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Research and Development Expenditures and claiming the Research and Development Tax Credit

The R&D tax credit was made permanent effective January 1, 2015. Taxpayers are now also allowed to amend previously filed returns to claim the Alternative Simplified Credit (ASC). The ASC is equal to 14% of the excess of the Qualified Research Expenses (QREs) for the tax year over 50% of the average QREs for the three prior tax years. If there were no QREs in those prior years, then the credit is 6% of the current year QREs.

Qualified Research Expenditures are reasonable costs incurred in a business for activities intended to provide information to help eliminate uncertainty about the development or improvement of a product, process, formula, invention, patent, or technique. This also includes software development for interaction with customers. Expenditures can be expensed in the current year or capitalized and amortized. The 2017 Tax Reform and Jobs Act kept the provisions of the permanent credit, but starting in years beginning after December 31, 2021, the expenditures will need to be capitalized and amortized. With that in mind, it would be most beneficial to accelerate planned R&D activities.

Product improvements could include design or formula changes to improve product strength, impact resistance, extend product life, or similar enhancement.

Process improvements may include equipment modifications to decrease down time, increase machine run rates, minimize assembly time, or reduce material scrap, to name just a few examples.

All research projects must meet the following four tests to be qualified as research:

1. **Started for the purpose of discovering information which is technological in nature**

   - Research is undertaken for the purpose of discovering information if it is intended to eliminate uncertainty concerning the development or improvement of a business component. Uncertainty exists if the information available to the taxpayer does not establish the capability or method for developing or improving the business component, or the appropriate design of the business component.

2. **The application of which is intended to be useful in the development of a new or improved business component of the taxpayer**

   - Research is undertaken for the purpose of discovering information if it is intended to eliminate uncertainty concerning the development or improvement of a business component. Uncertainty exists if the information available to the taxpayer does not establish the capability or method for developing or improving the business component, or the appropriate design of the business component. The term “business component” means any product, process, computer software, technique, formula, or invention that is to be held for sale, lease, or license. A production process or manufacturing technique may also be a business component.
   - Research related to making the product or process cheaper, greener, cleaner, and quicker are all process improvements for a business component.

- A taxpayer must be able to tie the research it is claiming for the credit to the relevant business component. The 'substantially all' test is applied at the business component level.

3. **A process of experimentation for a qualified purpose**

   - 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.
   - The steps of a process of experimentation are:
     - Identify the uncertainty;
     - Identify the alternatives intended to eliminate the uncertainty;
     - Identify and conduct a process of evaluating the alternatives.

4. **Expenditures (QREs)**

   - Must be incurred in connection with the taxpayer's trade or business.
   - Must represent a research and development cost in the experimental or laboratory sense.
   - QREs can include wages paid to employees or self-employed individuals, supplies used, amounts paid for the right to use computers, and amounts paid to third parties to perform research. Wage QREs can include amounts for engaging in qualified research, direct supervision, or support of QRAs.

Not all expenses incurred during product or process improvement projects are expenditures eligible toward the credit. An example of the development activities of a new project and their eligibility as a Qualified Research Activity (QRA) is:

1. Research existing technological information **(ineligible activity)**.
2. Economic Evaluation – including budget and business plan **(ineligible activity)**.
3. Modeling – usually developing a number of conceptual designs and feasibility studies, testing, and modification until a final workable design is established **(qualified research activity)**.
4. Prototyping and Trialing – could discover additional information resulting in improvements in original design which would result in the prototype being sent back to the design and modeling phase **(qualified research activity)**.
5. Procurement – research for the components needed for production **(ineligible activity)**.
6. Commercial production **(ineligible activity)**.

To claim a research credit, taxpayers must evaluate and appropriately document their research activities over a period of time to establish the amount of qualified research expenses paid for each qualified research activity. While taxpayers may estimate some research expenses, taxpayers must have factual basis for the assumptions used to create the estimates.

When documenting the Research activities and qualified expenditures, the information should be organized by project and employee-by-employee. The cost of materials and supplies as well as contract research expenditures should be recorded. The time and materials should be recorded by activity and totaled by qualified and non-qualified activities. Many companies use a job cost type system to record the labor, materials, and contract research by each project undertaken. Others document the costs in spreadsheets. Whatever the method used, the costs should be tied to the project development phases. Modeling and prototyping are the qualified activities where the related costs will be used to calculate the credit. Additionally, a thorough description of the uncertainties at the onset of the project along with the identified solutions should be documented along with any design drawings, screenshots of computer simulations, photos of prototypes, business plans, etc. The purpose is to document not only the costs but how the research meets the four tests that qualify it as a research activity for the tax credit. To make sure that all the information is captured, it is best to document the activities as the project progresses.

SAMPLE PROJECT LOG

A Project log would ideally state the project number, name, type of improvement, the original uncertainty, technology used, and a task list of the process of experimentation. A project cost sheet should list the employee and the number of hours spent on each task, as well as the cost of materials and supplies used on the task.

Project #	Project Name	Type	Description of New/Improved	Technical Uncertainty (Challenges)	Technological in Nature	Process of Experimentation
18-01	New Long Life Battery	Product	Battery will be new to market and will have a 15% longer life than other batteries	Can battery life be extended?	Chemical and Mechanical Engineering	Modeling task list prototyping and trialing task list
18-02	Redesign Die for product X 's	Process	Reduce scrap during production of product X	Can a change in layout/nesting reduce foam scrap?	Engineering	Modeling task list prototyping and trialing task list