

[4830-01-u]

DEPARTMENT OF THE TREASURY

Internal Revenue Service

26 CFR Parts 1 and 602

[TD 8930]

RINs 1545-AV14 and 1545-A051

Credit for Increasing Research Activities

AGENCY: Internal Revenue Service (IRS), Treasury.

ACTION: Final regulations.

SUMMARY: This document contains final regulations relating to the computation of the credit under section 41(c) and the definition of qualified research under section 41(d). These regulations are intended to provide guidance concerning the requirements necessary to qualify for the credit for increasing research activities, guidance in computing the credit for increasing research activities, and rules for electing and revoking the election of the alternative incremental credit. These regulations reflect changes to section 41 made by the Tax Reform Act of 1986 (the 1986 Act), the Revenue Reconciliation Act of 1989, the Small Business Job Protection Act of 1996, the Taxpayer Relief Act of 1997, the Tax and Trade Relief Extension Act of 1998 (the 1998 Act), and the Tax Relief Extension Act of 1999 (the 1999 Act). These regulations also provide certain technical amendments to the existing regulations.

DATES: Effective Dates: These regulations are effective January 3, 2001.

Applicability Dates: For dates of applicability of these regulations, see Effective Dates under SUPPLEMENTARY INFORMATION. FOR FURTHER INFORMATION CONTACT: Lisa J. Shuman or Leslie H. Finlow at (202)622-3120 (not a toll-free number). SUPPLEMENTARY INFORMATION:

**Paperwork Reduction Act**

The collections of information contained in §1.41-8(b) of this final rule have been reviewed and approved by the Office of Management and Budget in accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3507) under the number 1545-1625. Responses to these collections of information are mandatory.

The reporting burden contained in §1.41-8(b)(2) (relating to the election of the alternative incremental credit) is reflected in the burden of Form 6765.

Estimated average annual burden hours per respondent under §1.41-8(b)(3) (relating to the revocation of the election to use the alternative incremental credit) is 250 hours.

Comments concerning the accuracy of this burden estimate and suggestions for reducing this burden should be sent to the **Internal Revenue Service**, Attn: IRS Reports Clearance Officer, W:CAR:MP:FP:S:O, Washington, DC 20224, and to the **Office of Management and Budget**, Attn: Desk Officer for the Department of the Treasury, Office of Information and Regulatory Affairs, Washington, DC 20503.

The collections of information contained in §1.41-4(d) of this final rule have been reviewed and, pending receipt and

evaluation of public comments, approved by the Office of Management and Budget (OMB) under 44 U.S.C. 3507 and assigned control number 1545-1625. This information is required to assist in the examination of the research credit and to ensure that the research credit is properly targeted to serve as an incentive to engage in qualified research. This information will be used to verify that the amounts treated as qualified research expenses were paid or incurred for activities intended to discover information that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field of science or engineering. This collection of information is required to obtain a benefit. The likely recordkeepers are businesses or other for-profit institutions.

Estimated total annual recordkeeping burden for §1.41-4(d) is 18,000 hours. The annual estimated burden per respondent varies from .5 hours to 2.5 hours, depending on the circumstances, with an estimated average of 1.5 hours.

The estimated number of recordkeepers is 12,000.

Comments on the collection of information should be sent to the **Office of Management and Budget**, Attn: Desk Officer for the Department of the Treasury, Office of Information and Regulatory Affairs, Washington, DC 20503, with copies to the **Internal Revenue Service**, Attn: IRS Reports Clearance Officer, W:CAR:MP:FP:S:O, Washington, DC 20224. Comments on the collection of information should be received by March 4, 2001. Comments are specifically requested concerning:

Whether the collection of information is necessary for the proper performance of the functions of the Internal Revenue Service, including whether the information will have practical utility;

The accuracy of the estimated burden associated with the collection of information (see below);

How the quality, utility, and clarity of the information to be collected may be enhanced;

How the burden of complying with the collection of information may be minimized, including through the application of automated collection techniques or other forms of information technology; and

Estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid control number assigned by the Office of Management and Budget.

Books or records relating to a collection of information must be retained as long as their contents may become material in the administration of any internal revenue law. Generally, tax returns and tax return information are confidential, as required by 26 U.S.C. 6103.

**Background**

On January 2, 1997, the IRS and Treasury published in the **Federal Register** (62 FR 81) a notice of proposed rulemaking (REG-209494-90, 1997-1 C.B. 723) under section 41 describing when computer software that is developed by (or for the benefit of) a taxpayer primarily for the taxpayer's internal use can qualify for the credit for increasing research activities (the 1997 proposed regulations). Comments responding to the 1997 proposed regulations were received and a public hearing was held on May 13, 1997.

On December 2, 1998, the IRS and Treasury published in the **Federal Register** (63 FR 66503) a notice of proposed rulemaking (REG-105170-97, 1998-50 I.R.B. 10) under section 41 relating to the credit for increasing research activities (the 1998 proposed regulations). The 1998 proposed regulations propose rules and examples relating to (1) the definition of gross receipts for purposes of computing the base amount under section 41(c), (2) the application of the consistency rule in computing the base amount, (3) the definition of qualified research under section 41(d), (4) the application of the exclusions from the definition of qualified research, (5) the application of the shrinking-back rule, and (6) the election of the alternative incremental credit. The 1998 proposed regulations also propose certain technical amendments to the existing regulations. Comments responding to the 1998 proposed regulations were received and a public hearing was held on April 29, 1999.

In the 1999 Act, Congress extended the credit for a five-year period. The Conference Report accompanying the 1999 Act included the following language addressing the proposed regulations:

In extending the research credit, the conferees are concerned that the definition of qualified research be administered in a manner that is consistent with the intent Congress has expressed in enacting and extending the research credit. The conferees urge the Secretary to consider carefully the comments he has and may receive regarding the proposed regulations relating to the computation of the credit under section 41(c) and the definition of qualified research under section 41(d), particularly regarding the "common knowledge" standard. The conferees further note the rapid pace of technological advance, especially in service-related industries, and urge the Secretary to consider carefully the comments he has and may receive in promulgating regulations in connection with what constitutes "internal use" with regard to software expenditures. The conferees also wish to observe that software research, that otherwise satisfies the requirements of section 41, which is undertaken to support the provision of a service, should not be deemed "internal use" solely because the business component involves the provision of a service.

