# Scientific and Technological Research and Development Tax Incentive

## Guidelines for applicants

science & technology

Department:
Science and Technology
**REPUBLIC OF SOUTH AFRICA**

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**ACRONYMS**

| | |
|---|---|
| CIPC | Companies and Intellectual Property Commission |
| CSIR | Council for Scientific and Industrial Research |
| DST | Department of Science and Technology |
| ITA | Income Tax Act |
| NRDS | National Research and Development Strategy |
| NT | National Treasury |
| R&D | Research and Development |
| SARS | South African Revenue Service |
| SIC | Standard Industrial Classification |
| SIE | systematic investigative or systematic |
| SMEs | small and medium enterprises |
| **the dti** | Department of Trade and Industry |
| TLAB | Taxation Laws Amendment Bill |
| WHO | World Health Organization |

## CHANGE HISTORY

| Date | Title | Version | Comments |
|---|---|---|---|
| 30/09/2016 | Scientific and Technological Research and Development Tax Incentive Guidelines for applicants | 1.3 | Incorporates public comments received in 2016 and the recommendations of the joint government-industry task team on the R&D tax incentive were considered. |
| 20/09/2015 | Scientific and Technological Research and Development Tax Incentive Guidelines for applicants | 1.2 | Final draft: Updated with industry comments, amendments to Section 11D of the Act that became effective on 1 January 2015 and the new online submission system. |
| 30/06/2014 | Scientific and Technological Research and Development Tax Incentive Guidelines for applicants | 1.1 | Draft: Applicable to pre-approval process and issued for public comments. |
| 02/09/2008 | A Guide to Scientific and Technological Research and Development Tax Incentive | 1.0 | Applicable to retrospective R&D Tax Incentive claims. |

## PREAMBLE

These guidelines are issued by the Department of Science and Technology (DST) to assist companies when applying for the scientific and technological Research and Development Tax Incentive (hereinafter called the "R&D Tax Incentive") under section 11D of the Income Tax Act, 1962 (Act No. 58 of 1962), as amended (hereinafter called the "the ITA").

The guidelines explain the objectives of the incentive, eligibility criteria in terms of who can apply, the requirements that R&D must satisfy in order to qualify, as well as matters related to the completion of the application form. Applicants are encouraged to use these guidelines in conjunction with other relevant sections of the ITA, as well as other Acts such as the Patents Act, 1978 (Act No 57 of 1978), the Designs Act, 1993 (Act No 195 of 1993) and the Copyright Act, 1978 (Act No 98 of 1978). Applicants may, on their own account, consult with relevant professionals who are competent advisors in matters of R&D and taxation to assist where necessary.

The guidelines are freely available from the DST. Over and above the information provided in this document, the DST is available to provide further information that can assist in the application process.

## SECTION 1: INTRODUCTION

### *Description of the R&D Tax Incentive*

**1.1** The 2002 National Research and Development Strategy (NRDS) for South Africa highlighted the decline in research and development (R&D) in the private sector as a weakness that needed government intervention. In response, government, through the workings of the Department of Science and Technology (DST), the Department of Trade and Industry (**the dti**), the National Treasury (NT) and the South African Revenue Service (SARS), introduced the R&D Tax Incentive programme in 2006. The aim of the R&D Tax Incentive is to encourage private sector investment in scientific and technological R&D activities in terms of section 11D of the ITA, as amended.

**1.2** The incentive works alongside other components of the policy package and is one of the instruments of the NRDS to promote R&D-led innovation and competitiveness by encouraging increased private sector investment and conducting of R&D in the country.

**1.3** The government expects that, by encouraging companies to undertake R&D in South Africa, local companies will strengthen their capabilities of developing value-added products, technologies and services. In this way, the incentive will be promoting scientific and/or technological advancement and contributing to making South African companies internationally competitive.

**1.4** The incentive is also aimed at attracting foreign companies to conduct and invest in scientific or technological R&D in the country.

**1.5** Companies undertaking scientific and technological R&D in the Republic of South Africa can qualify for a 150 per cent tax deduction for the operational R&D expenditure in terms of section 11D of the ITA, if their R&D activities are approved by the Minister of Science and Technology. The incentive is available to companies as defined in the ITA.

***Objectives of the R&D Tax Incentive***

**1.6** The objectives of the R&D Tax Incentive are as follows:

**1.6.1** To encourage business to increase investment in scientific and technological R&D especially on R&D that a company would not have invested in were it not for the incentive.

**1.6.2** To advance scientific knowledge and achieve technological advancement aimed at creating new or improving existing materials, devices, products or processes, including incremental improvements.

**1.6.3** To increase the positive spillover to the rest of society through knowledge transfer and skills upliftment.

***Administration***

**1.7** The pre-approval process of the R&D Tax Incentive is the responsibility of the DST, while the South African Revenue Service (SARS) audits expenditure. The DST promotes the R&D Tax Incentive to all companies, processes the applications for the incentive and reports on the performance of the incentive to Parliament.

**1.8** The R&D Tax Incentive Adjudication and Monitoring Committee (hereinafter called "the Committee") has been established in terms of the ITA to evaluate applications and make recommendations to the Minister of Science and Technology.

## SECTION 2: ELIGIBILITY CRITERIA FOR THE R&D TAX INCENTIVE

**2.1** The incentive is available to South African registered companies of all sizes in any sector of the economy. These companies must undertake qualifying R&D in the Republic of South Africa (as defined in the ITA) in order to qualify for the incentive.

**2.2** For a company to benefit from the incentive, its R&D activities must be approved by the Minister of Science and Technology or a person appointed by the Minister; approval is granted on the basis of the recommendation by the Committee, which evaluates each application according to the definition of R&D in terms of section 11D of the ITA.

### *General eligibility criteria*

**2.3** For a taxpayer to be eligible for the 150% deduction from the income of that taxpayer, in determining the taxable income, that taxpayer must –

**2.3.1** be a company as defined in the ITA. Individuals, non-profit organisation and trusts are not eligible for the R&D Tax Incentive under section 11D of the ITA;

**2.3.2** actually incur the expenditure, directly and solely for R&D activities undertaken in the Republic of South Africa and that expenditure must be incurred –

**2.3.2.1** in the production of income;

**2.3.2.2** in the carrying on of any trade;

**2.3.2.3** on or after the date of receipt of the application by the DST for approval;

**2.3.3** have their R&D approved in terms of subsection (9).

### *Eligible R&D activities*

**2.4** To qualify for the tax incentive, the R&D activities must meet the definition of R&D in section 11D(1) of the ITA.

***2.5*** *"For the purpose of section 11D,* ***"research and development"*** *means systematic, investigative or systematic experimental activities of which the result is uncertain for the purpose of -*

*(a) discovering non-obvious scientific or technological knowledge;*

*(b) creating or developing –*

*(i) an invention as defined in section 2 of the Patents Act;*

*(ii) a functional design –*

*(aa) as defined in Section 1 of the Designs Act, capable of qualifying for registration under Section 14 of that Act; and*

*(bb) that is innovative in respect of the functional characteristics or intended uses of that functional design;*

*[Sub-para. (ii) substituted by s. 18 (1) (a) of TLA Act of 2014 with effect from 1 January, 2015 and applicable in respect of expenditure incurred in respect of research and development on or after that date, but before 1 October 2022.]*

*(iii) a computer program as defined in Section 1 of the Copyright Act which is of an innovative nature; or*

*(iv) knowledge essential to the use of such invention, functional design or computer program other than creating or developing operating manuals or instruction manuals or documents of a similar nature intended to be utilised in respect of that invention, functional design or computer program subsequent to the research and development being completed; or*

*(c) making a significant and innovative improvement to any invention, functional design, computer program or knowledge contemplated in paragraph (a) or (b) for the purposes of -*

*(i) new or improved function;*

*(ii) improvement of performance;*

*(iii) improvement of reliability; or*

*(iv) improvement of quality,*

*of that invention, functional design, computer program or knowledge;*

*[Para. (c) amended by s. 18 (1) (b) of TLA Act of 2014 deemed to have come into operation on 1 October, 2012 and applicable in respect of expenditure incurred in respect of research and development on or after that date, but before 1 October, 2022.]*

(d) *creating or developing a multisource pharmaceutical product, as defined in the World Health Organisation Technical Report Series, No. 937, 2006 Annex 7 Multisource (generic) pharmaceutical products: guidelines on registration requirements to establish interchangeability issued by the World Health Organisation, conforming to such requirements as must be prescribed by regulations made by the Minister after consultation with the Minister for Science and Technology; or*

*[Para. (d) inserted by s. 18 (1) (c) of TLA Act of 2014 deemed to have come into operation on 1 October, 2012 and applicable in respect of expenditure incurred in respect of research and development on or after that date, but before 1 October, 2022.]*

(e) *conducting a clinical trial as defined in Appendix F of the Guidelines for good practice in the conduct of clinical trials with human participants in South Africa issued by the Department of Health (2006), conforming to requirements as must be prescribed by regulations made by the Minister after consultation with the Minister for Science and Technology.*

