as possible, taking into account the variety of businesses that carry out R&D in New Zealand. The criteria should be easily understood, and when applied, they should not impose unnecessary compliance and administrative costs.

Entity structure

- 3.2 The tax concession would be available to all businesses regardless of the legal form of the business.
- 3.3 The options in considering eligible entities are to limit the scheme to companies, or not to impose any restrictions on the legal form of entities eligible to claim the credit.
- 3.4 The main advantage of limiting the scheme to companies is that it would match the requirements found in similar schemes overseas. Disadvantages of requiring incorporation are that non-company entities would have to restructure to claim the credit. Although entities that carry out significant amounts of R&D are almost invariably incorporated, around one in twelve is not. Examples of such entities include trusts, consortia and self-employed individuals.
- 3.5 Not requiring incorporation is favoured because it is the most inclusive option, and it would avoid creating distortions to the way entities structure themselves.

In business

- 3.6 The concession would apply to entities in business in New Zealand, including those deriving exempt income.
- 3.7 The concession targets R&D carried out by businesses, and we therefore propose that the tax test for “business” be applied. That test involves two aspects. The first is about the nature of the activities, which must amount to a profession, trade, manufacture or undertaking. The second is that there is an intention to make a pecuniary profit.
- 3.8 Entities that earn exempt income could meet the business test. The arguments for allowing them to have access to the concession include:
- There are a significant number of business entities undertaking R&D activities that derive exempt income, and the concession should create the same incentives for these entities towards doing more R&D as it does for other business entities.

- It would be inefficient to require entities to restructure in order to gain access to the credits, and it would create unnecessary compliance costs.

Minimum threshold

- 3.9 A minimum amount of R&D would have to be undertaken in order to qualify for the concession. An exception to the threshold would be payments made to an approved research provider for the provision of R&D services.
- 3.10 The rationale for a minimum threshold is an administrative one. Setting a threshold helps avoid disproportionate compliance and administrative costs being incurred on small claims, and it would act as a filter against projects that are not R&D (without having to be evaluated for meeting the eligibility and definitional requirements). It would also dissuade small firms from reclassifying expenditure as R&D costs.
- 3.11 Most comparable overseas schemes impose minimum thresholds of R&D spending to gain access to the concession. A minimum of \$20,000 per year of eligible expenditure (as outlined in chapter 4) is suggested. This amount is equivalent to a part-time salary and some related overhead costs.
- 3.12 Some assistance is required for small firms to have access to expert R&D services. Therefore an exception to the threshold for payments made to approved research providers would be desirable. That should allow small firms to have access to the concession and benefit from R&D programs without having to invest in R&D equipment and expertise themselves.
- 3.13 For an organisation to become an approved research provider, it would need to be capable of performing contracted R&D, have research facilities, charge fees on normal commercial terms and be available to undertake work on behalf of multiple non-related organisations.

R&D carried out overseas

- 3.14 R&D costs incurred overseas would be eligible for the concession for up to 10 percent of the total cost of the project.
- 3.15 The concession would aim to encourage R&D activities to be carried out within New Zealand. Evidence suggests that spill-over benefits tend to be localised, so the location of the R&D is important. Similar schemes overseas also tend to subsidise R&D carried out within their territory.
- 3.16 While firms have indicated a strong preference to do their R&D in New Zealand (for reasons of cost and control), reality dictates that some of the work has to be carried out overseas. This could be because:
- The capability to do that work is not available locally.
 - Foreign regulators require the R&D to be carried out in their jurisdiction in order for the final product to be marketed in that jurisdiction.

- R&D to customise a product to a particular market may need to be carried out in that market.

3.17 Therefore certain R&D activities conducted overseas should be eligible for the concession. The eligibility should be limited to 10 percent of the expenditure of the larger R&D project undertaken in New Zealand, of which the overseas activities must be a part. Further expenditure over the 10 percent limit might be incurred on overseas R&D activities in connection with the project, but would not be eligible for the concession. The Australian R&D tax concession has a similar requirement.

Foreign ownership

3.18 Foreign ownership should not limit access to the concession as long as the R&D is carried out in New Zealand.¹ The location by foreign firms of R&D facilities in New Zealand is a potentially valuable source of knowledge, technology and human capital spill-overs.