The conferees wish to reaffirm that qualified research is research undertaken for the purpose of discovering new information which is technological in nature. For purposes of applying this definition, new information is information that is new to the taxpayer, is not freely available to the general public, and otherwise satisfies the requirements of section 41. Employing existing technologies in a particular field or relying on existing principles of engineering or science is qualified research, if such activities are otherwise undertaken for purposes of discovering information and satisfy the other requirements of section 41.

The conferees also are concerned about unnecessary and costly taxpayer record keeping burdens and reaffirm that eligibility for the credit is not intended to be contingent on meeting unreasonable record keeping requirements.

After considering the comments received, the statements made at the public hearings, and the legislative history for the research credit, the proposed regulations are adopted as revised by this Treasury decision.

### **Explanation of Provisions**

This document amends 26 CFR part 1 to provide additional rules under section 41. Section 41 contains the rules for the credit for increasing research activities.

#### I. Basic Principles

A number of commentators objected to the inclusion of the basic principles statement in §1.41-1(a) of the proposed regulations. They stated that the inclusion of a basic principles section was unusual, and that the basic principles section could be read to impose additional and unwarranted conditions for credit eligibility. In response to these comments, and because IRS and Treasury have concluded that the requisite principles are adequately reflected in the provisions of the regulations, the final regulations omit a separate statement of basic principles. The clarifications that the credit may be available where the technological advance sought is evolutionary, where the taxpayer is not the first to achieve the advance, and where the taxpayer fails to achieve the intended advance have been incorporated elsewhere in the regulations.

#### II. Gross Receipts

When Congress revised the computation of the research credit to incorporate a taxpayer's gross receipts, neither the statute

nor the legislative history defined the term gross receipts, other than to provide that gross receipts for any taxable year are reduced by returns and allowances made during the tax year, and, in the case of a foreign corporation, that only gross receipts effectively connected with the conduct of a trade or business within the United States are taken into account. See section 41(c)(6).

The proposed regulations generally defined gross receipts as the total amount derived by a taxpayer from all activities and sources. However, in recognition of the fact that certain extraordinary gross receipts might not be taken into account when a business determines its research budget, the proposed regulations provided that certain extraordinary items (such as receipts from the sale or exchange of capital assets) would be excluded from the computation of gross receipts.

Several commentators objected to the definition of gross receipts in the proposed regulations. Referring to the inclusion in a House Budget Report of the term sales growth as an apparent short-hand reference to an increase in gross receipts, some commentators argued that gross receipts should be limited to income from sales. See H.R. Rep. No. 101-247, at 1200 (1989). In determining its research budget, however, a business may take into account any expected income stream, regardless of whether or not the income is derived from sales or from other active business activities. Moreover, many businesses do not generate



any income in the form of sales. Accordingly, the final regulations do not adopt this suggestion.

The final regulations also do not adopt suggestions that the definition of gross receipts be narrowed to exclude those items not directly related to the conduct of the taxpayer's trade or business. As noted above, any expected income stream may be taken into account in determining a business' research budget, regardless of the source of the income. Moreover, IRS and Treasury believe that a subjective narrowing of the term gross receipts, as suggested by these commentators, could leave the definition of the term, and thus the computation of the base amount, vulnerable to manipulation.

For example, a narrower definition allowing taxpayers to exclude items not derived in the ordinary course of business might prompt a taxpayer to assert that certain royalties received in the 1980s were derived in the ordinary course of business and are includible as gross receipts (thus decreasing the taxpayer's fixed-base percentage), but that certain interest income received in the years preceding the credit year was not derived in the ordinary course of business and was not includible in gross receipts (thus decreasing the base amount). Nor would a rule of consistency be effective in preventing such manipulation. While the taxpayer described above would be characterizing the nature of its income items as derived or not derived in the ordinary course of a trade or business so as to maximize the amount of the

credit, the taxpayer would not be taking inconsistent positions with respect to the same items of income.

Several commentators objected to the definition of gross receipts in the proposed regulations as it applies to start-up firms with pre-operating interest income. If pre-operating interest income is treated as a gross receipt, many start-up firms would be precluded from using the start-up rules to compute their fixed-base percentages, because the application of the start-up rules is conditioned on a taxpayer not having both gross receipts and qualified research expenses in certain taxable years during the 1980s. Moreover, because a start-up firm whose only gross receipt is pre-operating interest income likely would have significant qualified research expenses relative to gross receipts (and thus a high fixed-base percentage), such a firm likely would derive less benefit from the credit.

IRS and Treasury recognize that the start-up rules appear to contemplate that there will be years in which a taxpayer has qualified research expenses but no gross receipts. However, it would be difficult to conceive of such a year if gross receipts are defined to include pre-operating investment income. To address these concerns and pursuant to the regulatory authority of section 41(c)(3)(B)(iii), the final regulations exclude from the definition of gross receipts any income received by a taxpayer in a taxable year that precedes the first taxable year in which the taxpayer derives more than \$25,000 in gross receipts other than investment income. For this purpose, investment

income is defined as interest or distributions with respect to stock (other than the stock of a 20-percent owned corporation as defined in section 243(c)(2) of the Code).

Some commentators suggested that the definition of gross receipts should be clarified to exclude certain payments made by pharmaceutical manufacturers to various insurers, managed care organizations and state governments. The final regulations do not adopt any provision specifically addressing such payments.

### III. The Discovery Requirement

To qualify for the research credit, section 41(d) requires that a taxpayer undertake research for the purpose of discovering information which is technological in nature, and the application of which is intended to be useful in the development of a new or improved business component of the taxpayer. Section 1.41-4(a)(3) of the proposed regulations defines the phrase discovering information as obtaining knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in a particular field of science or engineering.

Commentators criticized this definition of discovering information, arguing that the definition imposes a discovery requirement that was not mandated by the statute. Commentators suggested that the phrase discovering information, as used in the statute, was not intended as an additional requirement, but was simply used as a phrase to link the term research with the types of information required as the subject of the research. Commentators argued that a taxpayer who seeks to resolve its own

subjective uncertainty as to the information at issue is undertaking sufficient discovery for purposes of section 41(d).

Consistent with the legislative history and case law as described below, however, IRS and Treasury continue to believe that section 41 conditions credit eligibility on an attempt to discover information that goes beyond the common knowledge of skilled professionals in the particular field of science or engineering.

