CHAPTER 17

RESEARCH AND DEVELOPMENT EXPENDITURE

This chapter will outline the relief available for expenditure on research and development, covering in particular:
- the tax relief available to small and medium sized companies, and large companies;
- the tax credits available to loss making small and medium sized companies;
- the expenditure credits available to large companies.

17.1 Introduction

The government wants to encourage companies to invest in research and development, so it offers additional tax reliefs on the expenditure.

Useful guidance on what is meant by research and development can be found in the legislation in the Miscellaneous Non Statutory Material.

17.2 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 FRS 102 or 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; Misc IXB

Section 18 of FRS 102 gives the following as examples of research activities:

- activities aimed at obtaining new knowledge;
- the search for, evaluation and final selection of, applications of research findings and other knowledge;
- the search for alternatives for materials, devices, products, processes, systems or services;
- the formulation, design, evaluation and final selection of possible alternatives for new or improved material, devices, projects, processes, systems or services.

Further detail is provided in the guidelines which state that: Misc IXB

- 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.
17.3 Relief for Small and Medium Sized Companies

A small or medium sized company incurring qualifying Research and Development (R&D) expenditure will be able to claim an additional deduction equal to 130\% of the costs incurred in calculating its taxable total profits, for expenditure incurred on or after 1 April 2015. \textit{CTA 2009, s.1044(8)}

The usual effect of this is that in total a company can claim for 230\% of the R&D expenditure to be deducted in arriving at the adjusted profits for tax purposes.

This is made up of 100\% deduction for R&D expenditure under the usual rules for such deduction (found at CTA 2009, s.87), plus the additional 130\% deduction for ‘qualifying R&D expenditure’ which falls into the specific categories identified below.

The rate of relief was increased from 225\% for expenditure incurred on or before 31 March 2015, to 230\% by the Finance Act 2015. Prior to 31 March 2012, the rate of relief was 200\%.

➢ Illustration 1

Small Limited spends £65,000 on qualifying R&D in its accounting year ended 31 March 2016.

Calculate the allowable deduction for R&D.

In calculating taxable trade profits for the year to 31 March 2016 the total deduction for R&D will be:

\[65,000 \times 230\% = £149,500\]

If the £65,000 has already been deducted in arriving at the accounting profit, this means that an additional deduction of £84,500 should be put through as an adjustment in arriving at the profits for tax purposes.

➢ Illustration 2

Extra Ltd had taxable trade profits (before relief for R&D expenditure) of £220,000 for the year ended 31 December 2015. Qualifying R&D expenditure was £22,000 prior to 31 March 2015 and £45,000 after that date.

Calculate the taxable trade profits for the year ended 31 December 2015.

In calculating taxable trade profits for the year ended 31 December 2015, the total deduction for R&D will be:

\[22,000 \times 225\% = 49,500 \text{ (expenditure incurred pre 1.4.15)}\]
\[45,000 \times 230\% = 103,500 \text{ (expenditure incurred on/after 1.4.15)}\]
\[153,000\]

So, taxable trade profits are

\[£\]

Trade profits before R&D relief

\[220,000\]

Less: R&D relief

\[153,000\]

\[67,000\]
17.4 Definition of Small and Medium Sized Companies

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

i. fewer than 500 employees; and

ii. either annual turnover not exceeding €100m or an annual balance sheet figure not exceeding €86m.

These limits are in your Tax Tables.

If a company participates in another enterprise or another enterprise participates in the company, the above limits do not always apply to the company in isolation.

It is worth mentioning here that although R&D relief can only be claimed by companies, the term enterprise actually means ‘any entity engaged in an economic activity irrespective of its legal form’. So, it can include individuals, charities and partnerships for example.

Where a company is not ‘autonomous’, it will be necessary to take account of the headcount, turnover and balance sheet totals of certain other enterprises. An enterprise is autonomous if it is not a linked enterprise or a partner enterprise. Therefore we need to establish the definition of linked and partner enterprises in order to determine whether or not an enterprise is autonomous. 2003/361/EC Article 3

Linked enterprises

Linked enterprises are those in which one enterprise is able to exercise control over the affairs of the other. This applies where:

• one enterprise has more than 50% of the voting rights in another;

• one enterprise has the right to appoint or remove the majority of the members of the administrative, management or supervisory body of another enterprise;

• one enterprise has the right to exercise a dominant influence over another enterprise.

