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In this article, the authors examine the government's approach to the "substantially all" rule for the process of experimentation and how it has been used to disallow research credit claims.

The IRS continues to use the process of experimentation "substantially all" rule, first introduced in 1986, to disallow research credit claims, as recently seen in a motion for summary judgment in *Intermountain*.[1] This article examines the government's approach to the substantially all rule in *Intermountain* and other recent case law, the application of the shrinking-back rule, and practical considerations for defining business components, evaluating research activities, and analyzing computational methods.

I. Background

The research credit under section 41 was enacted on a temporary basis in 1981[2] and was initially scheduled to expire on December 31, 1985. Through this credit, Congress sought to encourage businesses to perform the research and experimentation necessary to increase the overall competitive stance of the U.S. economy.[3] But technical guidance was needed since there often were disagreements between the IRS and taxpayers concerning the ambiguity of the law regarding certain qualified research expenditures (QREs).[4]

At a Senate Finance Committee hearing in 1984, then-Assistant Secretary of the Treasury for Tax Policy John Chapoton contemplated a mechanism for taxpayers to include de minimis expenditures as qualified for purposes of the research credit:

> If all the activities relating to the entire product or process, then the entire development cost of the entire product would be creditable; but, if the R&E activities are undertaken to produce substantial technological improvement only with respect to a component part, and the taxpayer incurs more than an insignificant amount of non-R&E development costs with respect to other aspects of the product or process, and only

[1] *Intermountain Electronics v. Commissioner*, No. 11019-19 (T.C. Mar. 14, 2024).

[2] Economic Recovery Tax Act of 1981.

[3] The effectiveness of the research credit has been questioned throughout the decades. While preliminary evidence from the early 1980s found the credit had little effect on research spending, data from the 1990s found a roughly dollar-for-dollar or greater increase in research spending. *See* Treasury Office of Tax Analysis, "Research and Experimentation (R&E) Credit" (Oct. 12, 2016).

[4] *See* General Accounting Office, "Use and Effectiveness of the Research and Experimentation Tax Credit," Report No. 124937 (Aug. 2, 1984).

> the R&E costs related to the component would be eligible for the credit.[5]

While no clarification was provided for what would constitute an "insignificant amount of non-R&E development costs," this concept preceded the substantially all portion of the process of experimentation test that was incorporated into the IRC in 1986.[6]

Process of experimentation requirements have evolved over the years. The 1998 proposed regulations (REG-105170-97) said the process of experimentation was a four-step process.[7] However, based on taxpayer comments, that requirement was eliminated in the 2001 proposed regs (REG-112991-01).[8] The most recent Treasury guidance is in the form of the 2004 final regulations (T.D. 9104).

The preamble to the final regs said that after the consideration of stakeholder comments, Treasury and the IRS concluded that the substantially all requirement can be satisfied even if some portions of a taxpayer's activities are not for a qualified purpose. Thus, the final regulations clarified that the substantially all requirement is satisfied if 20 percent or less of a taxpayer's research activities do not constitute elements of a process of experimentation for a purpose described in section 41(d)(3), so long as those remaining activities satisfy the requirements of section 41(d)(1)(A) and are not otherwise excluded under section 41(d)(4).[9] The final regs also made minor changes to the facts in Example 4 to illustrate more clearly the application of the substantially all requirement of reg. section 1.41-4(a)(6). However, the preamble emphasized that "a taxpayer bears the burden of demonstrating that its research activities *additionally* satisfy the process of experimentation requirement" (emphasis added).

The preamble further noted commentators' concerns that the language of the shrinking-back rule in reg. section 1.41-4(b)(2) of the 2001 proposed regs implied that not all of a taxpayer's QREs would be eligible for the research credit because of the application of the rule. This provision was revised in the 2004 final regulations to "clarify that *the rule is not intended to exclude [QREs] from the credit*, but rather is intended to ensure that expenses attributable to qualified research activities are eligible for the research credit for purposes of section 41(d)(1)" (emphasis added).[10]

The IRS's 2005 audit technique guide said "the regulations provide that, if this [process of experimentation] 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.)" (emphasis added).[11] It is concerning that the audit technique guide takes the position that activities might qualify if they are treated as section 174 expenditures and are not excluded from the definition of qualified research, while the 2004 final regulations clearly say the substantially all requirement is satisfied and activities are qualified if that same criteria are met.[12]

II. Code and Regulations

The fundamental rules for the research credit fall into three categories:

- Section 41(b): Whether expenditures estimated and allocated to qualified research are allowable and credible.
- Section 41(c): Whether the taxpayer properly substantiated an increase in QREs over their base amount.

