**BEFORE THE TAX COMMISSION OF THE STATE OF IDAHO**

| | | |
|---|---|---|
| In the Matter of the Protest of | ) | |
| | ) | DOCKET NO. 1-401-911-296 |
| | ) | |
| | ) | |
| Petitioner. | ) | DECISION |
| | ) | |

(Petitioner) protested the Notice of Deficiency Determination dated November 18, 2021. The Income Tax Audit Bureau (Bureau) determined Petitioner could not claim Idaho's research activities credit on the project identified as Fixed Prosthetic Production Procedural Improvements. The Tax Commission reviewed the information regarding the project and determined the project did not meet the requirements of qualified research. In addition, the Tax Commission found the documentation Petitioner provided was not qualified research expenses. Therefore, the Tax Commission upholds the Notice of Deficiency Determination. Since Petitioner is a flow-through entity, Petitioner's shareholders are liable for any additional tax owed.

## BACKGROUND

Petitioner is a Subchapter S Corporation (S-Corp) registered to do business in Idaho. Petitioner amended its 2017, 2018, and 2019 Idaho S-Corp returns to claim the credit for research activities. The Bureau selected Petitioner's amended returns to examine the research credit. The Bureau asked Petitioner to respond to specific questions and to provide a copy of the consultant's study if they hired a consultant. Petitioner responded to the questions and provided a copy of the study a research and development tax advisor/ consultant did for them. The Bureau reviewed Petitioner's responses and the study.

Petitioner claimed the research activities credit on four projects. The Bureau determined Petitioner's Fixed Prosthetic Production Procedural Improvements (FPPPI) project did not qualify

as a research project. Petitioner's three other projects the Bureau allowed as qualifying projects. The Bureau corrected Petitioner's returns and sent them and their shareholders Notices of Deficiency Determination.

Petitioner protested the Bureau's determination disagreeing that the FPPPI project did not qualify as a research project. Petitioner stated the activities undertaken for the project qualify as qualified research and should be allowed the Idaho research activities tax credit pursuant to Idaho Code section 63-3029G. Petitioner provided a summary of the activities performed during the FPPPI project stating that the project focused on developing new processes and techniques to fabricate fixed prosthetic indirect restorative crowns and bridges. Petitioner stated the Bureau's determination that Petitioner's evaluation of milling and manufacturing using Zirconia is a disqualified activity for conducting research after the beginning of commercial production is incorrect. Petitioner stated they did not engage in research after commercial production. The testing process of Zirconia was critical to the development of the improved process. Petitioner stated the materials undergoing research were new formulations that were not in commercial production. The research was undertaken to evaluate their use and usability, the process by which they could be used, and which formulations could be used in the creation of potential future commercial components through newly developed processes.

Petitioner disagreed with the Bureau's determination that the activities were cosmetic in nature. Petitioner stated that while proper shading, translucencies and colors are esthetic qualities, the activities undertaken in the project go well beyond esthetics. Petitioner stated the product's strength, durability, function, design, and fit are also essential to the business component which were part of the testing and reliability concerns.

Petitioner disagreed with the Bureau's assertion that the activities fall under quality control, a prohibited activity. Petitioner stated they did not perform standardized routine tests but engaged in a systematic evaluation of alternative testing to solve the technical uncertainties of incorporating Zirconia into its project. Petitioner stated that integrating new materials in the dental lab requires extensive amounts of trial runs within the manufacturing and changes within the manufacturing process beyond any guidelines specified during the purchase of a new material.

Lastly, Petitioner disagreed with the Bureau's assertion that they were evaluating products to determine which was the best product. Petitioner stated the tests performed included those designed to determine if the existing processes could be adapted, improved, or replaced to accommodate new Zirconia formulations. Petitioner stated testing was done to determine what changes to the process would be needed for each formulation. The testing process was not as simple as choosing which Zirconia manufacture's product was the best.

