IRS

Audit Techniques Guide: Credit for Increasing Research Activities (i.e. Research Tax Credit) IRC § 41* - Qualified Research Activities

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* Unless otherwise indicated, all section references are to the Internal Revenue Code of 1986, as amended, and the Treasury Regulations.

NOTE: This guide is current through the publication date. Since changes may have occurred after the publication date that would affect the accuracy of this document, no guarantees are made concerning the technical accuracy after the publication date.

Chapter 4 | Table of Contents | Chapter 6

5. QUALIFIED RESEARCH ACTIVITIES

a. In General

In order for an activity to qualify for the research credit, the taxpayer must show that it meets all the requirements as described in section 41(d). Under section 41(d), the term "qualified research" means research:

1. With respect to which expenditures may be treated as expenses under section 174, (also known as the section 174 test);
2. Which is undertaken for the purpose of discovering information which is technological in nature, (also known as the discovering technological information test);
3. The application of which is intended to be useful in the development of a new or improved business component of the taxpayer (also known as the business component test); and

4. Substantially all of the activities of which constitutes elements of a process of experimentation for a qualified purpose (also known as the process of experimentation test).

To be considered "qualified research", the taxpayer must be able to establish that the research activity being performed meets ALL four of the above tests.[11] These tests must be applied separately to each business component of the taxpayer. Activities listed in section 41(d)(4) are not qualified research. Infra.

(1). The Section 174 Test

In order to meet the section 174 test, the expenditure must (1) be incurred in connection with the taxpayer's trade or business, and (2) represent a research and development cost in the experimental or laboratory sense.

Expenditures represent research and development costs in the experimental or laboratory sense if they are for activities intended to discover information that would eliminate uncertainty concerning the development or improvement of a product. Uncertainty exists if the information available to the taxpayer does not establish the capability or method for developing or improving the product or the appropriate design of the product.

Whether expenditures qualify as research or experimental expenditures depends on the nature of the activity to which the expenditures relate, not the nature of the product or improvement being developed or the level of technological advancement the product or improvement represents.

Section 174 treatment is allowed only to the extent that the amount is reasonable under the circumstances. Expenditures for land and depreciable property are not allowed under section 174, although in certain cases, depreciation may be treated as a section 174 expense. (Depreciation is not a QRE under section 41). Exploration expenditures do not qualify as section 174 expenses. Furthermore, the provisions of section 174 are not applicable to any expenditure paid or incurred for the purpose of ascertaining the existence, location, extent, or quality of any deposit of ore, oil, gas, or other mineral. Refer to the regulations under section 174 for further explanation on specific expense disallowances.

Treasury Regulation section 1.174-2(a)(3) disallows section 174 treatment for certain activities, including:

1. The ordinary testing or inspection of materials or products for quality control;
2. Efficiency surveys;
3. Management studies;
4. Consumer surveys;
5. Advertising or promotions;
6. The acquisition of another's patent, model, production or process; or
7. Research in connection with literary, historical, or similar projects.

Since section 41 is more restrictive than section 174, expenses allowable under section 174 will still have to meet the other requirements of section 41(b) and (d) to be a QRE. For example, patent procurement expenses generally qualify under section 174 but would not qualify under section 41.

(2). The Discovering Technological Information Test

Final regulations, issued in January 2004 (TD 9104), [12] mirror the 2001 proposed regulations with respect to the discovering technological information test. There is no "discovery" requirement under section 41 separate and apart from that already required under Treasury Regulation section 1.174-2(a)(1) (i.e., was the research undertaken to eliminate uncertainty concerning the development or improvement of a business component). The final regulations, like the proposed regulations, abandon the requirement that the research activities be undertaken to obtain knowledge that exceeds, expands or refines the common knowledge of skilled professionals in a particular field of science or engineering.

Research is undertaken for the purpose of discovering information if it is intended to eliminate uncertainty concerning the development or improvement of a business component. Uncertainty exists if the information available to the taxpayer does not establish the capability or method for developing or improving the business component, or the appropriate design of the business component.

In order to satisfy the technological in nature requirement for qualified research, the process of experimentation used to discover information must fundamentally rely on principles of the physical or biological sciences, engineering, or computer science. A taxpayer may employ existing technologies and may rely on existing principles of the physical or biological sciences, engineering, or computer science to satisfy this requirement.