*[Para. (e) inserted by s. 18 (1) (c) of TLA Act of 2014 deemed to have come into operation on 1 October, 2012 and applicable in respect of expenditure incurred in respect of research and development on or after that date, but before 1 October, 2022.]*

*Provided that for the purposes of this definition, research and development does not include activities for the purpose of –*

(a) *Routine testing, analysis, collection of information or quality control in the normal course of business;*

(b) *Development of internal business processes unless those internal business processes are mainly intended for sale or for granting the use or permission to use thereof to persons who are not connected persons in relation to the person carrying on that research and development;*

(c) *Market research, market testing or sales promotion;*

(d) *Social science research, including the arts and humanities;*

(e) *Oil and gas or mineral exploration or prospecting except research and development carried on to develop technology used for that exploration or prospecting;*

*(f) The creation or development of financial instruments or financial productions;*

*(g) The creation or enhancement of trademarks or goodwill; or*

*(h) Any expenditure contemplated in section 11 (gB) or (gC).*

*[Sub-s. (1) substituted by s. 13 (1) (a) of Act No. 8 of 2007, amended by s. 19 (1) (a) of Act No. 35 of 2007 and by s. 19 (1) of Act No. 60 of 2008 and substituted by s. 32 (1) of Act No. 24 of 2011 and by s. 29 (1) (a) of Act No. 31 of 2013 with effect from 1 January, 2014 and applicable in respect of research and development on or after that date, but before 1 October, 2022.]"*

**2.6** **"Innovative"** means the introduction of goods or a service that is new or significantly improved in respect of its characteristics or intended uses, or utilising new knowledge or technologies, or new uses or combinations of existing knowledge or technologies, or significant improvements to existing products through changes in materials, components and other characteristics, or the implementation of a new or significantly improved process including significant changes in techniques, equipment and/or software, or an advance in the area of computer software which is new in its application, or novel in the way that it will function or make the computer function.

The context in which the definition of "innovative" is used here is that of providing incentives to private sector companies to undertake scientific and technological R&D. From a policy perspective, such investment by the private sector is a key factor in improving productivity, in supporting economic growth, competitiveness and employment. It is for this reason that the definition has deliberately selected technological (product and process) innovations as being among the four types of innovations described in the *OECD/Eurostat Oslo Manual*. New knowledge (and its use) is expected to be the outcome of R&D, therefore the nature of innovation considered for purposes of the R&D Tax Incentive must contain some degree of novelty. Novelty should be assessed by comparison with the existing stock of knowledge in a reference industry on a worldwide basis. In the case of basic research, research results are codified in scientific publications or patents are checked for absolute novelty. For experimental development activities, reference has to be made to the specific context where the R&D is

performed, in terms of technological uncertainty and the technical risk involved in devising new and original applications of existing scientific knowledge, as well as new uses of available techniques and technologies. Significant improvements or changes need to be interpreted with this context in mind. Obvious processes of imitation, customisation or adaptation which do not expand the state-of-the-art are not novel and are therefore not considered as R&D.

## SECTION 3: EXCLUSIONS AND LIMITATIONS

**3.1** Specific activities are excluded from the R&D Tax Incentive, because they –

**3.1.1** are not within the scope of eligible R&D as defined in section 11D(1) of the ITA;

**3.1.2** are excluded in terms of the Regulations as gazetted by NT, issued in terms of sections 11D(1) of the ITA;

**3.1.3** constitute post-R&D activities;

**3.1.4** are conducted outside the Republic of South Africa (even if funded from within the country); or

**3.1.5** are excluded in the proviso of section 11D(1).

**3.2** A person who does not determine or alter the methodology of the research is excluded.

**3.3** Deductions are excluded in respect of expenditure incurred in respect of –

**3.3.1** immovable property, machinery, plant, implements, utensils or articles, excluding any prototype or pilot plant created solely for the purpose of the process of R&D and that prototype or pilot plant is not intended to be utilised or is not utilised for production purposes after that R&D is completed; and

**3.3.2** financing, administration, compliance and similar costs.

**3.4** In addition to the above, the following activities are ineligible, in respect of the multisource pharmaceutical product and clinical trial R&D projects:

**3.4.1** Phase IV clinical trials, as defined in Appendix F of the Guidelines, other than a clinical trial conducted for the purpose of developing of new indications, developing new methods of administration or developing new combinations of pharmaceutical products.

**3.4.2** Post-marketing research.

**3.4.3** Cost-effectiveness research.

**3.4.4** Any activities undertaken for the purpose of compliance with regulatory requirements.

**3.4.5** A product familiarisation programme.

**3.4.6** Research carried on for statistical purposes (meta-analysis).

**3.4.7** Epidemiological research.

**3.4.8** Research activities undertaken in preparation for the registration of a clinical trial.

## SECTION 4: ACCESSING THE R&D TAX INCENTIVE

### *Eligibility of Applications*

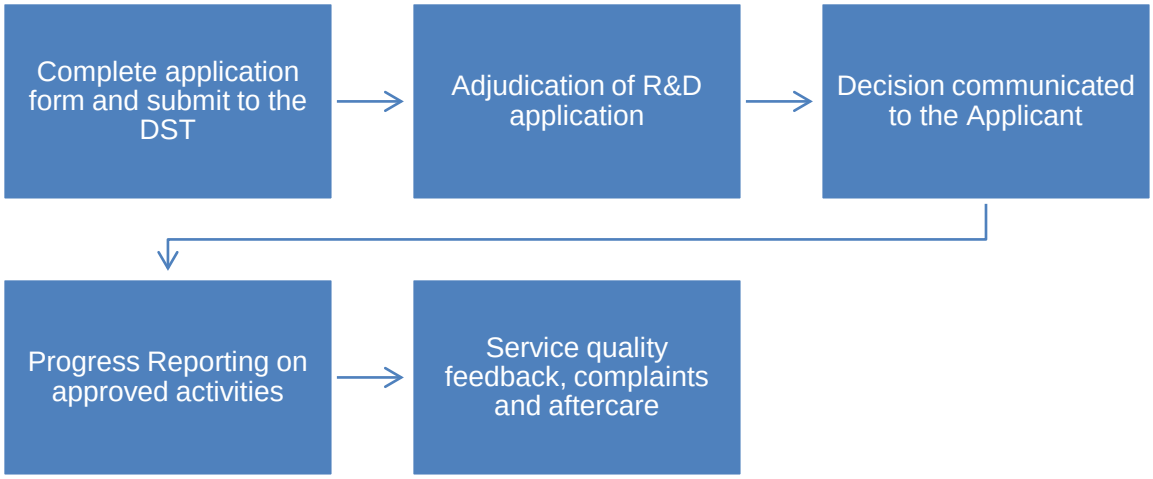
**4.1** To apply for the R&D Tax Incentive, a company must complete an application form (www.dst.gov.za/r-d) and submit it to the DST by email at: tax@dst.gov.za. Only the R&D expenditure incurred on or after the date of receipt of the application by the DST will be eligible for the deduction.

**4.2** A valid application will have all the compulsory fields completed. Incomplete application forms will not be accepted.

**4.3** The authorised signatories representing the company and consultant (if applicable) should give a declaration that the information provided in the application is a true and accurate reflection of the applicant's affairs.

**4.4** Figure 1 outlines the process for accessing the incentive. The External User Manual for completing the application form provides detailed explanations on how to complete and submit the application form.

**Figure 1:** Application process




**4.5** If the information provided in the application is insufficient, additional information and clarity will be requested by the DST. The company has 21 business days to respond, failing which the decision will be taken based on the information at hand.

**4.6** The company will be informed of the decision through a letter, indicating which R&D activities are approved and which are not approved. This letter serves as proof to SARS that the company's R&D activities are approved when claiming the tax deduction.

## SECTION 5: QUALIFICATION CRITERIA

**5.1** This section determines whether an applicant is eligible to apply. The following questions are compulsory:

**5.1.1** **Are you a company as defined in the ITA, registered and trading in South Africa? (Yes/No)**

Only companies defined in the ITA, registered and trading in South Africa can apply for the incentive.

**5.1.2** **Is all or part of your R&D conducted within the Republic of South Africa? (Yes/No)**

Indicate if the proposed R&D activities will be conducted in the Republic of South Africa. If parts of the activities will be conducted outside the Republic of South Africa, the company must separate the two activities. Only activities conducted in the Republic of South Africa will be considered.

**5.1.3** **Can you control or alter the methodology of the R&D? (Yes/No)**

Indicate if the company can determine or change the methodology of research or if it follows a given method on how to conduct R&D.

A "No" answer will trigger the following sub-question:

**Are you conducting a clinical trial or developing a multisource pharmaceutical product? (Yes/No)**

Indicate if the company is conducting a clinical trial or developing a multisource pharmaceutical (generic) product.