[5] S. Hearing 98-843, at 76 (1984).

[6] Tax Reform Act of 1986.

[7] REG-105170-97 (Explaining that a process of experimentation involves the evaluation of more than one alternative designed to achieve a result in which the means of achieving that result are uncertain at the outset. This requires taxpayers to (1) develop hypotheses designed to achieve the intended result; (2) design a scientific experiment intended to be replicable with an established experimental control to test and analyze those hypotheses, such as modeling, simulation, or a systematic trial-and-error method; (3) conduct the experiment and record the results; and (4) refine or discard the hypotheses as part of a sequential design process to develop or improve the business component.).

[8] REG-112991-01.

[9] T.D. 9104.

[10] *Id.* at 17.

[11] IRS, "Audit Techniques Guide: Credit for Increasing Research Activities," at Chapter 5.a(4), "The Process of Experimentation Test" (June 2005).

[12] Reg. section 1.41-4(a)(6).

- Section 41(d): Whether and to what extent qualified research activities were performed by the taxpayer to develop new or improved business components (that is, product, process, computer software, technique, formula, or invention to be held for sale, lease, or license).[13]

The process of experimentation requirement, which is one of the section 41(d) four-part test criteria, says qualified research means research in which substantially all the activities constitute elements of a process of experimentation for a qualified purpose (function, performance, reliability, quality) and are not excluded under section 41(d)(4) (that is, research after commercial production, adaptation, duplication, etc.).[14] While the criteria for the process of experimentation substantially all rule are found in the code, insights into the application of the rule can be gleaned from the regs.

The process of experimentation substantially all requirement is satisfied only if 80 percent or more of a taxpayer's research activities, measured on a cost basis or other consistently applied reasonable basis (and without regard to the application of the wage substantially all rule under reg. section 1.41-2(d)(2)),[15] constitute elements of a process of experimentation for a qualified purpose. Thus, if 80 percent or more of a taxpayer's research activities for a business component constitute elements of a process of experimentation for a qualified purpose, then the substantially all requirement is satisfied. This is so even if the remaining 20 percent or less of its research activities for the business component do not constitute elements of a process of experimentation, so long as these remaining research activities may be treated as specified research or experimental expenditures under section 174 and are not otherwise excluded from the definition of qualified research. The process of experimentation substantially all requirement is applied separately to each business component.[16]

The regs give an example of the experimentation substantially all rule, in which the taxpayer is in the business of designing, developing, and manufacturing cars. In response to government-mandated fuel economy requirements, the taxpayer seeks to update its current model to improve aerodynamics by lowering the hood. The taxpayer designs, models, simulates, tests, refines, and retests several alternative designs for the hood and related modifications to both the air intake system and cooling system. This process enables the taxpayer to eliminate uncertainties related to the integrated design of the hood, air intake system, and cooling system, and constitutes 85 percent of the activities undertaken to update the vehicle. The taxpayer then engages in additional activities that do not involve a process of evaluating alternatives to eliminate uncertainties, comprising only 15 percent of the activities undertaken to update the vehicle.

In this example, substantially all the taxpayer's activities constitute elements of a process of experimentation because it evaluated alternatives to achieve a result in which the method of achieving that result, and the appropriate design of that result, were uncertain at the beginning of its research activities. The taxpayer identified uncertainties related to the improvement of a business component and identified alternatives intended to eliminate these uncertainties. Further, the taxpayer's process of evaluating the identified alternatives was technological and undertaken to eliminate the uncertainties. Because substantially all (in this example, 85 percent) of the taxpayer's activities to update its current-model vehicle constitute elements of a process of experimentation for a qualified purpose, all the activities to update the vehicle meet the requirements of qualified research, provided that the taxpayer's remaining activities (in this example, 15 percent) may be treated as expenses under section 174 and are not excluded under section 41(d)(4).[17]

Conceptually, the process of experimentation substantially all rule is a mechanism for inclusion, while the shrinking-back rule is a mechanism for

[13] *See* Internal Revenue Manual 4.46.3.2.6.8(4).

