TR 2002/1 - Income tax: research and development: plant expenditure (pre 29 January 2001)

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This document has changed over time. This is a consolidated version of the ruling which was published on *23 January 2002*

Taxation Ruling
Income tax: research and development: plant expenditure (pre 29 January 2001[1])

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Preamble

The number, subject heading, ***Class of person/arrangement, Date of effect*** *and* ***Ruling*** *parts of this document are a 'public ruling' for the purposes of Part IVAAA of the* ***Taxation Administration Act 1953*** *and are legally binding on the Commissioner. The remainder of the document is administratively binding on the Commissioner. Taxation Rulings TR 92/1 and TR 97/16 together explain when a Ruling is a public ruling and how it is binding on the Commissioner.*

What this Ruling is about

1. This Ruling discusses those provisions of section 73B of the *Income Tax Assessment Act 1936* ('ITAA 1936') that apply to expenditure incurred in respect of plant[2] used in carrying on research and development activities ('the *plant expenditure* provisions'). It is not concerned with plant that is *post-23 July 1996 pilot plant*[3], nor with expenditure incurred in respect of plant acquired or constructed on or after 12.00 p.m. by legal time in the Australian Capital Territory, on 29 January 2001. The new research and development (R&D) depreciating asset regime, inserted into the *Income Tax Assessment Act 1997* ('ITAA 1997') by the *Taxation Laws Amendment (Research and Development) Act* 2001, applies to R&D plant and other depreciating assets which are acquired or commenced to be constructed after this time. This new regime is not dealt with in this Ruling.

2. The provisions referred to in this Ruling are in Appendix A.

3. This Ruling explains the meaning of the following words and phrases in the definition of *plant expenditure* in subsection 73B(1):

- *plant* and *unit of plant*;

[1] For plant acquired under a contract entered into, or constructed before, 12.00pm by legal time in the Australian Capital Territory on 29 January 2001.
[2] Including 'pilot plant' acquired or constructed under a contract entered into prior to 23 July 1996.
[3] This type of plant is dealt with in separate provisions in section 73B, namely, subsections 73B(4A) to (4J), 73B(15AA), 73B(15AB), 73B(21A) and 73B(24A). These provisions allow deductions at the concessional rate for *post-23July 1996 pilot plant* spread over the useful life of the plant where the plant is used exclusively in carrying on research and development activities. See subsections73B(1) and (4C) for definition of *post-23 July1996 pilot plant*.

- '*expenditure incurred … in the acquisition or the construction … of a unit of plant*'; and
- '*for use by the company exclusively for the purpose of the carrying on … of research and development activities at least for an initial period*'.

4. The ruling also covers:

- the key question of whether the R&D plant provisions cover 'end- result plant' (see paragraph 13 for the meaning given to this term in this Ruling);
- the operation of the commencement and cessation of exclusive use tests in subsections 73B(4) and (5);
- the consequences of ceasing to use a unit of plant in the same year as such use commenced; and
- the treatment of expenditure in respect of items commonly referred to as *prototypes*.

Class of person/arrangement

5. This Ruling only applies to an *eligible company* (see Appendix A) which is registered under the *Industry Research and Development Act 1986*[4] (*IR&D Act*), as required by subsection 73B(10) of the ITAA 1936,[5] and which has incurred expenditure on plant that is for use in the carrying on of *research and development activities*. It does not apply to expenditure that is not in respect of plant.

6. Note that expenditure incurred in the acquisition or construction of plant is precluded from deduction under the general operative provision of section 73B, subsection 73B(14), by virtue of the exclusion contained in the definition of *research and development expenditure* in subsection 73B(1) (see Appendix A).

7. The determination of which activities are *research and development activities* is not addressed in this Ruling. This is a matter which is the responsibility of the Industry Research and Development Board (see Appendix E to Taxation Ruling IT 2552, and the comment on Question 1).[6] An underlying presumption in applying this Ruling

[4] Pursuant to section 39J or 39P of the *IR&D Act*.
[5] Note that the eligible company is required to be registered with the Industry Research and Development Board in respect of each year and *each research and development activity* in respect of which plant expenditure (or any other section 73B expenditure) is to be claimed.
[6] Note that the IR&D Board has issued a draft Tax Concession Advisory Note on 'R&D claims involving the development, construction and installation of Plant and Equipment'.

is that the activities in respect of which a unit of plant is used are eligible *research and development activities*.

8. This Ruling supersedes paragraphs 22 and 23 of IT 2552, which are now withdrawn.

Legislative Framework

9. To fully appreciate the matters discussed in this Ruling, it may be useful to consider the broad operation of the plant provisions in section 73B, as they apply to an eligible company which has incurred expenditure on a unit of plant that is used in R&D activities. The following is a very brief outline of the most important provisions, designed to give some context to the discussion that follows in the Ruling. It should not be used as a substitute for a careful reading of the sections, as and when required:

- subsection 73B(15) - allows a deduction based on qualifying plant expenditure; also requires the unit of plant to have commenced to be used exclusively for R&D purposes;
- subsection 73B(4) - defines qualifying plant expenditure (subject to subsection 73B(5)); requires the company to have incurred *plant expenditure* (as defined in subsection 73B(1)) and that the unit of plant has commenced to be used for R&D purposes;
- subsection 73B(5) – deems there to be **no** qualifying plant expenditure in relation to the year of income or a subsequent year of income, where the company has ceased to use the unit of plant exclusively for R&D purposes;
- subsection 73B(21) – notwithstanding subsection 73B(5), provides that a deduction for depreciation may still be allowable; and
- subsection 73B(23) – deals with the loss, disposal or destruction of a unit of plant that has been the subject of subsection 73B(15).

10. The existence of an amount of *plant expenditure* is the starting point for the operation of all of the provisions outlined above. *Plant expenditure* is defined in subsection 73B(1) in relation to an eligible company as:

> '… expenditure incurred by the company in -
>
> (a) the acquisition, or the construction, under a contact dated … of a unit of plant other than post-23 July 1996 pilot plant; or

(b) the construction by the company … of a unit of plant other than post-23 July 1996 pilot plant,

being a unit of plant for use by the company exclusively for the purpose of the carrying on by or on behalf of the company of research and development activities at least for an initial period'.

11. Note that this definition was amended retrospectively by *Taxation Laws Amendment (Research and Development) Act 2001* - effective from the commencement of section 73B on 1 July 1985, to include the words '*at least for an initial period*'. This amendment was made to reflect the interpretation that had generally been adopted in commercial practice.

Ruling

Terms used

12. For the purposes of this Ruling two categories of plant that a company may use in carrying on research and development ('R&D') activities have been distinguished.

13. End-result plant: the first category is where the item of plant acquired or constructed by the *eligible company* is an *end-result or object* of a particular program of R&D activities, and testing or other analysis of its performance is integral to the R&D program ('end - result plant').

14. The particular type of end-result plant dealt with in this Ruling is constructed or acquired on a full-scale commercial basis and is thus distinguished from another type of end-result plant - that of 'pilot plant', defined in subsection 73B(1) to be a 'model'[7] (see Appendix A for the full definition of *pilot plant*).

15. Facilitative Plant: this category of plant covers those items used to carry out R&D activities in a facilitative way, i.e., without themselves being the subject of the R&D activities.

16. The distinction between these two categories of R&D plant is illustrated as follows. An eligible company purchases a standard computer from a common supplier, to use it to record and analyse the results of certain laboratory experiments. This computer is not the subject of these experiments, and nor is it the end-result of them. However, to the extent that the experiments constitute R&D activities, that computer, as an item of plant, is used for the 'purpose of carrying

[7] As a model, a pilot plant would not have all the features, or not be of the same scale, as a commercial plant.

on' those R&D activities (see, e.g., subsection 73B(4)). This computer is facilitative plant.

17. In contrast, a company acquires and modifies, or constructs, a new, innovatively designed and built full-scale mainframe computer, based around new, technically risky components as part of a concerted R&D program to design and produce this new machine. This item of plant is the primary subject of this set of activities, and its use in being tested, having its performance evaluated and being modified, is a use for the purpose of carrying on these activities. To the extent that the activities are R&D activities, there is 'R&D use' of this item of plant. This computer is end-result plant.

18. While this Ruling focuses primarily on end-result plant (other than *post-23 July 1996 pilot plant*), the principles discussed herein apply equally (where relevant) to facilitative plant.

19. The following paragraphs deal with the meaning of various components of the definition of *plant expenditure*.

Plant expenditure

Plant

20. The definition of 'plant' in subsection 73B(1) includes anything that is plant under Division 42 of the ITAA 1997, and anything that is plant or articles under section 54 of the ITAA 1936 (the depreciation provisions).

