CALIFORNIA STATE BOARD OF EQUALIZATION

SUMMARY DECISION UNDER REVENUE AND TAXATION CODE SECTION 40

In the Matter of the Appeal of:	Oral hearing dates: September 12, 2012 October 29, 2013
PACIFIC COAST BUILDING PRODUCTS, INC.	Case No. 514183
ERIN SULLIVAN	Case No. 573889
PATRICIA D. ANDERSON (DECEASED)	Case No. 573893
DAVID AND CHRISTINE LUCCHETTI	Case No. 573905
CAROL ANDERSON WARD	Case No. 573897
KEITH AND MARY HARRIS	Case No. 573908
JOHN E. ANDERSON	Case No. 573901
JAMES AND JACQUELYN ANDERSON	Case No. 573911

Representing the Parties:

For Appellants: Reed Schreiter, PricewaterhouseCoopers
Jon Sperring, PricewaterhouseCoopers
Kendall Fox, PricewaterhouseCoopers

For Franchise Tax Board: Jason Riley, Tax Counsel III
Ann Hodges, Tax Counsel IV
Bill Hilson, Assistant Chief Counsel

Counsel for the Board of Equalization: Anthony Epolite, Tax Counsel IV

LEGAL ISSUES

ISSUE (1) Whether appellants have presented evidence sufficient to establish that appellant Pacific Coast Builders, Inc. (PCB)[1] conducted activities that constituted "qualified research" as defined in Internal Revenue Code (IRC) section 41(d).

[1] Appellant PCB is usually referred to as "PCB" (instead of "appellant PCB") in this decision.

ISSUE (2) If appellants have established that PCB engaged in "qualified research" as defined in IRC section 41(d), whether appellants have established that PCB met its burden of proving "qualified research expenses" for the tax years at issue.

ISSUE (3) Whether appellants have substantiated PCB's fixed-base percentage, as required by IRC section 41(c)(3)(A).

PROCEDURAL & FACTUAL BACKGROUND

This appeal is made pursuant to section 19324 of the Revenue and Taxation Code (R&TC) from the action of the Franchise Tax Board (respondent or FTB) in denying appellants' claims for refund for various years. Appellants' claims for refund are based on research and development (R&D) credits claimed by appellant PCB and subsequently passed through to PCB's shareholders.[2] Appellant PCB filed claims for refund for six fiscal years, for the fiscal year ending (FYE) March 31, 1999, through the FYE March 31, 2004. The individual shareholder appellants filed claims for refund for six tax years, tax year 1999 through tax year 2004.

Appellant PCB, an S Corporation, is a manufacturer, contractor, and distributor of building products such as wallboard, roofing, and insulation. Appellants claim that PCB was engaged in qualified research for 64 projects.[3] Appellants assert that the claimed R&D credits were attributable to a project at Pacific Coast Companies, Inc. and projects at the PABCO Paper Vernon facility, the PABCO Gypsum Newark facility, the H.C. Muddox Sacramento facility, the Gladding McBean Lincoln facility, the Basalite Tracy facility, and the Basalite Dixon facility.

Respondent initially conducted an audit of PCB, for the credits claimed, for the FYE March 31, 1999. In a letter dated January 31, 2006, respondent stated that it was allowing 80-percent of the credits claimed for that year. Later, when the audit was expanded to all of the years currently at issue, respondent stated, in a letter dated January 31, 2009, that PCB did not qualify for any of the R&D credits claimed.

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[2] The research and development credit is referred to variously as the "research credit," the "R&D tax credit(s)," the "R&D credit(s)," or simply as the "credit(s)."

[3] For a complete listing of the 64 projects, see the Supplemental Hearing Summary of this matter [http://www.boe.ca.gov/meetings/pdf/hearingsummaries/B_Pacific_Coast_Building_Products_Inc_et_al_514183_573889_573893_573905_573897_573908_573901_573911_Sum_102913.pdf].

The Internal Revenue Service (IRS) conducted an audit of PCB for the R&D credits it claimed in the FYEs March 31, 2005 and March 31, 2006, which related to several of the projects at issue in this appeal. The IRS accepted the tax returns PCB filed for those years, making no changes to the amount of R&D credits that PCB claimed on those returns.

APPLICABLE LAW

Introduction

R&TC section 23609 provides a tax credit for "qualified research expenses," determined in accordance with IRC section 41, when a taxpayer establishes that it has conducted qualified research as defined by IRC section 41(d). Generally, the credit is determined based on the amount by which the taxpayer's qualified research expenses exceed a "base amount." Insofar as is relevant to this appeal, R&TC section 23609 substantially conforms to IRC section 41.

The Board's focus in this appeal is the fourth of the four elements of IRC section 41(d) as described and itemized below, the Process of Experimentation Test. As such, after defining the term "qualified research" under IRC section 41(d), the focus of the Qualified Research section below is on the Process of Experimentation Test.