**5.1.4** **Are you conducting systematic investigative or systematic experimental activities of which the result of the experiment is uncertain? (Yes/No)**

The proposed activities must be carried out in a detailed methodical or organised manner in the field of science or technology, by means of experiments or analysis with the objective of advancing scientific knowledge or achieving technological advancement and to find something unknown or to discover whether a theory is correct.

These SIE activities must be based on the principles of an established scientific field and follow the following scientific method:

- Hypothesis to experimentation.
- Observation and evaluation, leading to –
- Logical conclusions.

Companies should indicate how the scientific method will be applied when describing experiments or other R&D activities, evidence of which might be requested; therefore records should be kept.

The R&D activities would constitute any or a combination of –

- basic research – theoretical or experimental work done to advance scientific knowledge without a specific practical application or use in mind;
- applied research – original investigation undertaken in order to advance scientific knowledge with a specific, practical application in mind;
- experimental development – systematic work that draws on knowledge gained from research and/or practical experience done to achieve technological advancement for the purpose of creating new or substantially improving (including incremental improvements) existing materials, devices, products or processes.

If experiments are conducted to confirm what is already known, then this requirement is not satisfied. The company should indicate how it established that the results could not be known beforehand. This may be done by conducting literature searches or seeking advice from experts in the field. Records of these should be kept in case they are requested.

## PART 1: PARTICULARS OF THE COMPANY

The following information is required when completing the application form:

**5.2 Company name**

Indicate the name of the company as registered with the Companies and Intellectual Property Commission (CIPC).

**5.3 Company registration number**

Indicate the registration number as issued by the CIPC.

**5.4 Company type**

Choose from the drop-down menu the type of company. Company types can be close corporation (CC), Pty (Ltd) or Limited.

**5.5 Tax reference number**

Indicate the correct tax reference number of the company as registered with SARS. In most instances, this number starts with nine.

**5.6 Financial year end**

Indicate the company's financial year end.

**5.7 Annual R&D budget for the current tax year**

Provide the amount budgeted for R&D in the whole company for the current tax year. This information is used to give an indication of the total R&D budget of companies applying for the incentive.

**5.8 Total revenue for the last financial year**

Provide the total revenue for the company. This information gives an indication of the size of the company.

**5.9 Physical address**

Provide the company's physical address for the purpose of conducting company visits, R&D verifications and correspondence.

**5.10 Postal address**

Provide the company's postal address for the purpose of further correspondence.

**5.11 Authorised to act (contact details)**

Choose from the drop-down menu if the authorised person is a consultant, or an employee/director of the company. Provide the title, full name, telephone number, email address of the person authorised to act, as well as the physical address of the company.

**5.12 Contact person for financial information**

Provide the title, full name, telephone number and email address of the person best suited to clarify the supporting financial information of the project(s), company revenue and R&D budgets.

**5.13 Contact person for technical information**

Provide the title, full name, telephone number and email address of the person best suited to clarify the supporting technical information of the project(s).

**NB: Ideally the contact persons for financial and technical information should be different people in order to direct science, engineering and technology questions to the relevant person.**

**5.14 Principal industrial activity**

Choose from the drop-down menu the company's principal industrial activity. This information is important to understand uptake of the incentive by different industrial sectors.

**NB: It is possible for a company to conduct R&D in an industrial activity different from its current activity.**

**5.15 SIC code(s)**

Choose from the ***Standard Industrial Classification of All Economic Activities (Seventh Edition)*** document in the Detailed Structure table (provided on the link to DST website), the appropriate **subclass** of your R&D activities.

**5.16 Number of projects**

Indicate the number of projects included in the application. Part 3 of the form can be replicated in line with the number of projects in the application.

**5.17 Number of employees in the company in the latest financial year**

Indicate the total number of all employees employed by the company at the latest financial year end. The number of employees should include R&D and non-R&D employees.

**5.18 Number of employees to be directly involved in the R&D project(s)**

Indicate the number of R&D personnel directly involved in the R&D project(s).

**5.19 Is the applying company a holding company or a subsidiary/related company?**

From the drop-down menu, select whether the applying company is a holding company or a subsidiary.

**5.20 Project(s) funding sources**

Specify from the checkbox if the source of funding for conducting the R&D is internal, international, government or other sources.

## PART 2: SUMMARY OF R&D ENTITIES

This section is compulsory if R&D or part of it is contracted out.

**5.21 Are you contracting the research and development to a third party?**

Choose yes or no, to indicate whether R&D will be contracted to a third party organisation.

**5.22 Entity**

Choose from the drop-down menu if the entity to which the R&D is contracted is a university, science council or another company. Multiple entries may be chosen. If R&D is contracted to another company, multiple entries may also be added by the User.

**5.23 Local/Foreign**

Choose from the drop-down menu if the entity is local or foreign. If local, choose from the drop-down menu which university or science council the R&D is contracted to. If foreign, provide the name of the entity.

**5.24 R&D Entity Table**

This Table lists all contracted entities on the project(s) that are included in the application.

## PART 3: PROJECT SPECIFIC INFORMATION

This section deals with details of each specific project.

**5.25 Project name**

Indicate the name of the project to be evaluated, and click open to add information related to this project.

**5.26 Is the R&D activity in a different industrial activity? (Yes/No)**

Indicate if R&D activity is in a different principal industrial activity from the one mentioned in 5.14 above.

**5.26.1 If Yes, please provide the SIC code of industrial activity where R&D is conducted**

Provide the appropriate **subclass** of your R&D activities as provided in the list of ***Standard Industrial Classification of All Economic Activities (Seventh Edition)*** document.

**5.27 Field of science**

From the drop down menu, choose the appropriate field of science that best describes the primary field that the project is attempting to advance.

**5.28 Expected start date**

Indicate the project's start date *(DD/MM/CCYY).*

**5.29 Expected end date**

Indicate the date that the project is expected to be completed *(DD/MM/CCYY).*

**5.30 Project budget**

State the amount of investment or funds allocated to or budgeted for the R&D project. This amount is **not** expected to be more than the Annual R&D Budget in 5.7 above.

**5.31 Is a related/subsidiary conducting the R&D?**

Indicate if the project will be carried out by a related or subsidiary company. If so, indicate the name and physical address of the entity where the R&D activities will be undertaken.

**Project Objectives:**

**5.32 What is the scientific or technological objective or end goal of the project?**

State the scientific or technological purpose or aim of the project.

**5.33 Explain the scientific or technological uncertainty that the project aims to resolve.**

Results are uncertain when the outcome, objective or how to achieve the outcome or objective cannot be known or determined on the basis of current

generally available scientific or technological knowledge, information, or experience. The information should not be available in the public domain on a reasonable accessible worldwide basis at the time the experiments are conducted.

**5.34 Explain the scientific or technological advance the project aims to resolve.**

Provide a genuine and non-trivial scientific or technological advancement explanation of the project and indicate how it contributes to the current body of knowledge. Merely stating product characteristics will fail to demonstrate the significance of the scientific or technological advancement of the project.

**5.35 For what purpose is the systematic investigative or systematic experimental activities conducted?**

The proposed activities should be carried out with a purpose of advancing scientific knowledge or achieving technological advancement and find something unknown or discover whether a theory is correct.

Select the appropriate checkboxes (a, b, c, d and e) to indicate for what purpose the proposed scientific R&D activities will be conducted.

**The application form will generate the appropriate questions based on the section(s) that you tick in 5.35 above.**

**(a) Discovering non-obvious scientific or technological knowledge:**

**5.36 Describe the non-obvious scientific or technological knowledge you intend to discover, and how this cannot be deduced or determined by a person skilled in that field on the basis of generally available scientific or technological knowledge or experience.**

A discovery is something that has already been in existence and brought to the discoverer's awareness. This is usually the ascertaining of an existing fact of nature. A discovery can be contrasted with an invention that is the product of human ingenuity. An invention is created while a discovery is pre-existing.

Non-obvious means that the outcome, or how to achieve such outcome in practice, cannot be deduced or determined by a competent professional working in the field on the basis of generally available scientific or technological knowledge or experience.

To determine whether the discovered scientific or technological knowledge is non-obvious, it should not have been made public anywhere in the world and is –

- a body of reliable new information in the studied nature and behaviour of the material and physical universe, based on observation, experiment, measurement and laws formulated to describe these facts in general.
- a body of reliable new information on how to apply scientific principles or use scientific knowledge to solve technological problems or achieve results that could be products, processes, systems or results that can be modelled.

**5.37 Describe the knowledge available in the public domain or to you, prior to the proposed discovery. How is this prior knowledge insufficient in the context of the project?**

Mention what kind of knowledge is available in the field of the proposed project, and how the proposed activities will be able to fill this gap in scientific or technological knowledge. The non-obvious knowledge sought should be more than a simple step up from what is already known, or applying existing knowledge in a different setting or location.