21. The following principles apply when determining whether an item is 'plant' for the purposes of subsection 73B(1):

- the item is more than the mere setting in which the taxpayer carried on their business (*Broken Hill Proprietary Co Ltd v. FC of T*[8]);
- the item serves a functional purpose in the taxpayer's business operation (*Quarries Ltd v. FC of T*[9]);
- the item is a chattel or fixture kept for use in carrying on a business operation (*Broken Hill Proprietary Co Ltd*); including items in the nature of a 'tool' in the trade that 'plays a part' in the business operation (*Macquarie Worsteds Pty Ltd v. FC of T*[10]);
- the item has an enduring character as an asset used in the taxpayer's business operations, as opposed to being

[8] (1967) 120 CLR 240; (1969) 1 ATR 40; (1968) 15 ATD 43.
[9] (1961) 106 CLR 310; 35 ALJR 310.
[10] 74 ATC 4121; (1974) 4 ATR 334.

consumed in those operations (*Davies Coop & Co Ltd v. FC of T*[11]); and

- further, the item may be an *article* (by virtue of the inclusion of *articles* in the definition of plant in subsection 73B(1) prior to 1 July 1997, and subsequent to that, by virtue of the inclusion of *articles* in the definition of plant in subsection 42-18(1) of ITAA 1997). The term *articles* takes on the comprehensive meaning it is given in common usage, and includes items that may not normally be considered to be plant because they fail to have the ordinary business or industrial characteristics, such as very small or portable items.[12]

22. Where a company carries on business which includes research and development activities, the term 'plant' includes chattels and fixtures kept for use in carrying on the company's R&D operations. This includes:

- items of facilitative plant; and
- items of end result plant that are used for the purposes of furthering the R&D activities (e.g., testing, analysis, data extraction, modification or development),

where those items are not expected to be consumed or used up in the R&D activities.

23. The concepts of plant and trading stock are mutually exclusive (see *Yarmouth v. France*;[13] *Davies Coop & Co Ltd*).

What is a prototype and can it be an item of plant?

24. The term 'prototype' is often commonly used loosely to refer to any experimental, generally 'first-off' item, developed as a result of R&D activities. However, 'prototype' is not a defined term for the purposes of section 73B, and nor is the concept of a prototype referred to anywhere in the section. Specific treatment is, however, accorded to *pilot plant* (defined in subsection 73B(1)[14]). The principles set out in paragraphs 20 to 23 above will also be applied to determine whether a prototype (other than pilot plant) is an item of plant.

25. For example, where a company develops a prototype of a new line of trading stock, and the item:

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[11] (1948) 77 CLR 299; 8 ATD 320.
[12] *Case Q11* 83 ATC 14; *Case 75* (1983) 6 CTBR(NS).
[13] (1887) 19 QBD 647.
[14] See **Appendix A** for the definition of this term.

(a) is to be used in the R&D operations for testing, analysis or developmental purposes; and

(b) is not expected to be destroyed, rendered useless or otherwise consumed in those operations,

it is an item of plant.

26. However, where the company expects the item to be destroyed, rendered useless or otherwise consumed in the R&D operations, the item is not plant.

The tax treatment of expenditure in respect of prototypes

27. Where a prototype is a full scale end-result plant, or an item of plant of the type described in the example in paragraph 25 above, expenditure on acquiring or constructing it falls for consideration under the *plant expenditure* provisions of section 73B.

28. Where a company incurs R&D expenditure in relation to acquiring or constructing an item which is not plant because of the circumstances described in paragraph 26 above, the expenditure is not plant expenditure, and falls for consideration under subsection 73B(14) concerning *research and development expenditure*.

Unit of plant

29. The determination of what comprises a *unit of plant* depends upon a review of the function and purpose of the item in question and is a question of fact and degree. A *unit of plant* is an item that has a separate function, and is functionally complete in itself, even though it may not be self-contained or isolated.

30. When an item of end-result plant is being constructed it becomes a unit of plant at the time that it commences to serve a functional purpose in respect of the R&D operation being conducted. Relevant functions to which it might be applied include:

- testing the success of the plant and the research;
- providing data for analysis; and
- adapting or modifying the item to further the research.

31. Whilst the item may not be 'complete' or considered to be a unit of plant in a conventional (production) sense at such a time, the R&D function that it is serving gives it the character of a unit of plant in respect of the research and development activities being conducted.

32. A *unit of plant* may, as a consequence of having had major alterations or additions carried out on it, or by being integrated with other units of plant, evolve or merge into a further *unit of plant*. This

second unit of plant is then subjected to further testing or analysis in its expanded or integrated form. A new unit of plant occurs (as opposed to the original unit merely being modified) if the function or use played by the second unit is materially different from that performed by the original unit.

33. For example, an innovative pump may be developed and tested initially, and after testing and analysis, its performance found to be lacking. The innovative impeller in this pump is then replaced with one with a modified design. The unit is tested again and found to be successful. Only one unit of plant is considered to exist to this point. However, if the pump is then incorporated in an experimental cooling plant, with a materially different function for the pump, where the merged unit is subjected to further testing, including testing of the effectiveness of the pump within the cooling unit, a new unit of plant is considered to have been created.

34. The merging of the original unit into the second unit is not a cessation of use of the original unit by virtue of its ceasing to exist. Rather, both units co-exist. Therefore, the expenditure incurred on both units is eligible for deduction as long as the second integrated unit is applied to an R&D purpose or function (provided the other tests of deductibility are met).

Expenditure incurred in the acquisition or construction of a unit of plant

35. Expenditure incurred in transporting and/or installing items of eligible (i.e., intended to be used for an initial period, and actually used, exclusively for R&D purposes) plant on-site falls for consideration for deduction under subsection 73B(15) as qualifying plant expenditure, not under subsection 73B(14) as *research and development expenditure*, in both of the following circumstances:

- where the transportation and on-site installation occurs after the completion of the construction of the *unit of plant*, so that it can be used for R&D purposes on that site; and
- where the installation and transportation themselves are instrumental in bringing about a new *unit of plant* (e.g., where various components or other units of plant are integrated into a new *unit of plant*).

Design costs

36. As a general rule, the costs of preparation of specific design plans for the actual unit of plant itself (e.g., salary costs of preparing engineer's drawings/ blueprints for the plant under construction)

comprise expenditure on the construction of the unit of plant, and therefore are included in *plant expenditure*, as defined, unless the costs are so insignificant and incidental as to be *de minimus* (see e.g., the discussion of this concept in *Farnell Electronic Components Pty Ltd v. Collector of Customs* (1996) 72 FCR 125).

37. In contrast, expenditure incurred in the preceding general design and development of the *concept* of the new plant (such as salary costs of basic and applied research, computer modelling, etc.) would not be expenditure on the construction of a unit of plant. However, this expenditure may be *research and development expenditure*.

38. Where plant blueprints /drawings are prepared manually the costs of these will be readily identifiable and should be included as *plant expenditure* for that unit of plant.

39. Where, however, fully computerised and integrated Computer Assisted Design (CAD) processes are used for the concept development, detailed design (materials and specifications), simulation, testing, evaluation and documentation phases, it is often not possible to isolate any specific costs of obtaining the drawings/ blueprints, as these are created in parallel with, and 'fall out of' the other development phases, for no, or negligible, specific additional cost. In such circumstances, where there is no specific additional cost incurred in respect of such blueprints or drawings, no amount is required to be allocated as specific design costs of the plant in determining *plant expenditure*.

40. This view does not apply to expenditure incurred in running a rapid-prototyping program that drives the creation of a prototype that is a unit of plant. Such expenditure will comprise *plant expenditure* for that unit of plant.

Salary and wage expenditure incurred in the construction of plant

41. Expenditure on salary and wages for staff engaged in the construction of an eligible unit of plant falls for consideration under subsection 73B(15), as qualifying plant expenditure, and not under subsection 73B(14) as *salary expenditure*, a component of *research and development expenditure*.

Meaning of 'for use … exclusively for the purpose of carrying on … of research and development activities at least for an initial period'

42. The test of whether expenditure is incurred on a unit of plant '*for use … exclusively for the purpose of carrying on … of research and development activities at least for an initial period*' is an integral part of the definition of *plant expenditure* in subsection 73B(1). This

test involves identifying the initial, or first, *intended use* for the unit, as gauged at the time the acquisition or construction expenditure in respect of the plant is incurred.

43. The test requires that at least the first intended use by the company for the plant at that time is solely and exclusively for the purpose of carrying on R&D activities, regardless of any subsequent intended uses for the plant. Therefore, if a company constructs end-result plant, even if there is some doubt about whether it can be successfully completed, and intends to use the item:

- initially to test the success of the R&D program; or to use it for some other R&D purpose; and then, in the event of a successful outcome; and
- to use it for a production or other (non-R&D) business purpose,

expenditure on construction of that item will satisfy the exclusive use intention test.

44. Similarly, if a company intends to use an item of facilitative plant (such as the computer referred to in paragraph 16 above) in R&D activities, and on completion of those activities for general administrative duties, the expenditure will satisfy the intention test in the definition of plant expenditure.

Qualifying plant expenditure

45. The following paragraphs relate to the operation of subsections 73B(4) and (5), which determine whether there is an amount of qualifying plant expenditure in relation to the company in relation to the year of income.

46. Once it is established that an amount of *plant expenditure* exists, subsection 73B(4) deems there to be an amount of qualifying plant expenditure where, during the year of income, the company commences to use the unit of plant exclusively for the purpose of the carrying on of research and development activities.

47. However, if during the year of income the unit of plant ceases to be used exclusively for the purpose of the carrying on by the company, or on its behalf, research and development activities, subsection 73B(5) states that there shall be no amount of qualifying plant expenditure in respect of that year, or any subsequent year.