3.19 Since the aim of the credit is to improve productivity in New Zealand, it is important to design the scheme so that resulting benefits are not largely captured overseas.

3.20 Foreign ownership does not appear to be a limitation to eligibility in similar R&D tax concession schemes overseas. However, those schemes impose other restrictions that are aimed at limiting the risks associated with providing concessions to foreign owned entities. Examples of such limitations are that the key researcher must not be a foreigner; there must be a national benefit from the R&D; the intellectual property resulting from the R&D must be held in the country providing the concession; and the R&D must be carried out in the country providing the concession.

3.21 Including the requirement that the R&D be carried out in New Zealand should ensure that significant benefits can be captured locally.

Subcontracted R&D

3.22 The nature of R&D projects is such that collaborations and subcontracting are commonplace. R&D collaboration is also an important source of R&D spill-overs, as collaboration often involves the transfer from one organisation to another of tacit knowledge, skills and experience. Rules would therefore be needed to determine which party should be eligible for the credit and how to treat expenditure incurred by a joint venture, and how to deal with contributions to industry research organisations.

¹ Although the 10 percent exception for R&D carried out overseas would apply.

Should the firm commissioning the R&D or the firm carrying out the R&D be eligible for the concession?

- 3.23 The concession should vest with the firm commissioning the R&D.
- 3.24 It is important to prevent double access to concessions in respect of the same R&D activities. Therefore the concession should not be available to both the firm commissioning the R&D and the firm carrying out the R&D.
- 3.25 The concession should vest with the commissioning firm because:
- It is the party deciding how much R&D should be undertaken.
 - It bears both the financial and technical risk associated with the R&D activity.
 - It controls the project and owns the project results.
- 3.26 There are some benefits of vesting the concession with the firm carrying out the R&D activity, such as less complexity in the scheme and a more consistent application of the eligible expenditure provisions. Those benefits appear to be outweighed by the benefits of vesting the concession with the party who makes the decision about how much R&D to undertake.

Joint ventures and partnerships

- 3.27 Joint ventures and partnerships are important collaborative vehicles for R&D in New Zealand. The joint venture vehicle would be eligible for the concession in relation to expenditure it incurs. However, owners of the joint venture might also incur expenditure in relation to the R&D activity. In that case the owner would have to demonstrate sufficient risk, control and ownership of the project to be able to access the concession.

Voluntary contributions and levy payments

- 3.28 Organisations receiving voluntary contributions or levy payments which are then applied to R&D activities should be eligible for the tax concession.
- 3.29 It would be difficult for those who make the contributions or pay the levies to come within the eligibility provisions. They are unlikely to have sufficient control over how the levies are applied to R&D activities or ownership of the results. They are also unlikely to meet the minimum threshold for R&D spending.
- 3.30 The organisations that apply the levy funding to R&D activities may have sufficient control over the R&D activity, and it is arguable that “their funds” are at risk if the project fails. However it is not clear that these organisations would meet the tax business test. Examples of such organisations are commodity levy organisations.

- 3.31 Entities that fund R&D activities for industry purposes with money collected from businesses should be eligible for the credit. They would need to be listed with Inland Revenue as a research co-operative and, like other claimants, show that they met all of the requirements to claim the credit, except the requirement that they are a business in New Zealand. The amount of eligible expenditure subject to the concession each year would be capped at the amount contributed by private businesses to the co-operative that year.

Crown-owned businesses

- 3.32 Crown-owned businesses that are not funded to do R&D, such as state-owned enterprises, should be eligible for the credit. In principle, crown-owned businesses that are funded to undertake R&D should not be eligible for the credit if receiving it would constitute double funding of R&D. There are options for avoiding double funding, and officials will do further work on this in consultation with crown agencies.

Submission points

- Should entities that earn exempt income be eligible for the concession?
- Is a minimum threshold of \$20,000 set at the right level?
- What should the requirements be to be an approved research provider?

CHAPTER 4

Eligible expenditure

- 4.1 This chapter specifies the expenditure that, in our view, should attract the credit. Expenditure eligible for the 125 percent concession in Australia is set out in Appendix II.