The final regulations state that the issuance of a patent by the Patent and Trademark Office under 35 USC sections 51 is conclusive evidence that a taxpayer has discovered information that is technological in nature that is intended to eliminate uncertainty concerning the development or improvement of a business component. This is known as the "patent safe-harbor". Be aware that the issuance of a patent is not conclusive evidence of qualified research, as the taxpayer still has to meet all the other activity requirements of section 41(d). Examiners should note that the securing of a patent usually occurs some time after the actual research year(s).

(3). The Business Component Test

The taxpayer must intend to apply the information being discovered to develop a new or improved business component of the taxpayer. A business component is any product, process, computer software, technique, formula, or invention, which is to be held for sale, lease, license, or used in a trade or business of the taxpayer. Often times, taxpayers group all research in one broad category and do not identify the specific business component to which the business relates. A taxpayer must be able to tie the research it is claiming for the credit to the relevant business component. The 'substantially all' test is applied at the business component level.

(4). The Process of Experimentation Test

The final research credit regulations provide rules on the "process of experimentation test", which requires that qualified research be research "substantially all of the activities of which constitute elements of a process of experimentation".

The final regulations clarify the requirement that a process of experimentation is a process designed to evaluate one or more alternatives to achieve a result where the capability or the method of achieving that result, or the appropriate design of that result, is uncertain as of the beginning of the taxpayer's research activities. Examiners are encouraged to read the preamble to these regulations to get a better understanding of the changes made. A

taxpayer may undertake a process of experimentation if there is no uncertainty concerning the taxpayer's capability or method of achieving the desired result, so long as the appropriate design of the desired result is uncertain as of the beginning of the taxpayer's research activities. Uncertainty exists if the information available to the taxpayer does not establish the capability or method for developing or improving the business component, or the appropriate design of the business component.

The final regulations articulate the core elements of a process of experimentation. In addition to requiring that the research be undertaken for the purpose of discovering information that is technological in nature, the taxpayer must:

1. **Identify the uncertainty** regarding the development or improvement of a business component that is the object of the taxpayer's research activities;
2. **Identify one or more alternatives** intended to eliminate that uncertainty; and
3. **Identify and conduct a process of evaluating** the alternatives.

The key difference regarding "uncertainty" in sections 41 and 174 is that, under section 41, uncertainly must relate to a qualified purpose, and must be resolved through a 3-element process of experimentation, fundamentally relying on the principles of the hard sciences, engineering, or computer science. The regulations clarify that merely demonstrating that uncertainty has been eliminated is insufficient to satisfy the process of experimentation test. Focus upon developing facts necessary to determine whether the taxpayer's activities meet these requirements and the core elements.

The preamble to the final regulations states that because of the clarifications made, the readily discernible and applicable provision in the 2001 proposed regulations is no longer necessary, because those activities do not constitute a process of experimentation under the final regulations. Accordingly, examiners who properly applied the "readily discernible and applicable" rule as a basis for disallowing the research credit have made proper adjustments. In pending and future examinations, however, the readily discernible and applicable standard should not be applied to a taxpayer's activities.

In order for activities to constitute qualified research under section 41(d)(1), 80 percent or more of taxpayer's research activities, measured on a cost or other consistently applied reasonable basis (and without regard to Treasury Regulation section 1.41-2(d)(2)), must constitute elements of a process of experimentation for a qualified purpose. The regulations provide that, if this substantially all requirement is met, then the balance of the research activities may qualify, if the remaining balance meets the requirements of section 41(d)(1)(A) (with respect to which expenditures may be treated as expenses under section 174), and if they are not excluded activities under section 41(d)(4) (such as research after commercial production, adaptation or duplication of an existing business component, etc.).

Although the final regulations are effective for taxable years ending after December 31, 2003, the Service will not challenge return positions that are consistent with the final regulations. As these final regulations merely clarify the proposed regulations upon which taxpayers are already relying, the Service's administrative approach will follow these final rules for all open years.

The process of experimentation must be conducted for a "qualified purpose", i.e., it must relate to a new or improved function, performance, reliability, or quality of the business component. The process of experimentation is not for a qualified purpose if it relates to style, taste, cosmetic, or seasonal design factors. I.R.C. § 41(d)(3)(B). Accordingly, be alert to claimed QREs for research related to non-functional aspects of the business component.

b. Shrink Back

The requirements of section 41(d) are to be applied first at the level of the discrete business component, i.e., the product, process, computer software, technique, formula, or invention to be held for sale, lease, or license, or used by the taxpayer in its trade or business.

