BEFORE THE TAX COMMISSION OF THE STATE OF IDAHO

In the Matter of the Protest of [redacted]	)	DOCKET NO. 2-117-100-544
Petitioner.	)	DECISION

[redacted] (Petitioner) protested the Notice of Deficiency Determination (Notice) dated December 1, 2023, issued by the Income Tax Audit Bureau (Bureau). Petitioner disagreed with the Bureau's disallowance of the credit claimed for Idaho research activities (Idaho research credit). The Idaho State Tax Commission (Tax Commission) reviewed the matter and for the reasons stated upholds the Notice. Since Petitioner is a flow-through entity, Petitioner's shareholders are liable for any additional tax, penalty, and interest.

BACKGROUND

Petitioner is an S-Corporation, located in [redacted] Idaho, providing truss design and constructing and engineering for structural building components. Petitioner hired a third party to analyze whether they could claim the Idaho research credit under Idaho Code section 63-3029G. The third party determined that Petitioner qualified for the Idaho research credit. Therefore, Petitioner amended their 2020 tax return, and filed their 2021 and 2022 returns, claiming the credit. The Bureau selected these returns to examine the Idaho research credit.

The Bureau requested Petitioner respond to specific questions regarding their research activities and provide a copy of the study for the Idaho research credit conducted by the third party. Petitioner's representative responded and provided a copy of the study for the Idaho research credit.

Petitioner claimed the Idaho research credit on multiple projects and stated, "each project undertaken by the taxpayer is a unique design specific to client parameters". The study explained Petitioner did not claim the credit until the tax year 2020 because "the taxpayer was not aware that their normal business activities qualified for Section 41 Credits" until the representative brought it to their attention[1]. The Bureau reviewed the study and determined that Petitioner's projects did not satisfy all the requirements for the credit; therefore, the Bureau disallowed the Idaho research credit claimed for all the projects and issued a Notice.

Petitioner's representative protested the Notice, disagreeing with the Bureau's determination, and argued that the activities undertaken for the projects are qualified research activities and the expenditures are qualified research expenses. The Bureau acknowledged the protest and referred the matter to the Tax Commission's Appeals Unit (Appeals) for administrative review.

Appeals sent Petitioner and their representative a letter explaining the options available for redetermining a Notice. The representative responded and requested an informal hearing, which was held on September 30, 2024. Having reviewed the file, the Tax Commission hereby issues its final decision.

ISSUE

The issue on appeal is whether Petitioner's activities have met the requirements for the Idaho research credit pursuant to Idaho Code section 63-3029G.

[1] "Abstract Report", prepared by [redacted] in reference to claim of qualifying research expenditures.

LAW AND ANALYSIS

Idaho Code section 63-3029G allows a nonrefundable credit for increasing research activities in Idaho. For purposes of the Idaho research credit, "qualified research expenses" means the same as defined in Internal Revenue Code (IRC) section 41, except that the research must be conducted in Idaho.

To be eligible for the credit, a taxpayer must show that it performed "qualified research" during the years at issue in accordance with IRC section 41(d). Research activity is "qualified research" under IRC section 41(d) only if it satisfies all the four (4) tests. *See Union Carbide Corp. & Subsidiaries v. Comm'r*, 97 T.C.M. (CCH) 1207 (T.C. 2009), 2009 WL 605161, at *77, *aff'd*, 697 F.3d 104 (2d Cir. 2012).

First, the research expenses must be eligible for treatment as expenses under IRC section 174 (the section 174 test)[2]. Second, the research must be undertaken for the purpose of discovering information that is technological in nature (the discovering technological information test)[3]. Third, the application of the research must be intended to be useful in the development of a new or improved business component (the business component test)[4]. Fourth, substantially all the activities constitute elements of a process of experimentation for a new or improved function, performance, or reliability or quality (the process of experimentation test)[5]. If the research fails any of these tests, it is not qualified research for the purposes of the research credit.

[2] IRC section 41(d)(1)(A).
[3] IRC section 41(d)(1)(B)(i).
[4] IRC section 41(d)(1)(B)(ii).
[5] IRC sections 41(d)(1)(C) and 41(d)(3).