[14] Section 41(d)(1)(C).

[15] Reg. section 1.41-4(a)(6).

[16] *Id.*

[17] Reg. section 1.41-4(a)(8), Example 4.

the exclusion of activities. In particular, if the requirements of the section 41(d) four-part test are not met at the business component level, then the requirements apply at the most significant subset of elements of the business component. This shrinking-back of the business component continues 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 that element fails to satisfy the test. However, the shrinking-back rule is not itself applied as a reason to exclude research activities from credit eligibility.[18] This emphasizes the importance of properly identifying research activities, at the business component level and at the level of a subset of elements of the business component, to minimize the effect of the shrinking-back rule when it must be applied.

The regs also provide an example of the shrinking-back rule in which the taxpayer, a motorcycle engine builder, develops a new carburetor for use in a motorcycle engine and modifies an existing engine design for use with the new carburetor. Under the shrinking-back rule, the qualified research requirements are applied first to the engine. If the modifications to the engine, when viewed as a whole, including the development of the new carburetor, do not satisfy the qualified research requirements, those requirements are applied to the next most significant subset of elements of the business component. Assuming that the next most significant subset of elements of the engine is the carburetor, the research activities in developing the new carburetor may constitute qualified research.[19]

III. *Intermountain*

The IRS filed a motion for partial summary judgment in *Intermountain*, asking the Tax Court to find that it correctly disallowed research credits claimed by Intermountain Electronics Inc. While the IRS argued that the pilot models failed the process of experimentation substantially all test and that production expenses do not qualify as specified research or experimental expenditures, the Tax Court denied the motion in March 2024 because there were genuine disputes of material fact.[20]

A. Background

Intermountain Electronics Inc. designs, engineers, manufactures, and services electrical control equipment for mining and tunneling, power generation, oil and gas refiners, utilities, and federal and state governments. This involves (1) custom equipment fabrication, (2) transformer fabrication, and (3) proprietary product development. Intermountain engages in a multistage development process to create a custom product, depending on the type of project. For example, when fabricating custom electrical equipment, the process includes gathering information from the client, generating an initial design, and developing the electrical and mechanical design. Intermountain reviews the designs and makes any necessary revisions before manufacturing the parts in-house and ultimately fabricating and assembling the product, which is tested and accepted by the customer.

Intermountain claimed research credits for 2012 through 2015 related to its manufacturing of custom products. The creation and manufacturing of a custom product involves wages for nonproduction and production employees, and supplies (pilot models) used in the performance of qualified research by these employees. The IRS disallowed the research credits for all the years at issue and filed a motion for partial summary judgment, arguing that the pilot models fail the substantially all test or, in the alternative, that the production expenses do not qualify for treatment under section 174.[21]

B. Process of Experimentation and the Substantially All Test

For purposes of the motion, the Tax Court assumed, but did not find, that the taxpayer's activities qualified as a process of experimentation. The taxpayer and the IRS disagreed about whether Intermountain's

[18] Reg. section 1.41-4(b)(2).

[19] Reg. section 1.41-4(b)(3).

[20] *Intermountain*, No. 11019-19.

[21] *Id.* at 1-2.

activities satisfy the substantially all test. The IRS maintained that it is mathematically impossible for Intermountain to pass the test because, as a matter of law, the taxpayer may only apply nonproduction costs toward the process of experimentation. Because the proportion of nonproduction costs relative to all other research costs would not exceed 80 percent (that is, the threshold to be considered substantially all), the IRS argued that Intermountain's activities would not be qualified research. The taxpayer said that the production processes were part of an evaluative process to address uncertainty concerning the development of custom electrical equipment that constitute qualified research activities and a process of experimentation.