General principles

- 4.2 The credit would apply only to expenditure that is deductible, or amortisable, under the Income Tax Act (or, in relation in those with tax-exempt income, that would be deductible, or amortisable, if the income were not exempt). This requirement would exclude, for example, non-business and pre-business expenditure, depreciation on intangibles not listed in Schedule 17, and expenditure on land.

Timing

- 4.3 The credit would be available only in the year in which the deduction for expenditure is allowed (taking account of any add-back of expenditure under, for example, the accrual expenditure rules). In other words, the timing rules in the Act should apply to the concession. For those with tax-exempt income, the concession would apply in the year in which a deduction would have been allowed had the income of the entity not been exempt.

Salary and wages

- 4.4 Salary and wages of employees and independent contractors directly and actively engaged in core R&D activity (scientists, engineers) and R&D support activity would be eligible.
- 4.5 This would include all remuneration paid to the employee or contractor (allowances, bonuses, commissions, extra salary, overtime, holiday pay and long service pay), and the value of fringe benefits, accommodation benefits and superannuation contributions. It would not include the value of share options. The value of these is not currently deductible, and their tax treatment is under review.
- 4.6 When the employee or independent contractor is engaged on R&D and other activities, the credit would apply only to the portion of expenditure that relates to time directly and actively engaged in R&D.

Depreciation

- 4.7 Eligible expenditure would include depreciation on **tangible** depreciable assets used in conducting R&D.

Intangible depreciable assets

- 4.8 Initially, the credit would not apply to the cost of intangible depreciable assets. The extent to which they could be included requires careful consideration because such assets tend to be the focus of tax avoidance schemes. This work would have to be done after the concession was enacted.

Pilot plant and prototypes

- 4.9 The concession would also apply to depreciation on depreciable assets that are the object of the R&D and used in the R&D process (pilot plant and prototypes) to the extent expenditure incurred in their design and construction has been capitalised. (Some of the cost may have been deducted as revenue account expenditure, with the concession applying at the time of deduction.)

Link with R&D

- 4.10 Under general rules, depreciation is allowed to the extent an asset is used or available for use in deriving income. If this were the test for R&D, so that the concession applied to the extent an asset was used or available for use in conducting R&D, a small percentage of actual R&D use would allow all the downtime to be eligible for the concession.
- 4.11 For example, if an asset was used 10 percent of the time for R&D, and 10 percent for non-R&D, with 80 percent downtime, the concession would apply to 90 percent of depreciation on the asset in that year.
- 4.12 Instead, one option would be to pro-rate depreciation on the basis of actual use so that in the preceding example, the concession would apply to 50 percent of depreciation in that year.
- 4.13 A more rough and ready alternative would be to provide that when an asset is used primarily in conducting R&D, the concession would apply to the extent the asset is used or available for use in conducting R&D. Only actual use for another purpose would not qualify for the concession. When the asset is not primarily used in conducting R&D, no concession would be available.

Pooled assets

- 4.14 The concession would not apply to pooled assets² unless the pool consisted solely of R&D assets used exclusively in conducting R&D. Because the pool is depreciated, and individual assets in the pool are not tracked, it is not possible to apply the concession only to those assets in a pool that are used in conducting R&D.

² Tax depreciation pools of low-cost assets (under \$2000).

Loss on sale/clawback of depreciation on disposal of asset used in R&D

- 4.15 Theoretically, when an asset that has been used in conducting R&D is sold or no longer used in the business, the credit should apply to any loss on sale. The credit should also be clawed back to the extent depreciation deductions are clawed back.
- 4.16 If an incremental credit is adopted, this treatment would be too complex to apply. Ordering rules would be needed that specify what type of eligible expenditure attracts the concession in any year. For example, if \$100 of \$1000 expenditure is eligible because that is incremental spend, what type of expenditure is that \$100 – salary, depreciation or consumables?
- 4.17 If a volume-based concession is adopted, it would be possible to apply the concession to depreciation adjustments on sale (and the Australian 125 percent concession does so).