The Bureau acknowledged Petitioner's protest and referred the matter to the Tax Commission's Appeals Unit (Appeals). Appeals sent Petitioner a letter asking how they wanted to proceed with their protest. Petitioner requested a telephone hearing. Appeals scheduled and held a hearing on August 1, 2022.

At the hearing, Petitioner stated they are improving a process of producing very complex prosthetics. Petitioner stated they use an open architecture software to design the prosthetics. Petitioner stated they manipulate and modify the software when designing the prosthetics and do it on every case. Petitioner stated what they are doing today is very different from what they did in the past. They went from simple digital and simple and advance analog to very advanced digital technology. Petitioner stated when they were doing the research and development using this advanced digital technology, they were the newest in the industry. In addition, Petitioner stated

they did diagnostic work with dentists and surgeons virtually to assist in the placement of implants. Petitioner stated there was a lot of research and development in preplanning with the surgeons and dentists to determine spacing needs for implants. Petitioner stated they used implant planning software and diagnostics digitally to determine the proper fit and function of the implant. Petitioner stated the prosthesis would be sent to the dentist or surgeon and placed in the patient's mouth for a while and they would receive feedback from the patient/dentist/surgeon on the fit which they would diagnose and refine the prosthesis. When asked how the research was used on other cases because of the specific nature of each implant or prosthetic, Petitioner stated the process helped in cases that were similar, but in most cases, there generally is enough variation that it is not completely applicable. Petitioner stated each case helped to improve their process. Petitioner stated that each individual has its specific needs and that still needs to be figured out, but for the general case is where they expanded their knowledge and understanding of their process of how to do things.

Petitioner was asked about the relationship between what the dentist or surgeon prescribed in a prescription and the product produced by Petitioner. Petitioner stated the dentist would write a prescription or order with the specifics for the patient; however, Petitioner has the ability to discuss different options with the dentist and make recommendations about the suitability of the materials used and the design. This is where Petitioner uses the knowledge gained through its research.

Petitioner was asked how they estimated the amount of wages claimed for the credit. Petitioner stated they had a lot of experience and devoted a large portion of their team in 2016 and later to research. Petitioner stated they put a lot of research into developing their process. Petitioner stated they wanted to differentiate themselves from the other dental labs. Petitioner stated they

were in the forefront of the industry with their implants such that representatives from other companies would seek them out. Petitioner stated they devoted a lot of time and energy to take them where they wanted to be in the industry.

When asked when they started using the CAD design and Zirconia Petitioner stated they began using them for single units in 2013 or 2014, very simple things. It was not until 2015 and 2016 that they started using both for full arch designs. When asked about the magazine article dated in 2012 Petitioner stated that was a project done with another lab. Petitioner stated they provided the top portion, the crown, and the simulated pink tissue. Petitioner stated at that time they did not have the mills or the CAD technology. Petitioner was asked to explain the difference between a stock implant and a custom implant. Petitioner stated everything they do is custom, there is nothing stock in their designs.

When asked why the expenses claimed are not after the commercial production, Petitioner stated that while the design of the prosthetic could be tested for durability and strength in the lab, real-world feedback from the patient and dentist needed to happen before the product was ready for commercial use in its entirety. Petitioner stated there were sales to dental practices but those could be considered prototypes where the expectation was that there would be feedback to improve the process and improve the product. The knowledge gained could not be obtained without real-world testing.

When asked if Petitioner provided any feedback to their suppliers regarding the materials used, Petitioner stated very little feedback was given to the suppliers' representatives. Petitioner stated there were hundreds of variations of the materials and any feedback they might have given probably did not go very far. Petitioner stated they use six to seven different material options but there are multiple variations in those six or seven. Petitioner stated they did a significant amount

of in-house work that were not cases that prepared them for those cases on which they gained data to improve their processes. Petitioner stated it was not simply a matter of choosing which material was the best but how that material would fit into their process and what changes would be needed to improve their process. Petitioner stated the process they are doing is different than what they were doing prior.