The substantially all test can be expressed as a mathematical fraction in which the numerator relates to activities that constitute a process of experimentation and the denominator relates to activities that constitute a process of experimentation, any expense deductible under section 174, and expenses not otherwise excluded under section 41(d)(4). Although the regulations provide that the substantially all test can be measured on a cost basis or other consistently applied reasonable basis,[22] the court's decision only referenced the research expenses. The substantially all test must be applied separately to each business component.

To support its position, the IRS cited *Little Sandy Coal*, which held "a production worker who directly supports qualified research is not himself engaged in qualified research and thus cannot be engaged in any process of experimentation the research might involve."[23] However, as the Tax Court pointed out, nothing in that statement forecloses a finding that a production worker is directly engaged in qualified research.[24] The Tax Court also clarified that, as a factual matter, the taxpayer in *Little Sandy Coal* failed to establish that production expenses could be included in the numerator. Intermountain contended that the production processes were part of an evaluative process to address uncertainty concerning the development of custom electrical equipment, and that the production costs are not categorically excluded from the numerator.[25] The court said that whether production expenses constituted a process of experimentation is a genuine dispute of material fact that remains for trial.

IV. Preceding Case Law

In addition to *Intermountain*, the Tax Court has also focused on the process of experimentation test in cases such as *Little Sandy Coal*[26] and *Betz*.[27] These cases build on the seminal Tax Court case involving the process of experimentation test, *Union Carbide*,[28] and a federal district court's decision in *Trinity*.[29]

A. *Union Carbide*

The Tax Court's interpretation of the process of experimentation test in *Union Carbide* is frequently cited as an authority for activities that constitute elements of a process of experimentation. Although the court did not directly address the computational method for evaluating the substantially all requirement, it established a framework for defining a process of experimentation that courts have since applied.

[22] Reg. section 1.41-2(d)(2).

[23] *Little Sandy Coal Co. v. Commissioner*, T.C. Memo. 2021-15, at *37.

[24] It is unclear how the IRS supports the position that production costs are categorically excluded from the numerator of the process of experimentation substantially all rule equation since no such language is in the code or regs. Perhaps the IRS is arguing that the activities are research after commercial production and are excluded under section 41(d)(4)(A) and reg. section 1.41-4(c)(2)(ii), but these provisions address the treatment of qualified research. As clarified in *Betz v. Commissioner*, T.C. Memo. 2023-84, direct support and direct supervision of qualified research may also constitute elements of a process of experimentation; thus, the costs being included in the numerator of the process of experimentation substantially all rule do not need to only be for the performance of qualified research.

[25] *Intermountain*, No. 11019-19, at 4.

[26] *Little Sandy Coal*, T.C. Memo. 2021-15.

[27] *Betz*, T.C. Memo. 2023-84.

[28] *Union Carbide Corp. v. Commissioner*, T.C. Memo. 2009-50, *aff'd*, 697 F.3d 104 (2d Cir. 2012), *cert. denied*, 568 U.S. 1244 (2013).

[29] *Trinity Industries Inc. v. United States*, 691 F. Supp. 2d 688 (N.D. Texas 2010), *aff'd*, 757 F.3d 400 (5th Cir. 2014).

Thus, the Tax Court's analysis in *Union Carbide* provides essential context for evaluating the substantially all requirement.

The taxpayer in *Union Carbide* was a worldwide manufacturer and marketer of chemicals and plastics, including specialty and intermediate chemicals. The proceedings in *Union Carbide* occurred in two separate trials and addressed various aspects of the taxpayer's research credit claim for its 1994 and 1995 tax years, including the extent to which the taxpayer's projects constituted qualified research, and the costs claimed as QREs. Five of the taxpayer's research projects were at issue and related to its processes for commercial production of ethylene, polyethylene, or related products and, as the Tax Court asserted, included a product business component and a process business component.