An example of a linked enterprise is a wholly owned subsidiary, or two companies owned by the same individual.

Where an enterprise is linked, the limits for number of employees, turnover and balance sheet total are compared to the total for all the linked enterprises. If an enterprise is linked to an enterprise which in turn is linked in a chain to other enterprises, the limits are compared to the total for all the linked enterprises. 2003/361/EC Article 6

Illustration 3

A Ltd owns 100% of the shares in B Ltd and 80% of the shares in C Ltd.

The number of employees of each company is as follows:

<table>
<thead>
<tr>
<th>Company</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Ltd</td>
<td>250</td>
</tr>
<tr>
<td>B Ltd</td>
<td>150</td>
</tr>
<tr>
<td>C Ltd</td>
<td>180</td>
</tr>
</tbody>
</table>
Explain whether any of the above companies have met the condition in respect of number of employees to qualify as SMEs.

A Ltd controls B Ltd and C Ltd as it holds more than 50% of the voting rights in both companies. Therefore A Ltd and B Ltd and A Ltd and C Ltd are linked enterprises. As A Ltd is linked to both B Ltd and C Ltd, we need to consider the number of employees for all companies when determining whether A Ltd, B Ltd or C Ltd are SMEs as we have a ‘chain’ of linked enterprises.

So, the total number of employees to compare to the 500 limit is 580 and therefore none of the companies will qualify for the SME scheme for R&D relief. Note that we include the total of all C Ltd’s employees rather than just 80% - we do not take into account the degree of control of that exists.

**Partner enterprises**

Partner enterprises are enterprises which are not linked enterprises, but where one enterprise holds 25% or more of the capital or voting rights in the other either on its own, or jointly with other linked enterprises. [2003/361/EC Article 3](#)

Where an enterprise is a partner enterprise, the tests to determine whether or not it is an SME are considered in relation to the enterprise itself together with the relevant proportion of the figures from the partner enterprise. [2003/361/EC Article 6](#)

So, if D Ltd owns 30% of E Ltd, when determining whether D Ltd is an SME we consider the total figures for D Ltd plus 30% of the figures for E Ltd. Similarly, when considering the position for E Ltd, we consider the total figures for E Ltd plus 30% of the figures for D Ltd. Note that we only consider a partner enterprise immediately ‘upstream’ or ‘downstream’. So, if E Ltd also owns 40% of F Ltd, when considering whether or not D Ltd is an SME, D Ltd does not take account of F Ltd’s figures. However E Ltd will need to take account of its share of both D Ltd and F Ltd.

**Autonomous enterprises**

Having looked at the definition of linked and partner enterprises, we can see that an enterprise is autonomous if it has a holding of less than 25% of the capital or voting rights in one or more enterprises, and other enterprises do not have a stake of 25% or more in the enterprise itself. [2003/361/EC Article 3](#)

In addition, an enterprise will also be considered autonomous and not a partner enterprise even if another enterprise holds a stake of 25% or more, if the investor is:

- a venture capital company or a public investment corporation; or
- an individual or group of individuals with a regular venture capital investment activity, provided the total investment by such ‘business angels’ in the enterprise is less than €1.25 million;

The investor cannot hold more than 50% and if there is more than one such investor they cannot be linked.

The recent case of Pyreos Ltd v HMRC considered whether or not an enterprise was autonomous for the purposes of determining whether it was an SME. Pyreos Ltd had made claims for tax relief for R&D expenditure under the SME scheme in 2010 and 2012. During these years, Siemens Technology Accelerator GmbH (STA) owned between 25% and 50% of Pyreos Ltd. STA would therefore be a partner
enterprise of Pyreos Ltd, unless it met one of the exceptions to not be treated as a partner enterprise.

The First Tier Tribunal (FTT) found that STA was a venture capital company because STA’s objective was to maximise the financial worth of Pyreos Ltd, and the intellectual property developed was not of use within the Siemens Group’s own business structure. STA was therefore not a partner enterprise. As an autonomous enterprise, Pyreos Ltd was eligible for SME R&D relief.