The legislative history to the 1986 Act, which narrowed the definition of the term qualified research, explained that Congress had originally enacted the research credit to encourage business firms to perform the research necessary to increase the innovative qualities and efficiency of the U.S. economy. H.R. Rep. No. 99-426, at 177-78; S. Rep. No. 99-313, at 694-95. Congress was concerned that taxpayers had applied the original definition of qualified research "too broadly," that some taxpayers had claimed the credit for "virtually any expenses relating to product development" and that many of these taxpayers were "in industries that do not involve high technology or its application in developing technologically new and improved products or methods of production." Id. In an illustration of the changes enacted, the legislative history explained that, under the new definition: "Research does not rely on the principles of computer science merely because a computer is employed. Research may be treated as undertaken to discover information that is technological in nature, however, if the

research is intended to expand or refine existing principles of computer science." H.R. Conf. Rep. No. 99-841, at II-71 n.3 (1986) (emphasis added).

Following the 1986 Act changes to the credit, a discovery requirement has been applied in several recent cases. See, e.g., United Stationers, Inc. v. United States, 163 F.3d 440 (7th Cir. 1998), Norwest v. Commissioner, 110 T.C. 454 (1998), and WICOR, Inc. v. United States, 116 F. Supp. 2d 1028 (E.D. Wis. 2000).

In reaffirming the scope of the term qualified research, the Conference Report to the 1998 Act noted that:

evolutionary research activities intended to improve functionality, performance, reliability, or quality are eligible for the credit, as are research activities intended to achieve a result that has already been achieved by other persons but is not yet within the common knowledge (e.g., freely available to the general public) of the field (provided that the research otherwise meets the requirements of section 41, including not being excluded by subsection (d)(4)).

H.R. Conf. Rep. No. 105-825, at 1548 (1998) (emphasis added). In particular, it is noteworthy that the conferees clarified that the credit is available for research intended to achieve a result that has been achieved by others but is not yet within the common knowledge. The negative inference is that the credit is not available for research intended to achieve a result that has been achieved by others and is within the common knowledge of the field.

The discovery requirement as set forth in the final regulations also is consistent with the legislative history to the 1999 Act (the text of which is set forth above under

**Background**). In that legislative history, for example, the conferees stated that:

[e]mploying existing technologies in a particular field or relying on existing principles of engineering or science is qualified research, if such activities are otherwise undertaken for purposes of discovering information and satisfy the other requirements under section 41.

H.R. Conf. Rep. No. 106-478, at 132 (emphasis added). By referring separately to a requirement that the research be undertaken for purposes of discovering information, this legislative history again confirmed that the phrase "discovering information" is a separate substantive requirement and not merely a phrase used to link the term research with the types of information required as the subject of the research.

In light of the case law and the legislative history, the final regulations retain the requirement that a taxpayer seek to discover information that exceeds, expands, or refines the common knowledge of skilled professionals in the particular field of science or engineering. However, consistent with the legislative history to the 1999 Act, IRS and Treasury have carefully considered comments relating to the "common knowledge" standard, and made a number of changes to address specific taxpayer concerns about the discovery requirement.

In response to comments regarding the application of the discovery requirement, the final regulations clarify that the phrase "common knowledge of skilled professionals in a particular field of science or engineering" means information that should be known to skilled professionals had they performed, before the

research in question was undertaken, a reasonable investigation of the existing level of information in the particular field of science or engineering. Thus, in order to satisfy the discovery requirement, research must be undertaken for the purpose of discovering information that is beyond the knowledge that should be known to skilled professionals had they performed a reasonable investigation of the existing level of knowledge in the particular field of science or engineering. There is no requirement, however, that a taxpayer actually conduct such an investigation in order to claim the credit. To further clarify the application of the discovery requirement, the final regulations also state, as an example, that trade secrets generally are not within the common knowledge of skilled professionals because they are not reasonably available to skilled professionals not employed, hired, or licensed by the owner of such trade secrets.

Also, in response to comments, the discovery requirement in the final regulations has been reworded to refer to the common knowledge of skilled professionals in a particular field of science or engineering (rather than a particular field of technology or science, as in the proposed regulations). As in the proposed regulations, the common knowledge of skilled professionals is intended to serve as an objective standard for the baseline knowledge that a credit-eligible taxpayer must seek to exceed, expand, or refine. The reference to the common knowledge of skilled professionals is not intended to impose

qualification requirements on the personnel that the taxpayer uses to conduct qualified research.

Several commentators raised concerns that the discovery requirement in the proposed regulations required that taxpayers must "prove a negative;" in response to these concerns about the potential burden imposed on taxpayers to demonstrate that they satisfy the discovery requirement, IRS and Treasury have added to the final regulations a rebuttable presumption. The final regulations provide that, if a taxpayer demonstrates with credible evidence that research activities were undertaken to obtain the information described in documentation prepared before or during the early stages of the research and if that documentation also sets forth the basis for the taxpayer's belief that obtaining this information would exceed, expand, or refine the common knowledge of skilled professionals in the particular field of science or engineering, then the research activities are presumed to satisfy the discovery requirement. This rebuttable presumption would arise, however, only if the taxpayer cooperates with reasonable requests by the IRS for witnesses, information, documents, meetings, and interviews.

In a case where the rebuttable presumption arises, the final regulations provide that the Commissioner may overcome this presumption by demonstrating that the information described in the taxpayer's documentation was within the common knowledge of skilled professionals in the particular field of science or engineering. That is, the Commissioner would have to demonstrate



that the information would have been known to such skilled professionals had they performed (before the research was undertaken) a reasonable investigation of the existing level of information in the particular field of science or engineering.

By way of further clarification, a provision has been added and several examples have been changed or eliminated to remove any implication that the underlying principles of science or engineering used in the research must themselves be novel. IRS and Treasury recognize that virtually all research utilizes existing scientific principles and technology. The requirement that a taxpayer seek to exceed, expand, or refine the common knowledge of skilled professionals does not mean that the tools and principles used in the attempt to achieve the technological advance must themselves be beyond the common knowledge.

Also, in response to commentators' suggestions, the final regulations provide that a taxpayer is conclusively presumed to have obtained knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field of science or engineering, if that taxpayer was awarded a patent for the business component. Section 101 of title 35 of the United States Code provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of [title 35]." Such an invention or discovery may be patentable if it was not previously known, used, patented, or described, as set

forth in 35 U.S.C. 102, and the differences between the invention and the prior art are such that the invention would not have been obvious to a person having ordinary skill in the relevant art. See 35 U.S.C. 102.