During the proceedings, the court distinguished a process of experimentation from investigatory activities under section 174, saying that a process of experimentation "imposes a more structured method of discovering information than section 174 requires and may not include all actions a taxpayer takes to resolve uncertainty."[30] Citing legislative history and *Black's Law Dictionary*, the court reasoned that "to satisfy the process of experimentation test, the taxpayer should develop a hypothesis as to how a new alternative might be used to develop a business component, test that hypothesis in a scientific manner, analyze the results of the test, and then either refine the hypothesis or discard it and develop a new hypothesis and repeat the previous steps."[31] In effect, the court established a foundational concept that a process of experimentation must be structured, systematic, and methodical and should be capable of evaluating more than one alternative. Applying this standard, the court found that substantially all the activities for only two of the taxpayer's projects constituted a process of experimentation.[32]

B. *Trinity*

While the Tax Court's interpretation of the process of experimentation test in *Union Carbide* continues to be cited as an authoritative source, a Texas court's application of the substantially all requirement in *Trinity* has generally not been followed. This is partly because of the more limited jurisdictional authority of the state district court compared with the Tax Court. More importantly, recent case law has indicated that the analysis of the substantially all requirement in *Trinity* is flawed. However, the analysis in *Trinity* provides important context for how the substantially all requirement may be interpreted.

The taxpayer in *Trinity* engaged in various businesses. During the relevant tax years, the taxpayer's Trinity Marine Group division was in the business of shipbuilding and designed and constructed ships it called "first in class" that were basically prototypes. The company hoped to later construct duplicates of them. The taxpayer claimed research credits for 1994 and 1995 for six of its shipbuilding projects that the IRS denied.

As noted above, to qualify for the research credit, substantially all the research activities for each business component must constitute a process of experimentation. A critical part of determining qualified research is defining the business component. In *Trinity*, the court concluded that each of the taxpayer's first-in-class ships was a business component. The court further agreed with the taxpayer's all-or-nothing approach, in which the entirety of each first-in-class ship project either was determined to be qualified research (so that the costs of the entire project constituted QREs) or it was not (so that no costs of the project constituted QREs).[33] The court's interpretation of the substantially all requirement can be viewed as a rule of inclusion, as it said: "If Trinity can show that 80 percent of a first in class ship was part of a process of experimentation, it can claim the entire cost of the first in class."[34]

[30] *Union Carbide*, T.C. Memo. 2009-50, at 221.

[31] *Id.* at 223-224.

[32] While the Second Circuit upheld the Tax Court's decision, the issue on appeal was the extent to which the taxpayer's cost of supplies could be included as QREs. The Supreme Court later denied certiorari.

[33] The all-or-nothing approach in *Trinity* was not established by any provision of the code or regs. The tax years in *Trinity* were before the July 21, 2014, effective date of the final section 174 regulations (T.D. 9680) regarding the treatment of amounts paid or incurred in connection with the development of pilot models.

[34] *Trinity Industries*, 691 F. Supp. 2d at 693.

Applying this all-or-nothing approach, the court held that the taxpayer was only entitled to claim QREs for three prototype ships (related to two projects). Although the court's analysis lacks detail, it appears to have applied a cost-based evaluation of the substantially all requirement, assessing and comparing the costs of new subcomponents of the ship design with the total costs of the ship.[35] The court was unable to apply the shrinking-back rule because the taxpayer did not have evidentiary documentation of costs associated with any subset of its ships.

On appeal, the taxpayer argued that the district court violated the consistency rule under section 41(c)(5) by (1) applying the shrinking-back rule to the base-period QREs but not the credit-year QREs, and (2) not excluding base-period QREs related to business components that were determined to be nonqualified for the credit year. The court disagreed with the taxpayer's first argument, noting that neither the amended returns nor the report provided by the taxpayer's subject matter expert applied the shrinking-back rule to compute the base-period QREs. However, the court agreed with Trinity that if certain base-period ships are just as experimental as the credit-year ships held not to be qualified research, then the base-period QREs should be reduced based on the application of the consistency rule.[36]

Recent cases such as *Little Sandy Coal* have viewed the *Trinity* decision as flawed in that it implicitly established a misguided "novelty" standard for the substantially all requirement under which the cost of new subcomponents of the business component is measured against the total cost of the business component. Thus, courts are now evaluating the substantially all test based on the activities (rather than costs) and the extent to which those activities constitute elements of a process of experimentation.