Section 174 Test

IRC section 174 provides that a taxpayer may treat research or experimental expenditures, paid or incurred, during the taxable year in connection with its trade or business, as expenses not chargeable to a capital account[6]. Treasury Regulation section 1.174-2(a)(1) defines research or experimental expenditures as expenditures that represent research and development costs in the experimental or laboratory sense, which means that the qualified expenditure must be for activities intended to eliminate uncertainty in 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." *Max v. Commissioner of Internal Revenue*, T.C. Memo. 2021-37 (2021). Treasury Regulation section 1.174-2(a)(1) also states; "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."

The taxpayer must perform activities intended to discover information not otherwise available regarding the capability of improving the product or for improving the design or development of the product. *Id.* For an uncertainty to exist under IRC section 174, a taxpayer must be uncertain about whether they can achieve their objective through research.

[6] IRC section 174(a)(1).

Business Component Test

A 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 sales, lease, license, or used in a trade or business of taxpayer, and each "business component" of the taxpayer must satisfy all 4 tests.

Discovering Technological Information Test

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[7]. A taxpayer may employ existing technologies and rely on existing principles of the physical or biological sciences, engineering, or computer science to satisfy this requirement.

Process of Experimentation

To overcome uncertainties, a taxpayer should use a systemic inquiry as part of the process of experimentation; a requirement of qualified research under IRC section 41(d)(1)(C). To be a true process of experimentation, the project must use the scientific method. This means "the project must involve a methodical plan involving a series of trials to test a hypothesis, analyze the data, refine the hypothesis, and retest the hypothesis so that it constitutes experimentation in the scientific sense." *Union Carbide Corp. & Subs. v. Commissioner*, T.C. Memo. 2009-50 (2009).

Treasury Regulation section 1.41-4(a)(6) states in part, "In order for activities to constitute qualified research under section 41(d)(1), substantially all of the activities must constitute elements

[7] Computer science is the study of computers and algorithmic processes, including their principles, their hardware and software designs, their applications, and their impact on society.

of a process of experimentation that relates to a qualified purpose." The "substantially all" requirement of IRC section 41 (d)(1)(c) is applied separately to each business component and satisfied only if eighty percent (80%) or more of a taxpayer's research activities has constituted elements of a process of experimentation for a purpose described in IRC section 41(d)(3). Treasury Regulation section 1.41-4(a)(6) also requires that the substantially all test be applied to activities, not physical elements of the business component being developed or improved since the extent of experimentation would not vary in proportion to the size of each element, for example, determining the design of smaller and more complex elements might require more experimentation than determining the design of larger but simpler elements.

In the present case, Petitioner claimed credit for multiple projects under one business component, design of engineering plans to create trusses and other structural business components. The study states: "each and every truss produced by the Taxpayer is a prototype.", and explains that, at the outset and throughout the design, development, and revision of the designs, Petitioner encountered the following uncertainties, including, but not limited to:

- "Uncertainty as to the optimal methodology to engineer design/build plans for individual components that worked efficiently with the yard set-up and available materials;
- Uncertainty as to the actual capability of the Company's employees to engineer a solution for each design demand from incoming client requests and parameters; and,
- Uncertainty as to the appropriate design for each truss and building component sufficient to meet dimensional requirements, support strength, and transportability."

The Tax Commission found that uncertainties did exist at the outset of Petitioner's projects as required by the Section 174 test and now further reviews the projects to determine if they meet the rest of the requirements.

Idaho research credit can be claimed for a new or improved business component[8], and the business component may be a product held for sale, lease or license[9], or a process used in a trade or business[10]. Petitioner claimed the Idaho research credit for their product. However, the Tax Commission must review the process Petitioner used in the development of truss designs to understand whether their activities qualify for the Idaho research credit.

Petitioner's sole business activity[11] is the design of engineering plans to create trusses and other structural business components to specifically meet each customer's needs by utilizing a computer-aided design (CAD) software[12] and applying their technical skill sets and experience.