The final regulations contain a patent safe harbor because IRS and Treasury believe that information leading to a patentable invention constitutes information that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field. Of course, qualification under the patent safe harbor does not necessarily establish that the discovery requirement is satisfied with respect to all of the research associated with the patentable invention (for example, some of the research might relate to style).

The final regulations emphasize that a patent is not a precondition for credit eligibility. Because not all research succeeds in achieving its objective and for other reasons, it is obvious that not all research intended to discover information that goes beyond the common knowledge results in a patent. Thus, the absence of a patent should have no bearing on credit eligibility. The factors underlying the denial of a patent application, on the other hand, may be relevant to the determination of whether the discovery requirement is satisfied.

Because section 41(d)(3)(B) provides that the credit is not available for research related to style, taste, cosmetic, or seasonal design factors, the patent safe harbor does not include patents for design, as defined by 35 U.S.C. 171.

In light of these changes, modifications have been made to several examples in the proposed regulations, including an example in the proposed regulations relating to research undertaken to develop a new tire. This example has been moved to the section of the final regulations that illustrates the exclusion for research conducted after the beginning of commercial production (discussed in VII. Research After Commercial Production of this Preamble).

To address concerns expressed by a number of commentators that the common knowledge standard may be difficult for taxpayers and examiners to apply, and may give rise in practice to inconsistent treatment of similarly situated taxpayers (especially where examiners have limited expertise in a particular scientific field) IRS and Treasury have initiated measures to promote fair and consistent application of the discovery requirement and the other conditions for credit eligibility. Consistent with the suggestion of one commentator, IRS has met with Revenue Canada to discuss Canada's joint industry/government initiative to improve administration of the Canadian research credit. IRS also has met with various industry associations to form joint initiatives to devise guidelines for the administration and examination of the credit in particular industries. Similar efforts with respect to other industry groups are anticipated.

#### IV. Process of Experimentation

Commentators objected to §1.41-4(a)(5) of the proposed regulations, which defines a process of experimentation to include a prescribed four-step process. Commentators argued that while the four-step process may accurately have described the pure scientific method of conducting experiments, commercial and industrial practice does not always conform precisely to such requirements. Commentators also argued that the four-step process required by the proposed regulations was adapted from a description in the legislative history of the 1986 Act that was included for illustrative purposes and not as a comprehensive definition of the term process of experimentation.

In light of these comments, the final regulations provide that taxpayers conducting a process of experimentation may, but are not required to, engage in the four-step process.

Consistent with the legislative history, the final regulations provide further clarification on the manner in which a process of experimentation differs from research and development in the experimental or laboratory sense, as required by §1.174-2(a). A process of experimentation is a process to evaluate more than one alternative designed to achieve a result where the capability or method of achieving that result is uncertain at the outset, but (in contrast to expenditures that qualify under section 174) does not include the evaluation of alternatives to establish the appropriate design of a business component when the capability and method for developing or

improving the business component are not uncertain. See H.R. Conf. Rep. No. 99-841, at II-72 ("The term process of experimentation means a process involving the evaluation of more than one alternative designed to achieve a result where the means of achieving that result is uncertain at the outset."); United Stationers, 163 F.3d at 446; Norwest, 110 T.C. at 496.

#### V. Recordkeeping Requirement

Part of the four-step process of experimentation test prescribed in §1.41-4(a)(5) of the proposed regulations was a requirement that taxpayers record the results of their experiments. Maintaining that this requirement was particularly burdensome, commentators argued that, in the industrial or commercial setting, the recording of results is not necessarily inherent in a bona fide process of experimentation.

For these reasons, the final regulations do not contain a requirement that taxpayers record the results of their experiments. Moreover, reference to the recording of results has been eliminated from the illustrative (non-mandatory) description of a four-step process of experimentation.

To assist in the examination of claims for the credit and to ensure that the credit is properly targeted to serve as an incentive to engage in qualified research, the final regulations do include a less burdensome contemporaneous documentation requirement. Under the final regulations, taxpayers must prepare and retain written documentation before or during the early stages of the research project that describes the principal

questions to be answered and the information the taxpayer seeks to obtain that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field of science or engineering. Taxpayers also must comply with the general recordkeeping requirements of section 6001.

As noted above, taxpayers may also avail themselves of a rebuttable presumption that they satisfy the discovery requirement if their contemporaneous documentation also sets forth the basis for the taxpayer's belief that obtaining this information would exceed, expand, or refine the common knowledge of skilled professionals in the particular field of science or engineering.

#### VI. The Shrinking-back Rule

Under §1.41-4(b) of the proposed regulations, and consistent with the legislative history to the 1986 Act, if the requirements of section 41(d) are not met for an entire product, then the credit may be available with respect to the next most significant subset of elements of that product. This shrinking back continues until either a subset of elements of the product that satisfies the requirements is reached, or the most basic element of the product is reached and such element fails to satisfy the test.

The final regulations clarify that this shrinking-back rule applies only if the taxpayer incurs some research expenses with respect to the overall business component that would constitute qualified research expenses with respect to that business

component but for the fact that less than substantially all of the research activities with respect to that component constitute elements of a process of experimentation that relates to a new or improved function, performance, reliability or quality. In cases where the substantially-all test is satisfied with respect to the overall business component, those research expenses with respect to the overall business component that are qualified research expenses are credit eligible, and there is no need for a taxpayer to shrink back to apply the tests with respect to subsets of elements of the business component. Of course, the mere fact that taxpayers are not required to shrink back to a smaller business component does not mean that all of the research expenses with respect to the overall credit are credit eligible. Research expenses that are not qualified research expenses, for example because they relate to style, taste, cosmetic, or seasonal design factors, remain ineligible for the credit.

In response to commentators' suggestions, the final regulations also clarify that, if the original product is not eligible for the credit, the application of the shrinking-back rule may result in credit eligibility for multiple business components that are subsets of the original product. The regulations clarify that the shrinking-back rule may not itself be applied as a reason to exclude research activities from credit eligibility. Finally, an example has been added to illustrate these concepts.

#### VII. Research After Commercial Production

Several commentators addressed the section of the proposed regulations providing that activities conducted after the beginning of commercial production of a business component are not qualified research. Under the proposed regulations, 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. Moreover, certain specified activities (like preproduction planning for a finished business component and trial production runs) are deemed to occur after the beginning of commercial production.