I. Qualified Research

Overview; The Four Elements of IRC Section 41(d)

For a taxpayer to establish that it conducted qualified research, IRC section 41(d)(1) defines the term "qualified research" as follows:

(1) the research expenditures must qualify as expenses under IRC section 174 (Int.Rev. Code, § 41(d)(1)(A)) (the Section 174 Test);

(2) the research activity must be undertaken for the purpose of discovering information that is technological in nature (Int.Rev. Code, § 41(d)(1)(B)(i)) (the Technological in Nature Test);

(3) the research activity must be undertaken for the purpose of discovering information the application of which is intended to be useful in the development of a new or improved business component of the taxpayer (Int.Rev. Code, § 41(d)(1)(B)(ii)) (the Business Component Test); and

(4) substantially all of the research activities must constitute elements of a process of experimentation for a qualified purpose (Int.Rev. Code, § 41(d)(1)(C) & (d)(3)) (the Process of Experimentation Test).

Under IRC section 41(d)(2)(A), these four tests must be applied to (and met by) each new or improved business component that a taxpayer develops.

IRC section 41(d)(2)(B) defines the term "business component" as "any product, process, computer software, technique, formula, or invention which is to be (i) held for sale, lease, or license, or (ii) used by the taxpayer in a trade or business of the taxpayer." As such, a taxpayer's business component can be, for example, the taxpayer's development or improvement of a product. Importantly for purposes of this appeal, a business component may be the taxpayer's development or improvement of a manufacturing *process*. For example, the United States Tax Court (Tax Court) has found that "[t]he exclusion for research after commercial production applies separately to the activities relating to the development of the product and the activities relating to the development of the process. *Sec.1.41-4 (c)(2)(iii), Income Tax Regs.* Therefore, even after a product is ready for commercial sale, activities relating to the development of manufacturing process may constitute qualified research." (*Union Carbide v. Commissioner* (2009) T.C. Memo 2009-50, 266-277 (*Union Carbide*), affd. (2d Cir. 2012) 697 F.3d 104)

As for a taxpayer's production processes, IRC section 41 (d) states that every plant process, machinery, or technique for the commercial production of a business component are treated as a separate business component, and not as part of the business component being produced. (Int.Rev. Code, § 41(d)(2)(C).) In cases involving the development of both a product and a manufacturing or other commercial production process for that product, research activities relating to the development of a process are not qualified research unless the requirements of IRC section 41 (d) are met for the research activities relating to the process, without taking into account the research activities relating to the development of the product. Similarly, research activities relating to the development of a product are not qualified research unless the requirements of IRC section 41 (d) are met for the research activities relating to the product without taking into account the research activities relating to the development of the manufacturing or other commercial production process.

(Treas. Reg. § 1.41-4(b)(1).)

Activities Specifically Included as being, and Excluded as being, Qualified Research

IRC section 41(d) provides specific instances of activities for which the R&D credit is not allowed. Specifically, IRC section 41(d) provides as follows:

> (d) Qualified research defined. For purposes of this section –
>
> (1) In general. The term "qualified research" means research . . .
> (2) Tests to be applied separately to each business component. . . .
> (3) Purposes for which research may qualify for credit. For purposes of paragraph (1)(C) –
> (A) In general. Research shall be treated as conducted for a purpose described in this paragraph if it relates to –
> (i) a new or improved function,
> (ii) performance, or
> (iii) reliability or quality.
> (B) Certain purposes not qualified. Research shall in no event be treated as conducted for a purpose described in this paragraph if it relates to style, taste, cosmetic, or seasonal design factors.
> (4) Activities for which credit not allowed. The term "qualified research" shall not include any of the following:
> (A) Research after commercial production. Any research conducted after the beginning of commercial production of the business component.
> (B) Adaptation of existing business components. Any research related to the adaptation of an existing business component to a particular customer's requirement or need.
> (C) Duplication of existing business component. Any research related to the reproduction of an existing business component (in whole or in part) from a physical examination of the business component itself or from plans, blueprints, detailed specifications, or publicly available information with respect to such business component.
> (D) Surveys, studies, etc. Any –
> (i) efficiency survey,
> (ii) activity relating to management function or technique,
> (iii) market research, testing, or development (including advertising or promotions),
> (iv) routine data collection, or
> (v) routine or ordinary testing or inspection for quality control.
> (E) Computer software. Except to the extent provided in regulations, any research with respect to computer software which is developed by (or for the benefit of) the taxpayer primarily for internal use by the taxpayer, other than for use in –
> (i) an activity which constitutes qualified research (determined with regard to this subparagraph), or
> (ii) a production process with respect to which the requirements of paragraph (1) are met.
> (F) Foreign research. . . .
> (G) Social sciences, etc. . . .
> (H) Funded research. . . .