Meaning of 'commences to use … exclusively'

48. The purpose of this phrase in subsection 73B(4) is to identify, in conjunction with subsection 73B(15), when there first exists

qualifying plant expenditure, so that deductibility in relation to this expenditure can commence.

49. To determine what actually comprises a 'unit of plant', the functional use that the item plays in the R&D operation is relevant. A company is taken to '*commence to use ... exclusively...*' the item at the time the unit is actually first applied to that use. This does not necessarily refer to the first date on which actual physical use occurs. Rather, it refers to the time when the unit of plant is sufficiently completed so as to be seen as being held exclusively for the purpose of carrying on R&D activities. It does not include the period of time in which the unit of plant is being constructed or assembled, and not being applied in carrying out the R&D activities.

Meaning of 'ceases to use'

50. The term 'ceases to use' in subsection 73B(5) means that a company has ceased to hold and maintain the unit of plant exclusively for the required purposes. This occurs if the company:

- ceases to apply the plant exclusively for R&D purposes;
- commences to hold the plant for some other purpose; or
- physically uses the plant for another purpose.

51. For example, cessation of physical use of scientific laboratory equipment at the completion of one R&D program, where that equipment is to be used in further R&D projects, is not a relevant cessation of use. Commencing to use the unit of plant for a non-R&D purpose is, however, a cessation of actual exclusive R&D use.

Where cessation occurs in the year of commencement

52. Where the use of a unit of plant exclusively for research and development activities commences and ceases (as per paragraphs 48 to 51 above) within the one year of income, no deduction at all is allowable under subsection 73B(15) for qualifying plant expenditure. Any expenditure on the acquisition or construction of such a unit of plant is considered for deduction only under the general depreciation or capital allowance provisions of the ITAA 1936 or the ITAA 1997.

Plant expenditure and qualifying plant expenditure: Example

53. The following example illustrates the operation of the 'intention test' contained in the definition of *plant expenditure*, referred to in paragraphs 42 to 44 above, and the 'actual use test'

embodied in the concept of qualifying plant expenditure, referred to in paragraphs 45 to 51 above.

54. On 1 July 1998 a company commenced to build an end-result plant, being a new style of mainframe computer, as referred to in paragraph 17 of this ruling. The company's intention was to construct a full scale computer, and then to test its performance, as a part of its R&D program. Should it be successfully developed, the company then intended to utilise the computer in conducting its business activities. Assume that designing, developing, constructing and testing the computer have been determined to be eligible *research and development activities*. Construction of the computer is completed on 31 December 1999. Testing of the computer commences on 15 January 2000 and is successfully concluded on 31 August 2000.

55. The company will have an amount of *plant expenditure*, as its first, or initial, intended use for the plant is exclusively for the carrying on of R&D activities.

56. In respect of the income year ended 30 June 2000, the company will also have an amount of qualifying plant expenditure, as in that year it commenced to use the unit of plant exclusively in the carrying on of R&D activities (subsection 73B(4)), and did not cease to so use it (i.e., subsection 73B(5) does not apply). A deduction in respect of this income year will therefore be available for one third of the qualifying plant expenditure (plus an additional 25% if the aggregate R&D amount is greater than $20,000), under subsection 73B(15).

57. There is, however, no amount of qualifying plant expenditure in respect of the income year ended 30 June 2001, because exclusive R&D use ceased during this year (subsection 73B(5)). Consequently there is no further entitlement to deductions under subsection 73B(15) in respect of this plant expenditure in any subsequent income year. There may be an entitlement to normal capital allowance deductions in the income year ended 30 June 2001, and in subsequent years of income (see paragraph 71 of the Explanation).

The true nature of an arrangement

58. A company may purport to enter into a contract for the provision of R&D services and seek to deduct the costs as *research and development expenditure*. However, it may be apparent from an examination of all the relevant circumstances that the true nature of the contract is one for the provision of a unit of plant to the company.

59. The true nature of the contract will govern eligibility for any R&D deduction, and this will be determined having regard to all of the relevant facts and circumstances. Similarly, the true intent of the

parties will determine eligibility, where the agreement in question is a sham.

Part IVA

60. Part IVA may have application where an arrangement is entered into to use interposed entities in an attempt to transform *plant expenditure* into *research and development expenditure*. If the requisite dominant purpose of entering into a scheme to obtain a tax benefit is established, having regard to the eight matters in paragraph 177D(b), Part IVA may be applied. A tax benefit would exist in the form of a deduction for *research and development expenditure* being available in the year incurred, as opposed to deductions being spread over three years as qualifying plant expenditure or, if relevant, over such longer period as may be determined under the normal depreciation or capital allowance provisions.

Date of effect

61. Aside from the exception referred to below, this Ruling applies to years of income commencing both before and after its date of issue. However, the Ruling does not apply to taxpayers to the extent that it conflicts with the terms of a settlement of a dispute agreed to before the date of issue of the Ruling (see paragraphs 21 and 22 of Taxation Ruling TR 92/20).

62. The exception to the prospective operation of this Ruling is as follows. In respect of expenditure on units of plant which are prototypes that exhibit the features outlined in paragraph 65 below, paragraphs 24 to 28 of this Ruling apply only to income years commencing after its date of issue.

63. During the consultation process for this Ruling it was claimed that the wording used in paragraphs 22 and 23 of IT 2552, contributed to confusion or misunderstanding about the correct treatment of some 'prototype' expenditure. Whilst the words in paragraphs 22 and 23 of IT 2552 stated that such expenditure will qualify under subsection 73B(15) (the plant expenditure deduction provision), it was claimed that the context of these paragraphs implied that such expenditure was immediately deductible. In recognition that the words used may have contributed to a misunderstanding, paragraphs 24 to 28 of this Ruling apply on a qualified, prospective basis, as explained below.

64. The prospective application of paragraphs 24 to 28 does not apply to all items which might be called a 'prototype' today. As noted in paragraph 24, the term 'prototype' is not a defined one for the purposes of section 73B, and nor is the concept of a prototype referred

to anywhere in the section. Moreover, just what is meant by the term has changed over time. The meaning of the word 'prototype' in IT 2552 accordingly needs to be determined against the background of the relevant material that was in existence at the time of issue of that ruling (17 August 1989). For example:

- the *Frascati Manual (1980),* refers to a prototype as: '…an original model on which something new is patterned and of which all things of the same type are representations or copies. It is a basic experimental model possessing the essential characteristics of the intended product. … the design, construction and testing of prototypes normally falls within the scope of R&D. This applies whether only one or several prototypes are made and whether consecutively or simultaneously. But when any necessary modifications to the prototype(s) have been made and testing has been satisfactorily completed, the boundary of R&D has been reached. The construction of several copies of a prototype to meet a temporal commercial, military or medical need after successful testing of the original, even if undertaken by R&D staff, is not part of R&D';
- the Explanatory Memorandum to the *Income Tax Assessment Amendment (Research and Development) Act 1986* (June 1986), states that: ' a prototype is an original model on which something new is patterned. It is a basic model possessing the essential characteristics of the intended product; it is not an item intended for sale in its own right'; and
- *IT 2552,* itself says at paragraph 22: '[construction of a prototype] …should be distinguished from the construction of a pilot plant, which will provide a company with lasting benefits from the production of trading stock'.

65. Based on the above material, to be a 'prototype' as that term was used in paragraphs 22 and 23 of IT 2552, an item must have the following key features:

- the item must be a basic experimental model on which something new is patterned (as opposed to a commercial unit of plant), created for R&D testing purposes, and comprising all the essential characteristics of the intended product (but is not a unit of 'pilot plant', as defined);
- the company must not intend to sell the item or use it for a purpose outside of the R&D activities; and

- the item must not provide the company with any lasting benefits (outside of any resulting from the R&D activities).

66. Items that would fit within this description would include the 'first of a new line of trading stock', provided it is not intended for sale or other non-R&D use. Each of the above features must be present for paragraphs 24 to 28 of this Ruling to apply only on a prospective basis in relation to plant expenditure. In particular, the prospective treatment does *not* apply to expenditure on full scale items of commercial or operational plant that are intended to be used in business or production activities, or which are intended to be sold.

Explanations

Operation of the plant provisions

67. A deduction in respect of *plant expenditure* is allowed under subsection 73B(15) where, in the year in which an *eligible company* commences using a unit of plant exclusively for the purpose of carrying on research and development activities, or in either of the two subsequent years, there is an amount of qualifying plant expenditure in relation to the unit of plant. The amount of the deduction allowed (where the *aggregate research and development amount*[15] in relation to the company in relation to the year of income is greater than $20,000) is one third of the amount of qualifying plant expenditure multiplied by 1.25. Where the *aggregate research and development amount* is less than $20,000, the deduction allowed is one third of the amount of qualifying plant expenditure.

68. Subsection 73B(4) provides that there shall, in relation to a unit of plant, be an amount of qualifying plant expenditure in relation to the year of income and in relation to each of the two succeeding years of income. It applies where, during the year of income, the eligible company commences to use the unit of plant, in respect of which the company has incurred an amount of *plant expenditure*, exclusively for the purpose of the carrying on by or on behalf of the company of research and development activities.