17.5 Qualifying R&D

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

i. it must be **revenue not capital** in nature.

ii. it must be **related to a trade** carried on or to be carried on by the company. CTA 2009, s.1042

iii. it must be incurred on: CTA 2009, s.1052

   a. **staff costs**;

   b. **software or consumables**;

   c. **relevant payments to the subjects of clinical trials**;

   d. **subcontracted R & D costs**; or

   e. **externally provided workers**.

iv. It is **not incurred** in the carrying on of **activities** which are **contracted out** to the company by any person.

v. It is **not subsidised**.

In respect of expenditure or activities contracted out to the company and subsidised expenditure, an SME is allowed to claim an equivalent to the large company relief or the R&D expenditure credit provided it would be available to a large company in the same circumstances.

vi. The company must be a **going concern**. Companies in liquidation or administration are **not** going concerns. CTA 2009, s.1046

17.6 Staff Costs

Staff costs comprise: CTA 2009, s.1123

i. all **earnings** of whatever nature paid out to the directors or employees other than benefits in kind;

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.

The staff costs attributable to the project are those paid to or in respect of staff
who are directly and actively involved with the R&D project. If staff are partly
involved, an appropriate proportion can be taken.

Costs attributable to staff who merely provide support (such as secretarial or
administrative support) to those directly involved in the R&D project are excluded.

However, if such staff are directly and actively involved in qualifying indirect
activities which are specifically identifiable as part of the project activities, the
relevant staff costs can be included. Qualifying indirect activities form part of a
project without directly contributing to the resolution of scientific or technological
uncertainty. Misc IXB

To be included, they must form part of the R&D costs per accounting standards.

For example, the relevant portion of a maintenance engineer's time (i.e. that part
spent repairing the research unit's equipment being used specifically and solely for
the R&D project) forms part of the project and can be qualifying indirect activity in
which the engineer is directly engaged. The part of the engineer's time spent on
maintaining any other equipment on the same site cannot, nor can secretarial
and administrative work in the company's maintenance department.

If one of the Directors directly involved in the R&D project spends time interviewing
to recruit an extra scientist to work on the project, their time on this can be a
qualifying indirect activity, but any support they receive from the Human
Resources (HR) Department is not.

17.7 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 and qualifying
indirect activities. The cost of software used indirectly is not included. For example,
software used by HR for routine work related to the R&D staff would be included.
Software to train the HR staff would not. Where only part of the cost incurred
relates directly to R&D, a proportion of the cost will be allowable. CTA 2009, s.1126

17.8 Consumable or Transformable Items

Qualifying expenditure is that which is incurred on revenue items directly
employed in R&D. This includes consumable and transformable items including
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. For example, power in a
training facility would be included to the extent that the facility was providing
training to directly support the R&D project. CTA 2009, s.1126

The production of goods and services is not R&D activity as the R&D will already
have been completed to arrive at the production process. However, in practice,
R&D activities may take place alongside the production process such that it can
be difficult to apportion costs in respect of materials and other consumable items
between R&D and production.
For expenditure incurred on or after 1 April 2015, expenditure on consumable items is not treated as attributable to R&D if:

- the R&D relates to an item being produced or the process of producing an item;
- the consumable items form part of the item being produced;
- the item is transferred by sale or otherwise for money or money’s worth; and
- the transfer is made in the ordinary course of business.

CTA 2009, s.1126A

Therefore, where the R&D activity results in goods or services which are sold as part of the company’s normal trade, R&D relief will not be available for the costs of consumable items reflected in those goods or services.

Relief is only available for consumable items fully used up or expended by the R&D activity itself.

17.9 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

17.10 Subcontracted R&D – SMEs

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, ss.1133–1134

Where the payment is to a connected company, which draws its accounts up under GAAP, the whole of the payment up to the amount of the expenditure incurred by the connected company on the project qualifies for the additional 130% deduction. CTA 2009, s.1134

In any other case the additional deduction can only be claimed in respect of 65% of the payments made to the third party. 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, ss.1135–1136

- Illustration 4

Inquisitive Ltd, a small company, had the following qualifying R&D expenditure in the year ended 31 March 2016:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff costs</td>
<td>200,000</td>
</tr>
<tr>
<td>Consumables</td>
<td>30,000</td>
</tr>
<tr>
<td>Payment to subcontractor</td>
<td>90,000</td>
</tr>
</tbody>
</table>

The cost of the R&D incurred by the subcontractor was £70,000.