More specifically, Treasury Regulation section 1.41-4(c) expands on IRC section 41(d)

to describe, in relevant part, the following as excluded activities:

> (c) Excluded activities – (1) In general. Qualified research does not include any activity described in section 41(d)(4) and paragraph (c) of this section.
>
> (2) Research after commercial production – (i) In general. Activities conducted after the beginning of commercial production of a business component are not qualified research. Activities are conducted after the beginning of commercial production of a business component if such activities are conducted after the component is developed to the point where it is ready for commercial sale or use, or meets the basic functional and economic requirements of the taxpayer for the component's sale or use.
> (ii) Certain additional activities related to the business component. The following activities are deemed to occur after the beginning of commercial production of a business component –
> (A) Preproduction planning for a finished business component;
> (B) Tooling-up for production;
> (C) Trial production runs;
> (D) Trouble shooting involving detecting faults in production equipment or processes;
> (E) Accumulating data relating to production processes; and
> (F) Debugging flaws in a business component.
> (iii) Activities related to production process or technique. In cases involving development of both a product and a manufacturing or other commercial production process for the product, the exclusion described in section 41(d)(4)(A) and paragraphs (c)(2)(i) and (ii) of this section applies separately for the activities relating to the development of the product and the activities relating to the development of the process. For example, even after a product meets the taxpayer's basic functional and economic requirements, activities relating to the development of the manufacturing process still may constitute qualified research, provided that the development of the process itself separately satisfies the requirements of section 41(d) and this section, and the activities are conducted before the process meets the taxpayer's basic functional and economic requirements or is ready for commercial use.
> [¶] . . . [¶]
>
> (3) Adaptation of existing business components. Activities relating to adapting an existing business component to a particular customer's requirement or need are not qualified research. This exclusion does not apply merely because a business component is intended for a specific customer.
>
> (4) Duplication of existing business component. Activities relating to reproducing an existing business component (in whole or in part) from a physical examination of the business component itself or from plans, blueprints, detailed specifications, or publicly available information about the business component are not qualified research. This exclusion does not apply merely because the taxpayer examines an existing business component in the course of developing its own business component.
>
> (5) Surveys, studies, research relating to management functions, etc. Qualified research does not include activities relating to –
> (i) Efficiency surveys;
> (ii) Management functions or techniques, including such items as preparation of financial data and analysis, development of employee training programs and management organization plans, and management-based changes in production processes (such as rearranging work stations on an assembly line);
> (iii) Market research, testing, or development (including advertising or promotions);
> (iv) Routine data collections; or
> (v) Routine or ordinary testing or inspections for quality control.

The Process of Experimentation Test

The fourth element of the four-part definition of "qualified research" under IRC section 41(d) is the Process of Experimentation Test, in which "substantially all of the activities . . . constitute elements of a process of experimentation" for a qualified purpose.

Treasury Regulation section 1.41-4(a)(5)(i) defines the "process of experimentation" in relevant part as "a process designed to evaluate one or more alternatives to achieve a result where the capability or the method of achieving that result, or the appropriate design of that result, is uncertain as of the beginning of the taxpayer's research activities."[4] The Court of Appeals for the Fifth Circuit has described the "process of experimentation" as involving three steps:

> (1) the identification of uncertainty concerning the development or improvement of a business component,
> (2) the identification of one or more alternatives intended to eliminate that uncertainty, and
> (3) the identification and the conduct of a process of evaluating the alternatives (through, for example, modeling, simulation, or a systematic trial and error methodology).

(*United States v. McFerrin* (5th Cir. 2009) 570 F.3d 672, 677 (*McFerrin*).)

In addition, Treasury Regulation section 1.41-4(a)(5)(ii) provides that "a process of experimentation is undertaken for a qualified purpose if it relates to a new or improved function, performance, reliability or quality of the business component. Research will not be treated as conducted for a qualified purpose if it relates to style, taste, cosmetic, or seasonal design factors." In *Trinity Industries v. United States* (N.D. Texas 2010) 691 F.Supp.2d 688, 694, 695-696 (*Trinity*), the court found that the integration and configuration of equipment or systems can constitute a process of experimentation, even if the equipment or systems are pre-existing.

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[4] Treasury Regulation section 1.41-4(a)(5)(i) states the following in its entirety:
"Process of experimentation. (i) In general. For purposes of section 41(d) and this section, a process of experimentation is a process designed to evaluate one or more alternatives to achieve a result where the capability or the method of achieving that result, or the appropriate design of that result, is uncertain as of the beginning of the taxpayer's research activities. A process of experimentation must fundamentally rely on the principles of the physical or biological sciences, engineering, or computer science and involves the identification of uncertainty concerning the development or improvement of a business component, the identification of one or more alternatives intended to eliminate that uncertainty, and the identification and the conduct of a process of evaluating the alternatives (through, for example, modeling, simulation, or a systematic trial and error methodology). A process of experimentation must be an evaluative process and generally should be capable of evaluating more than one alternative. A taxpayer may undertake a process of experimentation if there is no uncertainty concerning the taxpayer's capability or method of achieving the desired result so long as the appropriate design of the desired result is uncertain as of the beginning of the taxpayer's research activities. Uncertainty concerning the development or improvement of the business component (e.g., its appropriate design) does not establish that all activities undertaken to achieve that new or improved business component constitute a process of experimentation."

In defining the term "substantially all" for the Process of Experimentation Test (in which substantially all of the research activities must constitute elements of a process of experimentation for a qualified purpose), Treasury Regulation section 1.41-4(a)(6) provides:

> Substantially all requirement. In order for activities to constitute qualified research under section 41(d)(1), substantially all of the activities must constitute elements of a process of experimentation that relates to a qualified purpose. 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 (and without regard to section 1.41-2(d)(2)), 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.