69. However, under subsection 73B(5), where there would otherwise be an amount of qualifying plant expenditure in relation to a unit of plant owned by an eligible company in relation to a year of income and, at any time during the year of income, the company ceases to use that unit of plant exclusively for the purpose of the carrying on by or on behalf of the company of research and development activities, there shall be no amount of qualifying plant

[15] See Appendix A for the definition of this term.

expenditure in relation to that unit of plant in relation to the year of income or any succeeding year of income.

70. '*Plant*' is defined in subsection 73B(1) to mean:

- things that are plant within the meaning of section 42-18 of the ITAA 1997 (this meaning applies from the 1996-97 income year onwards; prior to this, the definition referred to things that are plant or articles within the meaning of subsection 54(1) of the ITAA 1936);
- things to which section 42-18 (previously subsection 54(2) of the ITAA 1936) would apply if the carrying on of research and development activities were the carrying on of a business for the purpose of producing assessable income; or
- pilot plant other than post-23 July 1996 pilot plant.

71. If, during either of the second or third years following the year of commencement of exclusive use, the unit of plant ceases to be used exclusively for carrying on R&D activities and commences to be used for an income producing purpose that qualifies it for depreciation deductions, subsection 73B(21) provides a mechanism for further deductions to be allowed under the depreciation provisions. This subsection deems the unit of plant to have been acquired by the company at a cost equal to its *written down value*[16], generally on the first day of the year of income in which the change of use occurred[17]. Effectively, the *written down value* is the undeducted portion of the cost of the unit of plant, ignoring any concessional component allowed (i.e., two thirds or one third of the cost of the unit of plant in years two and three respectively).

72. Where a unit of plant that has been used exclusively for the purpose of carrying on R&D activities is then disposed of, lost or destroyed in either of years two or three, an additional deduction[18] is allowed in respect of any loss incurred on such an event[19] and any profit made is included as assessable income, under subsection 73B(23).

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[16] See Appendix A for the definition of this term.
[17] Or the day on which exclusive R&D use first occurred, where this is not the first day of the year of income.
[18] The additional deduction is at the concessional (125%) rate if the aggregate research and development amount exceeds $20,000.
[19] i.e., where the consideration receivable is less than the written down value of the plant.

Plant expenditure

73. The term *plant* is defined in subsection 73B(1) of the ITAA 1936 to mean things that are plant within the meaning of section 42-18 of the ITAA 1997 (for 1996-97 and prior income years, it means things that are plant or articles within the meaning of subsection 54(1) of the ITAA 1936), whether or not depreciation is allowable under those (sub)sections; or things to which section 42-18 (or subsection 54(1)) would apply if the carrying on of research and development activities were the carrying on of a business for the purpose of producing assessable income; or pilot plant other than post-23 July 1996 pilot plant. The definition of *plant* within the respective depreciation provisions is an inclusive one, leaving the core meaning of the term *plant* to be determined by reference to case law.

74. Case law has tended to distinguish the concept of 'plant' from things that are the 'mere setting' in which the taxpayer carries on business. The term does cover things that are in the nature of 'tools' or that 'play a part' in the business operations (*Broken Hill Proprietary Co Ltd*;[20] *Macquarie Worsteds Pty Ltd*;[21] and *Carpentaria Transport Pty Ltd v. FC of T*[22]). To be an item of *plant* the item needs to serve some functional purpose in the business operations within that setting (*Wangaratta Woollen Mills Ltd v. FC of T*;[23] *Quarries Ltd*; *Macquarie Worsteds Pty Ltd*). An item so closely integrated with its setting, and supported by that setting in a way that makes its functioning possible, may not be possible to separate from that setting in determining whether there is an item of *plant* (Taxation Ruling IT 31; *Wangaratta Woollen Mills*).

75. In *Broken Hill Proprietary Co Ltd*,[24] Kitto J, in considering the term 'necessary plant' in the former subsection 122(1) of the ITAA 1936, said at 48:

> 'As to the meaning of the word "plant", it is sufficient at this point to refer to a line of English decisions from *Yarmouth v. France* (1887) 19 Q.B.D. 647 & 658, *J Lyons & Co. Ltd. v. The Attorney-General* (1944) 1 Ch. 287 and *Jarrod v. John Good & Sons Ltd* (1963) 1 W.L.R. 214, and to say that in my opinion, in accordance with the exposition to be found in these cases, the word as used in sec.122(1) includes every chattel or fixture which is kept for use in carrying on of the mining operations, not being (in the case of a building) merely in the nature of the general setting in which a part of those operations are carried on.' (our emphasis)

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[20] (1967) 120 CLR 240; (1969) 1 ATR 40.
[21] 74 ATC 4121; (1974) 4 ATR 334.
[22] 90 ATC 4590; (1990) 21 ATR 513.
[23] (1969) 119 CLR 1; 69 ATC 4095; (1969) 1 ATR 329.
[24] (1968) 15 ATD 43.

76. The term *plant*, as defined in subsection 73B(1) of the ITAA 1936, includes *articles* (through inclusion in the subsection 73B(1) definition of *plant* prior to 1 July 1997 and by inclusion in subsection 42-18(1) of the ITAA 1997 after that date). The term *articles* is also not defined in either the ITAA 1936 or the ITAA 1997, and so it takes its meaning from the common understanding of the expression.

77. The *Shorter Oxford Dictionary* meaning of the term includes:

> 'a particular material thing, a commodity, or a piece of goods or property'.

78. The term *articles* has been found to be a very broad and comprehensive word, unlimited by the context in which it appears (*Quarries Ltd*;[25] *Faichney v. FC of T*[26]). Its meaning includes items that may not fall within the meaning of *plant*, due perhaps to their small size or portability (e.g., a watch[27]), or lack of business or industrial characteristics (*Faichney*). It does not include a structure erected or built in situ or a fixture *(Quarries Ltd*; Taxation Determination TD 97/24).

79. In order to be an item of *plant* the item must have an enduring character as a piece of machinery, apparatus or appliance used in the taxpayer's operation, as opposed to being consumed in the manufacturing process (*Davies Coop & Co Ltd*[28]).

80. In applying these principles to a research and development operation, every enduring chattel or fixture kept for use in carrying on the research and development operation and serving a functional purpose in those operations, is *plant*. This includes items that are kept to facilitate the R&D operations, such as computers for recording experimental data and design activities, microscopes, test benches, etc. It also includes items constructed as the object of the research and development activities, and kept to be used in testing, analysing or further developing the R&D results.

What is a prototype and can it be an item of plant?

81. A relevant question in looking at R&D *plant* is the treatment to be given to expenditure on a prototype in an R&D operation. The specific question is whether a prototype is, in fact, a unit of *plant* and, thus, whether expenditure on acquiring or constructing that item is *plant expenditure*, or whether this expenditure is *other expenditure*

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[25] (1961) 106 CLR 310; 35 ALTR 310.
[26] 72 ATC 4245; (1972) 3 ATR 435.
[27] *Case Q11* 83 ATC 14; *Case 75* (1983) 6 CTBR(NS).
[28] (1948) 77 CLR 299; 8 ATD 320.

(see paragraph (c) of the definition of *research and development expenditure* in subsection 73B(1)).

82. The term *prototype* does not feature in section 73B. It is an expression often used commonly to loosely describe a range of end-result items produced in a research and development operation, the most common use being to describe virtually any experimental, usually 'first-off' item. The expression may at times also be used to refer to items that are *pilot plant* as defined in subsection 73B(1). It is also often used to refer to an item that is the forerunner of a new line of trading stock, or to refer to an item of end-result plant that will be used in business operations on completion of the R&D activities.

83. Reference is made to the term prototype in the 1986 Explanatory Memorandum to the R&D Tax Concession Legislation[29] in the context of considering what activities involved in the creation of a prototype might be eligible *research and development activities*. There it was stated:

> 'A prototype is an original model on which something new is patterned. It is a basic model possessing the essential characteristics of the intended product; it is not an item intended for sale in its own right.'

84. A more specific definition of this term is found in *The Frascati Manual 1993*.[30] Paragraph 115 of this publication states that:

> 'A prototype is an original model constructed to include all the technical characteristics and performances of the new product. For example, if a pump for corrosive liquids is being developed, several prototypes are needed for accelerated life tests with different chemicals. A feedback loop exists so that if prototype tests are not successful the results can be used for further development of the pump.'

85. Paragraph 117 of *The Frascati Manual 1993* refers to prototypes separately from pilot plant.

86. As the term *prototype* is not used in section 73B, there is no need to determine a specific meaning of the term for these purposes. The treatment under section 73B of the various forms of 'prototype' (as per the various current, broad understandings of this term) depends on whether or not they can be classified as a *unit of plant* or *pilot plant*, as follows:

- the section 73B treatment of any such items that fall within the subsection 73B(1) definition of *pilot plant* is specifically prescribed for both pre and *post-*

[29] *Income Tax Assessment Amendment (Research and Development) Act 1986*
[30] OECD Proposed Standard Practice for Surveys of Research and Development (5th edition).