**5.38 Describe how the knowledge you intend to discover is a scientific or technological advancement from the knowledge available currently in the public domain, or to you.**

Indicate how the proposed activities being undertaken will improve the knowledge available to the public or to you, and are a scientific or technological advancement.

**5.39 What tools or information sources did you use to assess the knowledge that is available in the public domain?**

Identify the source of information used to assess the knowledge available.

**(b) (i) Creating or developing an invention:**

**5.40 Describe the invention that you intend to create or develop and explain how it meets the definition of an invention in the Patents Act.**

An invention is defined in the Patents Act as meaning "an invention for which a patent may be granted under section 25". A patent is a certificate defining ownership of a particular area of a new technology (intellectual property) consisting of a set of exclusive rights granted by a government to an inventor or applicant for a limited period of time (usually 20 years) from the date of filing.

Although section 11D does not require that the taxpayer actually register a patent, an invention that is patentable as set out in section 25 of Patents Act will be eligible.

There are a number of exclusions and requirements listed in section 25 of the Patents Act, which need to be met for an invention to qualify for registration as a patent. The exclusions are aspects that cannot be regarded as invention, for example –

- a discovery;
- a scientific theory;
- a mathematical method;
- a literary, dramatic, musical, artistic or any other aesthetic creation;
- a scheme, rule or method for performing a mental act, playing a game or doing business;
- a program for a computer; or
- the presentation of information.

**5.41 Describe the novelty and the inventive step intended by the activities which is capable of being used or applied in trade or industry or agriculture.**

In terms of section 25(1), the invention must be "new" and involve an "inventive step" and "must be capable of being used or applied in trade or industry or agriculture". The activities should therefore involve an appreciable level of novelty, in that it should –

- involve the development of a new technology;

- involve the extension of an existing technology by discovering a new use of existing technology, using it in a way that is outside of its previously known capability;
- require one to undertake systematic, investigative and experimental activities to develop or test the novel aspects of such development.

**5.42 How did you assess the state-of-the-art? The state-of-the-art must comprise all matters (whether a product, a process, information about either or anything else) which have been made available to the public.**

The company should indicate how the state-of-the-art was assessed. Sources of assessment can be oral, written, by use or in any other way. Something is "new" if it has not been made "part of the state-of-the-art". In other words, the invention cannot have been made public (not just in South Africa, but anywhere in the world in commercial terms). However, an invention used secretly and on a commercial scale within the Republic of South Africa is deemed to form part of the state-of-the-art.

**(ii) Creating or developing a functional design:** (aa) as defined in section 1 of the Designs Act capable of qualifying for registration under section 14 of that Act; and (bb) that is innovative in respect of functional characteristics or intended uses of the functional design.

**5.43 Describe the functional design you intend to create or develop and explain how it meets the definition of a functional design in the Designs Act.**

The Designs Act defines "design" as meaning either an "aesthetic or functional design". "Aesthetic designs" are not considered to be scientific or technological in nature and therefore only "functional designs" would qualify under section 11D. A "functional design" is defined in section 1 of the Designs Act as meaning "any design applied to any article, whether for the pattern or the shape or the configuration thereof, or for any two or more of those purposes, and by whatever means it is applied, having features which are necessitated by the function which the article to which the design is applied, is to perform, and includes an integrated circuit topography, a mask

work and a series of mask works". A functional design is also required to be new and not commonplace by section 14 of the Designs Act.

SIE activities should be carried out in a planned logical sequence, according to a recognised methodology and experimentation in the form of a series of tests to create or develop a functional design.

**5.44 Describe the innovative functional characteristics or intended uses of the functional design.**

Although a functional design may be new, i.e. different in terms of the Designs Act, this is not sufficient. To qualify as R&D, the function performed by the new design must achieve technological advancement and be innovative either in respect of the function performed or the intended use of the design.

**(iii) Creating or developing a computer program as defined in the Copyright Act which is innovative in nature:**

**5.45 Describe the computer program or software you intend to create or develop and explain how it meets the definition in the Copyright Act.**

Describe the computer program that you intend to create or develop. This may be software, firmware, embedded software or middleware. The Copyright Act defines a computer program as a set of instructions fixed or stored in any manner and which, when used directly or indirectly in a computer, directs its operation to bring about a result; it includes a version of the program in a programming language, code or notation different from that of the program, or a fixation of the program in or on a medium different from the medium of fixation of the program.

Generally, the term software refers to encoded instructions executed by electronic devices, including computers, for performing operations or functions. Computer software is a collection of loaded programmes that causes the computer to perform a series of desired operations. Software development is the process of understanding and enumerating the requirements, translating those specifications into instructions for the computer, testing to make sure that specifications and their translations are

correct, and documenting and maintaining this "program" as people using it request modifications.

Not all software development activities are R&D activities. Software may represent the embodiment of R&D outcomes in several industries, not only in the software/computer services industry, and its development can be an integral part of the R&D activity, while only part of software development is R&D. Software can be an end product of the R&D or embedded in an end product that is a subject of R&D. A software R&D process differs from other technology R&D in that there is no tooling or manufacturing phase of product development; rather, when the R&D is complete, the program is ready to copy, ship and use.

The OECD *Frascati Manual*, an international benchmark, states that "for software development to be classified as R&D, its completion must be dependent on the development of a scientific and/or technological advance, and the aim of the project must be the systematic resolution of a scientific and/or technological uncertainty".
The list below, taken from the *Frascati Manual*, indicates types of software development activities that should be included in R&D:

- **Theoretical Computer Science –** R&D producing new theorems and algorithms.
    - The design and implementation of new search engines based on original technologies.
    - Creating new and original encryption or security techniques.
- **Operating Systems –** Technological advances in –
    - technological improvement in resource and interface management;
    - a truly new operating system;
    - the conversion of an operating system to a significantly different hardware environment;
    - the effort to resolve conflicts within hardware or software based on the process of re-engineering a system or a network.

- **Programming Languages –** Technological advances that include the development of –
  - o new languages;
  - o a significant extension of an existing language; or
  - o new or significantly different language translators.
- **Data Management –** Technological advances that include the development of –
  - o algorithms to achieve better basic operations (e.g. retrievals from a database);
  - o new or enhanced query languages for databases that significantly increase the power or search or manipulation; and
  - o new object representations or data structures.
- **Software Engineering –** Advances in the methodology required to construct computer programmes with greater flexibility, efficiency, reliability and ease of maintenance.
- **Artificial Intelligence –** Scientific and technological advances made in the domains of –
  - o machine vision;
  - o robotics;
  - o inference;
  - o knowledge representation;
  - o expert systems;
  - o theorem proving;
  - o understanding of natural language;
  - o automatic language translation;
  - o logic programming; and
  - o future generation systems.

Software-related activities that are routine in nature and do not involve scientific and/or technological advances or resolution of technological uncertainties are not included as R&D activities. Examples of these are the following:

- Business application software and information system development using known methods and existing software tools.
- Support for existing systems.
- Converting and/or translating computer languages.
- Adding minor user functionality to existing application programs.
- Debugging systems.
- Adaptation of existing software.
- Post-R&D activities such as preparation of user documentation and maintenance of existing systems.
- Data migration from one system to another.
- Solving technical problems where similar problems have been overcome in previous projects on the same operating systems and computer architecture.

**5.46 Describe how the computer program or software product you intend to create could not be developed using the existing technology base or level.**

For software development to be eligible, according to the high level of technical risk test, there needs to be a significant uncertainty about the resolution of the technical problem on the basis of current knowledge or experience. Software development that involves an upgrade, addition or change to an existing application or system may be eligible only if it meets the definition of R&D in its own right, because once the initial version of the software is in production, the R&D project that produced it is complete.

The *Frascati Manual* indicates that an upgrade, addition or change to an existing program or system may be classified as R&D if it embodies scientific and/or technological advances that result in an increase in the stock of knowledge. Use of software for a new application or purpose does not by itself constitute an advance.

**5.47 Explain the innovative nature of the computer program or software you intend to create or develop and how the computer program or software will advance the field of computer science or knowledge in software development.**

Innovation is measured against the existing body of knowledge and experience at the time the activities were undertaken. To be innovative in

nature, the computer program must be new in its application, or novel in the way that the software/computer program will function or make the computer function. Obvious processes of imitation, customisation, adaptation or reverse engineering that do not expand the state-of-the-art are not novel and are therefore not considered to be R&D. Use of existing software for a new application or purpose does not, by itself, constitute an advance, and is therefore excluded. Also excluded is the creation of a computer program using known methods of existing software tools.

To determine if the R&D for the purpose of creating or developing a computer program is innovative in nature, such R&D must –

- be meant to address a scientific or technological uncertainty involving high levels of technological risk;
- involve innovation, to the extent that it comprises experimental research, development or invention to achieve scientific and/or technological advancement for the purpose of creating new or making an appreciable improvement to the existing state of technology.

