

## CHAPTER 14

### RESEARCH AND DEVELOPMENT EXPENDITURE

#### 14.1 Introduction

This relief was originally introduced for **small and medium sized companies** by **Finance Act 2000**. Note that the relief is not available to traders - only to companies.

The relief has now been **extended and improved** by subsequent Finance Acts to include relief for **large companies** and for work **subcontracted to** small and medium companies

Useful guidance can be found in the legislation in the Miscellaneous Non Statutory Material.

#### 14.2 Definition of R&D

The legislation defines research and development (R&D) as activities that fall to be treated as R&D in accordance with **generally accepted accounting practice**. Thus we need to look at **SSAP 13** (IAS 38) for the definition. This definition is then modified by guidelines and the latest of these were published in March 2004.

[CTA 2010, s.1138](#)

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SSAP 13 distinguishes R&D activity from non-research activity by the test of whether there is **presence of an appreciable element of innovation**. If the activity departs from routine and breaks new ground it is normally included; however, if it follows an established pattern it is normally excluded.

The guidelines state that:

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- R&D for tax purposes takes place when a project seeks to achieve an advance in science or technology.
- The activities which directly contribute to achieving this advance in science or technology through the resolution of scientific or technological uncertainty are R&D.
- Certain qualifying indirect activities related to the project are also R&D. Activities other than qualifying indirect activities which do not directly contribute to the resolution of the project's scientific or technological uncertainty are not R&D.

- An advance in science or technology means an advance in overall knowledge or capability in a field of science or technology (not a company's own state of knowledge or capability alone). This includes the adaptation of knowledge or capability from another field of science or technology in order to make such an advance where this adaptation was not readily deducible.
- An advance in science or technology may have tangible consequences (such as a new or more efficient cleaning product, or a process which generates less waste) or more intangible outcomes (new knowledge or cost improvements, for example).
- A process, material, device, product, service or source of knowledge does not become an advance in science or technology simply because science or technology is used in its creation. Work which uses science or technology but which does not advance scientific or technological capability as a whole is not an advance in science or technology.

A project which seeks to, for example—

- (a) extend overall knowledge or capability in a field of science or technology; or
- (b) create a process, material, device, product or service which incorporates or represents an increase in overall knowledge or capability in a field of science or technology; or
- (c) make an appreciable improvement to an existing process, material, device, product or service through scientific or technological changes; or
- (d) use science or technology to duplicate the effect of an existing process, material, device, product or service in a new or appreciably improved way (e.g. a product which has exactly the same performance characteristics as existing models, but is built in a fundamentally different manner)

will therefore be R&D.

Even if the advance in science or technology sought by a project is not achieved or not fully realised, R&D still takes place.

If a particular advance in science or technology has already been made or attempted but details are not readily available (for example, if it is a trade secret), work to achieve such an advance can still be an advance in science or technology.

However, the routine analysis, copying or adaptation of an existing product, process, service or material, will not be an advance in science or technology.

Scientific or technological uncertainty exists when knowledge of whether something is scientifically possible or technologically feasible, or how to achieve it in practice, is not readily available or deducible by a competent professional working in the field. This includes system uncertainty. Scientific or technological uncertainty will often arise from turning something that has already been established as scientifically feasible into a cost-effective, reliable and reproducible process, material, device, product or service.

Uncertainties that can readily be resolved by a competent professional working in the field are not scientific or technological uncertainties. Similarly, improvements, optimisations and fine-tuning which do not materially affect the underlying science or technology do not constitute work to resolve scientific or technological uncertainty.

### 14.3 Small and medium sized companies

A company incurring qualifying Research and Development (R&D) expenditure will be able to claim a **deduction equal to 175% of the costs** incurred in calculating its taxable total profits.

[CTA 2009, s.1044\(8\)](#)

The usual effect of this is that the **further 75%** of the R&D expenditure needs to be **deducted in arriving at the adjusted profits for tax purposes**.

#### Illustration 1

Small Limited spends £65,000 on qualifying R&D in its accounting period ended 31 July 2011.