23 July 1996 pilot plant (the operative provisions being subsections 73B(15) and (15AA) respectively);

- expenditure on a 'prototype' that is a *full scale* end-result plant falls for consideration as *plant expenditure*;
- if the expenditure relates to an item that is the forerunner of a new line of trading stock, such as the first of a new line of life jackets, the treatment of that expenditure depends upon whether that 'prototype' performs a plant function in respect of the R&D operation being conducted. To the extent that the 'prototype' is to be used in carrying out the research and development activities, such as by submitting it to durability, longevity and strength testing, it performs such a plant function or, alternatively, is an article used in those operations. As such, the expenditure thereon (labour, materials and a portion of overheads) may fall for consideration as *plant expenditure*, subject to the exclusive use tests and the disposal provisions relating to *plant expenditure* (subject to the next dot point); or
- it is not an item of *plant*, however, if during the course of being used in the research and development activities, it is expected to be destroyed or rendered useless, i.e., in effect it is to be 'consumed' in the research and development operations (*Davies Coop*; Taxation Ruling IT 333) or if the 'prototype' does not perform any plant function (use) in respect of the R&D operations. In these circumstances, the expenditure is considered for deduction under subsection 73B(14) as '*research and development expenditure*'. Expenditure on the majority of items that are the forerunners of trading stock lines probably falls into this category.

Unit of plant

87. Identification of what is a *unit of plant* is critical to determining:

- whether the 'unit' is 'for use … exclusively' for the purpose of carrying on R&D activities at least for an initial period; and
- when the eligible company 'commences to use' that unit, for the purposes of subsection73B(4).

88. The expression 'unit of plant' is not defined in either the ITAA 1936 or the ITAA 1997. The meaning of the (similar)

expression 'unit of property' in the investment allowance provisions is considered in Taxation Ruling TR 94/11, and is relevant for these purposes.

89. The basic test put forward in TR 94/11, on the basis of the authorities summarised therein, is a 'function or purpose' test. An item is generally a 'unit of property', according to paragraph 3 of TR 94/11, if it has one or more of the following characteristics:

(a) it is an entire entity in itself, capable of being separately identified or regarded [as such] and having a separate function;

(b) the item is functionally complete in itself. However, the item need not be self-contained or used in isolation. It is not necessary that the item function on its own. It should, however, be capable of performing its intended discrete function;

(c) the item, when attached to another unit of property having its own independent function, varies the performance of that unit [and so a separate unit is created]; or

(d) the item itself performs a definable, identifiable function.

90. Paragraph 5 of TR 94/11 talks about separate units being integrally linked so as to create a single (larger) unit, having its own individual function. However, succeeding paragraphs make it clear that the authorities do not necessarily require absolute functionality, or 'self-containment' from an item for it to be categorised as a 'unit of property': see especially *Tully Co-operative Sugar Milling Assoc Ltd v. FC of T*[31] and *Monier Colortile Pty Ltd v. FC of T*.[32] In *Monier* a base station and executive handset, and each of 16 separate mobile stations (making up a two-way radio system), were held to be separate units of property. This was so despite the fact that the base station was 'useless' without one or more of the mobile stations, and vice versa.

91. Conversely, in *FC of T v. Veterinary Medical and Surgical Supplies Ltd*,[33] discussed in paragraph 23 of TR 94/11, the whole telephone system, comprising a central processing system and seven interactive handsets, was held to be a single unit of property. While not attempting any direct reconciliation of these apparently conflicting decisions, TR 94/11, after citing certain passages from *Tully Co-operative*, does state at paragraph 27;

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[31] 82 ATC 4454; (1982) 13 ATR 410.
[32] 84 ATC 4846; (1984) 15 ATR 1256.
[33] 88 ATC 4642; (1988) 19 ATR 1593.

> 'Thus, whether there is a functionally complete unit or simply a component in a larger system which is the "unit of property" will be a question of fact and degree which can only be decided by reference to the specific facts in issue.'

92. When applying a functional test to research and development *plant*, and in particular to end-result plant, the likely relevant types of function that such plant perform are those such as testing, analysis, data extraction, modification, etc., within the R&D process. Each of these functions is sufficiently complete, definable and identifiable, so as to give the item subjected to those uses the characteristics of a 'unit of plant' in respect of the R&D operations.

93. There are two general fact scenarios that are likely to arise in relation to end-result plant. The first is where an item is designed, developed and constructed as a whole and, once built, is subjected to such R&D uses as testing, data extraction, analysis and modification. Through this process the item may be subjected to retesting, etc., following adjustment or modification of the item. The item in these circumstances is considered to comprise a unit of plant by virtue of performing these R&D functions, assuming the modifications are not so extensive as to create a different *unit of plant*. If this is the case, the comments in paragraphs 94 to 101 below concerning *evolving* units of plant are relevant.

94. The second set of circumstances are an R&D program instigated to develop a complex item of plant that is comprised of many components, with several of the components being experimental, and/or where the integration of the components together may be experimental or risky. Thus, there can be technical uncertainty in both the development of components as well as whether the components can be successfully integrated together to form the larger unit of plant.

95. The answer to 'what are the units of plant' in these circumstances is determined on a factual analysis of the R&D activity being undertaken. As stated by Fox J in *FC of T v. Tully Co-operative*[34] at ATR 500; ATC 4500:

> 'Several items, each of which at some stage could for presently relevant purposes be regarded as a unit, can be combined, or linked or associated together so as to form a larger unit. When one looks to see whether there is a unit, one normally looks to see whether there is a whole something. Whether there is a whole will normally be judged by the intended function or purpose of that which is being looked at.'

96. In this scenario, the R&D functionality in the initial testing (or other R&D use) of a component stamps that component with the

[34] (1983) 14 ATR 495; 83 ATC 4495.

character of a 'unit of plant'. Should this component subsequently be integrated with other components (whether experimental components or not), with the integrated item then being subjected to testing (or other R&D use), then a new 'unit of plant' has been formed. This new 'unit of plant' comprising integrated components is a different one from the initial 'unit(s) of plant', both in appearance, complexity and the nature of the testing, etc., carried out. In this way, one or several 'units of plant' may merge together or with other components and be transformed into other 'units of plant'.

97. While it might be expected that such an evolving *unit of plant* would be a concept peculiar to R&D activities, it is to be noted that this concept was clearly contemplated in a normal manufacturing environment (see the quote from *Tully Co-operative* in paragraph 91 above).

98. In this second scenario, an amount of qualifying plant expenditure exists under subsection 73B(4) from the time each experimental component 'unit of plant' is used in the testing process (or other R&D function). The act of merging these existing 'units of plant', or combining such 'units of plant' with other non-experimental components into a new 'unit of plant', with a different R&D function, produces the following consequences.

99. The first components built and tested, so as to be 'units of plant', give rise to *plant expenditure*, subject to write-off over up to a three year period (dependent upon the period for which these items are 'used' in the R&D activities). On integration of these 'units of plant' together with other units or components, the additional costs incurred in integration (including the costs of other non-experimental components) are the costs attributable to the new *unit of plant*, again subject to a three year write-off from the time the use in the R&D activities commences. The question arises whether the original component 'units of plant', by virtue of ceasing to exist as a 'unit of plant' in their former form, are said to have 'ceased to be used exclusively in carrying on R&D activities' for the purposes of subsection 73B(5). If the answer to this question were 'yes', then entitlement to further concessional deduction for that expenditure would cease.

100. The better view is that the initial component 'units of plant' continue to be used in carrying on the R&D activities, even though that use takes place when they are integrated into a new 'unit of plant'. In this way, all of the expenditure on experimental plant used in the R&D operation is eligible for concessional treatment during the period in which such use occurs.

101. A consequence of the discussion in paragraphs 87 to 100 above is that components or items that would not normally be regarded as *units of plant* in a production or manufacturing operation

(because they are not functionally complete in themselves in a manufacturing sense and because they form a part of a larger 'unit of plant') may, when being developed in an R&D operation, comprise separate *units of plant*' for those purposes. The key point is that it is the 'use' or 'function' which is served in the R&D operation that is important in making this assessment, not the subsequent 'use' or 'function' which the completed item will serve in a production setting.

Expenditure incurred in the acquisition or construction of a unit of plant

102. The terms '*acquisition*' and '*construction*' are not defined within section 73B, and are interpreted according to their ordinary meanings. The *Macquarie Dictionary* meaning of '*acquisition*' is 'the act of acquiring or gaining possession', with '*acquire*' defined as ' to come into possession of, get as one's own, to gain for oneself through one's actions and efforts'. '*Construction*' is defined as 'the act or art of constructing the way in which a thing is constructed; structure'. '*Construct*' is defined as 'to form by putting together parts; build; frame; devise'.

103. An issue has been raised as to whether this term includes the costs of transportation and installation of a 'unit of plant', i.e., whether such costs are incurred 'in' the acquisition or construction of a 'unit of plant'.

104. A 'unit of plant' (say, for example, a component of an industrial machine that is also a 'unit of plant' in an R&D operation as per paragraph 92) may be built in one location, and then transported to another location, where it is integrated with other components into a larger 'unit of plant' for use in further R&D activities. In this case, the transportation and installation costs are incurred in bringing the latter 'unit of plant' into existence, and are 'incurred in the construction' of that latter 'unit of plant' (see the second dot point in paragraph 35).