Because the provisions set forth above closely reflect the legislative history of the post-production exclusion, these tests have been retained in the final regulations. See H.R. Conf. Rep. No. 841, at II-74-75. However, several changes have been made in response to commentators' concerns.

First, a change has been made to the list of activities that are per se deemed to occur after the beginning of commercial production. In the proposed regulations, one of the items on that list was "debugging or correcting flaws in a business component." Consistent with the legislative history, IRS and Treasury continue to believe that debugging should be conclusively presumed to occur after the beginning of commercial production. However, many activities conducted before the



beginning of commercial production could be construed as the correction of flaws. Thus, the per se list contained in the final regulations has been changed to refer to debugging activities but not to the correction of flaws.

Second, an example has been added to clarify that a new research project to improve a business component is not disqualified merely because the new research project commences after the commercial production of the unimproved business component. Other examples have been changed to eliminate references to and factual assertions about specific industries.

Third, the final regulations incorporate provisions from the legislative history to the 1986 Act that clinical testing of a pharmaceutical product prior to its commercial production in the United States is not treated as occurring after the beginning of commercial production even if the product is commercially available in other countries, and that additional clinical testing of a pharmaceutical product after a product has been approved for a specific therapeutic use by the Food and Drug Administration and is ready for commercial production and sale are not treated as occurring after the beginning of commercial production if such clinical tests are undertaken to establish new functional uses, characteristics, indications, combinations, dosages, or delivery forms for the product.

#### VIII. Adaptation

Several commentators suggested alternate formulations of the adaptation exclusion. Because such formulations effectively

would render the adaptation exclusion inapplicable to activities that satisfy the other requirements for qualified research, thereby reading the exclusion out of the Internal Revenue Code, the final regulations do not adopt the suggestions.

Two new examples clarify that the adaptation exclusion may also apply to contract research expenses paid by the customer to the vendor or to in-house research expenses incurred by the customer itself to adapt an existing business component to that customer's requirement or need.

#### IX. Internal-use Software

As noted above, the 1997 proposed regulations describe when software that is developed by (or for the benefit of) a taxpayer primarily for the taxpayer's internal use can qualify for the credit. The final regulations incorporate these special provisions for internal-use software. A number of changes have been made to the 1997 proposed regulations to address commentator concerns, and to coordinate the internal-use provisions with the other provisions of the final regulations.

Under the proposed regulations, research with respect to software developed primarily for a taxpayer's internal use is qualified research only if it satisfies both the general requirements for credit eligibility under section 41 and an additional condition for eligibility. Except for certain software developed for use in conducting qualified research or for use in a production process, and for certain software created as part of a package of hardware and software developed

concurrently, the additional condition for eligibility is a requirement that the taxpayer satisfy a three-part test (requiring that the internal-use software be innovative, that its development involve significant economic risk, and that it not be commercially available).

Most of the comments received focused on two issues -- (1) the determination of when software is developed primarily for internal use, and (2) the application of the three-part test to internal-use software. On the first issue, several commentators urged that internal-use software be defined to exclude any software used to deliver a service to customers or any software that includes an interface with customers or the public. After careful analysis of the legislative history to the 1986 Act and the 1999 Act, however, IRS and Treasury concluded that such a broad exclusion would be inconsistent with the statutory mandate, because the exclusion would extend to some software that Congress clearly intended to treat as internal-use software. At the same time, IRS and Treasury share the commentators' belief that the goals of the research credit may be advanced by removing additional conditions for credit-eligibility in the case of certain internal-use software used to provide new features to services offered to customers that are not otherwise available to them. Accordingly, as described in more detail below, the final regulations retain the definition of internal-use software contained in the proposed regulations, but provide a new exception (pursuant to the regulatory authority under section

41(d)(4)(E)) under which the development of certain internal-use software used to deliver noncomputer services to customers with features that are not yet offered by a taxpayer's competitors is not subject to the three-part test.

Consistent with a statement in the Conference Report to the 1999 Act that software research undertaken to support the provision of a service should not be deemed internal-use software "solely because the business component involves the provision of a service," the final regulations clarify that the determination of whether software is internal-use software depends on the nature of the service provided by the taxpayer. Software that is intended to be used to provide noncomputer services to customers is internal-use software, while software that is to be used to provide computer services is not developed primarily for internal use. Computer services are services offered by a taxpayer to customers who do business with the taxpayer primarily for the use of the taxpayer's computer or software technology. Noncomputer services are services offered by a taxpayer to customers who do business with the taxpayer primarily to obtain a service other than a computer service, even if such other service is enabled, supported, or facilitated by computer or software technology.

The conclusion that software used to provide noncomputer services is internal-use software is consistent with the legislative history to the 1986 Act, which defined internal-use software as software used in general administrative functions and software used in providing noncomputer services (such as

accounting, consulting, or banking services). See H.R. Conf. Rep. No. 841, at II-73 (emphasis added).

As noted above, the final regulations contain a new exception under which a taxpayer is not required to establish that internal-use software used to provide noncomputer services containing features or improvements that are not yet offered by a taxpayer's competitors satisfies the three-part test. Software that is intended to be used to provide noncomputer services is described within the exception if the software is designed to provide customers a new feature with respect to a noncomputer service; the taxpayer reasonably anticipated that customers would choose to obtain the noncomputer service from the taxpayer (rather than from the taxpayer's competitors) because of those features of the service that will be provided by the software; and those features are not available (at the time the research is undertaken) from any of the taxpayer's competitors.

No inference should be drawn that software described within the foregoing exception is not internal-use software or that internal-use software not described within the exception would fail the three-part test. Rather, the exception reflects a determination by IRS and Treasury that it is appropriate to exercise the regulatory authority in section 41(d)(4)(E) to exempt certain internal-use software from having to fulfil additional conditions for credit eligibility. This exercise of regulatory authority is based on a determination that the development of software containing features or improvements that

are not available from a taxpayer's competitors and that provide a demonstrable competitive advantage is more likely to increase the innovative qualities and efficiency of the U.S. economy (by generating knowledge that can be used by other service providers) than is the development of software used to provide noncomputer services containing features or improvements that are already offered by others. IRS and Treasury believe that drawing such a line is an appropriate way to administer the credit with a view to identifying and facilitating the credit availability for software with the greatest potential for benefitting the U.S. economy, an important rationale for the research credit.