In calculating taxable total profits for the year to 31 July 2011 the total deduction for R&D will be:

$$£65,000 \times 175\% = £113,750$$

If the £65,000 has already been deducted in arriving at the accounting profit, this means that an additional deduction of

$$(£113,750 - 65,000) = \mathbf{£48,750}$$

should be put through as an adjustment in arriving at the profits for tax purposes.

To qualify for the relief the company **must spend £10,000** on qualifying R&D.

[CTA 2009 s.1050\(1\)](#)

This figure is for a **12 month accounting period** and will be proportionally reduced where the accounting period is less than 12 months e.g. for a six month period the limit will be £5,000.

To **qualify as a small or medium sized enterprise (SME)** the company must have:

- (i) less than 500 employees; and
- (ii) either annual turnover of less than 100m Euros or an annual balance sheet figure of less than 86m Euros.

These limits are in your Tax Tables.

#### 14.4 Qualifying R&D

Certain conditions have to be met in relation to the expenditure:

- (i) it must be **revenue not capital** in nature; [CTA 2009, s.1052](#)
- (ii) it must be **related to a trade** carried on or to be carried on by the company;
- (iii) it must be incurred on:
  - (a) **staff costs**;
  - (b) **software**;
  - (ba) **relevant payments to the subjects of clinical trials**;
  - (c) **consumable or transformable materials**;
  - (d) **subcontracted R & D costs**; or
  - (e) **externally provided workers**.
- (iv) Any **intellectual property** created as a result of the expenditure must **vest in the company**, although it is proposed that for expenditure in an accounting period ending on or after 9 December 2009, this requirement will no longer apply;
- (v) It is **not incurred** in the carrying on of **activities** which are **contracted out** to the company by any person (although under s 1063 relief is available in certain circumstances - we will look at this later);
- (vi) It is **not subsidised**, (although an SME is allowed a 30% enhanced deduction on 'subsidised' expenditure provided it would be available to a large company in the same circumstances).

#### 14.5 Staff costs

Staff costs comprise:

- (i) all **emoluments** of whatever nature paid out to the directors or employees other than benefits in kind; [CTA 2009, s.1123](#)
- (ii) **secondary Class 1 NIC** paid by the company;
- (iii) contributions to pension funds paid by the company for the benefit of directors and employees;
- (iv) The compulsory contributions paid by the company in respect of benefits for directors or employees of the company under the social security legislation of an EEA State (other than the United Kingdom) or Switzerland;

Only staffing costs for directors and employees **directly and actively involved** in R&D will qualify. Where someone is **partly engaged** in R&D, their time is **apportioned** so that only staffing costs incurred on R&D activities can be included. The cost of staff who provide **support to R&D staff do not qualify**, for example secretaries or administrative staff.

#### 14.6 Software

Qualifying expenditure is that which is incurred on software that is employed directly in carrying out the R&D, for example to record results. The cost of software used indirectly, for example that used by the human resources department to record the activities of the R&D staff, would not qualify. Where only part of the cost incurred relates directly to R&D a proportion of the cost will be allowable.

[CTA 2009,  
s.1126](#)

#### 14.7 Consumable or transformable items

Qualifying expenditure is that which is incurred on revenue items directly employed in R&D. This includes consumable stores together with water, fuel and power of any kind. Where only part of the cost incurred relates directly to R&D a proportion of the cost will be allowable.

[CTA 2009,  
s.1126](#)

#### 14.8 Relevant payments to subjects of clinical trials

Relevant payments mean payments for participating in the trials. A clinical trial is an investigation in human subjects undertaken in connection with the development of a health care treatment or product.

[CTA 2009,  
s.1140](#)

#### 14.9 Sub-contracted R & D

Where the SME subcontracts R&D work to a third party, the SME may claim relief. The treatment varies depending on whether the two parties are connected.

[CTA 2009,  
s.1133 -1134](#)

Where the payment is to a **connected company**, which draws its accounts up under GAAP, the **whole of any payment** up to the amount of the connected company's expenditure is allowable.

[CTA 2009,  
s.1134](#)

**In any other case 65%** of the payments made can be claimed. However a joint **irrevocable election** can be made for **connected company treatment**. The time limit for the election is two years from the end of the first accounting period in which the contract is entered into.