Software development R&D must not constitute the development of internal business processes, unless those internal business processes are mainly intended for sale or for granting the use or right of use or permission to use to persons unconnected to the applicant.
The following will be considered when testing for this requirement in as far as the development of internal business processes is concerned:

- Is there a direct fee charged in relation to the software?
- What are the terms and conditions of an agreement to use the software?

If sales have not yet been made, proof of intention to sell to multiple companies may be needed. Records of a formal decision within the company can give an indication of an intention of selling or for granting the use or right of use or permission to use to persons unconnected to the applicant, as can a marketing plan and evidence of marketing activities.

There are instances where software development is an eligible directly related activity; if so, it does not need to meet the multiple sale requirements. These include development of software to assist in the –

- design of a product being developed;
- analysis of experimental data;
- mathematical modelling of a process being developed;
- automation of a factory or industrial process where the hardware development is an eligible R&D activity.

**(iv) Creating or developing knowledge essential to the use of an invention, functional design or computer program other than creating or developing operating manuals or instruction manuals or documents of a similar nature intended to be utilised in respect of that invention, functional design or computer program subsequent to the R&D being completed:**

**5.48 Indicate for which item is the knowledge essential, created or developed for.**

Select the appropriate box to indicate whether knowledge is created or developed for an invention, a functional design or a computer program.

**5.49 Describe the knowledge that you intend to create or develop in relation the item selected above and how the knowledge is essential to the use thereof.**

To satisfy this requirement, the R&D conducted should be with the objective of creating or developing knowledge on the characteristics of the invention, functional design or computer program created or developed by the taxpayer, concerning the conditions under which the invention, functional design or computer program can be used. Excluded is the creation or development of operating manuals, instruction manuals or documents of a similar nature on how to use the invention, functional design or computer program.

**(c) Making a significant and innovative improvement to any invention, functional design, computer program or knowledge contemplated:**

**5.50 Indicate on which item below you will be making a significant and innovative improvement.**

Select the appropriate box to indicate whether improvement is significantly being undertaken to an invention, a functional design, a computer program or knowledge.

**5.51 Innovative improvements on the selected item above are for what purpose?**

Select the appropriate box to indicate the extent of innovative improvements. To satisfy this requirement, there must be an existing invention, functional design, computer program or knowledge, on which the proposed activities must be carried out in a planned logical sequence and experimentation in a series of tests aimed at achieving a quantifiable result by comparing the new or improved function, performance, reliability or quality of the invention, design, computer program or knowledge.

**5.52 Describe what is significant and innovative about the improvements you are making compared to the existing science or technology base and explain whether the improvements will lead to a scientific or technological advancement compared to the existing science or technology base.**

The applicant should express the state-of-the-art and quantify the extent of the improvement in terms of new or improved function, performance, reliability or quality. To meet the requirement of innovative improvements, the improvement must be significant compared to existing products through changes in materials, components and other characteristics, or process(es) including significant changes in techniques, equipment and/or software in terms of its application. Routine or minor improvements that have neither scientific nor technological advances will not suffice. Examples of this include routine computer maintenance, system or program-specific enhancements that are already publicly available prior to commencement of the work, and the work on technical problems that have been overcome previously on the same operating systems or computer architecture, or

designs that do not involve significant changes in the product's functional characteristics or its intended uses, and other similar examples.

**(d) Creating or developing a multisource pharmaceutical product:**

**5.53 What research and development activities are you conducting? (Consult the Regulations on the other criteria for multisource pharmaceutical products issued by the Minister of Finance in consultation with the Minister of Science of Technology to answer this question).**

Describe the proposed activities being undertaken to create or develop the multisource pharmaceutical product. Also indicate the date on which the activities started and when they are expected to be completed. Any R&D conducted in creating or developing a multisource pharmaceutical product should constitute the following:

- An activity in respect of analysis or characterisation of the properties of a pharmaceutical product with the purpose of determining the excipients and other ingredients to be utilised in the formulation of the multisource pharmaceutical product:
  - Compatibility tests between the active pharmaceutical ingredients (APIs), excipients and other ingredients.
  - Dosage form design.
    - Laboratory-scale reformulation through experimentation on the APIs, excipients and other ingredients.
    - Pilot-plant-scale reformulation.
    - The activities, tests, design and formulation of multisource pharmaceutical products.
- Determination of analytical and stability testing methods if those methods are determined in conjunction with –
  - the activities, tests and design of multisource pharmaceutical products;
  - the formulation of APIs, excipients and other ingredients; or

- the activities, tests and design of multisource pharmaceutical products and the reformulation of APIs, excipients and other ingredients.

**5.54 The results of your R&D are likely to create:**

Choose the appropriate multisource pharmaceutical product that will be created or developed. Multisource pharmaceutical products are pharmaceutically equivalent or pharmaceutically alternative products that may or may not be therapeutically equivalent. Multisource pharmaceutical products that are therapeutically equivalent are interchangeable. Consult the World Health Organization (WHO) Technical Report Series, No 937, 2006 Annex 7 Multisource (generic) pharmaceutical products: Guidelines on registration requirements to establish interchangeability to answer this question.

- **Pharmaceutically equivalent products –** these are pharmaceutical products that contain the same molar amount of the same APIs in the same dosage form, if they meet comparable standards and if they are intended to be administered by the same route. Pharmaceutical equivalence does not necessarily imply therapeutic equivalence, as differences in the excipients and/or the manufacturing process and some other variable can lead to differences in product performance.
- **Pharmaceutically alternative products –** these are products that contain the same molar amount of the same active pharmaceutical moiety(ies) but differ in dosage form (e.g., tablets versus capsules), and/or chemical form (e.g. different salts, different esters). Pharmaceutical alternatives deliver the same active moiety by the same route of administration, but are otherwise not pharmaceutically equivalent. They may not be bioequivalent or therapeutically equivalent to the comparator product.
- **Therapeutically equivalent products –** two pharmaceutical products are considered to be therapeutically equivalent if they are pharmaceutically equivalent or pharmaceutically alternative and, after administration in the same molar dose, their effects, in respect of both efficacy and safety, are essentially the same when

administered to patients by the same route under the same conditions specified in the labelling. This can be demonstrated by appropriate bioequivalence studies, such as pharmacokinetic, pharmacodynamic, clinical or in vitro studies.

- **Interchangeable pharmaceutical products –** products that are therapeutically equivalent to comparator products and can be interchanged with the comparator in clinical practice.

**(e) Conducting a clinical trial:**

**5.55 Are you conducting a clinical trial as defined in Appendix F of the *Guidelines for good practice in the conduct of clinical trials with human participants in South Africa* issued by the Department of Health (2006)? (Yes/No)**

A clinical trial is any investigation in human participants (including patients and other volunteers) intended to discover or verify the clinical, pharmacological and/or other pharmacodynamic effects of an investigational product(s), and/or to identify any adverse reactions to an investigational product(s), and/or to study absorption, distribution, metabolism, and excretion of an investigational product(s) with the objective of ascertaining its safety and/or efficacy.

For the purpose of the R&D Tax Incentive, any R&D being carried on in respect of a clinical trial should be carried out in accordance with the aforementioned Guidelines.

**5.56 If yes, complete the clinical trials table**

Provide the trial name, log number for the clinical trial as issued by the Department of Health as well as the NIH (National Institutes of Health) number. Also select the clinical trial research phase from the drop-down menu.

- **Phase I –** These are the first trials of a new active ingredient or new formulation in humans, often carried out on healthy volunteers. The purpose is to establish a preliminary evolution

of safety, and, where possible, a pharmacodynamic profile of the active ingredient in humans.

- **Phase II –** These trials are performed on a limited number of subjects and are often, at a later stage, of a comparative (e.g. placebo-controlled) design. Their purpose is to demonstrate therapeutic activity and to assess the short-term safety of the active ingredient in patients suffering from a disease or condition for which the active ingredient is intended. This phase also aims at the determination of appropriate dose ranges or regimens and (if possible), clarification of dose response relationships in order to provide an optimal background for the design of extensive therapeutic trials.
- **Phase III –** These are trials in a larger (and possibly varied) patient group with the purpose of determining the short and long-term safety/efficacy balance of formulation(s) of the active ingredient, and of assessing its overall and relative therapeutic value. The pattern and profile of any frequent adverse reactions must be investigated and special features of the product must be explored (e.g., clinically-relevant drug interactions and factors leading to differences in effect such as age).
- **Phase IV –** Studies performed after marketing of the pharmaceutical product. Trials in Phase IV are carried out on the basis of the product characteristics on which the marketing authorisation was granted and are normally in the form of post-marketing surveillance, or assessment of therapeutic value or treatment strategies. Although methods may differ, these studies should use the same scientific and ethical standards as applied in pre-marketing studies. After a product has been placed on the market, clinical trials designed to explore new indications, new methods of administration or new combinations, etc., are normally considered as trials for new pharmaceutical products.