The final regulations also make a number of changes with respect to the three-part high threshold of innovation test, which continues to apply to certain software not described within the new exception. For example, commentators had questioned whether the 1997 proposed regulations impose a separate high threshold of innovation requirement that serves as an additional condition for credit eligibility, even where taxpayers otherwise satisfy the three-part test. The final regulations clarify that the three-part test is the high threshold of innovation test, and not a separate requirement. Similarly, commentators had objected to a sentence in the 1997 proposed regulations that could be read to suggest that certain internal-use software could never qualify for the credit. The final regulations clarify that research with respect to internal-use software that satisfies both the general

conditions for credit eligibility and the three-part test is eligible for the credit.

Consistent with the application of the discovery requirement, the final regulations adopt the suggestion of several commentators that the three-part test should be applied without regard to whether the taxpayer succeeds in achieving the results described in that test.

Commentators questioned whether the "as where" clauses used to elaborate on the three requirements of the high threshold of innovation test in the 1997 proposed regulations were intended as mandatory requirements or merely as illustrations of ways in which taxpayers could satisfy the tests. By replacing the "as where" clauses with "in that" clauses, the final regulations confirm that a taxpayer must satisfy the provisions, as elaborated. Consistent with this clarification, the final regulations provide that the innovative prong of the three-part test may be satisfied with respect to any intended improvement, not just reductions in cost or improvements in speed.

Under the final regulations, all qualified research, including research with respect to internal-use software, must satisfy the discovery requirement (that is, must be intended to exceed, expand, or refine the common knowledge of skilled professionals in the particular field of science or engineering). The final regulations clarify how the three-part high threshold of innovation test supplements the discovery requirement. Specifically, the final regulations provide that several aspects

of the three-part test (the determination of whether the software is intended to result in an improvement that is substantial and economically significant and the extent of uncertainty and technical risk) also must be applied with respect to the common knowledge of skilled professionals. In essence, the common knowledge of skilled professionals rather than the knowledge base of the taxpayer's employees is treated as the baseline with respect to which the intended software must satisfy the innovative prong and other prongs of the three-part test. Stated differently, research with respect to internal-use software is credit eligible only if it is intended to exceed, expand, or refine the common knowledge of skilled professionals (as defined in §1.41-4(a)(3)(ii)) to a degree that is substantial and economically significant. See Norwest 110 T.C. at 499-500 (stating that "...the extent of the improvements required by Congress with respect to internal use software is much greater than that required in other fields" and that "...the significant economic risk test requires a higher threshold of technological advancement in the development of internal use software than in other fields").

Reference to the common knowledge of skilled professionals as the baseline is necessary to give proper meaning to the statutory three-part test. For example, if the innovative requirement was applied simply with respect to the prior state of the taxpayer's own business, then ordinary inventory software installed by a taxpayer who previously tracked its inventory



manually could be deemed to satisfy the innovative requirement merely because the taxpayer had achieved a substantial and economically significant improvement in speed over its prior non-automated operations.

Although the final regulations related to internal use software generally are effective for taxable years beginning after December 31, 1985, the provisions relating to software developed for use in providing computer and noncomputer services to customers and the provisions clarifying the interaction of the three-part test with the discovery requirement, like other provisions concerning the discovery requirement, are effective only prospectively; however, taxpayers may rely on these rules for expenditures paid or incurred prior to January 3, 2001.

#### X. Alternative Incremental Credit

Certain commentators suggested that taxpayers be permitted to elect the alternative incremental credit on an amended return. However, IRS and Treasury believe that the intended incentive effects of the credit would not be advanced by permitting taxpayers to make retroactive elections to alter the computation of (and presumably increase) the credit for prior years. Similarly, the availability of a retroactive election would undermine the application of section 41(c)(4)(B). Thus, the final regulations retain the requirement contained in the proposed regulations that the election to apply the provisions of the alternative incremental credit must be made on the taxpayer's timely filed original return.

**Effective Dates**

In general, the regulations are applicable for expenditures paid or incurred on or after January 3, 2001. However, the regulations addressing the base amount are applicable for taxable years beginning on or after January 3, 2001. The regulations addressing internal-use software are applicable for taxable years beginning after December 31, 1985. However, §1.41-4(c)(6)(ii)(C)(4), §1.41-4(c)(6)(iv)(A) and (B), §1.41-4(c)(6)(v), the second and third sentences of §1.41-4(c)(6)(vii), and §1.41-4(c)(6)(viii) Example 2 are applicable for expenditures paid or incurred on or after January 3, 2001. The special documentation requirements of §1.41-4(d) are applicable with respect to research projects that begin on or after March 4, 2001. The regulations providing for the election and revocation of the alternative incremental credit are applicable for taxable years ending on or after January 3, 2001. No inference should be drawn from the applicability date concerning the application of section 41 to expenditures paid or incurred or the computation of the base amount before the applicability date.

**Special Analyses**

It has been determined that these regulations are not a significant regulatory action as defined in Executive Order 12866. Therefore, a regulatory assessment is not required. It also has been determined that section 553(b) of the Administrative Procedure Act (5 U.S.C. chapter 5) does not apply to these regulations.

It is hereby certified that the collection of information contained in these regulations will not have a significant economic impact on a substantial number of small entities. This certification is based on the fact that the rules of this section impact only taxpayers who engage in qualified research. Moreover, in those instances where the rules of this section impact small entities, the economic impact is not likely to be significant because it merely requires taxpayers to (1) prepare (before or during the early stages of a research project) and retain written documentation describing the principal questions to be answered and the information the taxpayer seeks to obtain that satisfies the requirements of §1.41-4(a)(3) of these regulations; (2) elect on Form 6765, "Credit for Increasing Research Activities," to use the alternative incremental credit if the entity desires to use that method; and (3) obtain permission to revoke the alternative incremental credit election, if so desired. Further, the economic impact of electing the alternative incremental credit on Form 6765 also would not be significant because the election is made on the same form and is based on the same information that is used to claim the research credit. Accordingly, a regulatory flexibility analysis under the Regulatory Flexibility Act (5 U.S.C. chapter 6) is not required.

Pursuant to section 7805(f), the notice of proposed rulemaking preceding these regulations was submitted to the Chief Counsel for Advocacy of the Small Business Administration for comment on its impact on small business.

