An Overview of the California Research and Development Credit

The California research and development credit is frequently a high-ticket item for taxpayers. Indeed, according to the California Franchise Tax Board’s (FTB) 2017 Annual Report, $1,440,103,626 of corporation tax research credits were allowed in 2016, which was 72.5% of total corporation tax credits allowed for that year. This article provides an overview of the major provisions and common issues regarding claiming and defending the research credit on audit.

The Basic Requirements for the California Research Credit

Internal Revenue Code (IRC) Section 41 generally provides for a federal research credit based on a taxpayer’s qualified research expenditures for a tax year which exceed its base amount for that year, or basic research payments. California conforms to the definitions found in IRC Section 41 as of January 1, 2015, as modified, for both corporations and individuals. The corporate research credit is found in California Revenue and Taxation Code §23609. Accordingly, and generally following federal law, in order for a taxpayer to qualify for the California research credit, the activity initially must satisfy a four-part test based upon IRC Section 41. An activity that fails any part of the four-part test is not eligible for the California credit:

- the research must have qualified as a business deduction under IRC Section 174;
- the research must be undertaken to "discover information which is technological in nature;"
• the taxpayer must intend to use the information to develop a new or improved business component;\(^7\)

and

• the taxpayer must pursue a "process of experimentation" for "substantially all of the research activities."\(^8\)

As a result of conformity to IRC Section 41, the basic California analysis of these four parts essentially tracks federal law.

Under the "Section 174 Test," a qualified expense must be (1) an expenditure incurred in connection with the taxpayer's trade or business, and (2) represent a research or development cost in the experimental or laboratory sense.\(^9\) An activity that is intended to discover information that would eliminate "uncertainty" concerning the development or improvement of a product is a qualified expenditure.\(^10\) A "product" is defined to include a process, formula, invention, and technique used in the taxpayer's business.\(^11\) "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.\(^12\)

Under the “Technological Information Test,” a taxpayer must show that the process of experimentation used to discover technological information fundamentally relies on principles of the physical or biological sciences, engineering, or computer sciences,\(^13\) i.e., what the FTB refers to as the "hard sciences."\(^14\) This requirement can be satisfied even where the taxpayer employs existing technologies or relies on existing principles of the physical or biological sciences, engineering, or computer science.\(^15\)

Under the "Business Component Test," the information to be discovered must be applied to a new or improved business component.\(^16\) "Business component" means any product, process, computer software, technique, formula, or invention which is to be held for sale, lease, or license or be used by the taxpayer in its trade or business.\(^17\) All research claimed must be tied to a relevant business component\(^18\) or, as stated by the FTB, "The four-part test must be applied separately to each business component of the taxpayer."\(^19\)

Under the "Process of Experimentation Test," substantially all the research activities must constitute elements of a process of experimentation related to a qualified purpose.\(^20\) A "process of experimentation" must (1) identify an uncertainty relating to the development or improvement of a business component, (2) identify one or more alternatives intended to eliminate that uncertainty, and (3) identify and conduct a process of evaluating the alternatives.\(^21\) A process of experimentation relates to a qualified purpose if it relates to a new or improved function, performance, reliability, or quality of the business component.\(^22\) "Substantially all" means that 80% 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, and is applied to each business component individually.\textsuperscript{23}

Although the California research credit largely tracks the federal credit, there are nevertheless a number of significant differences—some of which are the result of (current) California-to-federal conformity only extending through January 1, 2015, and others which are the result of intentional differences in the law by the California Legislature. The major differences between the federal and California provisions are the following:

1. "Basic research" and "qualified research" must be conducted in California to qualify.\textsuperscript{24}
2. The credit is 15\% of the excess of qualified research expenses for the taxable year over the base period research expenses, plus a credit for 24\% of basic research payments.\textsuperscript{25}
3. For purposes of computing the credit, all members of a controlled group of corporations, as defined in IRC Section 41(f)(5), and all members of a group of businesses under common control, are treated as a single taxpayer. The credit allowed for each member is based on its proportionate shares of the group's qualified research expenses and basic research payments.\textsuperscript{26}
4. California conforms to the federal Alternative Incremental Credit, except for some differences in the rates. However, California requires a separate election from that of federal. The election must be made on a timely filed original tax return for the taxable year to which the election applies and, once made, the election continues to apply to the current taxable year and all later years unless the taxpayer receives the FTB's consent to revoke the election.\textsuperscript{27}
5. The federal Alternative Simplified Credit is not available (because California has not conformed to the 2006 federal amendments to IRC Section 41).\textsuperscript{28}
6. California does not conform to the federal definition of "gross receipts," and instead uses a modified definition.\textsuperscript{29}
7. The credit cannot be carried back, but can be carried over indefinitely (i.e., the credit has no termination date for California purposes). The credit is not refundable.\textsuperscript{30}
8. Credits earned by members of a combined reporting group may be assigned by election to an affiliate corporation that is an eligible member of the same combined reporting group.\textsuperscript{31}
9. The research credit can reduce tax below the tentative minimum tax.\textsuperscript{32}

Following A Federal Determination

A taxpayer is not required to claim the federal research credit in order to claim the California research credit. (The California corporate tax credit is claimed separately on FTB Form 3523.) However, because a
California taxpayer routinely will claim both the federal and California credits, a common issue is when, and to what extent, the FTB will follow a federal research credit determination.

The FTB states that "[i]t has always been FTB's practice to follow an on-point federal determination in the context of a research credit claim," subject to differences between California and federal law. Because such law differences generally do not relate to the basic four-part analysis above, "the overall Internal Revenue Service (IRS) determination regarding engagement in qualified research activities should remain untouched in these circumstances." However, the FTB "will" need to request information to determine how to apply the IRS analysis to California research.

What if the issue was not examined by the IRS? If the IRS in an audit did not inquire into or examine the federal research credit, there is no "on-point examination" of the issue for the FTB to follow. What if there is no change by the IRS after examining the issue? The FTB states it will generally accept a federal "no change" determination if the research credit was examined and the taxpayer can show the federal research activity is substantially similar to California research activity.

What if the federal audit of the issue was for a different year? Where there has been a federal action in a year other than the FTB year at issue, the FTB states its staff "should" follow that determination if the year is "substantially similar" to the year at issue. This "substantially similar" situation commonly occurs in practice because the IRS federal research credit audit for the same tax period is often still open at the time a California audit (and statute) is closing, so the only "final" federal research determination would be one from a prior year. Finally, the FTB states it has "streamlined" its process for instances where it is mutually beneficial for the parties to use a closing agreement in federal action research credit cases.

**Approaches and Issues**

Qualified research expense equals the sum of in-house research expenses and contract research expenses. Documenting the credit involves a two-step process.

First, the activity itself must fall within the four-part test set forth above. Typically, that activity is organized, tracked, and described by research project/initiative, often where multiple departments work on one or more projects. However, it is also possible to approach the issue under a non-project methodology, such as by research entity/department.
Second, once the activity is found to be qualified research, *the precise amount of expenditures*—Qualified Research Expenditures or QREs—must be determined. For both steps, the burden falls upon the taxpayer.

Issues here involving in-house research expenses are common. For purposes of computing the research credit, employee compensation must be directly related to the research activities and be paid by the taxpayer. It must also be determined whether 80% or more of the taxpayer’s research activities, measured on QRE cost basis, satisfy the "substantially all" Process of Experimentation Test. Whether a taxpayer has undertaken a process of experimentation is a facts-and-circumstances determination. For example, assume four research tasks for (single) Research Initiative X with the following QREs:

- Task A—No experimentation: $100 QRE
- Task B—Experimentation: $100 QRE
- Task C—No experimentation: $50 QRE
- Task D—Experimentation: $800 QRE

Total QREs are $1,050, of which $900, or 86%, are for experimentation. Accordingly, the "substantiality all" requirement of the Process of Experimentation Test is satisfied for Research Initiative X. Of course, a key component of this type of analysis is to substantiate that the research tasks performed by the employee are "qualified," such that the employee’s compensation constitutes a QRE. Items which are considered compensation for purposes of determining the credit include—but are not limited to—salaries, wages, and taxable income for non-qualifying stock plans or disqualifying dispositions of incentive stock options. Deferred compensation and fringe benefits (such as health benefits) are not qualifying expenditures.