## SECTION 6: GUIDANCE FOR SPECIFIC INDUSTRIES

**6.1** Research and development activities undertaken vary from one industry to the next. This section of the guidelines provides information on additional guidance that the DST found necessary on potentially qualifying R&D activities in specific industry situations. The information is provided to assist applicant companies in similar situations to determine whether their activities are potentially eligible or not.

**6.2** Below is a list of specific industry examples that were identified. This list is not exhaustive. From time to time, the DST will publicise in the Guidelines examples of R&D activities on any areas that may be covered under the R&D Tax Incentive:

- **6.2.1** Agricultural chemicals.
- **6.2.2** Animal and plant breeding (including research on genetically modified organisms).
- **6.2.3** Agrifood industries.
- **6.2.4** Exploration, prospecting and mining industries.

### *Agricultural chemicals*

**6.3** Agricultural chemicals refers to agricultural remedies, stock remedy and veterinary medicines as defined in terms of the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947) and Medicines and Related Substance Control Act, 1965 (Act 101 of 1965), respectively. An agricultural chemical may be –

- **6.3.1** a new end-use product with a new active ingredient;
- **6.3.2** a new end-use product based on an existing active ingredient;
- **6.3.3** an existing product with a new application; or
- **6.3.4** an existing product for which new data is available.

**6.4** For agricultural chemicals to be eligible, they must be formulated or reformulated in the Republic of South Africa and not only for testing or registration purposes.

**6.5** Formulation covers determination of mixing instructions, rate, timing, frequency and method of use, identifying contrary indications, as well as establishing optimum methods of application and stability testing.

**6.6** In developing a new product for the market, a company may synthesise a new compound and develop a commercial grade of this active ingredient and then formulate the active ingredient into various products ready for use.

**6.7** In formulating agricultural chemicals, activities such as synthesis of active ingredients, development of a commercial grade of this ingredient as well as the development of delivery systems are considered to be eligible R&D.

**6.8** Pharmaceutical and clinical efficacy, safety testing, toxicological and residue studies of new end-use products or new applications of existing products may also be eligible.

**6.9** The applicant must be able to alter or control the methodology of research.

***Animal and Plant Breeding***

**6.10** For the purpose of the R&D Tax Incentive, breeding is defined as a systematic effort to alter the genetic characteristics of an animal or a plant through selective mating or propagation.

**6.11** For animal and plant breeding activities to be eligible, they must be undertaken in the Republic of South Africa and not only for registration purposes.

**6.12** The applicant must be able to alter or control the methodology of research.

**6.13** In respect of breeding, eligibility is limited to activities aimed at genetically engineering a transgenic plant or animal, but excludes any and all routine activities aimed at confirming the subsequent transgenic status of the stable progeny and subsequent propagation of any part of the transgenic plant or animal.

**6.14** The following breeding activities are considered to be eligible R&D activities, provided all other eligibility criteria are met:

**6.14.1** Breeding to obtain new or improved products using a scientific method.

**6.14.2** Activities in respect of the analysis of distinctness, uniformity and stability of a new variety in plants and animals.

**6.14.3** Activities in respect of determination of yield, resistance to pests and diseases, salt and drought resistance, adaptation to climatic stress, as well as processing qualities.

**6.14.4** The development of new or improved techniques and the application of these techniques.

**6.14.5** The development of new or improved processes, equipment or instrumentation for the implementation of breeding.

**6.14.6** Activities involving micro-grafting will be eligible up to propagation, while those involving tissue cultures will exclude all routine work undertaken after tissue culture.

***Agrifood Industries***

**6.15** R&D involving systematic, investigative or systematic experimental activities related to chemical and physical properties, as well as components of food and how they respond to processing, preservation and storage of food, is eligible. These activities should involve the application of food chemistry, biochemistry, microbiology and engineering needed to provide innovative, safe and quality products.

**6.16** Niche and emerging areas such as the use of genomics, biotechnology and nanotechnology to improve nutritional value and safety of food, as well as nutrient uptakes, will be supported.

**6.17** Activities aimed at enhancing technology development in agroprocessing, leading to state-of-the-art infrastructure, including new generation process equipment and sophisticated analytical instrumentation, are eligible.

**6.18** Physical modifications and artistic preparation of food which causes no change to the functionality of food items are ineligible.

**6.19** Routine laboratory activities aimed at analysis of different components and attributes of food will be excluded.

**6.20** For the R&D to be eligible, the activities must be undertaken in the Republic of South Africa and not only for testing or registration purposes.

**6.21** The applicant must be able to alter or control the methodology of research.

***Exploration, Prospecting and Mining***

**6.22** Activities related to the development of new or improved exploration techniques or methodologies may be eligible for the R&D Tax Incentive, provided they comply with other eligibility requirements.

**6.23** Certain activities in the mining industry are excluded from the definition of R&D, unless the R&D is limited to the development of technology.

**6.24** Examples of activities that are not systematic, investigative and experimental are prospecting, exploring and/or drilling for minerals or for natural gas for the purpose of discovering deposits, as well as determining more precisely the location of deposits or determining the size and quality of deposits.

## SECTION 7: OTHER CRITERIA RELEVANT TO THE R&D TAX INCENTIVE

### *Extent of R&D eligibility*

**7.1** The R&D Tax Incentive should be applied for as a project and only projects will be adjudicated. Therefore, it is important that the meaning of a project is in the context of R&D.

**7.2** Every project applied for must fall within the definition of R&D in the ITA. The R&D project must comprise a set of interrelated activities that –

**7.2.1** collectively are necessary in attempting to achieve the specific scientific or technological advancement defined for the project by overcoming a scientific or technological uncertainty;

**7.2.2** are pursued in a systematic investigative manner in a field of science or technology by means of experiment or analysis performed by qualified individuals;

**7.2.3** have the characteristics to meet the definition of R&D, and not the overall goals in a commercial sense. The R&D project's success or failure in terms of meeting its overall commercial goals is not a factor in determining its eligibility for the R&D Tax Incentive;

**7.2.4** involve activities that are identified at a level where all effort captured by the project falls within the definition of R&D. This requires that appropriate internal procedures and accounting methods are in place and sufficient to link the activities and associated expenditure to the project.

### *Company projects vs R&D projects*

**7.3** A distinction must be drawn between a company project and an R&D project. "Company project" is a generic term referring to undertakings by a company to have an impact on its business; for example, building new facilities or expanding facilities, developing new products and product lines, changing business practices, upgrading processes and facilities, and engineering projects.

**7.4** A company project has a commercial purpose, whereas the purpose of an R&D project is for the advancement of scientific knowledge or for achieving technological advancement. The definition of R&D, in fact, requires that systematic investigative or systematic experimental activities be undertaken for the purposes of achieving scientific or technological advancement in the context of creating inventions, functional designs, computer programs, improved materials, devices, products or processes.

***Eligibility timelines for R&D activities***

**7.5** The R&D expenditure must be incurred on or after the date of receipt of the application by the DST for approval, as only the expenditure incurred after the date of receipt will be eligible for the deduction.

**7.6** This section applies to instances where a company has estimated that a project will be conducted for a year, but due to circumstances beyond its control, the project overruns to the following year.

**7.7** The company must inform the DST of such an overrun, indicating the stages already concluded and which are still to be conducted. Such information must be provided in the progress report by the company in terms of section 11D(13) of the ITA.

***Applications involving multi-year R&D projects***

**7.8** It is acknowledged that some R&D projects may be planned for several years to achieve their intended objective(s). In such situations, the application must indicate the planned duration of the R&D project(s) in the appropriate space in the application form. The form enables the company to indicate the ultimate objective of the project, i.e. the end goal of the R&D project, as well as milestone stages and timelines that will enable effective monitoring.

**7.9** Any overruns of stages of the R&D project should be indicated in the progress report to be submitted in terms of section 11D(13) of the ITA.

***Applications involving multiple companies in an industry association, joint ventures or in a group***

**7.10** Companies belonging to an association and wishing to conduct R&D on issues pertinent to the industry using the services of the association, must follow this procedure:

**7.10.1** The association must provide details of each company participating in the R&D project.

**7.10.2** The association must provide details of the financial or any kind of contribution by each company to the R&D project.

**7.10.3** The details of the project and other eligibility criteria need to be following as per any other company applying.

**7.10.4** In an unincorporated joint venture, companies should apply individually and must indicate –

- with which company is in the joint venture;
- the total cost of the whole project;
- the company's financial contribution to the project.

**7.11** For companies in a group, either the parent company or each company in a group can apply, taking into account consideration the requirements of section 11D(4) and 11D(6).

***Applications involving contracted R&D***

**7.12** A company can contract its R&D to other companies, either in the same group of companies or to unrelated/unconnected companies, science councils and/or higher education institutions when they wish to complement their resources to undertake the R&D.

**7.13** A company may not claim for the R&D tax deduction unless they determine, control or alter the methodology of research.

