

**Office of Chief Counsel
Internal Revenue Service
memorandum**

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subject: Section 41 Research Credit Claims

Disclosure Statement

This advice responds to your request for assistance. It may not be cited as precedent. This writing may contain privileged information. Any unauthorized disclosure of this writing may undermine our ability to protect the privileged information. If disclosure is determined to be necessary, please contact this office for our views.

Issues

1. What the correct object of analysis for the four tests under Section 41(d)(1) of the Internal Revenue Code ("Code") is.
2. Whether the object of analysis for the four tests under Section 41(d)(1) changes when a taxpayer uses a statistical sample under Rev. Proc. 2011-42, 2011-37 I.R.B. 318, to substantiate a research credit claim.
3. Whether the object of analysis for the four tests under Section 41(d)(1) changes when the Internal Revenue Service (the "Service") uses a statistical sample to audit a research credit claim.

Conclusion

1. Each of the four tests under Section 41(d)(1) applies separately to each business component a taxpayer uses as the factual basis for their research credit claim.
2. The application of the four tests under Section 41(d)(1) to business components and requirements related to the four tests does not change if a taxpayer uses a statistical sample under Rev. Proc. 2011-42 to substantiate a research credit claim.
3. The application of the four tests under Section 41(d)(1) to business components and requirements related to the four tests does not change when the Service uses a statistical sample to audit a research credit claim.

Law and Analysis

The Section 41 Credit for Increasing Research Activities

Under Section 41(a), the research credit for the taxable year is an amount equal to the sum of 1) 20 percent of the excess (if any) of the qualified research expenses for the taxable year, over the base amount¹, 2) 20 percent of the basic research payments determined under Section 41(e)(1)(A), and 3) 20 percent of the amounts paid or incurred by the taxpayer in carrying on any trade or business of the taxpayer during the taxable year (including as contributions) to an energy research consortium for energy research.

Section 41(b)(1) defines the term “qualified research expenses” (“QRE”) as the sum of the following amounts which are paid or incurred by the taxpayer during the taxable year in carrying on any trade or business of the taxpayer: 1) in-house research expenses, and 2) contract research expenses.

Under Section 41(b)(2)(A)(i), the term “in-house research expenses” means any wages paid or incurred to an employee for qualified services performed by such employee. Under Section 41(b)(2)(B), the term “qualified services” means services consisting of 1) engaging in qualified research, or 2) engaging in the direct supervision or direct support of research activities which constitute qualified research. An activity is qualified research if it satisfies four tests under Section 41(d)(1):

1. **Section 174 test** — Research expenditures may be treated as specified research or experimental expenses under Section 174 of the Code, which requires that the claimed expenditures were incurred in connection with the taxpayer's trade or

¹ The base amount, not otherwise explained in detail for this memo, is defined in Section 41(c). Taxpayers must demonstrate that the QREs claimed for the year at issue exceed the base amount to claim any Section 41 research credit.

business which represent research and development costs in the experimental or laboratory sense;

2. Technological information test — Research is undertaken for the purpose of discovering information that is technological in nature;
3. Business component test — The application of research is intended to be useful in the development of a new or improved business component of the taxpayer; and
4. Process of experimentation test — Substantially all the research activities constitute elements of a process of experimentation for a qualified purpose described in Section 41(d)(3).

Under the “process of experimentation” test, the “substantially all” requirement is met “only if 80 percent or more of a taxpayer’s research activities measured on a cost or other consistently applied reasonable basis . . . constitute elements of a process of experimentation.” Treas. Reg. § 1.41-4(a)(6).

Section 41(d)(2)(A) requires the four tests be separately applied to each of the taxpayer’s business components. Treas. Reg. § 1.41-4(b)(1). Treas. Reg. Section 1.41-4(a)(6) further reaffirms the requirement under Section 41(d)(2)(A) by stating that the substantially all requirement under the “process of experimentation” test is “applied separately to each business component.”

If the overall business component does not meet all four tests, the “shrink-back rule” states,

[The four tests then] apply 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 of the product is to continue until either a subset of elements of the product that satisfies the requirements is reached, or the most basic element of the product is reached and such element fails to satisfy the test.

Treas. Reg. § 1.41-4(b)(2). The “process of experimentation” test and the “substantially all” requirement under the “process of experimentation” test can only apply to business components. Thus, to determine a taxpayer’s entitlement to a Section 41 research credit, the Service’s examination of the taxpayer’s claim begins with the business components the taxpayer alleges had research activities that satisfy the four tests under Section 41(d)(1) and uses as the factual basis for their research credit claim.

Substantiation Requirements

Under Treas. Reg. Section 1.41–4(d), “[a] taxpayer claiming a credit under § 41 must retain records in sufficiently usable form and detail to substantiate that the expenditures claimed are eligible for the credit. For the rules governing record retention, see § 1.6001-1.” Treas. Reg. Section 1.6001-1(a) provides, in general, that

“any person subject to tax under subtitle A of the Code . . . or any person required to file a return of information with respect to income, shall keep such permanent books of account or records, including inventories, as are sufficient to establish the amount of gross income, deductions, credits, or other matters required to be shown by such person in any return of such tax or information.” Treas. Reg. Section 1.6001-1(e) requires that books or records required by Treas. Reg. Section 1.6001-1 “shall be kept at all times available for inspection by authorized internal revenue officers or employees, and shall be retained so long as the contents thereof may become material in the administration of any internal revenue law.” Because the law requires that qualified research activity be determined with respect to each business component, a taxpayer must establish the claimed business component meets the four tests under Section 41(d)(1) under the requirements of Section 6001 of the Code and related Treasury Regulations. See Eustace v. Commissioner, T.C. Memo. 2001-66, aff’d 312 F.3d 905 (7th Cir. 2002), United States v. McFerrin, 570 F.3d 672 (5th Cir. 2009), Shami v. Commissioner, 741 F.3d 560 (5th Cir. 2014), aff’g, in part, T.C. Memo. 2012-78, Fudim v. Commissioner, T.C. Memo. 1994-235, Union Carbide Corp. v. Commissioner, T.C. Memo. 2009-50; 2009 WL 605161, aff’d, 697 F.3d 104 (2d Cir. 2012), CRA Holdings US, Inc. v. United States, 2018 WL 4001675 (W.D.N.Y. August 22, 2018), Suder v. Commissioner, T.C. Memo. 2014-201. These cases demonstrate that the four tests are applied to the business components and that qualified research activities must be established with sufficient documentation.

Statistical methods can estimate, to specified levels of accuracy, the characteristics of a “population” or “universe” of events or transactions by observing those characteristics in a relatively small segment, or sample, of the population. The requirement that the four tests under Section 41(d)(1) apply separately to each business component, and related substantiation requirements under the Code and Treasury Regulations, are not altered or eliminated when a taxpayer uses statistics under Rev. Proc. 2011-42 or when the Service uses a statistical sample to audit a research credit claim.

Please call (312) 368-8749 if you have any further questions

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