Thus, the Treasury Regulation provides that a "substantially all" requirement must be met under the Process of Experimentation Test. With this requirement in place, a taxpayer meets the Process of Experimentation Test only if 80 percent or more of the taxpayer's research activities – measured on a cost or other consistently applied reasonable basis – constitute elements of a process of experimentation. If a taxpayer has difficulty in meeting the 80-percent threshold of the "substantially all" test, the application of the "shrinking-back rule" might be appropriate. Under this rule, when the "substantially all" test cannot be met by the entirety of a product or process, a taxpayer may treat as its business component the next level of its product or process that can meet the requirements of IRC section 41(d). (Treas. Reg. § 1.41-4(b)(2).)

II. Qualified Research Expenses

In General

A federal research credit is equal to the sum of 20 percent of the excess (if any) of the qualified research expenses for the tax year over the base amount. (Int.Rev. Code, § 41(a)(1).) As modified by R&TC section 23609, subsection (b)(a)(A), a California research credit is equal to the sum of 11 percent of the excess (if any) of the qualified research expenses for the tax year over the base amount. Qualified research expenses "are limited to salaries and wages, supplies and contract

research performed by third parties." (*Bayer Corp. v. United States* (W.D.Pa. 2012) 850 F.Supp.2d 522, 524 (*Bayer*).) Qualified research expenses consist of the sum of in-house research expenses and contract research expenses that the taxpayer paid or incurred during the tax year in carrying on its trade or business. (Int.Rev. Code, § 41(b)(1).) The term "in-house research expenses" consists of "any wages paid or incurred to an employee for qualified services performed by such employee," as well as "any amount paid or incurred for supplies used in the conduct of qualified research." (Int.Rev. Code, § 41(b)(2)(A).)

The term "qualified services" means services that consist of "(i) engaging in qualifying research, or (ii) engaging in the direct supervision or direct support of research activities which constitute qualified research." (Int.Rev. Code, § 41(b)(2)(B).) "The term 'engaged in qualified research' as used in [IRC] section 41(b)(2)(B) means the actual conduct of qualified research (as in the case of a scientist conducting laboratory experiments)." (Treas. Reg. § 1.41-2(c)(1).) "The term 'direct supervision' as used in [IRC] section 41(b)(2)(B) means the immediate supervision (first-line management) of qualified research (as in the case of a researcher who directly supervises laboratory experiments, but who may not actually perform experiments)." (Treas. Reg. § 1.41-2(c)(2).) "'Direct supervision' does not include supervision by a higher-level manager to whom first-line managers report, even if that manager is a qualified research scientist." (*Ibid.*; see *Shami v. Commissioner*, T.C. Memo 2012-78 (*Shami*).)

A taxpayer must establish a nexus between the claimed wages and the qualified services. If an employee has performed both qualified services and nonqualified services, only the amount of wages allocated to the performance of qualified services constitutes qualified research expenses. (Treas. Reg. § 1.41-2(d)(1).) If, during the tax year, 80 percent of an employee's wages consist of qualified services, then all of the employee's wages are allocated to the performance of qualified services and constitute qualified research expenses. (Treas. Reg. § 1.41-2(d)(2).) In the absence of an alternative method that the taxpayer demonstrates is more appropriate, the amount of an employee's wages allocated to qualified services shall be determined by multiplying the total amount of wages paid to the employee during the tax year by the ratio of the total time that the employee actually spent in the performance of qualified services to the total time the employee spent in the

performance of all services during the tax year. (Treas. Reg. § 1.41-2(d)(1).)

The Recordkeeping Requirement

Treasury Regulation section 1.41-4(d) sets forth the following recordkeeping requirement for R&D credit claims:

> Recordkeeping for the research credit. A taxpayer claiming a credit under [IRC] section 41 must retain records in sufficiently usable form and detail to substantiate that the expenditures claimed are eligible for the credit. For the rules governing record retention, see [Treasury Regulation section] 1.6001-1. To facilitate compliance and administration, the IRS and taxpayers may agree to guidelines for the keeping of specific records for purposes of substantiating research credits.

Treasury Regulation section 1.6001-1(a),[5] which is referenced in Treasury Regulation section 1.41-4(d), also provides general recordkeeping requirements for taxpayers:

> . . . [A]ny person subject to tax under subtitle A of the Code . . . or any person required to file a return of information with respect to income, shall keep such permanent books of account or records, including inventories, as are sufficient to establish the amount of gross income, deductions, credits, or other matters required to be shown by such person in any return of such tax or information.

Consequently, together Treasury Regulation sections 1.41-4(d) and 1.6001-1(a) require a taxpayer that claims the R&D credit to retain records, in sufficiently usable form and detail, to substantiate and establish that the expenditures claimed on its return are eligible for the credit. The courts in recent years have been critical of taxpayers who fail to meet this requirement. (See, e.g., *Bayer*, *supra*, 850 F.Supp.2d at p. 539; *Trinity*, *supra*, 691 F.Supp.2d at p. 694.)

Other than Treasury Regulation section 1.41-4(d), and its cross-reference to these general recordkeeping requirements, there is no specific recordkeeping requirement under IRC section 41. In *Union Carbide*, the Tax Court concluded that two of the taxpayer's projects (i.e., the Amoco anticoking project and the UCAT-J project) were qualified research based upon the consideration of both documentary evidence and oral testimony. (*Union Carbide*, *supra*, at pp. 244-245, 272-273.)