**7.14** Where company (A) funds another company (B), to undertake R&D on its behalf, company (A) may deduct 150 percent of the actual expenditure in respect of the R&D carried on by (B) if –

**7.14.1** the R&D is approved by the Minister of Science and Technology;

**7.14.2** the expenditure is incurred in respect of R&D funded by company A and undertaken by company B;

**7.14.3** the expenditure is incurred on or after the date on which the DST received the application for approval;

**7.14.4** the other company undertaking the R&D on behalf of company A is –

**7.14.4.1** an institution, board or body that is exempt from normal tax under section 10(1) (cA);

**7.14.4.2** the Council for Scientific and Industrial Research (CSIR); or

**7.14.4.3** a company that forms part of the same group of companies and that company (B) that undertakes the R&D does not claim a deduction for the R&D expenditure.

***Directly related R&D activities***

**7.15** Approval for R&D activities may include supporting activities, where it is demonstrated that such activities –

**7.15.1** are commensurate with and directly related to the actual undertaking of the core activities of the eligible R&D project;

**7.15.2** involve engineering, design, operations research, mathematical analysis or computer programming, taking into account examples of activities, such as –

**7.15.2.1** literature searches or other investigative work in the early stages of a project to establish the knowledge and experience in the public domain;

**7.15.2.2** design and construction of equipment directly used in experiments;

**7.15.2.3** design, construction and operation of prototypes in experiments;

**7.15.2.4** data collection relating to the experiment, where data is used in experiments;

**7.15.2.5** mathematical analysis and modelling used to analyse the results of experiments;

**7.15.2.6** development of specialist computer software to assist in designing experiments.

***R&D in a production or manufacturing environment***

**7.16** There are activities that form part of the innovation process but cannot be categorised as R&D, e.g. patent filing and licensing, market research and manufacturing start-up.

**7.17** At the same time, activities such as tooling up, process development, design and prototype construction may contain an appreciable amount of R&D, making it challenging to differentiate R&D from normal industrial or production activity. The following are circumstances under which such activities may qualify as R&D:

**7.17.1** **Prototype** is included in R&D if the primary objective is to make further technological improvements. When the necessary modifications to the prototype have been made and testing has been completed, the R&D end point is reached.

**"Prototype"** means an original model constructed to include all of the technical characteristics of and performances of the anticipated new product. The design, construction and testing of a prototype would be characterised as R&D when this is done as part of an R&D process. This applies whether only one or several prototypes are made and whether they are made consecutively or simultaneously. Once the modifications to reflect the test findings are completed and the testing is satisfactory, the R&D is complete. The construction of several copies of a prototype after successful

testing of the original, even if undertaken by R&D staff, is not part of R&D.

**7.17.2** **Pilot plant** – The construction and non-commercial operation of the pilot plant is part of R&D as long as the purpose is to get the experience and to compile engineering and other technical data to be used in –

**7.17.2.1** evaluating the hypothesis;

**7.17.2.2** writing new product formulae;

**7.17.2.3** establishing product specifications;

**7.17.2.4** designing special equipment and structures required by a new process;

**7.17.2.5** preparing operating instructions or manuals about the process.

**"Pilot Plant"** means experimental industrial system constructed to evaluate R&D hypotheses, develop new product formulae, establish new product specifications, design special equipment and structures and prepare operating instructions or manuals on the process as part of an R&D process. If, as soon as this experimental phase is over, a pilot plant switches to operating as a normal commercial production unit, the activity can no longer be considered R&D.

**7.17.3** **Industrial engineering and tooling up** – In most cases this is considered to be part of the production process, but qualifies as R&D if such activities are conducted to –

**7.17.3.1** develop the production machinery and tools;

**7.17.3.2** introduce changes to the production and quality control procedures; or

**7.17.3.3** develop new methods and standards.

**7.17.4** **"Feedback" R&D** – After a new product or process has been handed over to production, technical problems will still need to be solved, some of which may demand that production be stopped and the product taken back to the pilot plant for further R&D to take place, and this qualifies as R&D.

**7.17.5** **Industrial design** – Elements of the design that include plans and drawings aimed at defining procedures, technical specifications and

operational features important to the conception, development and manufacturing of new products and processes qualify as R&D.

***Requirements to show research is being conducted***

**7.18** Companies will have to demonstrate that their research is systematic, investigative or systematic experimental or theoretical work undertaken primarily to acquire new non-obvious scientific knowledge about the nature and behaviour of materials and the physical universe and formulate laws to describe the findings.

**7.19** Research is also systematic, investigative or systematic experimental work undertaken to acquire new non-obvious technological knowledge on understanding how to use or apply scientific principles or use scientific knowledge to solve technological problems.

**7.20** For the creation of an invention, functional design, computer program or knowledge essential to the use of the invention, functional design, computer program or knowledge, the company has to demonstrate that its research is systematic, investigative or systematic experimental.

***Requirements to show development is being conducted***

**7.21** In order to qualify for "development" activities, a company should demonstrate that its activities are systematic, investigative or systematic experimental in applying the research findings on scientific or technological knowledge to significantly improve any invention, functional design, computer program or knowledge.

**7.22** Application of these findings should result in new or improved function, or improved performance, reliability or quality of the invention, functional design, computer program or knowledge being developed or created.

## SECTION 8: R&D EXPENDITURE

### *Qualifying R&D expenditure*

Determination and/or audit of expenditure is a function of SARS. The following may be taken into account in relation to qualifying R&D expenditure.

**8.1** As a general rule, only the expenditure incurred directly and solely in respect of the eligible R&D activities will be accepted for purposes of claiming the deduction.

**8.2** The onus is on the company to prove that the expenditure is related to approved R&D activities.

**8.3** The following expenditure may be considered to be directly and solely in respect of R&D:

**8.3.1** Labour costs of personnel involved in R&D, which is attributable to the time spent directly and solely on eligible activities.

**8.3.2** Materials and consumables directly related to the eligible activities.

**8.3.3** Overheads solely related to approved R&D activities, including water, gas, electricity and costs of R&D implements and utensils.

**8.4** The following expenditure on activities directly supporting eligible R&D may be considered:

**8.4.1** Activities to create or adapt software, materials or equipment needed to resolve a scientific or technological uncertainty, provided that the software, material or equipment is created or adapted solely for use in R&D.

**8.4.2** Scientific or technological planning activities.

**8.4.3** Scientific or technological design, testing and analysis undertaken to resolve the scientific or technological uncertainty.

**8.4.4** Design and construction of apparatus used directly for experiments, such as a pilot plant. Pilot plants and prototypes qualify for deduction under section 11D(2)(b)(i).

**8.4.5** Data collection for use in experiments.

**8.4.6** Mathematical modelling used to analyse the results of experiments.

**8.4.7** Design, construction and operation of prototypes used in experiments.

**8.4.8** Scientific and technical information services, insofar as they are conducted for the purpose of R&D support, such as preparation of the original report of R&D findings.

**8.4.9** Training required for directing and supporting an R&D project.

**8.4.10** Costs incurred on Phase IV clinical trials conducted for the purpose of developing new indications, developing new methods of administration or developing new combinations.

**8.4.11** R&D feasibility studies to inform the strategic direction of a specific R&D activity.

**8.5** The expenditure on the following activities will not be considered as directly or solely related to R&D, even if necessary for R&D:

**8.5.1** Commercial, legal and financial activities necessary for R&D and for marketing of the new Intellectual Property created.

**8.5.2** Manufacturing and distribution of goods and services.

**8.5.3** Administration and general support activities such as –

**8.5.3.1** human resources costs;

**8.5.3.2** special transportation and storage of scientific materials;

**8.5.3.3** cleaning of the R&D facility;

**8.5.3.4** repair and maintenance of the R&D facility, including maintenance of R&D equipment;

**8.5.3.5** security.

**8.5.4** Economic and engineering feasibility studies that have limited or no bearing on the specific R&D activity.

**8.5.5** Indirect expenditure like insurance, rent, security, travel, financing, administration, compliance and similar costs.

**8.6** The following capital expenditure will not qualify for deduction under section 11D, but may be eligible for deduction under other section of the ITA (e.g. section 12C and 13):

**8.6.1** Immovable property.

**8.6.2** Machinery, plants, implements, utensils and articles.

**8.7** SARS administers provisions related to qualifying R&D expenditure for the R&D Tax Incentive. Questions on qualifying expenditure should therefore be directed to SARS.

***Treatment of government grants and other incentives to promote R&D and innovation in South Africa***

**8.8** Where a company is due to receive or has received any amount from the government, public entity or municipality towards R&D, an amount equal to such a grant will be excluded when the R&D tax deduction is calculated.

**8.9** A company does not qualify for the R&D tax deduction of 150% for the amount of a government grant for the R&D expenses. However, the expenditure incurred by the company will qualify.

## SECTION 9: PROGRESS REPORTING AND RECORD-KEEPING REQUIREMENTS

### *Preparing a progress report*

**9.1** Companies whose R&D activities are approved are required to report to the DST on the progress made in their R&D activities, annually (coinciding with the company's financial year-end reporting). To make the process easier, it is important for the company to keep and maintain adequate records that substantiate the R&D Tax Incentive application. These should support tax expenditure claims and monitor the R&D progress, because the company has to prove to SARS that the amount of incurred expenditure was on the approved R&D activities.