Example

- 4.18 An asset is acquired for \$1000 and is used only in conducting R&D. Annual depreciation is \$100, and the tax credit is 10 percent. In year two, the asset has a tax book value of \$900, and the firm has received a \$10 tax credit.
- 4.19 If the asset is sold for \$700, the tax credit would apply to the \$200 loss on sale (\$20 tax credit). If it is sold for \$1000, the \$10 credit previously allowed should be clawed back. So, to the extent that a firm had no credits in that year from which to deduct the credit clawed back, it is possible to have a negative credit.

Partial use for R&D

- 4.20 When the asset is only partly used for R&D, the calculation on disposal of the asset becomes more complex. This should be made as simple as possible because apportionment of the loss on sale/clawback would need to apply on disposal of all assets in use at the time the concession is implemented. The apportionment calculation would be: depreciation recovered or loss on sale x the proportion of total use that is R&D use.

Asset no longer used for R&D

- 4.21 Theoretically, the adjustment should also apply when an asset is no longer used for R&D but continues to be used in the business. There should be a deemed sale at market value at the time of conversion to other use (in much the same way as depreciable assets that are converted to private use are treated). However, this would add to the complexity of the provisions.

Other expenditure incurred directly in carrying on R&D activities

4.22 Apart from salaries and depreciation, only expenditure specifically listed below would be eligible for the concession.

General

4.23 Certain types of general expenditure would be eligible:

- expenditure on low cost depreciable assets to be used exclusively or primarily in carrying on R&D;
- costs associated with travel by employees and independent contractors in carrying on R&D;
- costs of training required to support an R&D project; and
- the cost of materials incorporated into prototypes and pilot plant (to the extent these are revenue costs under normal deductibility rules).

Overheads

4.24 Expenditure on the following overheads would be eligible, **to the extent** they are incurred directly in respect of R&D activities:

- salaries and other costs of administration, personnel, repairs and maintenance, cleaning and security staff;
- rates, utilities (include telecommunications) and insurance; and
- costs of leasing buildings, plant and equipment.

Consumables

4.25 Consumables are items consumed or transformed in the R&D process. These would not be listed but examples could be provided in guidelines. Expenditure on items consumed would include, for example, materials for laboratories, stationery, printing, postage and reference materials.

4.26 In relation to items transformed in the R&D process, only the net expenditure would be eligible – that is, the excess of the cost of the materials which are the subject of processing or transformation in the R&D process over the value of the output. This replicates the Australian treatment of “feedstock” expenditure.

4.27 An example is the costs associated with acquiring or extracting ore for transformation into metal in an experimental smelter. The amount eligible for the concession is the cost of the ore (which is an input into R&D) less the value of the output metal.

Payments by taxpayer to entities conducting R&D on behalf of the taxpayer

- 4.28 The key concern about allowing these payments to be eligible is to ensure that firms outsourcing R&D cannot claim the concession for expenditure that would be ineligible if done in-house. Possible rules for ensuring that are set out below.
- 4.29 When the performer of the R&D and the commissioner of the R&D are associated, eligible expenditure would be the lesser of:
- the amount paid under the contract; and
 - the eligible expenditure of the performer.³
- 4.30 When the performer of the R&D and commissioner of the R&D are not associated, eligible expenditure would be the amount paid under the contract to the extent it does not include expenditure of the performer for interest, feedstock (other than net feedstock expenditure), depreciation on intangible assets and royalties.

Exclusions from “eligible expenditure”

- 4.31 The following would be excluded:
- royalties;⁴
 - interest expenditure;
 - feedstock expenditure (other than net feedstock expenditure);
 - the total of: expenditure in relation to which a government grant is provided, and the required co-funding by the claimant specified by government investment and funding agents. For example, in a simple case of a grant for 50 percent of expenditure, twice the amount of the grant would be ineligible. This would avoid double subsidising of a project;
 - the making of donations; and
 - accounting and legal fees in calculating what is R&D.

³ This is similar to the rules in the United Kingdom for subcontracted R&D.

⁴ As with depreciation on intangible assets, this is excluded initially so that officials can more carefully consider the concession applying to the cost of acquiring intangible assets.