The total deduction available for the year is:
17.11 Externally Provided Workers

Where a company makes a payment to another person (the supplier) 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 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 supplier that is a connected company**, 65% of the payment made to the supplier will be qualifying expenditure. However, the company and the staff provider (the supplier) 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 supplier that is a **connected company**, and that company draws up its accounts in accordance with GAAP, then the **whole of the payment up to the supplier's cost** of the workers will be qualifying expenditure. **CTA 2009, s.1129**

17.12 R&D Tax Credits

This relief allows SMEs 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 expenditure 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.1055

i. the **unrelieved trading loss**; and

ii. **230% of the qualifying R&D expenditure** for expenditure incurred on or after 1 April 2015 (225% for expenditure between 1 April 2012 and 31 March 2015).

For these purposes an unrelieved trading loss means the **trading loss** of the period, as increased by any additional R&D relief claimed, but as **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 **14.5%** of the surrenderable loss for the period.  

CTA 2009, s.1058

The credit is used to reduce the company’s corporation tax liability for the period if there is one or it is paid to the company.

**Illustration 5**

Medium Ltd has the following results for the tax year ended 31 March 2016:

| Trading loss | £170,000 (after relief for R&D expenditure) |
| Qualifying R&D | £45,000 |

**Calculate the surrenderable loss, tax credit given and loss carried forward.**

The surrenderable loss is the lower of:

i. 170,000

ii. 45,000 × 230% = 103,500

i.e. £103,500

The tax credit given will be 103,500 × 14.5% = £15,008.

As Medium Ltd has no other sources of income, this tax credit of £15,008 will be received as a cash refund.

The trading loss of the company carried forward is now:

170,000 − 103,500 = £66,500

For expenditure of £45,000 the company has received a refund of £15,008 which equates to 33.35% (15,008/45,000) or **230% × 14.5% = 33.35%**.
Illustration 6

Rafael Ltd, a small company, spends £125,000 on qualifying R&D in the year ended 31 March 2016. The company has a trading loss of £135,000 (after relief for R&D expenditure) and has non-trading income (LR) of £40,000.

Calculate the tax credit available for Rafael Ltd.

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 × 230% = £287,500

i.e. £95,000

The tax credit given will be 95,000 × 14.5% = £13,775.

Here the refund is a smaller percentage of the R&D spend, as the surrender was restricted to the losses available.

For periods spanning 1 April 2015, the R&D expenditure prior to 1 April 2015 receives relief at 225% and the R&D expenditure incurred on or after this date receives relief at 230%. The total of the relief is then compared to the unrelieved trading loss to establish the amount which can be surrendered for the tax credit.

Illustration 7

Michelangelo Ltd, a small company, has a trading loss (before R&D relief) of £40,000 for the year ended 31 December 2015. The company incurred R&D expenditure of £30,000 prior to 1 April 2015 and £10,000 after that date. The company has no other income.

Calculate the tax credit available to Michelangelo Ltd.

The enhanced deduction for R&D expenditure for the year is:

\[
\begin{align*}
30,000 \times 225\% & = 67,500 \quad \text{(expenditure incurred pre 1.4.15)} \\
10,000 \times 230\% & = 23,000 \quad \text{(expenditure incurred on/after 1.4.15)}
\end{align*}
\]

Michelangelo Ltd has a trading loss for the year of:

\[
\begin{align*}
\text{Trade loss} & = 40,000 \\
\text{Add: R&D relief} & = 90,500 \\
& = 130,500
\end{align*}
\]

The R&D relief is lower than the unrelieved trading loss so the tax credit available is:

90,500 @ 14.5% = £13,123

17.13 Large Companies

Large companies are those that do not qualify as SMEs under the rules above. CTA 2009, s.1122
The definition of qualifying R&D expenditure is the same as that which is applied to small and medium sized enterprises. In addition, large companies can also claim relief for subsidised expenditure, however they cannot claim relief for work subcontracted by them to another company. CTA 2009, s.1077

For qualifying expenditure incurred between 1 April 2013 and 31 March 2016, there are two ways in which large companies may obtain relief.

Relief can continue to be claimed under the rules which applied before 1 April 2013. The relief is given as an additional 30% deduction for qualifying R&D expenditure in calculating trade profits. The usual effect of this is that in total 130% of the R&D expenditure needs to be deducted in arriving at the adjusted profits for tax purposes. CTA 2009, s.1074(7)

Illustration 8

Large Limited spends £245,000 on R&D during the accounting period ended 31 March 2016.