If the requirements for credit eligibility are met at that first level, then some, or all, of the taxpayer's research activities are eligible for the credit. If all aspects of such requirements are not met at that level, the test applies at the most significant subset of elements of the product, process, computer software, technique, formula, or invention to be held for sale, lease, or license. This "shrinking back" is to continue until either a subset of elements of the business component that satisfies the requirements is reached, or the most basic element of the business component is reached and such element fails to satisfy the test.

The burden is on the taxpayer to establish that all of the section 41(d)(1) requirements have been met. The examiner should issue an IDR requesting a list of each qualifying project or activity, along with a complete description of that activity or project as a starting point in the evaluation, including the business component to which each research activity relates. As with the evaluation of wages, interviews should be considered to supplement and corroborate information obtained from the review of existing records.

c. Exclusions

There are certain research activities that are specifically excluded from qualified research under section 41(d)(4). It is critical to look at the underlying facts to see if the exclusions apply. Taxpayer labels are not controlling. The following activities are not qualified research:

1. Exclusion for Research after Commercial Production

Section 41(d) (4) states that qualified research does not include any research conducted after the beginning of commercial production. A business component is considered ready for commercial production when it is developed to the point where it is ready for use or meets the basic functional and economic requirements of the taxpayer. In some cases, there may be "product release" documents where all responsible managers sign off that the new product and or new production method is now released for production, which may be helpful in the application of this exclusion.

The following activities are deemed to occur after the commencement of commercial production:

1. Preproduction planning for a finished business component,
2. Tooling up for production,

3. Trial production runs,
4. Troubleshooting involving detecting faults in production equipment or processes,
5. Accumulating data relating to production processes, and
6. Debugging flaws in a business component.

This per se list includes “debugging” activities, but not “correction of flaws”. Treasury Regulation section 1.41 4(c)(10), Examples 1 and 2, illustrate the application of the exclusion for research after commercial production.

2. Exclusion for Adaptation

This exclusion applies if the taxpayer's activities relate to adapting an existing business component to a particular customer's requirement or need. This exclusion does not apply merely because a business component is intended for a specific customer. A contractor’s adaptation of an existing business component to a taxpayer’s particular requirement or need is not qualified research.

Treasury Regulation section 1.41 4(c)(10), Examples 3 7, illustrates the application of the adaptation exclusion.

3. Exclusion for Duplication

This exclusion applies if the taxpayer reproduced an existing business component, in whole or in part, from a physical examination of the business component, plans, blueprints, detailed specifications, or publicly available information with respect to such component. This exclusion does not apply merely because the taxpayer evaluates another's business component in the course of developing its own business component.

Treasury Regulation section 1.41 4(c)(10), Example 8, illustrates the application of the duplication exclusion.

4. Exclusion for Surveys, Studies, Research Relating to Management Functions

The following activities are excluded under this provision:

- Efficiency surveys;
- Management functions or techniques, including such items as preparation of financial data and analysis, development of employee training programs and management organization plans, and management based changes in production processes (such as rearranging work stations on an assembly line);
- Market research, testing, or development (including advertising or promotions);
- Routine data collections; or
- Routine or ordinary testing or inspections for quality control.

Treasury Regulation section 41 4(c)(10), Example 9, illustrates the application of this exclusion.

Note that it is the activity which governs, not the intended end result. For example, the development of a new production process, which met all the tests for qualified research, would not be excluded simply because the activity was preceded by a management efficiency survey.

5. Exclusion for Internal-Use Software

This exclusion is beyond the scope of this ATG.

6. Exclusion for Foreign Research

Qualified research does not include any research conducted outside the United States, Puerto Rico, or any possession of the United States. [13] This exclusion applies to in-house, as well as contract research. The foreign research disallowance applies even if the research is done by American researchers, or performed for an American taxpayer.

7. Exclusion for Research in the Social Sciences, etc.

Qualified research does not include research in the social sciences (including economics, business management, and behavioral sciences, arts, or humanities).

Treasury Regulation section 1.41 4(c)(10), Example 10, illustrates the application of this exclusion. Note that the process, not the end result, governs. The development of new formulation of artists' paint would not be excluded simply because it benefited the arts, while research into Van Gogh's life would be excluded under this rule.

8. Exclusion for Funded Research

The exclusion for "funded research" under section 41(d)(4)(H) provides that the credit shall not be available for qualified research to the extent funded by a contract, grant, or otherwise by another person (or governmental entity).