Petitioner stated they were trying to improve their process of creation and design of the prosthetics. There were inefficiencies in the fabrication side as well as improvements in design and durability. They eliminated uncertainty in the design by experimentation for improved durability and improved fit in the patient's mouth. Petitioner stated the process of experimentation not only benefited the patient but also their practice by improving their process and the industry going forward. Petitioner believes what they were doing was within the intended function of the research credit.

The hearing was concluded with the understanding Petitioner would provide additional documentation to establish the qualified research expenses for supplies and other information for the qualified wages if needed. A few weeks later, Appeals contacted Petitioner and asked them to provide documentation to substantiate the estimate they used for supplies and cost of goods sold purchases. Appeals also asked Petitioner to provide job descriptions of their employees and how they estimated the wages that qualified. Petitioner provided a spreadsheet identifying each employee and a description of their job. Petitioner later provided QuickBooks printouts of their vendors showing the amounts paid each vendor. Petitioner provided several invoices and/or statements from select vendors. The invoices showed materials and equipment purchases, and services paid for. Petitioner also provided examples of their case notes when creating prosthetics for patients.

In addition to the documentation, Petitioner provided a further explanation of their research activities. Petitioner stated in their process they used prototypes to improve the design and process. Petitioner stated the dental market requires direct interaction between the patient and the prototype before the product is ready for market. Petitioner stated there are multiple sets of product iteration in each case. The interaction between patient and prototype is a necessary step in design iteration and experimentation, without it the improvement of design discovery could not have taken place. Petitioner stated this series of design information discovery and product improvement is within the qualification rules and intent of the R&D credit. Petitioner stated this sort of product development is more likely to occur in dental and medical settings than in other industries. Petitioner stated when the product is one that is intimately connected with a patient, revision of design to accommodate patient needs necessarily requires interaction between the patient and the item to provide the feedback necessary to iterate the design. Petitioner stated this is not customization for a particular patient, but rather discovering the needs of different groups of patients based on feedback.

## LAW AND ANALYSIS

Idaho Code section 63-3029G provides for a credit for increasing research activities in Idaho. Idaho Code section 63-3029G uses the definitions of certain terms as they are defined in Internal Revenue Code (IRC) section 41. Such terms determine what activities qualify, what expenditures qualify, and how much qualifies, subject to the overall qualification that the research activity must be done in Idaho. The terms the Idaho Code relies on IRC section 41 include "qualified research" and "qualified research expenses" (QREs).

In the Tax Reform Act of 1986, Congress amended the definition of qualified research. To be considered qualified research, the research must satisfy four requirements. *See* IRC § 41(d)(1).

The research expenses must be eligible for treatment as expenses under IRC section 174. The research must be undertaken for the purpose of discovering information that is technological in nature. The application of the research must be intended to be useful in the development of a new or improved business component. And substantially all the activities constitute elements of a process of experimentation for a new or improved function, performance, or reliability or quality. If the research fails any of these tests, it is not qualified research for the purposes of the research credit.

Petitioner claimed the research activities credit on a project called Fixed Prosthetic Production Procedural Improvements (FPPPI). Petitioner stated the project started on January 1, 2017 and is ongoing. Petitioner described the project as developing new processes and techniques to fabricate fixed prosthetic indirect restorative crowns and bridges, where Petitioner evaluated milling and manufacturing of fixed dental prosthetics using Zirconia materials, seeking fabrication of prosthetics with a material with greater strength with improved shading capabilities. *See* ANNUAL RESEARCH & DEVELOPMENT TECHNICAL REPORT, page 8. Petitioner stated there were a number of uncertainties to be resolved during the project. The uncertainties included:

- the capability of the material's tensile strength and durability as a restorative prosthetic in anterior and posterior applications,
- milling machine calibration, maintenance, and puck material position to result in favorable accurate prosthetic outcome,
- the effects of the pH of the staining material on the performance of sintering furnace in the sintering process,
- the design of the zirconia disc material to have reliable strength and favorable staining capabilities, and
- the optimal sintering process, in both time and duration to sinter material, to deliver favorable and reliable prosthetic outcomes, reducing prosthetic fractures and refabrications.