If a taxpayer establishes that it paid or incurred an expense without establishing the amount of the expense, a court "may approximate the amount of the expense, bearing heavily against the taxpayer whose inexactitude is of [its] own making." (*Shami*, *supra*, T.C. Memo 2012-78 at p. 10

[5] IRC section 6001 provides for the general recordkeeping requirement for taxpayers.

(citing *Cohan v. Commissioner* (2d Cir. 1930) 39 F.2d 540, 543-544).) This is known as the *Cohan* rule. "For the *Cohan* rule to apply, however, a reasonable basis must exist on which [a] Court can make an estimate." (*Ibid.* (citations omitted).) "Without such a basis, any allowance would amount to unguided largesse." (*Ibid*. (citations omitted).) In other words, a taxpayer must demonstrate "some basis on which an estimate may be made" that goes beyond mere speculation, unsupported allegations, or mere inference. (*Vanicek v. Commissioner* (1985) 85 T.C. 731, 742-43; *Appeal of Albert Hakim*, 90-SBE-005, Aug. 1, 1990).

Thus, in *Fudim v. Commissioner*, T.C. Memo 1994-235 (*Fudim*), the Tax Court held that, under the *Cohan* rule, a taxpayer could claim the research credit, even without the substantiation of specific amounts claimed, if the evidence showed that the taxpayer engaged in qualified research as defined in IRC section 41 and where there was some basis for estimating the amount of such research. Because the taxpayer had two income sources – consulting and patented research – the Tax Court estimated the time spent on research under the *Cohan* rule and determined that 80 percent of the taxpayer's and his wife's income came from research that qualified for the research credit. In contrast, the Tax Court found that the taxpayer was not entitled to any research credit based on the wages he paid his daughter because there was no evidence showing the daughter's age, training, or level of expertise or what services she rendered.

In *McFerrin, supra*, 570 F.3d at p. 679, the Fifth Circuit Court of Appeals held that, although the taxpayer was required to retain records necessary to substantiate a claimed credit, estimating the research credit would be appropriate if the taxpayer established that qualified expenses occurred. In remanding the case to the district court, the court further explained:

> If [the taxpayer] can show activities that were "qualified research," then the court should estimate the expenses associated with those activities. The district court need not credit [the taxpayer's] reconstruction of expenses from years after the fact. See *Eustace v. Commissioner*, T.C. Memo 2001-66, 81 T.C.M. (CCH) 1370, *5 (2001). But the court should look to testimony and other evidence, including the institutional knowledge of employees, in determining a fair estimate. See *Fudim*, T.C. Memo 1994-235, 67 T.C.M. (CCM) 3011, *12-*13.

Thus, based upon this case law, if a taxpayer shows that it has engaged in qualified research, the courts have been willing to apply the *Cohan* rule, to allow a taxpayer who has been unable to establish the exact amount of its qualified research expenses, to estimate such amounts when

there is some reasonable basis for making such an estimate. (See, e.g., *Shami*, *supra*, T.C. Memo 2012-78; *Fudim*, *supra*, T.C. Memo 1994-235; *McFerrin*, *supra*, 570 F.3d 672.) On the other hand, if a taxpayer is unable to offer any evidence from which a court could make a meaningful estimate of the taxpayer's expenses, the courts have denied a taxpayer's R&D credit claims. (See, e.g., *Eustace v. Commissioner* (7th Cir. 2002) 312 F.3d 905; *Trinity*, *supra*, F.Supp.2d 688; *Shami*, *supra*, T.C. Memo 2012-78.)

III. The Base Amount & The Fixed-Base Percentage

As stated above, R&TC section 23609 provides a tax credit for "qualified research expenses" determined in accordance with IRC section 41. Generally, the credit under IRC section 41 is determined based on the amount by which the taxpayer's qualified research expenses exceed a "base amount." If qualified expenses do not exceed the base amount, no credit is available unless the taxpayer elected on its original tax return to apply the alternative incremental credit.

More specifically, IRC section 41(c) provides, in part, that:

> (c) Base amount.
> (1) In general. The term "base amount" means the product of –
> (A) the fixed-base percentage, and
> (B) the average annual gross receipts of the taxpayer for the 4 taxable years preceding the taxable year for which the credit is being determined (hereinafter in this subsection referred to as the "credit year").
> (2) Minimum base amount. In no event shall the base amount be *less than* 50 percent of the qualified research expenses for the credit year.
> (3) Fixed-base percentage.
> (A) In general. Except as otherwise provided in this paragraph, the fixed-base percentage is the percentage which the aggregate qualified research expenses of the taxpayer for taxable years beginning after December 31, 1983, and before January 1, 1989, is of the aggregate gross receipts of the taxpayer for such taxable years.
>
> [¶] . . . [¶]
>
> (4) Election of alternative incremental credit.
> (A) In general. At the election of the taxpayer, the credit determined under subsection (a)(1) shall be equal to the sum of –
> (i) 3 percent of so much of the qualified research expenses for the taxable year as exceeds 1 percent of the average described in subsection (c)(1)(B) but does not exceed 1.5 percent of such average,
> (ii) 4 percent of so much of such expenses as exceeds 1.5 percent of such average but does not exceed 2 percent of such average, and
> (iii) 5 percent of so much of such expenses as exceeds 2 percent of such average.
> (B) Election. An election under this paragraph shall apply to the taxable year for which made and all succeeding taxable years unless revoked with the consent of the Secretary. (Emphasis supplied.)