As is the case involving many disputes with the FTB, the key issue in nearly all research credit audits is whether, in the (subjective) eyes of the FTB, the taxpayer has carried its burden of proof. The general principle is that a determination by the FTB is presumed correct and a taxpayer has the burden of proving it to be incorrect. Unsupported assertions are not sufficient to satisfy a taxpayer's burden of proof. A taxpayer must maintain records "in sufficiently useable form and detail to substantiate that the expenditures claims qualify for the credit." The FTB also looks to federal law regarding recordkeeping requirements for research credit claims.

An interesting point here is that the FTB seeks "contemporaneous" documentation, a requirement which, in this author’s view, has little to no support in the law. In any event, the FTB recognizes that each case is unique, and "[t]he taxpayer's situation determines what documentation is necessary." Just as at the federal level, principles of materiality, and of estimating, may also come into play. Finally, the FTB takes
the position that statutes granting tax credits are to be construed strictly against the taxpayer with any
doubts resolved in the FTB’s favor.\textsuperscript{50}

There is very little decisional law regarding application of the California credit. However, a review of three
administrative decisions provides an overview of the typical issues and analysis. As will be seen, California
research credit cases are largely disputes over the quality and quantity of the evidence provided by the
taxpayer and whether that evidence is sufficient to carry the taxpayer’s burden of proof. In other words,
there are few pure "legal" issues involving the audit of a California research credit, as compared to
substantiation issues.

In \textit{Appeal of Pacific Southwest Container, Inc. et al.},\textsuperscript{51} the State Board of Equalization (SBE) granted in full
the taxpayer’s claims for refund where both “qualified research” and “qualified expense” were in dispute. On
the first point, the dispute focused on whether the taxpayer, which manufactured boxes and packing
materials, was required to examine the activity of each research project or whether preparing a study that
identified categories of qualifying activities without tying them to specific projects was sufficient. On the
second point, the taxpayer had argued that it had demonstrated qualified research expenses through
written testimony accompanied by 13 binders of representative samples of testing and design
documentation, interview transcripts, a tour of the taxpayer’s facilities, and signed declarations by key
employees. On both points, the FTB questioned the veracity and weight of the
taxpayer’s submissions,
argued some was a reconstruction of expenses made “years after the fact,” and argued the taxpayer was
offering a non-contemporaneous credit study that failed to address specific qualified research activities.

The SBE’s decision in favor of the taxpayer was issued by letter which provided no analysis for why the
taxpayer’s arguments were accepted and those of the FTB were rejected. However, a lengthy Hearing
Summary prepared by SBE staff is available to summarize the law and the arguments of the parties. It is
sufficient to say that \textit{Pacific Southwest Container} is illustrative of the burden-of-proof hoops a taxpayer may
be required to jump through in order to prevail, and how it is often necessary to have the case heard at a
level above the FTB—here by the SBE, and now by the newly created Office of Tax Appeals.\textsuperscript{52}

In \textit{Appeal of Pacific Coast Building Products, Inc.},\textsuperscript{53} the SBE allowed the research credit for 90% of the
expenses during the period in issue. The major legal issue, on which the taxpayer largely prevailed, was
whether its purchase and verification of new equipment, and then improvements made by trial-and-error to
the manufacturing process for building products, constituted a “process of experimentation.” However, a
secondary issue was, once again, burden of proof, in which “none” of the taxpayer’s submitted evidence of
project binders and other documents, written declarations of plant managers, and plant tours "was deemed acceptable to respondent [the FTB]."

In finding for the taxpayer, the SBE found it was appropriate to consider oral testimony as well as written submissions, noted the law does not require that taxpayers maintain a particular type of accounting system, and stated that "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."

Finally, in *Appeal of Kenneth Cook and Margery Cook*,\(^4\) the SBE held in favor of the FTB and concluded that the taxpayers had not provided research documentation to substantiate that the Business Component Test had been satisfied. The taxpayers provided services on vibration monitoring systems for rotating machinery and had filed relatively small dollar refund claims seeking the research credit. After not receiving responses to two of three document requests sent during audit, the FTB denied the refund claim and the taxpayers appealed.