During the hearing, the representative explained the steps of a truss design. To begin the process, Petitioner receives structural needs from a client, such as a blueprint (i.e., schematic design, architectural design, specs, including weight loads, lateral stability, length, etc.), and then it engineers a structural building component that fulfills the necessary performance requirements. Based on their analysis and evaluation of the blueprint, Petitioner creates an initial design (prototype design).

To create the optimal design of trusses along with structural components, Petitioner iterates design improvements through discussion with their client and continuously revises the drawing until it satisfies the clients' needs and configuration of their property (i.e., dimension, conditions, etc.), building code regulations, and material standard (i.e., weight, sheer strength, and lumber types, etc.). Petitioner then tests the prototype design in the CAD software to see if it can be constructed in a full-scale and functional form. Once the prototype design meets the client's needs,

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[8] IRC section 41(d)(1)(B)(ii).
[9] IRC section 41(d)(2)(B)(i).
[10] IRC section 41(d)(2)(B)(ii).
[11] Since Petitioner founded their business in 1993, there's no change in their sole business activity.
[12] Truswal software

Petitioner finalizes the design and issues a purchase order with binding terms, including time, description of end product, fees, etc. Petitioner then initiates construction of the trusses.

Simply creating a drawing by using a CAD software based on a blueprint provided by a client[13] would not be a process of experimentation because there would be no need to evaluate alternatives nor would it fundamentally rely on the principles of engineering, or computer science[14]. However, Petitioner's process of developing a truss design involves not just creating a drawing but also configuring the optimal design for the client's needs, analyzing various materials based on project specifications, and evaluating multiple alternatives. Petitioner has in-house professional engineers, who review all designs for approval by the owner of the business and a third-party contractor[15] before moving forward to the next step, cutting materials. The finalized design is sent to the cutting floor and lasered into materials. Each piece then goes through a stress test[16] for performance, quality, reliability, durability, functionality, and productivity. The stress test takes place in the development of a prototype as well as in actual production.

In addition to the stress test, Petitioner conducts a standard quality test visually and by taking a laser measurement of the truss piece at several different points in the production line. Since the stress test and the standard quality test are for both development of a prototype and production of a product, these tests are not qualified research activity as they are for the purpose of quality control.

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[13] The drafter's use of computers in preparing their drawings alone does not qualify their work as experimentation. Treas. Reg. 1.41-4(a)(7) states in pertinent part, "The employment of computer or information technology, or the reliance on principles of computer science…does not itself establish that qualified research has been undertaken."

[14] There is a difference between "drafting" and "designing" work. "Drafting" work is the actual input into a CAD or manually drawing it, essentially, "creating the drawings". On the other hand, "designing" work may be trying to fit different items together properly, and "it's kind of one step above drafting." *Little Sandy Coal Company, Inc. v. Commissioner*, T.C. Memo. 2021-15 (2021).

[15] [redacted] a division of [redacted] located in [redacted] TX.

[16] "Shaking" or shake test is to evaluate a response to certain stimulations.

The creation of a prototype alone is not enough to pass the process of experimentation test because the prototype must be used to evaluate one or more alternatives by using the scientific method[17]. "To satisfy the process of experimentation test, a 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." *Union Carbide*, T.C. Memo. 2009-50, at *81.

The Tax Commission finds that Petitioner's activities, except for the stress test and the standard quality test, do constitute the elements of a process of experimentation for the purposes under IRC section 41(d)(3)(A). However, it is not clear whether "substantially all" of their research activities are for said purposes.

Treasury Regulation section 1.41-4(a)(6) provides an arithmetic test for determining whether "substantially all" of a taxpayer's research activities regarding a business component would meet involve a process of experimentation. According to the regulations:

> The substantially all requirement of section 41(d)(1) (C)… is satisfied 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 for a purpose described in section 41(d) (3). Accordingly, if 80 percent (or more) of a taxpayer's research activities with respect to a business component constitute elements of a process of experimentation for a purpose described in section 41(d) (3), the substantially all requirement is satisfied even if the remaining 20 percent (or less) of a taxpayer's research activities with respect to the business component do not constitute elements of a process of experimentation for a purpose described in section 41(d) (3), so long as these remaining research activities satisfy the requirements of section 41(d)(1) (A) and are not otherwise excluded under section 41(d)(4). **The substantially all requirement is applied separately to each business component.**" (emphasis added)

[17] Treas. Reg. 1.41-4(a)(5)(i)

To determine whether Petitioner meets the substantially all test, the Tax Commission reviews the research expenses claimed by Petitioner. Petitioner claimed employee wages and supplies as qualified research expenses (QREs). For the wages, Petitioner did not use any time tracking system. Instead, Petitioner identified employees by role/title and estimated the percentage of the employee's time devoted to research.