[CTA 2009,  
s.1135 -1136](#)

## 14.10 Externally provided workers

Where a company makes a payment to another person for the provision of workers, several conditions apply in order to get relief for the payment. An externally provided worker must:

[CTA 2009, s.1127](#)

- (i) be an individual;
- (ii) not be also a director or employee of the company;
- (iii) be obliged to provide services to the company personally;
- (iv) be under the control of the company.

[CTA 2009, s.1128](#)

As with the company's own staff, the externally provided workers must be **directly and actively involved** in R&D. Secretarial and administrative services are specifically excluded.

Where a worker is partly engaged in R&D, the expenditure must be apportioned.

If the externally provided workers are **not provided by a connected company** 65% of the payment made will be qualifying expenditure. However, the company and the staff provider can **jointly elect in writing for the connected company rules to apply. The election is irrevocable** and must be made within **two years** from the end of the first accounting period in which the contract is entered into.

[CTA 2009, s.1130](#)

[CTA 2009, s.1131](#)

Where the workers are provided by a connected company and that company draws up its accounts in accordance with GAAP then the whole of the payment up to the staff provider's cost of the workers can be claimed.

[CTA 2009, s.1129](#)

## 14.11 R&D Tax Credits

This relief allows companies with trading losses to **"surrender"** part of that loss to the government in return for a tax refund.

[CTA 2009, s.1054](#)

A company with a trading loss that has incurred qualifying R&D can surrender all or part of the loss as follows.

Firstly the **surrenderable amount** needs to be calculated. This is the **lower of:**

[CTA 2009, s.1058](#)

- (i) the **unrelieved trading loss**; and
- (ii) **175% of the qualifying R&D expenditure.**

For these purposes an unrelieved trading loss means the **trading loss** of the period **reduced by any actual and potential claims for relief for that loss in the current period** and any other actual loss relief claims made in respect of the loss.

**No account** is taken of losses brought forward or carried back to this accounting period.

Once this loss has been surrendered the amount of **credit given is the lower of:**

[CTA 2009, s.1058](#)

- (i) **14%** of the surrenderable loss for the period; and
- (ii) the company's **PAYE and NIC bill** for the period.

### Illustration 2

Medium Ltd has the following results:

Trading loss	£170,000
Qualifying R&D	£45,000
PAYE/NIC bill	£85,000

The surrenderable loss is the lower of:

- (i) £170,000
- (ii)  $£45,000 \times 175\% = £78,750$

i.e. £78,750

The tax credit given will be the lower of

- (i)  $14\% \times £78,750 = £11,025$
- (ii) £85,000

i.e. **£11,025**

This tax credit of £11,025 will either be used to reduce Medium Ltd's tax bill if it has other sources of income or will be received as a tax free refund.

The trading loss of the company carried forward is now:

$$£170,000 - £78,750 = £91,250$$

For expenditure of £45,000 the company has received a refund of £11,025 which equates to 24.5% ( $11,025/45,000$ ) or **175% x 14% = 24.5%**.

### Illustration 3

Rafael Ltd, a small company, spends £125,000 on qualifying R&D. The company has a trading loss of £135,000 and has non trading income (LR) income of £40,000. The company's PAYE/ NIC bill of £67,000.

The surrenderable loss is the lower of:

- (i) £135,000 less the £40,000 potential CY loss claim i.e. £95,000
- (ii)  $£125,000 \times 175\% = £218,750$

i.e. £95,000

The tax credit given will be the lower of

- (i)  $14\% \times \text{£}95,000 = \text{£}13,300$
- (ii)  $\text{£}67,000$

i.e. **£13,300**

#### 14.12 Large Companies

[CTA 2009,  
s.1074](#)

Large companies qualify for R&D relief for **accounting periods ending on or after 1 April 2002**.

Large companies are those that do not qualify as SMEs under the rules above.

The relief given to large companies is a **130% deduction** in calculating PCTCT for expenditure incurred. The usual effect of this is that the **further 30%** of the R&D expenditure needs to be **deducted in arriving at the adjusted profits for tax purposes**.