Pursuant to the above statutory language, unless the alternative incremental credit is elected by a taxpayer, the taxpayer's qualified expenses and gross receipts between December 31, 1983 and January 1, 1989, must be determined. The qualified expenses for the period are divided by the gross receipts to reach a percentage, which is then applied to the four preceding years in order to determine the base amount. If this base amount is less than the minimum base amount (which is 50 percent of the taxpayer's qualifying expenses), then the minimum base amount applies. The minimum base amount thus provides a floor for the base amount which is equal to 50 percent of the qualified expenses for the year at issue. The base amount must be determined first, in order to determine if it would be less than the minimum base amount. Where the minimum base amount applies, it increases the base amount, and thereby reduces and potentially eliminates the amount of the available credit because only the increased amount over the base amount is eligible for a credit. Thus, under the statute, the credit is only available, at most, for qualified expenses for the year at issue that exceed 50 percent of the taxpayer's qualifying expenses for that year (i.e., the minimum base amount). If the base amount calculated by reference to the taxpayer's actual expenses and gross receipts between December 31, 1983, and January 1, 1989, is higher than the minimum base amount, then the amount of available credit will be the excess of expenses over this higher amount, and therefore will be lower than the available credit would be if the minimum base amount applied.

For those taxpayers who do not have adequate records to establish their fixed-base percentage, IRC section 41(c)(4) provides an alternative method for computing the R&D tax credit. Treasury Regulation section 1.41-8T provides that an election under IRC section 41(c)(4) must be made with a taxpayer's timely-filed original return for the taxable year in which the election applies.

KEY CONTENTIONS[6]

Appellants' Contentions

Appellants argue that, during the audit and appeals process, appellants provided a wide variety of evidence (such as (1) project binders which included the following types of documents:

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[6] For a complete summary of the parties' contentions, see the Hearing Summary [http://www.boe.ca.gov/meetings/pdf/hearingsummaries/B_Pacific_Coast_Building_Products_Inc_etal_514183_Sum_091212.pdf] and the Supplemental Hearing Summary [http://www.boe.ca.gov/meetings/pdf/hearingsummaries/B_Pacific_Coast_Building_Products_Inc_et_al_514183_573889_573893_573905_573897_573908_573901_573911_Sum_102913.pdf] of this matter.

testing, drawings and designs, meeting notes, lab notes, internal memoranda, requests and justifications for funds; (2) written declarations of plant managers; and (3) plant tours), yet none of this evidence was deemed acceptable to respondent. Appellants believe that all of the projects at issue qualify for the R&D credit and that the evidence presented supports this conclusion. Appellants assert that, throughout this process, respondent has focused on the wrong activities and has contended that PCB merely purchased, installed, and configured equipment, tinkered with the equipment and processes, conducted quality control and routine testing, failed to identify business components, and failed to provide evidence of R&D activities such as the process of experimentation. Appellants argue that any research project has a number of activities that, when viewed in isolation, are not research. However, when an activity is viewed in a larger context, appellants assert that the activity is seen as part of a larger set of qualified activities allowable under the R&D credit.

Appellants assert that the R&D credit was claimed for the systematic trial-and-error that was undertaken to improve PCB's manufacturing processes and to improve and create new products. Appellants contend that PCB's improvements were not attainable without R&D activities as PCB acquired older or out-of-date facilities and, through hard work, creativity, and research and development, PCB improved its manufacturing processes, increased speed and quality, and introduced new products. Appellants assert that PCB's improved facilities were able to manufacture products at a speed and of a quality not anticipated when the facilities were originally put into service and the facilities were able to manufacture products that had not previously been produced. Appellants contend that PCB's approach was to figure out how, through research, to modify the old plants by incorporating new equipment and processes in ways that the facility was not originally designed to accommodate—to do what a modern facility is designed and built to do.

Appellants contend that the appropriate design of PCB's improved production processes was uncertain and that, in order to resolve those uncertainties, PCB undertook systematic trial-and-error in order to determine the appropriate design of the processes, what improvements could be made, and how those improvements would fit into PCB's existing processes. Appellants argue that these activities were manifested in many forms, such as the systematic trial-and-error in arranging and

locating equipment within PCB's processes, which respondent erroneously labeled as "configuring" or "tinkering" and which respondent dismissed as nonqualified activities. Appellants assert that they have only claimed research expenditures (i.e., the labor and supplies consumed in design and testing) and not 100 percent of the costs incurred (such as component parts that were not claimed).

Appellants argue that PCB improved its building products manufacturing processes across the board during the years at issue and that each facility had unique processes that did not have commercially available solutions. In other words, appellants argue that, while PCB may have purchased commercially available component parts and equipment, PCB could not and did not purchase commercially available solutions as such did not exist.