During the hearing, the representative clarified that the amount of wages directly related to research activities claimed by Petitioner, 65% or 60% (R&D%), was an estimate based on extensive interviews he conducted with the business owner. To determine whether the estimation is reasonable, Appeals requested the representative provide a list of the interview questions he used. The representative explained that he did not utilize a questionnaire in determining the R&D% but rather engaged in a series of conversational inquiries (for 1-2 hours) to establish significant connections or nexus between the employees and the research activities. The representative further explained that he relied on his knowledge and experience with other research credit claims to estimate the R&D%.

The representative cited the Suder case[18] to support the use of estimation as a reasonable calculation of the qualified wages. The representative explained that the estimates of time he used is based on the business owner's personal knowledge of the business activities. From this, he concluded that the truss design and manufacturing employees (R&D employees) spent all their time on designing and engineering plans. The representative argued that Petitioner is entitled to claim one hundred percent (100%) of the R&D employees' wages. However, he took a conservative approach and reduced the wages by thirty-five percent (35%) for each claimed

[18] In *Suder v. Commissioner*, T.C. Memo. 2014-201, the court found that CEO compensation was unreasonable as a qualified research expense under IRC section 174(e) due to the compensation being higher that that paid by similar-sized companies.

employee for tax years 2020 and 2021. For 2022, he “shrunk back” the wages, removing the employees who engaged in the non-qualifying garage door installation business.

IRC section 6001 requires a taxpayer to keep records in compliance with the IRC and Treasury Regulations. Treasury Regulation section 1.6001-1(a) requires a taxpayer to "keep such permanent books of account or records . . . as are sufficient to establish the amount of gross income, deductions, credits, or other matters required to be shown" on a tax return. Treasury Regulation section 1.41-4(d) provides that a taxpayer specifically "must retain records in sufficiently usable form and detail to substantiate that the expenditures claimed are eligible for the credit.", but it does not require substantiation of research credit claim to be in any particular types of documents.

The Tax Court addressed the substantiation burden that taxpayers, claiming the research credit, must bear. *Little Sandy Coal Co. v. Commissioner*, 62 F.4th 287, 308 (7th Cir. 2023), aff'g T.C. Memo. 2021-15. In *Little Sandy Coal Co.,* the taxpayer relied on trial testimony as substantiation for its estimated research expenses and asked the Tax Court to take it on faith that the allocations of its employees’ wages were only for activities constituting qualified research. The Tax Court determined that the taxpayer had failed to show entitlement to the credit and emphasized that "shortcut estimates of experimentation-related activities will not suffice…[s]omething more, such as documentation of time spent on such activities, is necessary."

In the present matter, the representative has yet to explain the method used in estimating the percentage of the wages attributable to research activities other than relying on the business owner’s response during conversational inquiries and his knowledge and experience in reviewing and evaluating other research credit claims.

To calculate the total cost of supplies, Petitioner used the material cost reported under a cost center[19] in their accounting system. The representative stated that the supply cost for research activities is approximately 20%, which is the actual cost of martials used to create prototypes over total material cost. The representative provided a monthly summary of the total supply cost for each year but was unable to provide any substantiation (i.e., invoice, bill, etc.) for each supply used for their research activities as their calculation is not based on the actual supply cost but rather based on a "reasonable" estimation. The representative explained that "all these supplies were necessary to the production of the Taxpayer's new and improved business components…" but they opted for a conservative estimate of the supply costs rather than claiming the total material cost. The representative did not provide his reasons for determining "20%" as reasonable estimation other than relying on his knowledge and experience with many research credit claims.