On appeal, the SBE agreed with the FTB, stating that the taxpayers did not explain how their services could not otherwise have been undertaken as part of their normal business operations but for the (unsubstantiated) claimed research activities, and there was no evidence showing any new or improved business component. Because the Business Component Test was not met, the SBE saw no reason to discuss the remaining three requirements for qualified research.

**Concluding Thoughts**

The complexity and nuances of the research credit are principally found in the federal law as incorporated into the California §23663 research credit law—not in the "California-only" provisions or where federal conformity is lacking. Nonetheless, without the benefit of an "on-point" federal determination which can be followed by California, California research audits largely just applying federal law to California activities often turn into complex and time-consuming exercises as a result of the burden-of-proof issues.


2. Cal. Rev. & Tax. Code §23051.5 and §17024.5.


10 Id.


16 IRC Section 41(d)(1)(B)(ii).

17 IRC Section 41(d)(2)(B).

18 Treas. Reg. 1.41-4(b)(1).


20 IRC Section 41(d)(1)(C).


23 Treas. Reg. 1.41-4(a)(6).


25 Cal. Rev. & Tax. Code §23609. See also 2018 Instructions for Form FTB 3523–General Information.

26 See 2018 Instructions for Form FTB 3523, Part I–Credit Computation.
27 See 2018 Instructions for Form FTB 3523, Section B, Alternative Incremental Credit; and General Information. Taxpayers then use a smaller three-tiered fixed-base percentage and a reduced three-tiered credit rate (1.49%, 1.98% and 2.48%).

28 "Research & Development Credit: Frequently Asked Questions," FTB 1082 (REV 02-2008).

29 See FTB Legal Division Guidance 2012-03-01. Also, a taxpayer with qualified research expenses and zero California gross receipts can still claim the regular Incremental Research Credit.


31 Cal. Rev. & Tax. Code §23663; see also FTB 2018 Form 3544 Election to Assign Credit Within Combined Reporting Group, or Form 3544A, List of Assigned Credit Received and/or Claimed by Assignee. If assigning credit under §23663, both the assignor and assignee must file their applicable forms. The assignor must file form FTB 3544 when assigning the credit and the assignee must file form FTB 3544A when receiving/claiming the assigned credit.


33 FTB Tax News, November 2014, Chief Counsel Corner, "Following Federal in a Research Credit Case."

34 Id.

35 Id.

36 FTB Tax News, May 2015, Chief Counsel Corner, "Following A Federal Determination for Research Credit Cases."

37 FTB Tax News, November 2014, Chief Counsel Corner, "Following Federal in a Research Credit Case."

38 Id.

39 FTB Tax News, May 2015, Chief Counsel Corner, "Following a Federal Determination for Research Credit Cases."

40 IRC Section 41(b)(1).

41 IRC Section 41(b)(2).

42 FTB Multistate Audit Technique Manual, Section 9140, Research Expenses Credits.


44 Appeal of Aaron and Eloise Magidow, 82-SBE-274, Nov. 17, 1982.
As to estimating, see, e.g., *Fudim v. Commissioner*, T.C. Memo 1994-235; *Union Carbide v. Commissioner*, T.C. Mem. 2009-50, *aff'd*, 697 F.3d 104 (2d Cir. 2012), *cert. denied*, 133 S. Ct. 1626 (2013); *Cohan v. Commissioner*, 39 F.2d 540, 543-544 (2d Cir. 1930). As to materiality, small claimed amounts are typically ignored at audit, e.g., claims of QRE amounts under $100,000 per credit year.

See *Dicon Fiberoptics, Inc. v. Franchise Tax Board*, 53 Cal. 4th 1227, 1236 (2012).


For the story behind the recent creation of the Office of Tax Appeals and the transfer to it of the appellate functions previously held by the SBE, see Coffill and Gustafson, "California's Altered Tax Landscape," 27 JMT 6 (January 2018).