As for the existence of a particular substantiation or recordkeeping requirement, appellants contend that neither the Internal Revenue Code or the Revenue and Taxation Code contain a specific recordkeeping requirement for the R&D credit. In fact, appellants contend that the IRS considered and rejected the idea of establishing a stringent recordation requirement as being unnecessary and costly to taxpayers. (H.R. Rep. No. 106-478, at 132 (1999) (Conf. Rep., I.R.S. T.D. 9104 (2003), I.R.S. T.D. 8930 (2001)).) Appellants argue that R&TC section 23609 conforms to IRC section 41, which provides that taxpayers are bound by the general substantiation standards that apply to all taxpayers: IRC section 6001 and the relevant federal case law.

Respondent's Contentions

Respondent asserts that appellants failed to prove that PCB engaged in a process of experimentation by either not identifying activities that constitute a process of experimentation and/or by not providing documentation to establish that these activities occurred.

Respondent argues that appellants proved that PCB purchased equipment, but they did not prove that the purchases were accompanied by anything apart from installation. Respondent contends that an equipment purchase and installation is not qualified research. In other words, respondent contends that a simple change to a process by installing new, modern equipment, followed by the verification that the change worked, does not constitute a process of experimentation.

Respondent argues that the federal regulations also make clear that, when a taxpayer purchases equipment for modification, such modification might not be excluded under IRC

section 41(d)(4), but the modification in and of itself must meet the requirements of a process of experimentation. Respondent asserts that, without such documentation demonstrating that an actual process of experimentation occurred, in the aftermath of the equipment purchase and installation, such purchases of equipment in regular commercial production are excluded under IRC section 174 and are not eligible for the R&D credit under IRC section 41.

To constitute a process of experimentation, respondent contends that each discrete project's research activities must have been designed to not only test whether the alleged "modifications" satisfied appellants' needs, but to evaluate the use of the alleged modification through a sequential process of experimentation. Respondent contends that such a process would include not only planning the test, implementing the test, and collecting the data, but would also include analyzing the data collected, refining and discarding hypotheses, and progressively developing the process.

Furthermore, respondent asserts that appellants tacitly admit that they have no evidence to support such a process of experimentation. Respondent contends that appellants went to great lengths to explain orally during the various plant tours that PCB has an "informal" operation that extends to the documentation of experimentation. However, respondent alleges that insufficient evidence of such informal documentation was produced. Respondent also asserts that appellants failed in many cases to isolate the discrete business component, or to apply the shrinking-back rule to any subset of elements of the claimed business component, that might meet the requirements of IRC section 41(d).

FINDINGS OF FACT, ANALYSIS, & DISPOSITION

The briefing and contentions in this matter focus on the core issue of whether appellants have met the requirements of the four-part test under IRC section 41(d)(1) as to whether PCB was engaged in qualified research (i.e., whether each of PCB's projects constitutes a qualified research activity). More specifically, the critical issue has been whether substantially all of PCB's research activities constitute elements of a process of experimentation. (Int.Rev. Code, § 41(d)(1)(C) & (d)(3).) Our inquiry is whether appellants have provided sufficient evidence establishing a process of experimentation relating to the various projects identified. If we find in the affirmative, we must then

determine whether appellants' documentation provides sufficient evidence to substantiate or reasonably estimate appellants' claimed qualified research expenses and whether appellants' methodology provided a reasonable basis for the expenses that they allocated to each of the projects.[7]

In determining whether appellants have met their burden of proof, we note that Treasury Regulation section 1.41-(d) provides that a taxpayer claiming the R&D credit is required to *retain records in sufficiently usable form and detail to substantiate that the expenditures claimed are eligible for the credit*. The courts have explained that, when sufficient records exist, oral testimony may be relied upon to support and corroborate such evidence. For example, in *Union Carbide*, the Tax Court concluded that two of the taxpayer's projects were qualified research based upon the consideration of both documentary evidence and oral testimony. (*Union Carbide*, *supra*, at pp. 244-245, 272-273.) In *Fudim*, *McFerrin*, and *Trinity*, the courts determined that oral testimony, in support of documentary evidence already in the record, was appropriate in determining the amount of a taxpayer's qualified research expenses. (*Fudim*, *supra*, T.C. Memo 1994-235 at p. 38; *McFerrin*, *supra*, 570 F.3d at p. 679; *Trinity*, *supra*, 691 F.Supp.2d at pp. 23-24.) Accordingly, we find that it is appropriate to consider oral testimony to corroborate documentary evidence that is in the record before us.

As for reviewing the projects to determine whether PCB was engaged in a process of experimentation, Treasury Regulation section 1.41-4(a)(5)(i) states that a "process of experimentation . . . involves the identification of uncertainty concerning the development or improvement of a business component, the identification of one or more alternatives intended to eliminate that uncertainty, and the identification and the conduct of a process of evaluating the alternatives (through, for example, modeling, simulation, or a systematic trial and error methodology)." The court in *McFerrin* echoed this regulatory language. (*McFerrin*, *supra*, 570 F.3d at p. 677.) A key issue here is whether PCB, for each of its various projects, conducted a process of evaluating alternatives through modeling, simulation, or a systematic trial-and-error methodology. We note that, although the proposed IRC section 41 regulation initially defined a process of experimentation as a four-step

[7] We note that, in briefing, respondent raised other issues, such as the fixed base percentage calculation, but oral arguments and the majority of the briefing focused on the above issues. Based on the briefing and record, we are satisfied that appellants adequately substantiated their fixed base percentage.

process with a scientific method of conducting experiments, the final regulation does not require designing, or conducting, scientific experiments. (See T.D. 8930.)