**9.2** A progress report form is accessible on the *R&D Tax Incentive Online* and can be used to submit progress information. Amongst others, the form requires the following information:

**9.2.1** Actual R&D expenditure and the amount of the tax incentive benefit.

**9.2.2** Whether the company attained its R&D goals.

**9.2.3** How the project assisted the company in terms of increasing its R&D and innovation or improving efficiencies in its processes.

**9.2.4** Outcomes related to R&D such as patents, new products such as scientific and technological advancement, the creation of new economic activities, employment, and collaboration with other companies.

**9.3** A good R&D record-keeping system is important to support the company in generating the abovementioned information. Companies are advised to maintain the following records in order to make progress reporting and audits easier:

**9.3.1** The R&D plan, which stipulates the activity milestones and resources used on the project. The R&D plan should be a living document that is updated as major changes occur and that should be used to inform the DST of the changes introduced.

**9.3.2** Records of any preliminary research, including literature and patent searches, feasibility studies, options papers and a risk management analysis.

**9.3.3** Personnel timesheets and other time-recording data, clearly showing the time apportionment where production personnel were used in R&D.

**9.3.4** Records of experiments, indicating the aim of the experiment, how and when it was conducted, as well as the outcome. The records should ideally state the aim of the experiment, how and when it was conducted, as well as the outcome. Where use was made of the production line for R&D, it is important to define the period of use for R&D purposes.

**9.3.5** Personnel time sheets, to confirm that the expenditure portion is directly related to R&D.

**9.4** The DST may conduct random inspections on approved applications as part of the risk management plan. This may involve in-depth inspection of documentation; site visits to examine physical evidence, such as R&D plans, pilot plants, prototypes and/or facilities; discussions with the management of the applicant company and/or the technical personnel undertaking the R&D.

***Claiming the R&D Tax Incentive deduction***

**9.5** Once the Minister of Science and Technology or her/his delegate has made the decision, the company will be informed of the decision through a letter, indicating which R&D activities are approved and which are not. This letter serves as proof to SARS that the company's R&D activities are approved when claiming the R&D tax deduction.

**9.6** The company has to prove to SARS that the amount of incurred expenditure was on the approved R&D activities.

**9.7** Documents required by SARS are subject to SARS auditing functions, and cannot be prescribed upfront.

***Decision of the Minister***

**9.8** The decision of the Minister of Science and Technology or a person delegated by the Minister of Science and Technology on applications is final; however, companies have the right to take the Minister's decision on review in terms of the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000).

***Changes in company structures after submitting an application to the DST***

**9.9** Companies that have applied for approval in respect of R&D projects and have simply changed the name of the company must notify the Minister of Science and Technology of such change.

**9.10** In such instance there is no need for a resubmission of the application for approval of the projects that have already been responded to, the decision of the Minister in respect of such project will remain. For example:

**9.10.1** Company A has decided to change its name to Company B, it undertakes all the activities previously undertaken including Project X which was previously approved by the Minister, nothing has changed except the name of the company.

**9.10.2** Company A must inform the Minister of the change of its name for record purposes.

**9.10.3** Company B is not required to resubmit an application in respect of Project X and the decision taken by the Minister in respect of Project X will remain.

**9.11** Where, however, a company transfers its R&D project to another entity, the other entity will need to submit a new application for approval by the Minister with a full report on what activities have been undertaken and which of those activities are still to be undertaken and who will incur the costs in respect of such projects.

**9.12** The decision of the Minister will apply from the date that such application is received from the new entity. For example:

**9.12.1** Company A transfers its assets to its sister Company B as part of a reorganisation in order to streamline its operations.

**9.12.2** As part of the reorganisation, all R&D projects will be undertaken in Company B.

**9.12.3** Company A had already submitted and received approval for Project X before the reorganisation took place.

**9.12.4** Company B will have to apply to the Minister for approval in respect of Project X and notify the Minister of the previous approval, the change and provide the Minister with all activities undertaken by Company A and activities to be undertaken by Company B in respect of Project X.

## SECTION 10: WITHDRAWAL OF THE APPROVAL ALREADY GRANTED

**10.1** The Minister of Science and Technology may withdraw the approval granted to a company if and/or when –

**10.1.1** there is any material change which would have had the effect that approval under section 9 would not have been granted had that fact been known to the Minister at the time of granting approval;

**10.1.2** the taxpayer doing the R&D fails to submit the progress report to the DST as required by subsection (13); or

**10.1.3** the taxpayer doing the R&D is guilty of fraud, misrepresentation or non-disclosure of a material fact which would have had the effect that approval under subsection (9) would not have been granted.

**10.2** The decision to withdraw the approval of R&D activities by the Minister of Science and Technology will be based on the recommendations of the Committee.

## SECTION 11: DST ASSISTANCE TO COMPANIES

**11.1** The Directorate: Private Sector R&D Tax Incentive Promotions (hereinafter called “the Unit”) is responsible for the administration of the R&D Tax Incentive programme. The Unit assesses applications and serves as the Secretariat for the R&D Tax Incentive Adjudication and Monitoring Committee, which is established in terms of section 11D of the ITA.

**11.2** The Unit is the right place to obtain status updates in respect of any applications. The DST will only disclose information about the application to the applicant concerned or the applicant's legally appointed representative.

**11.3** The DST's assistance to companies on matters of the R&D Tax Incentive is provided free of charge. The DST does not request or appoint any external person or business entity to render these services on its behalf.

**11.4** Companies are welcome to contact the DST directly for assistance in completing the form. This service is especially targeted at small and medium enterprises (SMEs), start-up companies and new applicants. Taxpayers can make use of the services of a consultant or representative on their own account.

## SECTION 12: FURTHER INFORMATION AND CONTACT DETAILS

**12.1** Further information about the R&D Tax Incentive programme can be accessed on the DST's website: www.dst.gov.za or the following webpage: www.dst.gov.za/r-d.

**12.2** You can contact the DST from Monday to Friday (except public holidays) between 08:00 and 16:30 on phone number: 012 843 6829 or email: tax@dst.gov.za.

**12.3** Application forms may only be submitted online.

**12.4** Any other correspondence can be sent as follows:

Mail: Private Sector R&D Tax Incentive Promotions
Private Bag X894
Pretoria
0001

By hand/courier to:
Building 53
Scientia Campus (CSIR Campus)
Meiring Naudé Road
Brummeria
Pretoria

By email to: tax@dst.gov.za

**12.5** Check the SARS website www.sars.gov.za for further information about the R&D Tax Incentive.

**12.6** Similar to many areas of taxation, the legislation governing the R&D Tax Incentive gets amended to address policy changes and other relevant developments. Taxpayers are therefore advised to constantly check the National Treasury website at www.treasury.gov.za for the Taxation Laws Amendment Bill (TLAB) for the updates and amendments to section 11D of ITA.

## REFERENCES AND RECOMMENDED FURTHER READING FOR INFORMATION PURPOSES


**1.** Department of Health, 2006. Guidelines for Good Practice in the Conduct of Clinical Trials with Human Participants in South Africa.

**2.** Department of Science and Technology, 1996. Preparing for the 21st century: White Paper on Science and Technology.

**3.** Department of Science and Technology, 2002. South Africa's National Research and Development Strategy.

**4.** Department of Science and Technology, 2007. Innovation towards a knowledge-based economy: Ten-Year Innovation Plan for South Africa (2008-2018).

**5.** Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947).

**6.** Medicines and Related Substance Control Act, 1965 (Act No. 101 of 1965).

**7.** National Treasury, 2015. Regulations on the additional criteria for clinical trials for the purpose of the deduction for R&D in terms of section 11D of the Income Tax Act.

**8.** National Treasury, 2015. Regulations on the other criteria for multisource pharmaceutical products for the purpose of the deduction for R&D in terms of section 11D of the Income Tax Act.

**9.** OECD (Organisation for Economic Cooperation and Development), 2002. Frascati Manual: Proposed standard practice for surveys on research and experimental development ("Frascati Manual").

**10.** OECD, 2005. The measurement of scientific and technological activities: Proposed guidelines for collection and interpreting technological innovation data ("Oslo Manual").

**11.** South African Revenue Service, 2009. SARS Interpretation Note No 50.

**12.** Statistics South Africa, 2012. Standard Industrial Classification of all Economic Activities (SIC). Seventh edition.

**13.** The Income Tax Act, 1962 (Act No. 58 of 1962).

**14.** World Health Organisation, 2005. Guidelines on submission of documentation for multisource (generic) finished pharmaceutical product for the WHO prequalification of Medicines Programme: Quality part.

**15.** World Health Organisation, 2006. The WHO Technical Series No. 937. Multisource (generic) pharmaceutical products: guidelines on registration requirements to establish interchangeability.

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