The deduction in calculating the taxable total profits will be:

\[ 245,000 \times 130\% = £318,500 \]

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

\[ (318,500 - 245,000) = £73,500 \]

i.e. 30% of 245,000

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

Alternatively for expenditure incurred from 1 April 2013 to 31 March 2016, the company can decide to claim the new R&D expenditure credit (RDEC) outlined below. Once a company has claimed the RDEC for an accounting period, it cannot revert back to the additional deduction scheme in subsequent accounting periods.

For expenditure incurred on or after 1 April 2016, the additional deduction will no longer be available, and all large companies will be required to claim the RDEC.

The RDEC is treated as a taxable receipt in calculating the profits of the trade for the accounting period. The company will also receive a credit against its tax liability of the same amount. This credit is equal to 11% of the company’s qualifying R&D expenditure incurred on or after 1 April 2015. The credit is 10% of expenditure incurred prior to this date. CTA 2009, s.104A, s.104M

Based on FY 2015 rates, the RDEC will save companies up to 8.8% of the R&D expenditure, whereas the additional deduction scheme saves 6%.

So if a large company spends £100,000 on R&D expenditure in the year:

<table>
<thead>
<tr>
<th>RDEC of £11,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional tax on the RDEC @ 20%</td>
</tr>
<tr>
<td>Offset of credit against CT liability</td>
</tr>
<tr>
<td>Total saving</td>
</tr>
<tr>
<td>Additional deduction of £30,000</td>
</tr>
<tr>
<td>Tax saved @ 20%</td>
</tr>
</tbody>
</table>
The RDEC is used as follows:

- **Step 1** - It will first be used to reduce the company’s corporation tax liability for the same accounting period.

- **Step 2** - Any remaining credit is then capped at the ‘net value’ of the RDEC. The ‘net value’ is the full amount of the RDEC (excluding any that has been brought forward from previous years under step 3) less corporation tax on the full amount of the RDEC at the main rate. The credit in excess of the cap is carried forward and offset against the corporation tax liability of a subsequent period, or can be surrendered to a group company. The lower of the credit remaining after Step 1 or the ‘net value’ calculated at Step 2 is then carried forward to Step 3.

- **Step 3** - The amount carried forward from Step 2 is then capped at the company’s PAYE and Class 1 NIC liability relating to the R&D staff for the accounting period. Any excess is carried forward and treated as a credit for the next accounting period.

- **Step 4** - The maximum credit calculated at Step 3 is offset against the company’s corporation tax liabilities for any other accounting period.

- **Step 5** - Any remaining credit can be surrendered to group companies and offset against their corporation tax liability for the corresponding period, i.e., in the current year.

- **Step 6** - The credit is then offset against any other liabilities payable to HMRC, e.g., VAT.

- **Step 7** - Any balance is payable in cash to the company. CTA 2009, s.104N

**Illustration 9**

Big Ltd spends £300,000 on R&D during the year ended 31 March 2016. Its turnover is £3,000,000, and it has other allowable expenses of £1,000,000. It has no other income in the year. Relief is claimed for R&D under the RDEC.

**Calculate the corporation tax payable by Big Ltd.**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover</td>
<td>3,000,000</td>
</tr>
<tr>
<td>R&amp;D expenditure</td>
<td>300,000</td>
</tr>
<tr>
<td>Less: RDEC (300,000 x 11%)</td>
<td>(33,000)</td>
</tr>
<tr>
<td>Other expenses</td>
<td>(1,000,000)</td>
</tr>
<tr>
<td>TTP</td>
<td>1,733,000</td>
</tr>
<tr>
<td>Tax thereon @ 20%</td>
<td>346,600</td>
</tr>
<tr>
<td>Less: RDEC (step 1)</td>
<td>(33,000)</td>
</tr>
<tr>
<td>Corporation tax payable</td>
<td>313,600</td>
</tr>
</tbody>
</table>
If Big Ltd had not previously claimed an RDEC in respect of R&D and instead claimed the additional 30% deduction, the tax payable would be:

| Turnover | 3,000,000 |
| Less: R&D expenditure (300,000 × 130%) | (390,000) |
| Less: Other expenses | (1,000,000) |
| TTP | 1,610,000 |

Tax thereon @ 20% | 322,000 |

A claim for the RDEC is therefore more beneficial.