*See* ANNUAL RESEARCH & DEVELOPMENT TECHNICAL REPORT, page 12. Petitioner stated these uncertainties were overcome through a process of experimentation wherein their technicians evaluated one or more alternatives to achieve their goals. *Id*. Petitioner stated their research was technical in nature because throughout the design and development process, they applied principles of engineering and chemistry to overcome the project's technical uncertainties. Specifically, Petitioner applied these principles to evaluate and improve crown manufacturing utilizing reformulated zirconia discs, manufacturing techniques, and milling and sintering technologies. *See* ANNUAL RESEARCH & DEVELOPMENT TECHNICAL REPORT, page 15.

The Tax Commission reviewed the information Petitioner provided and determined the FPPPI project did not qualify as qualified research. The Tax Commission found that what Petitioner was doing was coming up with common solutions to common problems in the dental prosthetics industry. *Max v. Commissioner of Internal Revenue*, T.C. Memo. 2021-37 (2021). Petitioner did not create new formulations of Zirconia, but rather chose between several options from select manufacturers for the creation of their prosthetics. Petitioner stated their experimentation with sintering temperatures to get the proper shading, coloring, and translucency was part of their data gathering in resolving uncertainties because manufacturer guidelines use ideal situations, not real-world circumstances. However, again this is a common problem all dental labs face, even Petitioner in the past had this challenge and will continue to have this challenge when making dental prosthesis and crowns.

IRC section 174 provides that a taxpayer may treat research or experimental expenditures, paid or incurred during the taxable year in connection with his trade or business, as expenses not chargeable to a capital account. IRC § 174(a)(1). Treas. Reg. 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. Expenditures qualify as research and development costs in the experimental or laboratory sense if they are 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 design of the product. Treas. Reg. § 1.174-2(a)(1). 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*.

Petitioner's technicians had the requisite information to solve problems as they arose. For an uncertainty to exist under IRC section 174, a taxpayer must be uncertain about whether it can achieve its objective through research. It appears the uncertainties Petitioner encountered are standard activities that Petitioner's employees performed daily. *Max v. Commissioner of Internal Revenue*, *Supra*. Everyday solutions to common problems.

Petitioner stated it used pilot models or prototypes to evaluate and resolve uncertainties of fit and design with each patient. Petitioner stated they would use the feedback from the patient and dentist/surgeon to diagnose and refine their product. Petitioner stated it was this real-world testing that gave them the knowledge to improve their product.

Petitioner's prototypes seem to be similar to the designs and test fitting found in *Max v. Commissioner, Id.* In that case, the taxpayer received feedback from models about the fit and feel of clothing. The court stated regarding the fit testing that it struggled to see how it was investigative in nature. (Citing *Mayrath v. CIR,* 41 T.C. 582, 590 (1964), *aff'd,* 357 F.2d 209 (5th Cir. 1966) that IRC section 174 is intended to "limit deductions to those expenditures of an investigative nature.") The court stated that for activities to be "investigative in nature," the taxpayer must

closely examine the uncertainty at issue and systematically inquire after potential solutions to resolve it.

This systemic inquiry is 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). The documentation Petitioner provided shows that in the general creation of a prosthesis, Petitioner receives an order or prescription from a dentist or surgeon, Petitioner would do a mockup or prototype, the prototype or wax model is fitted to the patient, tweaks are made to the model in accordance with the patient's and dentist's feedback, the model may be refitted after modifications, and once it is approved the actual prosthetic is made. The documentation Petitioner provided does not show a process of experimentation where alternatives are explored or evaluated and then tested against a hypothesis. Rather the documentation shows a specific order, a model created from that order, the model is fit tested and reviewed for esthetics, modifications are made, and then the permanent prosthetic is made which is delivered or sold to the patient. And, in a lot of the documented cases Petitioner was even told what material or product to use. A process of experimentation is a process designed to evaluate one or more alternatives to achieve a result. While the process of experimentation need identify only one alternative, it generally should be capable of evaluating more than one alternative. *Union Carbide Corp. & Subs. v. Commissioner*, *Id*. See also Treas. Reg. § 1.41–4(a)(5)(i). Petitioner's documentation does not show a process of experimentation but rather activities conducted after a business component has met the basic function and economic requirements of Petitioner.