[CTA 2009,  
s.1074\(7\)](#)

#### Illustration 4

Large Limited spends £245,000 on R&D during the accounting period ended 31 March 2011.

The deduction in calculating the taxable total profits will be:

$$\text{£}245,000 \times 130\% = \text{£}318,500$$

If the £245,000 has already been deducted in arriving at the accounting profit, this means that an additional deduction of

$$(\text{£}318,500 - 245,000) = \text{£}73,500 \text{ i.e. } 30\% \text{ of } \text{£}245,000$$

should be put through as an adjustment in arriving at the profits for tax purposes.

The definition of research and development is the same as that which is applied to small and medium sized enterprises.

To qualify for the relief the company has to spend a **minimum of £10,000** during the accounting period. This limit is again pro rated for accounting periods of less than twelve months.

A large company **can claim for expenditure on work contracted to it** provided it is contracted by another large company or any person otherwise than in the course of a chargeable trade.

[CTA 2009,  
s.1075](#)

No relief can be claimed where work is subcontracted to a large company by an SME as the SME will claim relief.

There is **no requirement for the intellectual property** created by the R&D to **vest** in the company.

### 14.13 Subcontracted R&D

Large companies will be able to **claim relief for R&D subcontracted to others** and on contributions to independent research and development so long as it is expenditure incurred in making payments to **qualifying bodies being:**

[CTA 2009, s.1078](#)

- Universities;
- Charities;
- Scientific research organisations;
- NHS bodies; and
- Individuals or partnerships.

**Relief of 130% can be claimed by an SME** for R&D subcontracted to it so long as its total expenditure (its own plus subcontracted) on R&D for the accounting period exceeds £10,000. This is reduced for accounting periods of less than 12 months.

[CTA 2009, s.1064](#)

The work has to be subcontracted to the SME by a large company or any other person other than in the course of a chargeable trade.

The SME can claim for expenditure on work directly undertaken itself or for expenditure where the work is undertaken by others on behalf of the SME so long as the payments are to qualifying bodies as for large companies above or individuals/partnerships.

[CTA 2009, s.1068](#)

### 14.14 Pre trading expenditure

[CTA 2009, s.1045](#)

Where, in an accounting period a company has incurred qualifying R&D expenditure which would have been allowable had the company then been carrying on a trade consisting of the activities in respect of which the expenditure was incurred, the company may elect to be treated as having incurred a trading loss in the accounting period equal to 175% of the amount of the expenditure, with the result that it may claim relief for the loss in the usual ways.

Where such a claim is made the pre-trading expenditure rules do not then apply to treat the expenditure as incurred on the first day of trading. This prevents qualifying R&D expenditure that is treated as a trading loss during a pre-trading period from also being treated as incurred on the first day of trading under those rules.

The election must:

- (a) specify the accounting period for which it is made;
- (b) be made by notice in writing to HMRC; and

- (c) be given within the period of two years beginning with the end of the company's accounting period to which the election relates.

If a company has not started to trade, it may not have accounting periods. If this is the case, HMRC will treat the company as though an accounting period started when it started its R&D activities. The election applies to all the company's qualifying R&D expenditure and a claim cannot be made for part only.

A special rule is necessary to control the use of the deemed trading loss created where a company that is not carrying on R&D as part of a trade claims R&D tax reliefs. This rule applies where, under the above alternative treatment of pre-trading expenditure, a company is treated as incurring a trading loss in an accounting period.

The deemed trading loss is prevented from being carried back and set off against profits of a preceding accounting period unless the company is entitled to R&D tax reliefs under the alternative treatment of pre-trading expenditure for that earlier period. This rule mirrors the existing provisions for loss-making companies that are carrying on a trade.

If the company begins, in the accounting period or a later period, to carry on a trade derived from the R&D in relation to which the R&D tax reliefs in question were obtained under the above alternative treatment of pre-trading expenditure, the loss is treated as if it were a loss of that trade brought forward under the provisions allowing relief for trading losses against future trading profits.