Generally speaking, there are two types of business components in which a taxpayer can claim that it was engaged in qualified research: product development and process improvement. (Int.Rev. Code, § 41(d)(2).) In this appeal, but for a handful of projects in which appellants claim that PCB was engaged in product development, appellants assert that PCB's various projects were process improvements of its manufacturing processes. PCB purchased older and out-of-date facilities. Through its efforts, and as a result of its research and development, PCB was able to improve its various manufacturing processes with increased speed and at a better quality. In addition, PCB was able to manufacture products that had not previously been produced at those facilities.

We note that neither IRC section 41 nor IRC section 6001 require that taxpayers maintain a particular type of accounting system. All that is necessary is that taxpayers retain records sufficient to demonstrate that substantially all of each business component has met the Process of Experimentation Test under IRC section 41(d)(1). In making our determination, we recognize that we are not bound to accept testimony or declarations that we find conflicting or lacking in credibility; nor are we bound to reject such testimony or declarations on the basis that such were created after the years at issue. (See, e.g., *Union Carbide, supra*, T.C. Memo 2009-50 at pp. 205, 244-245, 272-273; *Shami, supra*, T.C. Memo 2012-78 at pp. 9-10.) Instead, we evaluate the documentary evidence and assess the credibility and weight to be afforded to oral testimony and declarations in order to determine whether the statutory requirements have been met.

The focus of our attention here is not on PCB's individual tasks or activities, such as purchases of equipment, but on a review of PCB's efforts in the larger context of the goals it sought to achieve: the improvement of its various manufacturing processes. As part of our analysis, we must determine whether appellants have provided sufficient evidence of a process of experimentation for the projects. After hearing extensive testimony and reviewing the documentation in the record, we find that appellants have demonstrated that PCB's activities, which predominately involve the improvement of particular manufacturing processes, were qualified activities that meet the requirements of the four-part test under IRC section 41(d)(1) for the R&D credit. Appellants

provided contemporaneous and other documentary evidence and extensive sworn oral testimony of various plant managers (and their related written declarations), which we found to be credible and persuasive. Through this evidence, appellants established that, when PCB began projects to improve a particular manufacturing process, there was uncertainty as to whether the project would be successful and, in order to resolve those uncertainties, PCB undertook systematic trial-and-error to determine the appropriate design of the process, what improvements could be made, and how those improvements would fit into PCB's existing processes.[8] In doing so, appellants established that PCB was engaged in a process of experimentation for substantially all of its research activities for its projects (other than the projects mentioned below), meeting the Process of Experimentation Test under IRC section 41(d).

With the foregoing in mind, we make the following additional findings:

(1) For the years at issue, appellants are not entitled to an R&D credit with respect to Projects 18, 20, 21, and 27, and for any expenses claimed for those projects, because those projects took place outside of the tax years at issue in this appeal;

(2) No credit is available with respect to the expenses which were claimed before and/or after project start and end dates for various projects; and

(3) Appellants have established a nexus between the qualified research and the claimed expenses for ninety percent (90%) of the remaining expenses claimed during the appeal years.

(4) With these adjustments, appellants' claims for refund are otherwise granted.

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[8] As for the few projects in which PCB was engaged in product development, we reach the same conclusion. Based upon the evidence provided, appellants established that PCB was engaged in a process of experimentation in developing these products and that these activities met the four-part test under IRC section 41(d)(1) for the R&D credit.

With regard to the second finding above, the following claimed expenses are not eligible for the R&D credit:

Project	Fiscal Years for this Project	Expenses Claimed in Fiscal Years Outside of the Project Years
11	2002	$79,804 (1999) $43,504 (2000) $166,747 (2001)
13	2000-2001	$399,018 (1999)
20	2005	$34,266 (2004)
21	1998	$102,605 (1999)
22	2000	$68,403 (1999) $75,036 (2001)
23	2000	$57,003 (1999)
25	2002	$255,137 (2003)
28	2000-2003	$760,035 (1999)
32	2000	$106,405 (1999)
33	2000	$141,735 (2001)
35	2000-2004	$155,807 (1999)
39	1997-1999	$247,636 (2000)
45	2000	$106,405 (1999)
47	1999	$56,889 (2000)
54	2000-2004	$623,228 (1999)
56	2004-2006	$214,172 (2000)
59	2003-2006	$125,060 (2001) $237,114 (2002)
61	2003	$26,358 (2004)
Total		$4,082,367

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ORDER

It is hereby ordered that appellants' claims for refund, with the adjustments delineated above, be granted. Adopted at Sacramento, California, this 25th day of February, 2014.

Jerome E. Horton, Chairman

Michelle Steel, Member

Betty T. Yee, Member

George Runner, Member

Marcy Jo Mandel, Member*

*For John Chiang, pursuant to Government Code section 7.9.