Submission points

- What is the appropriate link between the credit and the use of depreciable assets in conducting R&D?
- Do the compliance costs of applying the credit to adjustments on disposal outweigh the more accurate calculation of the credit for depreciable property used in R&D?

APPENDIX I

Definitions of R&D in other jurisdictions

Australia

Section 73B Income Tax Assessment Act 1936

“Research and development activities” means:

- (a) systematic, investigative and experimental activities that involve innovation or high levels of technical risk and are carried on for the purposes of:
 - (i) acquiring new knowledge (whether or not that knowledge will have specific practical application); or
 - (ii) creating new or improved materials, products, devices, processes or services; or
- (b) other activities that are carried on for a purpose directly related to the carrying on of activities of the kind referred to in paragraph (a).”

The terms “innovation” and “high levels of technical risk” are further defined in section 73B (2B).

“(2B) For the purposes of the definition of research and development activities in subsection (1):

- (a) activities are not taken to involve innovation unless they involve an appreciable element of novelty; and
- (b) activities are not taken to involve high levels of technical risk unless:
 - (i) the probability of obtaining the technical or scientific outcome of the activities cannot be known or determined in advance on the basis of current knowledge or experience; and
 - (ii) the uncertainty of obtaining the outcome can be removed only through a program of systematic, investigative and experimental activities in which scientific method has been applied, in a systematic progression of work (based on principles of physical, biological, chemical, medical, engineering or computer sciences) from hypothesis to experiment, observation and evaluation, followed by logical conclusions.”

“Systematic, investigative and experimental activities” do not include:

- market research, market testing or market development, or sales promotion (including consumer surveys);
- quality control;
- prospecting, exploring or drilling for minerals, petroleum or natural gas for the purpose of discovering deposits, determining more precisely the location of deposits or determining the size or quality of deposits;
- the making of cosmetic modifications or stylistic changes to products, processes or production methods;
- management studies or efficiency surveys;
- research in social sciences, arts or humanities;
- pre-production activities, such as demonstration of commercial viability, tooling-up and trial runs;
- routine collection of information except as part of the research and development process;
- commercial, legal and administrative aspects of patenting, licensing or other activities;
- activities associated with complying with statutory requirements or standards, such as the maintenance of national standards, the calibration of secondary standards and routine testing and analysis of materials, components, products, processes, soils, atmospheres and other things;
- the making of donations;
- preparation for teaching;
- specialised routine medical care;
- any activity related to the reproduction of a commercial product or process by a physical examination of an existing system or from plans, blueprints, detailed specifications or publicly available information.

Canada

Section 248(1) Income Tax Act

... “scientific research and experimental development” means systematic investigation or research that is carried out in a field of science or technology by means of experiment or analysis and that is

- (a) basic research, namely, work undertaken for the advancement of scientific knowledge without a special practical application in view,
- (b) applied research, namely, work undertaken for the advancement of scientific knowledge with a specific practical application in view, or
- (c) experimental development, namely, work undertaken for the purpose of achieving technological advancement for the purpose of creating new, or improving existing, materials, devices, products or processes, including incremental improvements thereto,

and, in applying this definition in respect of a taxpayer, includes

- (d) work undertaken by or on behalf of the taxpayer with respect to engineering, design, operations research, mathematical analysis, computer programming, data collection, testing or psychological research, where the work is commensurate with the needs, and directly in support, of work described in paragraph (a), (b) or (c) that is undertaken in Canada by or on behalf of the taxpayer,

but does not include work with respect to

- (e) market research or sales promotion
- (f) quality control or routine testing of materials, devices, products or processes
- (g) research in the social sciences or the humanities
- (h) prospecting, exploring or drilling for, or producing, minerals, petroleum or natural gas
- (i) the commercial production of a new or improved material, device or product or the commercial use of a new or improved process
- (j) style changes or
- (k) routine data collection.

United Kingdom

The definition of R&D for tax purposes follows generally accepted accounting practice as modified for tax purposes by guidelines which are given legal force by Parliamentary Regulations.

R&D for tax purposes takes place when a project seeks to achieve an advance in science or technology.

The activities which directly contribute to achieving this advance in science or technology through the resolution of scientific or technological uncertainty are R&D.