This is subject to the restriction on losses carried forward, and is only available to the extent that:

[CTA 2009,  
s.1048](#)

- (a) the company has not obtained relief for the trading loss under any other provision; and
- (b) the loss has not been surrendered under the provisions allowing the surrender of relief to group or consortium members.

### Illustration 5

Hugo Ltd incurs £50,000 on qualifying R&D expenditure and £30,000 on other revenue items in the year to 30 June 2010. This is its first accounting period, but it does not trade during the year.

R&D relief is £87,500 (£50,000 × 175%), bringing H Ltd's total loss to £117,500.

If a valid election is made, the relief of £87,500 is regarded as a trading loss for the year ended 30 June 2010. The balance of £30,000 is regarded as incurred on the first day of trading under the pre-trading rules.

### 14.15 Restriction on consortium relief

[CTA 2009,  
s.1049](#)

Restrictions are imposed on the amounts that can be surrendered as group relief. These are relevant only to the SME scheme. They apply where, for an accounting period:

- (a) a company claims R&D tax reliefs in computing the profits of the trade for that period or under the alternative arrangements for pre-trading expenditure; and
- (b) at any time during that period the company is owned by a consortium at least one of the members of which is a company which is not a SME.

In such cases, nothing can be surrendered for the purposes of consortium relief by the company for that period to any other company that is not a SME.

This provision appears to restrict relief for the whole amount of any loss for an accounting period and not just the part that may relate to the R&D tax relief claim, even where the R&D element is only a small part of the trading loss in question.

### 14.16 Vaccine Research

[CTA 2009,  
s.1085](#)

A similar relief is available for companies carrying out research into certain vaccines and medicines (TB, Malaria, HIV and AIDS).

For **large** companies the deduction is **140%** with no other particular conditions applying i.e. no £10,000 limit etc.

[CTA 2009,  
s.1091](#)

For **SMEs** the relief is a deduction of **140%** of the cost incurred if they do not qualify for R&D relief and a **further 40% in addition to the normal 175% deduction** if they do so qualify, making **215% in total** .

[CTA 2009,  
s.1089](#)

The amount claimable can be included in a tax credit claim by the SME.

### 14.17 Claims for Research and Development relief

[FA 1998, Sch 18  
Para 10\(2\)](#)

All claims for R&D tax credits and enhanced deductions will need to be made within the company's tax return.

Paragraphs 83A to 83E of Sch 18 FA 1998 are amended to include all R&D relief claims, not just tax credit claims. Similar rules have been added for large company claims and vaccine research relief (VRR).

The rules relating to penalties in Para 83F Sch 18 FA 1998 remain specific to tax credits. Claims for enhanced deductions will be covered by the normal penalty regime for careless or deliberate errors in returns.

Finance Act 2008 introduced a cap on the amount of SME R&D and VRR that can be claimed by a company of 7.5m Euros per.

[CTA 2009,  
s.1113](#)

Companies cannot make a claim for SME R&D or VRR if they are not a going concern.

[CTA 2009,  
s.1046](#)

All VRR claims made by large companies must include a declaration that the availability of the relief claimed has resulted in an increase in the amount, scope or speed of the R&D undertaken by the company, or in the company's expenditure on R&D.

[CTA 2009,  
s.1088](#)

**Example 1**

Lamp Ltd, a small company, spends £35,000 on R&D during the year to 31 July 2011. Profits before R&D deductions are £155,000.

**You are required to calculate the taxable total profits.**

**Example 2**

Net Ltd, a small company, spends £150,000 on R&D. During the year to 31 July 2011 the company makes a trading loss of £70,000 and had a PAYE/NIC bill of £35,000.

**You are required to calculate the amount of tax credit the company may claim.**

**Answer 1**

	£
Profits	155,000
Less R&D 35,000 x 175%	<u>(61,250)</u>
Taxable total profits	<u><b>£93,750</b></u>

**Answer 2**

The surrenderable loss will be the lower of:

	£
Unrelieved loss	70,000
175% x 150,000	262,500
Therefore	70,000

The tax credit will be the lower of

14% x 70,000	9,800
The NIC/PAYE bill =	35,000

Therefore the tax credit will be **£9,800**