A major advantage of the new rules is that they allow companies which are loss-making to obtain immediate relief for their qualifying R&D expenditure, rather than simply increasing the loss which is available to carry forward, as shown below.

**Illustration 10**

Expand Ltd spends £400,000 on R&D during the year ended 31 August 2015. Its turnover is £1,500,000 and it has other allowable expenses of £320,000. It has no other income. Expand Ltd claims relief for R&D by way of a RDEC.

Calculate the corporation tax payable by Expand Ltd.

As the year ended 31 August 2015 spans 1 April 2015, part of the credit will be calculated at 10% and part at 11%.

<table>
<thead>
<tr>
<th>£</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover</td>
<td>1,500,000</td>
</tr>
<tr>
<td>R&amp;D expenditure</td>
<td>400,000</td>
</tr>
<tr>
<td>Less: RDEC</td>
<td></td>
</tr>
<tr>
<td>Re expenditure incurred pre 1.4.15</td>
<td>(400,000 × 7/12) × 10%</td>
</tr>
<tr>
<td>Re expenditure incurred on/after 1.4.15</td>
<td>(400,000 × 5/12) × 11%</td>
</tr>
<tr>
<td>Other expenses</td>
<td>(320,000)</td>
</tr>
</tbody>
</table>

The year ended 31 August 2015 spans FY 2014 and FY 2015.

As the chargeable accounting period falls into both FY 2014 and FY 2015, it needs to be divided into two notional periods.

7 months of the year ended 31 August 2015 fall into FY 2014 (1 September 2014 to 31 March 2015) and 5 months fall into FY 2015 (1 April 2015 to 31 August 2015).

We time apportion TTP between the two notional accounting periods as follows:

<table>
<thead>
<tr>
<th>Total</th>
<th>FY 2014</th>
<th>FY 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>£</td>
<td>7/12</td>
<td>5/12</td>
</tr>
<tr>
<td>TTP</td>
<td>821,666</td>
<td>479,305</td>
</tr>
<tr>
<td>Main rate of tax</td>
<td>21%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Expand Ltd is a marginal rate company in the first notional period falling in FY 2014 as its profits fall between the upper and lower limits, apportioned for a 7 month period:

\[
1,500,000 \times \frac{7}{12} = 875,000
\]
\[
300,000 \times \frac{7}{12} = 175,000
\]

In the second notional period, the FY 2015 rate of 20% applies.

Corporation tax liability:

\[
\begin{align*}
479,305 \times 21\% & \div 342,361 \times 20\% = 100,654 \\
& \text{Less: Marginal relief} \\
\frac{1}{400} \times (875,000 - 479,305) & \text{[989]} \div \text{[N/A]} \\
99,665 & \text{[68,472]}
\end{align*}
\]

Corporation tax liability

\[
\begin{align*}
& \text{[168,137]} \\
& \text{Less: RDEC (step 1)} \\
& \text{[41,666]} \div \text{[126,471]}
\end{align*}
\]

**Illustration 11**

Growing Ltd spends £350,000 on R&D in the year ended 31 March 2016. Its turnover is £500,000, and it has other allowable expenses of £280,000 and no other income. The PAYE and Class 1 NIC liabilities relating to the staff working on qualifying R&D included in allowable expenses amount to £25,000. The company has no outstanding liabilities due to HMRC, and is not part of a group. Growing Ltd claims relief for R&D by way of a RDEC.

**Show how relief will be obtained for the RDEC.**

<table>
<thead>
<tr>
<th>Turnover</th>
<th>500,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D expenditure</td>
<td>350,000</td>
</tr>
<tr>
<td>Less: RDEC</td>
<td>(38,500)</td>
</tr>
<tr>
<td>Other expenses</td>
<td>(280,000)</td>
</tr>
<tr>
<td>Loss</td>
<td>(91,500)</td>
</tr>
<tr>
<td>Corporation tax payable</td>
<td>Nil</td>
</tr>
</tbody>
</table>

Relief is given for the £38,500 RDEC as follows:

- **Step 1** - Against current year corporation tax liability = Nil. Carry forward £38,500 credit to step 2.