105. Alternatively, a 'unit of plant' may be constructed in a factory location, but the use or role that it is to perform in the R&D program can only be carried out in another location (as per the first dot point in paragraph 35). Here, the costs of transportation and installation are costs incurred '*in the acquisition or construction of a unit of plant*' because these costs form a part of the 'cost' of the unit of plant, for reasons outlined in the following paragraphs.

106. It was noted in *Case S51*,[35] at 382, that the words 'acquisition or construction' in the investment allowance provisions should be given a meaning that is in harmony with the operation of the

[35] 85 ATC 380.

depreciation provisions. The Board of Review thought this was the intended result, as was evident from the choice of the common base of a 'unit of property'.

107. The expression used in the investment allowance provisions is very similar to that used in the definition of *plant expenditure*. Former subsection 82AB(1) of the ITAA 1936 read in part:

> '… where -
>
> (a) on or after 1 January 1976, a taxpayer has incurred expenditure of a capital nature (in this section referred to as "eligible expenditure") in respect of the acquisition or construction by him of a new unit of eligible property to which this subdivision applies; …'.

108. In *Tully Co-operative*, which considered this provision, the costs of installation and erection of items acquired from other parties (either by employees of the company or third parties supervised by employees) were found to be costs of construction. Given the similarities between the *plant expenditure* and the investment allowance expressions, there is strong argument for a consistent interpretation for both.

109. The arguments for 'harmony' that were expressed in *Case S51* are equally valid as between the *plant expenditure* definition in subsection 73B(1) and the depreciation provisions. Such harmony also provides for a smooth transition of unclaimed *plant expenditure* to the depreciation provisions, as provided for under subsection 73B(21), at its *written-down value* under subsection 73B(4A). This latter subsection uses the *cost of the unit* as a base (adjusted according to the number of years in which claims have been allowed), as opposed to *the total plant expenditure* incurred. A lack of such harmony between these concepts would produce a nonsensical result.

Design costs

110. Costs of preparation of engineer's drawings, blueprints, plans and specifications for an actual 'unit of plant' are costs incurred in the construction of the unit of plant to which they relate, being direct costs of bringing into existence that unit of plant, unless these costs are *de minimus*. As such, they are costs of acquisition or construction of that 'unit of plant', and will comprise *plant expenditure*. However, general concept design and development costs (such as the salary and overhead costs of basic and applied research,[36] computer modelling, etc.) are not costs incurred in the construction of any specific 'unit of plant'. These will likely comprise 'other' expenditure within the

[36] As these terms are used in the Explanatory Memorandum to *Income Tax Assessment Amendment (Research and Development) Act 1986*, page 15.

meaning of *research and development expenditure*. These costs do not directly relate to the actual bringing into existence of a particular 'unit of plant'.

111. It needs to be acknowledged that in today's environment, computer assisted techniques will generally play a role to some degree in the design and development of a new concept. At one extreme, this may involve the use of a fully computerised suite of integrated packages which translate into one another, from concept development (sketching, modelling, 2D and 3D model simulation, option selection) to detailed design (material specification, geometry), testing and evaluation (simulation, rapid prototyping, Finite Element Analysis (FEA), Detection Failure Mode Effect Analysis (DFMEA) and documentation (elevations, architecture, blueprints, engineer's drawings).

112. In this type of scenario, as design changes are incorporated into the package, these are directly and automatically effected into the documentation (blueprints and drawings), in most cases. As such, there will be no, or negligible, additional cost involved in generating the construction drawings from which the plant will be built. In these circumstances, no amount is required to be isolated out of the overall concept development costs to be attributed to the creation of the drawings/ blueprints and included in *plant expenditure*.

113. Where, however, a rapid prototyping program is used to drive the physical creation of a prototype or model that is a *unit of plant*, the costs (e.g., salary and wages, overhead costs) involved in running the package to create the model, as well as material costs, will of course, comprise *plant expenditure* for that unit of plant.

114. Computer Assisted Design (CAD) packages, being very costly, are often employed to lesser degrees, on a selective basis, in a product development. Regardless of the extent of CAD use in the earlier concept development phases, if the plant blueprints /drawings are prepared manually, the costs of these will be readily identified (and significant) and should be included as *plant expenditure* for that unit of plant.

115. Note that this consideration does not apply to the costs of the computers themselves which are used in CAD activities. These are clearly items of plant in their own right used in R&D activities, and the treatment of the expenditure thereon must be considered under the plant provisions and this Ruling, separately from the costs of any unit of plant which their use results in the creation of.

Salary and wage expenditure incurred in the construction of plant

116. Expenditure incurred by an eligible company on salary and wages, where the labour in question is used to construct an item of

'plant' in respect of which *plant expenditure* can accumulate, potentially falls within both the definition of *salary expenditure* and the definition of *plant expenditure* in section 73B. However, salary expenditure is included within the definition of *research and development expenditure* in subsection 73B(1) (which falls for deduction under subsection 73B(14)), *except to the extent that it includes expenditure incurred in the acquisition or construction of plant or pilot plant*. Consequently, any expenditure that comes within the definition of salary expenditure that is incurred in the acquisition or construction of *plant*, does not comprise *research and development expenditure,* and falls for consideration solely under the *plant expenditure* provisions.

Meaning of 'for use … exclusively for the purpose of carrying on … of research and development activities at least for an initial period'

117. The words 'for use' within the definition of *plant expenditure* refer to the use to which it is intended to put the 'unit of plant' (*FC of T v. Stewart*[37]). The only relevant intended use is that to which the plant is to be put initially, as its first use. This intention should be gauged at the time the relevant expenditure on the *plant* is incurred.

118. In the sales tax context, the test in the words 'for use', relating to the use of goods, is based upon *bona fide* intentions existing at the relevant time and is not necessarily affected by, or dependent on, actual subsequent use: see e.g., Taxation Ruling ST(NS) 3.

119. The fuller expression, 'for use exclusively', also appears in sales tax law. Paragraph 3.9 of Taxation Ruling ST(NS) 3 says of the term 'exclusively' in the 'for use' test:

> 'When this word is used to qualify the use of the goods, it means that the goods should not be for use in any other way or for any other purpose'.

120. In *Randwick Municipal Council v. Rutledge*,[38] Windeyer J said at 94:

> 'The presence of "exclusively", "solely" or "only" always adds emphasis, and is not to be disregarded. … As Kitto J. said in *Lloyd v. Federal Commissioner of Taxation* ((1955) 93 C.L.R. 645, at p.671), such words confine the use of the property to the purpose stipulated and prevent use of it for any purpose, however minor in importance, which is collateral or

[37] 84 ATC 4146; (1984) 15 ATR 387.
[38] (1959) 102 CLR 54.

independent, as distinguished from incidental to the stipulated use.'[39](emphasis added)

121. Consequently, the phrase *'for use ... exclusively for the purpose of carrying on ... of research and development activities at least for an initial period*', will be satisfied where the company has an intention to first use the plant solely and exclusively in the conduct of R&D activities. If the initial intended use of the plant is for a non-R&D purpose (that is not merely incidental to any R&D use), or for mixed R&D/ non-R&D purposes, the expenditure on the unit of plant will not comprise *plant expenditure*.

Determining the company's intention

122. For practical purposes, where the actual initial use of a unit of plant is solely for the purpose of carrying on R&D activities, the need to question the company's intention at the time of incurring the expenditure does not arise.

123. Where, however, in reviewing a *plant expenditure* claim, it is established that a unit of plant in respect of which *plant expenditure* is claimed was applied initially to a use other than an R&D use, the question arises whether this other use arose as a result of a change of intention by the company, or if it was always intended that the unit be so applied. In the event of the latter, deductions for *plant expenditure* are not allowable.

124. It is to be emphasised that the key issue to be concluded in relation to the expression '*for use... exclusively*' is what was in the mind of the company for future use of the plant at the time of incurring the expenditure. This intention is ascertained by reference to the intention of those who own and control the company at the relevant time (*FC of T v. Whitford's Beach Pty Ltd*[40]), but this is not to say that the surrounding circumstances are irrelevant.

125. Written evidence of the company's intention at the time the expenditure is incurred will therefore be relevant, especially where it is consistent with the circumstances surrounding the actual use of the items of plant that the expenditure relates to. Inconsistencies between the statements of intended use and actual use will need to be suitably explained.

126. Where the objective facts cast doubt upon the credibility or reliability of a person's statement of purpose, all of the circumstances

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[39] In *Farnell Electronic Components Pty Ltd v. Collector of Customs* (1996) 72 FCR 125 Hill J agreed that the distinction drawn by Windeyer J in this respect, was an application of the *de minimus* principle, i.e., 'the principle that the law is not concerned with trifles (*de minimus non curat lex*)'.

[40] Per Mason J 82 ATC 4031 at 4047, (1982) 12 ATR 692 at 710.

must be considered in determining the true purpose (*Parker Pen (Australia) Pty Ltd v. Export Developments Grants Board*[41]).

127. Matters that may be indicative, to varying degrees, of the initial intentions of the company in acquiring or constructing the plant could include:

- the company's stated intentions and plans (including contingency plans) and corporate records thereof; or
- the actual uses to which the plant has been applied, and the credibility of any explanations given by the company to justify a claimed change of intention and consequent use.

128. None of these factors is necessarily seen as conclusive in itself and in any particular case, other factors may also be relevant.