All agreements (not only research contracts) entered into between the taxpayer performing the research and other persons are to be considered in determining the extent to which the research is funded. As a result, the examiner should request a complete copy of all contracts (including modifications), agreements, letters of understanding or similar documents where funding is an issue. These contracts and similar documents will need to be reviewed to determine whether, and to what, extent the research is to be considered funded. A "fixed-price" contract, where the customer agrees to pay a set price for a deliverable, and a "cost-plus" contract, where the customer agrees to pay the actual costs incurred by the contractor in acquiring/constructing the deliverable plus an additional amount for profit, are examples of the different contracts you may encounter. Counsel can be helpful in securing and interpreting these agreements. In the case of documents that are "classified" by a government agency, contact the Classified Contract Technical Advisor or a Research Credit Technical Advisor for further assistance.

In order to determine if the contractor's research expenditures are "funded", you must resolve the following issues:

- Is payment for the contractor's research activities "contingent upon the success of the research" under Treasury Regulation section 1.41-4A(d)(1)?
- Does the contractor retain "substantial rights" in the results of the research activities within the meaning of Treasury Regulation section 1.41-4A(d)(2)?

If the answer to either question is no, then the research is treated as funded. Amounts payable under any agreements that are contingent on the success of the research (thus considered to be paid for the product or result of the research) are treated as funded research. If a contractor retains substantial rights in the results of the research, and if payment to him is contingent on the success of the research, then the contract is not funded and the contractor is eligible to claim the credit.

Note that, if the contractor performing research for another person does not retain substantial rights in the research, and if the research payments are contingent on the contractor's success, neither the contractor nor the person paying for the research is eligible to claim the credit.

If a taxpayer performing qualified research for another person retains substantial rights in the research under the agreement providing for the research, the research is funded to the extent of the payments (and fair market value of any property) to which the taxpayer becomes entitled by performing the research. A taxpayer does not retain substantial rights in the research if the taxpayer must pay for the right to use the results of the research.

Frequently, taxpayers make some sort of funding allocation between "qualified research" and "non-qualified research" expenditures incurred in certain types of contracts, e.g., cost-share or cost overrun situations. In so doing, taxpayers often overlook the "pro rata allocation" requirements of Treasury Regulation section 1.41-4A(d)(3)(ii).

The general rule is that funding is to be allocated 100 percent to otherwise qualified research expenses (as provided by Treasury Regulation section 1.41-4A(d)(3)(i)) unless the taxpayer can meet the pro rata allocation requirements of Treasury Regulation section 1.41-4A(d)(3)(ii).

Pursuant to Treasury Regulation section 1.41-4A(d)(3)(ii), the taxpayer may allocate funding pro rata to nonqualified, and otherwise qualified research expenses, rather than allocating it 100 percent to otherwise qualified research expenses, if the taxpayer can establish to the satisfaction of the Service:

1. the total amount of research expenses,
2. that the total amount of research expenses exceed the funding, and
3. that the otherwise qualified research expenses (that is, the expenses that would be qualified research expenses if there were no funding) exceed 65 percent of the funding.

In no event, however, shall less than 65 percent of the funding be applied against the otherwise qualified research expenses. Material adjustments may be warranted if the specific requirements of Treasury Regulation section 1.41-4A(d)(3)(ii) have not been met.

Funding is determinable only in the subsequent taxable year. Treasury Regulation section 1.41-4A(d)(5) states that if, at the time the taxpayer files its return for a taxable year, it is impossible to determine to what extent particular research performed by the taxpayer during the year may be funded, then the taxpayer shall treat the research as completely funded for purposes of completing that return. When the amount of funding is finally determined, the taxpayer should amend the return and any interim returns to reflect the proper amount of funding.

[11] In the case of certain software developed for internal use, taxpayers must meet the requirements of an additional three-part "high threshold of innovation" test. See Prop. Treas. Reg. § 1.41-4(c)(6)(vi). See also the ANPRM relating to the section 41(d)(4)(E) internal use software exclusion.

[12] Final Regulations for the Definition of Qualified Research under section 41(d) (doc, 90kb), also in HTML (htm, 137kb) and Adobe (pdf, 65kb), T.D. 9104.

[13] Section 41(d)(4)(F) was modified by P.L. 106-170 section 502(c)(1) which added the Commonwealth of Puerto Rico and any possession of the United States for amounts paid or incurred after June 30, 1999. Prior to amendment, section 41(d)(4)(F) applied only to the United States.

Chapter 4 | Table of Contents | Chapter 6

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