- **Step 2** - The credit is then capped at the ‘net value’ of the RDEC, which is £38,500 less tax on that amount at 20% = £30,800. The credit in excess of the cap of £7,700 is carried forward and offset against the corporation tax liability of a subsequent period. The ‘net value’ of £30,800 is lower than the credit carried forward from Step 1, so the ‘net value’ is carried forward to Step 3.

- **Step 3** - The ‘net value’ of £30,800 is then capped at the company’s PAYE and Class 1 NIC liability relating to R&D staff for the accounting period, which in this case is £25,000. The excess of £5,800 is carried forward and treated as a credit for the next accounting period.
• Steps 4-6 - We are told that there are no other liabilities outstanding, and that Growing Ltd is not part of a group, so the credit of £25,000 is taken to step 7.

• Step 7 - The remaining credit of £25,000 is payable in cash to the company.

17.14 Subcontracted R&D — Large Companies

Under both the old and the new rules, 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. 

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.

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

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

Relief of 130% or a RDEC as outlined above can be claimed by an SME for R&D subcontracted to it. 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.

17.15 Pre-Trading Expenditure

Where a SME has incurred qualifying R&D expenditure which would have been allowable had the company 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 230% 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: CTA 2009, s.1047

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.

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 this 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. CTA 2009, s.1048

If the company then begins to carry on a trade derived from the R&D to which the deemed trading loss relates, the loss is treated as if it were a loss of that trade brought forward, 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:

a. the company has not obtained relief for the trading loss under any other provision; and

b. the loss has not been surrendered under group or consortium relief.

Illustration 12

Hugo Ltd, a SME, incurs £50,000 (accruing evenly) on qualifying R&D expenditure and £30,000 on other revenue items in the year to 30 June 2015. This is its first accounting period, but it does not trade during the year.

Explain how relief will be given for the expenditure, assuming an election is made under CTA 2009, s.1045.

R&D relief is £113,125 (50,000 × 9/12 x 225% + 50,000 x 3/12 x 230%).

If a valid election is made, the relief of £113,125 is regarded as a trading loss for the year ended 30 June 2015. The £30,000 in respect of other expenditure is regarded as incurred on the first day of trading under the pre-trading rules.

17.16 Restriction on Consortium Relief

Restrictions are imposed on the amounts that can be surrendered as group relief. CTA 2009, s.1049
They apply where, for an accounting period:

a. a company claims R&D tax reliefs as an SME 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 and at least one of the consortium members is large.

In such cases, the amount of loss attributable to the R&D relief obtained can only be surrendered to a consortium member which is also an SME.

17.17 Vaccine Research

A further relief is available for large companies carrying out research into certain vaccines and medicines (TB, Malaria, HIV and AIDS). The company can deduct an additional 40% of the qualifying expenditure on vaccine research. This relief will be available in addition to the usual relief for R&D expenditure, whether or not the additional 30% deduction or the RDEC has been claimed. CTA 2009, s.1085; s.1091

Small and medium sized companies do not qualify for this additional relief.

17.18 Claims for Research and Development Relief

All claims for R&D tax credits, RDEC and enhanced deductions will need to be made in the company’s tax return. FA 1998, Sch 18 para 10(2)

Paragraphs 83A to 83E of Sch 18 FA 1998 apply to all R&D relief, (including vaccine research) tax credit and RDEC claims.

Penalties for errors in claims for enhanced deductions, R&D tax credits and RDEC are covered by Schedule 24 Finance Act 2007.

Finance Act 2008 introduced a cap on the amount of R&D aid that a SME can receive in respect of a project. The project must not receive aid of more than €7.5m. CTA 2009, s.1113

All VRR claims 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
EXAMPLES

Example 1

Lamp Ltd, a small company, spends £35,000 on R&D (accrued evenly) during the year to 31 July 2015. 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 March 2016 the company makes a trading loss after R&D deductions of £70,000.

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

✔ Answer 1

Profits £155,000
Less: R&D (35,000 x 8/12 x 225% + 35,000 x 4/12 x 230%) (79,333)
Taxable total profits 75,667

✔ Answer 2

The surrenderable loss will be the lower of:

Unrelieved loss £70,000
230% x 150,000 345,000
Therefore:

The tax credit will be 14.5% x 70,000 = £10,150