Qualifying plant expenditure

Meaning of 'commences to use … exclusively'

129. As was noted in paragraphs 87 to 101 of this Ruling, the identification of a unit of plant requires a consideration of whether the item in question performs a discrete, identifiable function in the operation being conducted, and is a question of fact and degree. In a research and development operation concerned with an ***end-result*** unit of plant, this functional use is often that of testing, analysing or modifying, etc., the item.

130. The date of commencement of use of the unit of plant exclusively for R&D activities is that date on which the unit of plant commences to be applied to those R&D functional purposes. This does not necessarily refer to the first date on which actual physical use occurs; rather, it refers to the time when the unit of plant is sufficiently completed and held solely for the purpose of carrying on R&D activities.[42] The act of constructing or assembling the unit of plant does not qualify as an R&D use, for the reason that the unit of plant itself does not exist until the construction is completed, and is available to perform its function in the R&D activities. The end-result, innovative mainframe computer referred to in paragraph 17, therefore, will not comprise a 'unit of plant', nor be able to commence R&D use during its construction phase. It will comprise such a unit of plant, and will have commenced R&D use, when it is used in the R&D activities for testing and evaluation purposes, even if further construction or modification work subsequently takes place (see paragraphs 94 to 101

[41] (1983) 46 ALR 612; (1983) FLR 234.
[42] See paragraphs 132 to 138 for an analysis of the appropriate meaning of 'use' in the current context.

for a discussion concerning 'evolving' units of plant, and units of plant that are merged into another unit of plant).

131. The determination of what comprises a unit of plant and when it commences to be used in the R&D operation, is unaffected by the fact that the item may not be completed or used in a conventional 'production' sense and, in fact, it may transform into several such units of plant before it reaches completion in that sense.

Meaning of 'ceases to use'

132. The term 'use' in the context of subsection 73B(5) is not confined to actual physical use. Such a narrow interpretation could lead to the conclusion that switching a unit of plant off at night or during a lunch break was a cessation of use. As was said in *Ryde Municipal Council v. Macquarie University*[43] by Gibbs ACJ at 637:

> 'No-one can doubt that 'used' is a word of wide import, and that its meaning in any particular case depends to a great extent on the context in which it is employed.'

133. In *Transfield Kumagai Contracting Pty Ltd v. FC of T*[44] Grove J said at ATR 1009; ATC 4966:

> 'The word "use" is to be understood in its ordinary meaning of purpose served or object or end and is not restricted to any notion of actual physical use. See *Max Factor & Co. Inc. v. FC of T* 71 ATC 4136; (1971) 124 CLR 353.'

134. A similar interpretation is warranted by the context of subsection 73B(5). Thus, where a company is holding and maintaining a unit of plant solely for the purpose of utilising it for specific research and development activities and, when required, is physically applying it to that purpose and to no other purpose, it is 'using' the unit of plant exclusively for the purpose of carrying on R&D activities. The operation of subsection 73B(5) is not triggered.

135. This interpretation invokes similar tests to those that were legislatively applied to the concessional deduction for R&D building expenditure under subsection 73B(7), prior to the revocation of that provision.[45] Events, in relation to a building, that were stated not to offend subsection 73B(5) were:

- where its use for that purpose had, at that time, ceased by reason only of a temporary cessation of the use of the building by reason of the construction of an

[43] (1978) 139 CLR 633.
[44] 90 ATC 4960; (1990) 21 ATR 1003.
[45] Pursuant to subsection 73B(5A) the concessional deduction for building expenditure applies only to buildings bought or constructed prior to 21 November 1987.

extension, alteration or improvement or the making of repairs to the building; or

- it was, at that time:
  - maintained ready for that purpose;
  - not for use for any other purpose; and
  - its use or intended use for that purpose had not been abandoned.

136. Subsection 73B(5) operates if either of the following events occur:

- the unit is physically applied to any other purpose; or
- the unit ceases to be held solely for the requisite purpose.

Where cessation of use occurs in the year of commencement

137. Where the usage of a unit of plant exclusively for research and development activities commences and concludes within the one financial year, and the unit of plant is not one held for use in other research and development projects, there is a cessation of use of the plant within that year. Consequently, no amount of qualifying plant expenditure exists in that year, or any subsequent year, for which a deduction can be obtained under subsection 73B(15), by virtue of the operation of subsection 73B(5). Any expenditure on acquiring or constructing such a unit of plant falls to be considered only under the general depreciation provisions of the ITAA 1936.

The true nature of an arrangement

138. In determining the amount and type of expenditure that qualifies for concessional treatment under section 73B, the 'labels' used in relevant agreements are not necessarily determinative of the character to be attributed to the expenditure (see *McLennan v. FC of T*;[46] *FC of T v. South Australian Battery Makers Pty Ltd*;[47] *FC of T v. Creer*[48] and *Cliffs International Inc v. FC of T*[49]). In particular, where it is claimed that expenditure is incurred in the provision of research and development services, the matrix of facts surrounding the agreements is examined to determine whether in substance the true character of the expenditure was in the acquisition

[46] 90 ATC 4047; (1989) 20 ATR 1771.
[47] 78 ATC 4412; (1978) 140 CLR 645.
[48] 86 ATC 4318; (1986) 17 ATR 548.
[49] 79 ATC 4059; (1979) 9 ATR 507.

or construction of plant (see *Reuter v. FC of T*[50] and *FC of T v. Cooling*.[51]), or indeed whether the documents are a sham (see *Snook v. London and West Riding Investments*[52]).

[50] 93 ATC 5030; (1993) 27 ATR 256.
[51] 90 ATC 4472; (1990) 21 ATR 13.
[52] (1967) 2 QB 786 at 802.

Appendix A

LEGISLATION EXTRACTS (Grouped for ease of reference)

GENERAL

73B(1) 'eligible company' means a body corporate incorporated under a law of the Commonwealth or of a State or Territory.

Trustee or nominee excluded

73B(3) A reference in this section to the incurring of expenditure by an eligible company does not include a reference to expenditure incurred by the company in the capacity of a trustee or nominee other than expenditure incurred by the company on or after 1 July 1988 in the capacity of a trustee of a public trading trust for the purposes of Division 6C in relation to the year of income in which the expenditure was incurred.

Requirement to register

73B(10) A deduction is not allowable under this section to an eligible company for a year of income in respect of expenditure in relation to research and development activities unless:

(a) the company is registered, in relation to the year of income and in relation to those activities, under section 39J of the Industry Research and Development Act 1986; or

(b) the company is registered, in relation to the year of income and in relation to a project comprising or including those activities, under section 39P of that Act.

***73B(1)* '*aggregate research and development amount*'** in relation to an eligible company in relation to a year of income, means the sum of:

(a) the research and development expenditure incurred by the company during the year of income; and

(aa) the deductions allowed for core technology expenditure under subsections (12) and (12A) in the company's assessment in respect of the year of income; and

(b) one-third of the total qualifying plant expenditure of the company in relation to the year of income; and

(ba) four-fifths of the deductible amount, or the sum of the deductible amounts, of qualifying expenditure in relation to the company in respect of a unit or units of

post-23 July 1996 pilot plant in relation to the year of income; and

(c) one-third of the total qualifying building expenditure of the company in relation to the year of income; and

(d) the amount of any deduction that has been allowed, or is allowable, under Division 10D of this part, or under Division 43 of the *Income Tax Assessment Act* 1997 in the assessment of the company in respect of the year of income because of the use by the company of a building for the purpose of carrying on research and development activities; and

(e) interest expenditure,

but does not include expenditure on overseas research and development activities that is not certified expenditure.

PROVISIONS DEALING WITH PLANT EXPENDITURE (excluding post 23-July 1996 pilot plant)

73B(1) "pilot plant" means an experimental model of other plant for use in research and development activities or for use in commercial production, being a model that is not for use in commercial production but that has the intended essential characteristics of the other plant of which it is a model.

73B(1) "plant" means:

(a) things that are plant within the meaning of section 42-18 of the Income Tax Assessment Act 1997 (whether or not depreciation is allowable under Division 42 of that Act in respect of the things); or

(b) things to which section 42-18 of that Act would apply if the carrying on of research and development activities were the carrying on of a business for the purpose of producing assessable income; or

(c) pilot plant other than post-23 July 1996 pilot plant.

73B(1) "***plant expenditure"***, in relation to an eligible company, means expenditure incurred by the company in -

(a) the acquisition, or the construction, under a contract entered into on or after 1 July 1985, of a unit of plant other than post-23 July 1996 pilot plant; or

(b) the construction by the company, being construction that commenced on or after 1 July 1985, of a unit of plant other than post-23 July 1996 pilot plant,

being a unit of plant for use by the company exclusively for the purpose of the carrying on by or on behalf of the company of research and development activities at least for an initial period.

73B(1) "written-down value" has the meaning given by subsections (4A) and (4B).

Qualifying Expenditure

73B(4) Subject to subsection (5), where, during a year of income:

(a) an eligible company commences to use a unit of plant in respect of which the company has incurred an amount of plant expenditure exclusively for the purpose of the carrying on by or on behalf of the company of research and development activities; or

(b) (b)an eligible company commences to use a building, or an extension, alteration or improvement to a building, in respect of which the company has incurred an amount of building expenditure exclusively for the purpose of the carrying on by or on behalf of the company of research and development activities,

that amount shall, in relation to that unit of plant, that building or that extension, alteration or improvement, as the case may be, be taken to be an amount of qualifying plant expenditure or qualifying building expenditure, as the case may be, in relation to the company in relation to the year of income and in relation to each of the 2 succeeding years of income.