C. *Little Sandy Coal*

In *Little Sandy Coal*, a shipbuilding company claimed the research credit for expenses related to the design and construction of 11 new vessel types (business components). The credit for expenses arising from two of these vessels was denied by the IRS and at issue before the Tax Court.

Referencing *Trinity*, Little Sandy Coal Co. argued that various elements of its vessels, including the hulls, were redesigned and reengineered during the development process. The taxpayer claimed this satisfied the process of experimentation substantially all requirement. However, the court disagreed, saying that the mere proportion of novel elements is not a reasonable basis under reg. section 1.41-4(a)(6).[37] While this decision is a stark contradiction to *Trinity*, the Tax Court in *Little Sandy Coal* noted that it was not bound to follow the district court's decision and that case was unsupported by the governing regulations. The Tax Court also clarified that it did not understand how the district court in *Trinity* concluded that the process of experimentation substantially all rule was met, since a line-by-line determination was not provided in the Tax Court memo.

As an alternative argument, Little Sandy Coal claimed that the time spent on the development of the vessels was predominantly experimental in nature, calculated as a fraction of experimental labor over total labor. The court disagreed, concluding that although production employees (that is, employees building the vessel) supported the qualified research, they are not themselves engaged in qualified research and thus cannot be engaged in any process of experimentation the research might involve. This reasoning has faced criticism because it likely disqualifies many pilot model projects from meeting the process of experimentation substantially all rule, since the time spent by production workers to build pilot models often exceeds 20 percent of the project costs or time.

On appeal, the Seventh Circuit agreed with the Tax Court, finding that the taxpayer failed to provide a principled way to determine the portion of employee activities that constituted elements of a process of experimentation.[38] Instead, the taxpayer offered arbitrary allocations of employee wages that estimated the portion of the

[35] *Trinity Industries*, 691 F. Supp. 2d at 694 (finding that more than 80 percent of the overall costs of the two Mark V prototypes were incurred in a process of experimentation).

[36] *Trinity Industries*, 757 F.3d at 411-412.

[37] *Little Sandy Coal*, T.C. Memo. 2021-15, at *25.

[38] *Little Sandy Coal Co. Inc. v. Commissioner*, 62 F.4th 287 (7th Cir. 2022).

employee's time spent on qualified research. Also, these allocations were not broken down by vessel and did not adequately document that the employees performed research activities constituting elements of a process of experimentation. The court noted that there is flexibility built into the process of experimentation substantially all test but shortcut estimates of experimentation-related activities will not suffice.

The Seventh Circuit further found that the Tax Court explicitly applied the process of experimentation substantially all test at the business component level (vessel). Further, because the taxpayer employed an all-or-nothing strategy in claiming the development of the entire vessel, the Tax Court could not apply the shrinking-back rule to evaluate the qualification of subcomponents of either vessel.

The Seventh Circuit did provide a taxpayer-friendly ruling, concluding that production wages may constitute a process of experimentation if the scope of the technical uncertainty extends beyond the design (that is, the pilot model must truly be built and tested to eliminate technical uncertainty). However, it concluded that the taxpayer did not establish that uncertainty existed after the design stage, thus disqualifying the time spent by the production employees on constructing the vessels.

D. *Betz*

In *Betz* the Tax Court examined a research credit generated by Catalytic Products International Inc. (CPI) and claimed by its shareholders, Mark and Christine Betz. CPI designs and supplies air pollution control systems and claimed the research credit on 19 projects.

Like *Little Sandy Coal*, the Tax Court in *Betz* determined that the taxpayers failed to establish which portion of an employee's activities (by business component) constituted a process of experimentation. The court concluded that "shortcut estimates of experimentation-related activities will not suffice . . . something more, such as documentation of time spent on such activities, is necessary." With no time-tracking data available, CPI relied on testimony from key company personnel. However, the court found their testimony to be "vague, in conflict with the record, and lacking in credibility with respect to their self-serving characterizations of some of the work performed by CPI."[39] Further, the court cited *Eustace*, in which it said "experimentation is a subset of all steps taken to resolve uncertainty; otherwise searching for a place to park a car would be a 'process of experimentation.'"[40]

Although the Tax Court did not address the process of experimentation substantially all rule in *Betz*, it is important because this case builds on *Little Sandy Coal* and, in conjunction with *Intermountain*, demonstrates a recent trend that taxpayers must be aware of and, in light of which, must proactively make various considerations regarding business components and the substantiation of research activities when performing their research credit analysis.