Certain qualifying indirect activities related to the project are also R&D. Activities other than qualifying indirect activities which do not directly contribute to the resolution of the project's scientific or technological uncertainty are not R&D.

Ireland

Section 766 Taxes Consolidation Act 1997

... 'research and development activities' means systematic, investigative or experimental activities in a field of science or technology, being one or more of the following –

- 1) Basic research, namely, experimental or theoretical work undertaken primarily to acquire new scientific or technical knowledge without a specific practical application in view
- 2) Applied research, namely, work undertaken in order to gain scientific or technical knowledge and directed towards a specific practical application, or
- 3) Experimental development, namely work undertaken which draws on scientific or technical knowledge or practical experience for the purpose of achieving technological advancement and which is directed at producing new, or improving existing, materials, products, devices, processes, systems or services including incremental improvements thereto: but activities will not be research and development activities unless they –
 - (a) Seek to achieve scientific or technological advancement, and –
 - (b) Involve the resolution of scientific or technological uncertainty.

Extract from Taxes Consolidation Act 1997 (Prescribed Research and Development Activities) Regulations 2004

4. Without prejudice to the generality of clauses (I) and (II) of the definition of “research and development” activities in section 766 of the Taxes Consolidation Act, an activity falling within any of the following categories shall not be a research and development activity for the purposes of that section:
- (a) research in the social sciences (including economics, business management and behavioural sciences), arts or humanities,
 - (b) routine testing and analysis for the purposes of quality or quantity control,
 - (c) alterations of a cosmetic or stylistic nature to existing products, services or processes whether or not these alterations represent some improvement,
 - (d) operational research such as management studies or efficiency surveys which are not wholly and exclusively undertaken for the purposes of a specific research and development activity,
 - (e) corrective action in connection with break-downs during commercial production of a product,
 - (f) legal and administrative work in connection with patent applications, records and litigation and the sale or licensing of patents,
 - (g) activity, including design and construction engineering, relating to the construction, relocation, rearrangement or start-up of facilities or equipment other than facilities or equipment which is or are to be used wholly and exclusively for the purposes of carrying on by the company concerned of research and development activities,
 - (h) market research, market testing, market development, sales promotion or consumer surveys,
 - (i) prospecting, exploring or drilling for, or producing, minerals, petroleum or natural gas,
 - (j) the commercial and financial steps necessary for the marketing or the commercial production or distribution of a new or improved material, product, device, process, system or service,
 - (k) administration and general support services (including transportation, storage, cleaning, repair, maintenance and security) which are not wholly and exclusively undertaken in connection with a research and development activity

APPENDIX II

Eligible expenditure – Australia

Eligible expenditure is:

- salary expenditure (including allowances, bonuses, leave, payroll tax, super contributions etc) of employees engaged directly in carrying out R&D.
- other expenditure incurred directly in respect of R&D activities (overheads, administrative costs, travel, motor vehicle expenses, rent, rates and land taxes, security, training, consumables).⁵ This also includes payments to contractors for R&D services (apart from those to registered research agencies below).
- contracted expenditure paid to registered research agencies for performing R&D on behalf of a company.
- depreciation on plant and equipment used to facilitate the conduct of R&D activities, and experimental items which are developed as the object of R&D activities and which are used for testing, analysis, and data recording activities, in the R&D activities. (The concession does not apply to pooled assets.)
- net feedstock expenditure.

Exclusions

- core technology expenditure (expenditure on acquiring, or acquiring the right to use, technology which forms the basis for undertaking further R&D). There is no enhanced deduction for this. Such expenditure was once immediately written off but now the cost of core technology is deductible only to the extent of one-third of the amount of R&D in the year of acquisition. Any amount not deducted in that year is carried forward and is deductible annually to the extent it does not exceed one-third of the amount of R&D expenditure in that year.
- interest expenditure incurred in financing R&D activities.
- feedstock expenditure (other than net feedstock expenditure). Feedstock expenditure is expenditure on materials or good to be the subject of processing or transformation by the company in R&D activities.

Buildings

A decline in value of buildings used for R&D is not eligible for the concession.

⁵ Taxation Ruling IT 2552.