The representative argues that Petitioner's normal business activities qualify for the Idaho research credit. In addressing expenses claimed as QREs that occur in a normal course of business, the trial court stated in *Union Carbide Corp. & Subs. v. Commissioner*, *Supra.*,

> Section 41(d)(2)(C) provides that when a taxpayer seeks a research credit related to its production process, the production process must be divided into two business components, one that relates to the process and another that relates to the product. This indicates that Congress intended to allow taxpayers research credits for research performed to improve their production processes, but Congress did not intend for all of the activities that were associated with the production process to be eligible for the research credit if the taxpayer was performing research only with respect to the process, not the product. See sec. 1.41–4(b)(1), Income Tax Regs. Here, the disputed supplies were raw materials used in the commercial production and sale of finished products. They were used to make products for sale, not for experimentation.
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> . . . Taxpayers may not circumvent the narrow definition of qualified research that Congress intended by including as QREs costs of a project that are not incurred primarily as a result of the qualified research activities. Raw materials used to make

[19] The "Truss Manufacturing Supplies" cost center to account the total material cost.

> finished goods that would have been purchased regardless of whether a taxpayer was engaged in qualified research are not "used in the conduct of qualified research". See sec. 41(b)(2)(A)(ii).
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> Similarly, the costs of wages constitute QREs only if they are paid for services consisting of engaging in or supervising qualified research. Sec. 41(b)(2)(B). Services performed by employees for activities that would occur regardless of whether the taxpayer was engaged in qualified research are not qualified services. See sec. 41(b)(2)(A)(i).
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> When section 41(d)(2)(C) applies and the relevant business component is the process, and production of the product alone would not constitute qualified research, we find that the costs of supplies that would be purchased and wages attributable to services that would have been provided regardless of whether research was being conducted are costs associated with the product business component and are not incurred in the conduct of qualified research.

Petitioner is claiming QREs for wage and supply expenses that would have been incurred regardless of any qualified research. Their supply expenses were deducted as cost of goods sold and/or supplies expense (IRC section 162 business expenses) and were incurred in the normal course of their business. Therefore, they are not qualified research expenses.

For the contractor expenses, the representative clarified during the hearing that Petitioner did not report any amount because the contractor they hired for development of custom designs isn't located in Idaho. The representative also confirmed that Petitioner did not include any expenses incurred after the beginning of commercial production in their QRE calculation.

CONCLUSION

The Tax Commission finds that while Petitioner's activities may be qualified research; their QRE calculation is based on estimates. Petitioner's representative may have experience with research credit claims, but without documentation, the Tax Commission cannot accept their calculation of QRE. The Tax Commission upholds the audit adjustments disallowing the Idaho research credit.

Since Petitioner is a flow-through entity, the additional tax owed flows through to its shareholders as they filed regular[20] returns for tax years 2020 and 2021, in which no demand or order for payment is necessary. However, Petitioner elected to file an affected business entity return for tax year 2022; therefore, Petitioner owes the additional tax. The Bureau added interest to Petitioner's Idaho tax due. The Tax Commission reviewed the addition and found it appropriate and in accordance with Idaho Code section 63-3045. An explanation of Petitioner's right to appeal this decision is enclosed.

THEREFORE, the Notice of Deficiency Determination dated December 1, 2023, and directed to [redacted] is AFFIRMED.

IT IS ORDERED that Petitioner pays the following tax and interest:

YEAR	TAX	PENALTY	INTEREST	TOTAL
2020	$0	$0	$0	$0
2021	0	0	0	0
2022	159,736	0	7,807	167,543
			TOTAL DUE	$167,543

DEMAND for immediate payment of the foregoing amount is hereby made and given.

An explanation of Petitioner's right to appeal this decision is enclosed.

DATED this _____ day of _____ 2025.

IDAHO STATE TAX COMMISSION

[20] Business can elect a return type from regular, composite, and affected business entity.

CERTIFICATE OF SERVICE

I hereby certify that on this _____ day of _____ 2025, a copy of the within and foregoing DECISION was served by sending the same by United States mail, postage prepaid, in an envelope addressed to:

Receipt No.

[redacted]

_____

_____

[redacted]