**Drafting Information**

The principal authors of these regulations are Lisa J. Shuman and Leslie H. Finlow of the Office of the Associate Chief Counsel (Passthroughs and Special Industries), IRS. However, personnel from other offices of the IRS and the Treasury Department participated in their development.

**Adoption of Amendments to the Regulations**

Accordingly, 26 CFR parts 1 and 602 are amended as follows:

## PART 1--INCOME TAXES

Paragraph 1. The authority citation for part 1 continues to read in part as follows:

Authority: 26 U.S.C. 7805 \* \* \*

Par. 2. Revise the undesignated centerheading immediately before §1.30-1 to read as follows:

CREDITS ALLOWABLE UNDER SECTIONS 30 THROUGH 44B

Par. 3. Remove the undesignated centerheading immediately before §1.41-0.

Par. 4. Section 1.41-0 is revised to read as follows:

§1.41-0 Table of contents.

This section lists the paragraphs contained in §§1.41-1 through 1.41-8 as follows:

§1.41-1 Credit for increasing research activities.

- (a) Amount of credit.
- (b) Introduction to regulations under section 41.

§1.41-2 Qualified research expenses.

- (a) Trade or business requirement.
- (1) In general.

- (2) New business.
- (3) Research performed for others.
  - (i) Taxpayer not entitled to results.
  - (ii) Taxpayer entitled to results.
- (4) Partnerships.
  - (i) In general.
  - (ii) Special rule for certain partnerships and joint ventures.
- (b) Supplies and personal property used in the conduct of qualified research.
  - (1) In general.
  - (2) Certain utility charges.
    - (i) In general.
    - (ii) Extraordinary expenditures.
  - (3) Right to use personal property.
  - (4) Use of personal property in taxable years beginning after December 31, 1985.
- (c) Qualified services.
  - (1) Engaging in qualified research.
  - (2) Direct supervision.
  - (3) Direct support.
- (d) Wages paid for qualified services.
  - (1) In general.
  - (2) "Substantially all."
- (e) Contract research expenses.
  - (1) In general.
  - (2) Performance of qualified research.
  - (3) "On behalf of."
  - (4) Prepaid amounts.
  - (5) Examples.

§1.41-3 Base amount for taxable years beginning on or after January 3, 2001.

- (a) New taxpayers.
- (b) Special rules for short taxable years.
  - (1) Short credit year.
  - (2) Short taxable year preceding credit year.
  - (3) Short taxable year in determining fixed-base percentage.
- (c) Definition of gross receipts.
  - (1) In general.
  - (2) Amounts excluded.
  - (3) Foreign corporations.
- (d) Consistency requirement.
  - (1) In general.
  - (2) Illustrations.
- (e) Effective date.

§1.41-4 Qualified research for expenditures paid or incurred on or after January 3, 2001.

- (a) Qualified research.

- (1) General rule.
- (2) Requirements of section 41(d)(1).
- (3) Undertaken for the purpose of discovering information.
  - (i) In general.
  - (ii) Common knowledge.
  - (iii) Means of discovery.
  - (iv) Patent safe harbor.
  - (v) Rebuttable presumption.
- (4) Technological in nature.
- (5) Process of experimentation.
- (6) Substantially all requirement.
- (7) Use of computers and information technology.
- (8) Illustrations.
- (b) Application of requirements for qualified research.
  - (1) In general.
  - (2) Shrinking-back rule.
  - (3) Illustration.
- (c) Excluded activities.
  - (1) In general.
  - (2) Research after commercial production.
    - (i) In general.
    - (ii) Certain additional activities related to the business component.
    - (iii) Activities related to production process or technique.
    - (iv) Clinical testing.
    - (3) Adaptation of existing business components.
    - (4) Duplication of existing business component.
    - (5) Surveys, studies, research relating to management functions, etc.
    - (6) Internal-use computer software.
      - (i) General rule.
      - (ii) Requirements.
      - (iii) Primarily for internal use.
      - (iv) Software used in the provision of services.
        - (A) Computer services.
        - (B) Noncomputer services.
      - (v) Exception for certain software used in providing noncomputer services.
      - (vi) High threshold of innovation test.
      - (vii) Application of high threshold of innovation test.
      - (viii) Illustrations.
      - (ix) Effective dates.
- (7) Activities outside the United States, Puerto Rico, and other possessions.
  - (i) In general.
  - (ii) Apportionment of in-house research expenses.
  - (iii) Apportionment of contract research expenses.
- (8) Research in the social sciences, etc.
- (9) Research funded by any grant, contract, or otherwise.
- (10) Illustrations.
- (d) Documentation.

(e) Effective dates.

§1.41-5 Basic research for taxable years beginning after December 31, 1986. [Reserved]

§1.41-6 Aggregation of expenditures.

(a) Controlled group of corporations; trades or businesses under common control.

(1) In general.

(2) Definition of trade or business.

(3) Determination of common control.

(4) Examples.

(b) Minimum base period research expenses.

(c) Tax accounting periods used.

(1) In general.

(2) Special rule where timing of research is manipulated.

(d) Membership during taxable year in more than one group.

(e) Intra-group transactions.

(1) In general.

(2) In-house research expenses.

(3) Contract research expenses.

(4) Lease payments.

(5) Payment for supplies.

§1.41-7 Special rules.

(a) Allocations.

(1) Corporation making an election under subchapter S.

(i) Pass-through, for taxable years beginning after December 31, 1982, in the case of an S corporation.

(ii) Pass-through, for taxable years beginning before January 1, 1983, in the case of a subchapter S corporation.

(2) Pass-through in the case of an estate or trust.

(3) Pass-through in the case of a partnership.

(i) In general.

(ii) Certain expenditures by joint ventures.

(4) Year in which taken into account.

(5) Credit allowed subject to limitation.

(b) Adjustments for certain acquisitions and dispositions--Meaning of terms.

(c) Special rule for pass-through of credit.

(d) Carryback and carryover of unused credits.

§1.41-8 Special rules for taxable years ending on or after January 3, 2001.

(a) Alternative incremental credit.

(b) Election.

(1) In general.

(2) Time and manner of election.

- (3) Revocation.  
 (4) Effective date.

Par. 5. Section 1.41-1 is revised to read as follows:

§1.41-1 Credit for increasing research activities.

(a) Amount of credit. The amount of a taxpayer's credit is determined under section 41(a). For taxable years beginning after June 30, 1996, and at the election of the taxpayer, the portion of the credit determined under section 41(a)(1) may be calculated using the alternative incremental credit set forth in section 41(c)(4).