V. Considerations

Intermountain and the preceding case law illustrate how the research credit is "one of the most complicated provisions of the Code."[41] When performing a research credit analysis, taxpayers should give proper consideration to the process of experimentation substantially all rule to maximize the amount of QREs while mitigating any risk of a business component potentially failing to meet the 80 percent threshold. This includes defining business components, evaluating research activities, and analyzing computational methods.

A. Defining Business Components

Taxpayers must be intentional when defining business components based on the available information because the four-part test for qualification must be applied at the business component level.[42] While the regulations say taxpayers must retain records in sufficiently usable form and detail to substantiate the expenditures claimed for the credit, they do not

[39] *Betz*, T.C. Memo. 2023-84, at *66.

[40] *Eustace v. Commissioner*, 312 F.3d 905 (7th Cir. 2002). The Tax Court in *Eustace* relied on a version of the process of experimentation test that required uncertainty about the technical ability to develop software. This version was not incorporated into the 2003 final regulations that were relevant to the research credit claims at dispute in *Betz*.

[41] *Suder v. Commissioner*, T.C. Memo. 2014-201.

[42] Section 41(d)(2).

identify which contemporaneous documentation regarding the research credit should be retained.[43] Taxpayers can look to the research credit audit technique guide for assistance. It includes a list of documents that may be helpful in understanding the proper allocation of company resources or the necessary details of research projects.[44]

Taxpayers that use project accounting, time tracking, or similar systems should sufficiently document how projects are mapped to business components because this is a term found in the IRC and not in the typical nomenclature of the hard sciences. Depending on how the facts of the project align with the requirements for the research credit, it may be reasonable for taxpayers to group substantially similar projects. This could provide taxpayers with more flexibility when navigating the process of experimentation substantially all rule by having the underlying information needed to apply the shrinking-back rule.

B. Evaluating Research Activities

Taxpayers should consider analyzing the activities performed by qualified individuals, rather than relying on their job titles,[45] departments, or cost centers, to understand how they align with the types of qualified services (that is, performance of qualified research, direct supervision of qualified research, and direct support of qualified research).[46] Unless a taxpayer meets the criteria to be exempt from completing section G of Form 6765, "Credit for Increasing Research Activities,"[47] it must report wage QREs by the type of qualified services for the required business components beginning with the 2025 tax year.[48]

It is also important for taxpayers to evaluate activities performed by individuals so they can identify activities that are excluded under section 41(d)(4) and not eligible to be treated as a QRE even if the process of experimentation substantially all rule is met. Finally, the IRS has a long history of focusing on the concept of nexus, which was created through its administration of the research credit.[49] In the context of the research credit, the nexus is the connection between the amounts claimed as QREs under section 41(b) and qualified activities under section 41(d) at the business component level.[50] Therefore, taxpayers should consider the level of analysis and documentation necessary to demonstrate the nexus between the QREs, qualified activities, and business components, not only for the purpose of evaluating the process of experimentation substantially all requirement but also for the overall purpose of substantiating the research credit claim.

C. Analyzing Computational Methods

The regulations say the process of experimentation substantially all requirement is measured on a cost basis or other consistently applied reasonable basis.[51] However, they do not clarify what an "other consistently applied reasonable basis" could be. Perhaps it is based on the percentage of time spent performing activities that are elements of a process of experimentation compared with total time performing qualified

[43] Reg. section 1.6001-1(a).

[44] *See* IRS, Audit Techniques Guide, *supra* note 11, at Ch. 7, "Substantiation and Recordkeeping."

[45] Practitioners have observed that the IRS often rejects wage claims on the basis of job titles alone; *see* Government Accountability Office, "The Research Tax Credit's Design and Administration Can Be Improved," GAO-10-136, at 29 (Nov. 2009). Taxpayers who rely on job title, and not activity, to determine how much of an individual's time was spent performing qualified services and performing activities that constitute elements of a process of experimentation may have greater risk of the IRS using this same method to disqualify individuals solely based on job title.