Plant other than post-23 July 1996 pilot plant

73B(4A) The "written-down value" of a unit of plant other than post-23 July 1996 pilot plant:

(a) that is owned by a company; and

(b) in relation to which a deduction has been allowed under this section from the company's assessable income;

is the amount worked out using the formula:

$$\text{Cost} - \left(\frac{\text{Cost} \times \text{Number of deductible years}}{3}\right)$$

where:

"cost" means the cost of the unit.

"number of deductible years" means the number of years of income in respect of which a deduction has

been allowed from the company's assessable income under this section in relation to the unit.

Cessation of use of plant or building during year

73B(5) Where:

(a) apart from this subsection, there would be an amount of qualifying plant expenditure in relation to a unit of plant owned by an eligible company in relation to a year of income or an amount of qualifying building expenditure in relation to a building, or an extension, alteration or improvement to a building, owned by an eligible company in relation to a year of income; and

(b) at any time during the year of income, the company ceases to use that unit of plant, that building or that extension, alteration or improvement, as the case may be, exclusively for the purpose of the carrying on by or on behalf of the company of research and development activities,

there shall be no amount of qualifying plant expenditure in relation to that unit of plant or no amount of qualifying building expenditure in relation to that building, or that extension, alteration or improvement, as the case may be, in relation to the year of income or any succeeding year of income.

Deduction for Qualifying plant expenditure

73B(15) Subject to this section, where, in the year of income during which an eligible company commences to use a unit of plant exclusively for the purpose of the carrying on by or on behalf of the company of research and development activities or in either of the 2 succeeding years of income, there is an amount of qualifying plant expenditure in relation to the company in relation to the unit of plant:

(a) in a case where the aggregate research and development amount in relation to the company in relation to the year of income is greater than $20,000 - one-third of the amount of that qualifying plant expenditure multiplied by 1.25; or

(b) in any other case - one-third of the amount of that qualifying plant expenditure,

is allowable as a deduction from the assessable income of the company of the year of income.

Election that the section not apply

73B(18) An eligible company may elect that this section shall not apply in relation to a unit of plant to which this section would otherwise apply and, where an election is so made, this section does not apply in relation to that unit of plant in relation to the company.

73B(19) An election referred to in subsection (18) in respect of a unit of plant:

(a) shall be exercised by notice in writing to the Commissioner; and

(b) shall be lodged with the Commissioner on or before the date of lodgment of the return of income of the eligible company for the first year of income in which a deduction under this section would be allowable to the company in respect of the unit of plant, or before such later date as the Commissioner allows.

(Repealed with effect from 4 June 1998.)

Deduction allowable only under this section

73B(20) Subject to subsections (21), (21A), (22), (28) and (30), where the whole or a part of an amount of expenditure incurred by an eligible company has been allowed or is or may become allowable as a deduction under this section, that expenditure shall not be an allowable deduction, and shall not be taken into account in ascertaining the amount of an allowable deduction, from the assessable income of the company of any year of income under any other provision of this Act.

Cessation of use and subsequent re-use

73B(21) Subsection (20) does not prevent a deduction for depreciation being allowed to an eligible company in respect of a unit of plant (other than post-23 July 1996 pilot plant) where the company has, before the end of the second year of income (in this subsection referred to as the 'relevant year of income') after the year of income in which the company first used the unit of plant exclusively for the purpose of the carrying on by or on behalf of the company of research and development activities, ceased to use the unit of plant exclusively for that purpose, and where, by reason of the subsequent use of the unit of plant for another purpose, such a deduction becomes allowable, the unit of plant shall be deemed to have been acquired by the company:

(a) at a cost equal to the written-down value of the unit of plant; and

(b) on:

(i) in a case where the unit of plant was used by the company exclusively for that first-mentioned purpose on the first day of the relevant year of income - that day; or

(ii) in any other case - the day on which the unit of plant was first used by the company for that first-mentioned purpose.

Deductions allowable under other provisions outside the three year period

73B(22) Where deductions have been allowed to an eligible company under subsection (15) in respect of expenditure incurred by the company in the acquisition or construction of a unit of plant to which subsection (6) applies in respect of 3 years of income, subsection (20) does not prevent a deduction for depreciation being allowed to the company in respect of the unit of plant in respect of a later year of income, and where such a deduction becomes allowable, the unit shall be deemed to have been acquired by the company immediately after the end of the last year of income in respect of which a deduction was allowed to the company under this section in respect of that expenditure at a cost equal to the written-down value of the unit of plant.

Loss disposal or destruction of Qualifying plant

73B(23) Where:

(a) a deduction has been allowed or is allowable to an eligible company under subsection (15) in respect of expenditure incurred in the acquisition or construction of a unit of plant (other than a unit of pilot plant to which subsection (6) applies);

(b) during a year of income, the unit of plant is disposed of, lost or destroyed;

(c) the company had used the unit of plant before it was disposed of, lost or destroyed exclusively for the purpose of the carrying on by or on behalf of the company of research and development activities; and

(d) no deduction has been allowed or is allowable to the company under section 54 of this Act or Division 42 (Depreciation) of the Income Tax Assessment Act 1997 in respect of the unit of plant;

then:

(e) in a case where the consideration receivable in respect of the disposal, loss or destruction is less than the written-down value of the unit of plant:

(i) if the aggregate research and development amount in relation to the company in relation to the year of income is greater than $20,000 - the amount ascertained by multiplying the amount by which that written-down value exceeds that consideration receivable by 1.25; or

(ii) if the aggregate research and development amount in relation to the company in relation to the year of income is less than or equal to $20,000 - the amount by which that written-down value exceeds that consideration receivable,

is allowable as a deduction from the assessable income of the company of the year of income; or

(f) in a case where the consideration receivable in respect of the disposal, loss or destruction is greater than the written-down value of the unit of plant - so much of the excess as does not exceed the difference between the cost of the unit of plant and the written-down value of the unit of plant shall be included in the assessable income of the company of the year of income.

PROVISIONS DEALING WITH RESEARCH AND DEVELOPMENT EXPENDITURE

73B(1) **"*research and development expenditure*"**, in relation to an eligible company in relation to a year of income, means expenditure (other than core technology expenditure, interest expenditure, feedstock expenditure or expenditure incurred in the acquisition or construction of plant or pilot plant or a building or of an extension, alteration or improvement to a building) incurred by the company during the year of income, being:

(a) contracted expenditure of the company;

(b) salary expenditure of the company, being expenditure incurred on or after 1 July 1985; or

(c) other expenditure incurred on or after 1 July 1985 directly in respect of research and development activities carried on by or on behalf of the company on or after 1 July 1985;

and includes any eligible feedstock expenditure that the company has in respect of the year of income in respect of related research and development activities.

"***salary expenditure***", in relation to an eligible company in relation to a year of income, means the sum of:

(a) the expenditure, not being expenditure referred to in paragraph (b), incurred by the company during the year of income by way of salaries, wages, allowances, bonuses, overtime payments or penalty rate payments for officers or employees of the company, being expenditure incurred directly in respect of research and development activities carried on by or on behalf of the company on or after 1 July 1985;

(b) in relation to each officer or employee of the company who was engaged at any time during the year of income in research and development activities carried on by or on behalf of the company - so much of the expenditure incurred by the company during the year of income in respect of annual leave, sick leave or long service leave for that officer or employee or contributions to superannuation funds in respect of that officer or employee as bears to that amount the same proportion as the proportion of the year of income during which that officer or employee was engaged in research and development activities carried on by or on behalf of the company bears to the proportion of the year of income during which that officer or employee was engaged in any activities carried on by or on behalf of the company; and

(c) so much of the expenditure incurred by the company during the year of income on pay-roll tax and premiums for workers' compensation insurance as the Commissioner considers reasonable having regard to:

(i) the amount of the expenditure incurred by the company during the year of income to which paragraph (a) or (b) applies;

(ii) the total expenditure incurred by the company during the year of income in respect of salaries, wages, allowances, bonuses, overtime payments, penalty rate payments, annual leave, sick leave and long service leave in respect of all officers and employees of the company; and

(iii) such other matters as the Commissioner considers relevant.

Deduction for non-contracted expenditure

73B(14) Subject to this section, where:

(a) an eligible company incurs research and development expenditure (other than contracted expenditure) during a year of income; and

(b) the aggregate research and development amount in relation to the company in relation to the year of income is greater than $20,000,

the amount of that expenditure multiplied by 1.25 is allowable as a deduction from the assessable income of the company of the year of income.

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Commissioner of Taxation
16 January 2002

Previous draft:
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Related Rulings/Determinations:
IT 31; IT 333; IT 2552; TD 97/24; TR 92/20; TR 94/11; ST(NS) 3

Subject references:
- acquisition
- construction
- end-result plant
- plant
- plant expenditure
- facilitate plant
- prototype
- qualifying plant expenditure
- research and development activities
- salary expenditure

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