Petitioner's process of creating a prosthesis went through steps that were not an experiment. Rather, the steps were a thorough integration of a creative development process. A prescription was received, Petitioner knew they could create the prosthesis even if they did not initially know all the peculiarities of the patient's mouth and desired results. Making adjustments because of the nuances of an individual patient is not a process of experimentation. *Max v. Commissioner of Internal Revenue, Supra.* Petitioner did not use a process of experimentation; therefore, the project was not qualified research. Since the project failed the experimentation test, there is no need to discuss the other tests for qualified research.

In addition to determining whether the FPPPI project was qualified research, the Tax Commission looked at the QREs Petitioner claimed for the project. Petitioner claimed employee wages and supplies as QREs. Both these amounts were estimates determined by Petitioner. For the wages, Petitioner identified employees by job title and function and estimated the percentage of the employee's time devoted to research. For the supplies, Petitioner estimated a percentage of their cost of goods sold purchases and their supplies expense. Petitioner provided some documentation for their purchases the majority of which consisted of account printouts of vendors showing the payments made. Of the invoices provided, some were for computer repair services, some for purchases of implant bars, implants, and abutments, some for milling services, some for equipment purchases, some for drill bits, and some for coloring. All these purchases were purchases Petitioner would use in the ordinary course of their trade or business.

In addressing QREs that a taxpayer would have normally incurred in their 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.
>
> . . . 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 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).
>
> 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).
>
> 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.

Similarly, Petitioner in this case is claiming wages and supplies as QREs that would have been incurred regardless of any qualified research. Petitioner's supplies were purchases attributable to cost of goods sold and supplies expense (IRC section 162 business expenses) that they later reclassified as research and experimental expenditures (IRC section 174 expenses); however, it is questionable that these expenses would normally be charged to a capital account or amortized. Petitioner incurred these expenses as a normal course of their business. Likewise, the wages Petitioner claimed would not be a capital expenditure and would have been incurred regardless of any qualified research.

Furthermore, qualified research expenses include only those expenses directly related to the research activity. Petitioner's use of estimates does not identify the specific materials used or

the cost of that material. Petitioner's estimates also do not document employee time spent on research activities. *See* Treasury Regulation § 1.41-4(d). Therefore, the Tax Commission finds the expenditures claimed are not qualified research expenses.

## CONCLUSION

Petitioner claimed the Idaho research credit for tax years 2017, 2018, and 2019. Upon review of the credit the Tax Commission found Petitioner's FPPPI project did not qualify as a research project. The Tax Commission determined Petitioner's activities did not constitute or have the elements of a process of experimentation where Petitioner developed a hypothesis, analyzed data, refined the hypotheses, and retested the hypothesis, experimentation in the scientific sense. In addition, the Tax Commission found the expenditures Petitioner claimed as QREs were expenses Petitioner would have incurred in the ordinary course of their business and not research expenses.

Because the FPPPI project was not qualified research and the expenses claimed were not qualified research expenses, the Tax Commission upholds the audit adjustment disallowing the Idaho research activities credit.

THEREFORE, the Notice of Deficiency Determination dated November 18, 2021, and directed to is AFFIRMED.

Since Petitioner is a flow-through entity, the additional tax owed flowed through to its shareholders. Therefore, no demand or order for payment is necessary.

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

DATED this _____ day of _____ 2023.

IDAHO STATE TAX COMMISSION

**CERTIFICATE OF SERVICE**

I hereby certify that on this _____ day of _____ 2023, 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.

_____

_____