[46] Section 41(b)(2)(B).

[47] Section G is required for all taxpayers claiming a research credit beginning with 2025 unless they: (1) are a qualified small business under section 41(h)(1) and (2), and checked the box to claim a reduced payroll tax credit; or (2) the total QREs on line 48 are equal to or less than $1.5 million, determined at the control group level, and gross receipts are equal to or less than $50 million of gross receipts, under section 448(c)(3) (without regard to subparagraph (A)), reporting a research credit on an original filed return.

[48] IR-2024-313.

[49] The term "nexus" is not found in section 41 or the related regulations.

[50] *See* IRS, Research Credit Claims Audit Techniques Guide: Credit for Increasing Research Activities, LMSB-04-0508-030, at Ch. I (May 2008).

[51] Reg. section 1.41-4(a)(6).

services. Taxpayers should be aware that in *Little Sandy Coal*, the Seventh Circuit agreed with the Tax Court rejecting the taxpayer's novelty approach[52] and noted that "the novelty of a business component is not a proper heuristic for the 'substantially all' test. The test is applied in reference to research activities — not the business component being developed or improved."[53] Therefore, taxpayers should avoid using a novelty or similar approach.

While the intended purpose of the revised Form 6765 for the 2024 and 2025 tax years is "to make tax reporting more consistent, improve the information received for tax administration and build an ongoing effort to manage resources in a more effective and efficient way,"[54] it is unclear how the new information may be used. Taxpayers should consider that the IRS may rely on principles found in the Tax Court's holding in *Little Sandy Coal* to identify business components that may not meet the process of experimentation substantially all rule. In particular, the IRS may exclude all QREs for the direct support of qualified research and direct supervision of qualified research (reported in section G) from the numerator of the equation but include those costs in the denominator. While the information reported on Form 6765 does not determine the validity of the research credit claim, in the event of an examination, taxpayers bear the burden of proof for substantiating tax credits[55] and must be ready to provide the underlying detail supporting what was filed on the Form 6765 to substantiate the research credit claim.

VI. Conclusion

If a taxpayer meets the process of experimentation substantially all threshold of 80 percent at the business component level, it is allowed to include nonqualified activities related to the business component if they are not otherwise excluded under section 41(d)(4), provided they may be treated as specified research or experimental expenditures under section 174.[56] It is important for taxpayers to properly analyze and document the process of experimentation substantially all percentage at the business component level and to identify the additional expenditures that are allowed to be treated as QREs. When establishing a method for computing the process of experimentation substantially all percentages, particularly if the method is not on a cost basis but rather uses an "other consistently applied reasonable basis" under the regs, taxpayers must evaluate their approach against the case law. To maximize QREs, if the 80 percent threshold is not met, then the shrinking-back rule may be applied at the most significant subset of elements of the business component. Taxpayers should continue to apply the shrinking-back rule until either a subset of elements of the business component satisfies the 80 percent threshold or the most basic element of the product is reached, and that element fails to satisfy the test.

We believe that the IRS's continued use of the process of experimentation substantially all test as a rule of exclusion to disallow entire QREs, if the 80 percent threshold is not met, is an inappropriate application of the rule. The process of experimentation substantially all rule is a tool available for taxpayers to include additional QREs; therefore, the proper mechanism for exclusion is to apply the shrinking-back rule. An important distinction between the two rules that taxpayers need to be aware of is that, while the shrinking-back rule is not itself applied as a reason to exclude research activities from credit eligibility, there is no such language in the process of experimentation substantially all rule. It would be prudent for taxpayers to prepare their research credit claims anticipating that the IRS may continue to take this approach. Also, it is critical that taxpayers continue to evaluate their method for defining, analyzing,

[52] *Little Sandy Coal*, 62 F.4th 287.

[53] *Id.* at 311.

[54] IR-2024-313.

[55] Reg. section 1.6001-1(a).

[56] Reg. section 1.41-4(a)(8), Example 4.

and documenting their underlying business components given the significant role that they play in research credit claims, including evaluating the process of experimentation substantially all rule and, when necessary, applying the shrinking-back rule.[57] ■

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