(b) Introduction to regulations under section 41. (1) Sections 1.41-2 through 1.41-8 and 1.41-3A through 1.41-5A address only certain provisions of section 41. The following table identifies the provisions of section 41 that are addressed, and lists each provision with the section of the regulations in which it is covered.

Section of the regulation	Section of the Internal Revenue Code
§1.41-2	41(b)
§1.41-3	41(c)
§1.41-4	41(d)
§1.41-5	41(e)
§1.41-6	41(f)
§1.41-7	41(f) 41(g)
§1.41-8	41(c)
§1.41-3A	41(c) (taxable years beginning before January 1, 1990)



§1.41-4A	41(d)	(taxable years beginning before January 1, 1986)
§1.41-5A	41(e)	(taxable years beginning before January 1, 1987)

(2) Section 1.41-3A also addresses the special rule in section 221(d)(2) of the Economic Recovery Tax Act of 1981 relating to taxable years overlapping the effective dates of section 41. Section 41 was formerly designated as sections 30 and 44F. Sections 1.41-0 through 1.41-8 and 1.41-0A through 1.41-5A refer to these sections as section 41 for conformity purposes. Whether section 41, former section 30, or former section 44F applies to a particular expenditure depends upon when the expenditure was paid or incurred.

**§1.41-2 [Amended]**

Par. 6. Section 1.41-2 is amended as follows:

1. The last sentence of paragraph (a)(3)(i) is amended by removing the language "§1.41-5(d)(2)" and adding "§1.41-4A(d)(2)" in its place.

2. The last sentence of paragraph (a)(3)(ii) is amended by removing the language "§1.41-5(d)(3)" and adding "§1.41-4A(d)(3)" in its place.

3. The last sentence of paragraph (a)(4)(ii)(F) is amended by removing the language "§1.41-9(a)(3)(ii)" and adding "§1.41-7(a)(3)(ii)" in its place.

4. Paragraph (e)(1)(i) is amended by removing the language "§1.41-5" and adding "§1.41-4 or 1.41-4A, whichever is applicable" in its place.

**§§1.41-0A through 1.41-8A [Removed]**

Par. 6A. Sections 1.41-0A through 1.41-8A and the undesignated centerheading preceding these sections are removed.

Par. 7. An undesignated centerheading is added immediately following §1.44B-1 to read as follows:

RESEARCH CREDIT--FOR TAXABLE YEARS BEGINNING  
BEFORE JANUARY 1, 1990

**§1.41-3 [Redesignated as §1.41-3A]**

Par. 8. Section 1.41-3 is redesignated as §1.41-3A and added under the new undesignated centerheading "RESEARCH CREDIT--FOR TAXABLE YEARS BEGINNING BEFORE JANUARY 1, 1990."

Par. 9. New §1.41-3 is added to read as follows:

§1.41-3 Base amount for taxable years beginning on or after January 3, 2001.

(a) New taxpayers. If, with respect to any credit year, the taxpayer has not been in existence for any previous taxable year, the average annual gross receipts of the taxpayer for the four taxable years preceding the credit year shall be zero. If, with respect to any credit year, the taxpayer has been in existence for at least one previous taxable year, but has not been in existence for four taxable years preceding the taxable year, then the average annual gross receipts of the taxpayer for the four taxable years preceding the credit year shall be the average

annual gross receipts for the number of taxable years preceding the credit year for which the taxpayer has been in existence.

(b) Special rules for short taxable years--(1) Short credit year. If a credit year is a short taxable year, then the base amount determined under section 41(c)(1) (but not section 41(c)(2)) shall be modified by multiplying that amount by the number of months in the short taxable year and dividing the result by 12.

(2) Short taxable year preceding credit year. If one or more of the four taxable years preceding the credit year is a short taxable year, then the gross receipts for such year are deemed to be equal to the gross receipts actually derived in that year multiplied by 12 and divided by the number of months in that year.

(3) Short taxable year in determining fixed-base percentage. No adjustment shall be made on account of a short taxable year to the computation of a taxpayer's fixed-base percentage.

(c) Definition of gross receipts--(1) In general. For purposes of section 41, gross receipts means the total amount, as determined under the taxpayer's method of accounting, derived by the taxpayer from all its activities and from all sources (e.g., revenues derived from the sale of inventory before reduction for cost of goods sold).

(2) Amounts excluded. For purposes of this paragraph (c), gross receipts do not include amounts representing--

(i) Returns or allowances;

(ii) Receipts from the sale or exchange of capital assets, as defined in section 1221;

(iii) Repayments of loans or similar instruments (e.g., a repayment of the principal amount of a loan held by a commercial lender);

(iv) Receipts from a sale or exchange not in the ordinary course of business, such as the sale of an entire trade or business or the sale of property used in a trade or business as defined under section 1221(2);

(v) Amounts received with respect to sales tax or other similar state and local taxes if, under the applicable state or local law, the tax is legally imposed on the purchaser of the good or service, and the taxpayer merely collects and remits the tax to the taxing authority; and

(vi) Amounts received by a taxpayer in a taxable year that precedes the first taxable year in which the taxpayer derives more than \$25,000 in gross receipts other than investment income. For purposes of this paragraph (c)(2)(vi), investment income is interest or distributions with respect to stock (other than the stock of a 20-percent owned corporation as defined in section 243(c)(2)).

(3) Foreign corporations. For purposes of section 41, in the case of a foreign corporation, gross receipts include only gross receipts that are effectively connected with the conduct of a trade or business within the United States, the Commonwealth of Puerto Rico, or other possessions of the United States. See

section 864(c) and applicable regulations thereunder for the definition of effectively connected income.

(d) Consistency requirement--(1) In general. In computing the credit for increasing research activities for taxable years beginning after December 31, 1989, qualified research expenses and gross receipts taken into account in computing a taxpayer's fixed-base percentage and a taxpayer's base amount must be determined on a basis consistent with the definition of qualified research expenses and gross receipts for the credit year, without regard to the law in effect for the taxable years taken into account in computing the fixed-base percentage or the base amount. This consistency requirement applies even if the period for filing a claim for credit or refund has expired for any taxable year taken into account in computing the fixed-base percentage or the base amount.

(2) Illustrations. The following examples illustrate the application of the consistency rule of paragraph (d)(1) of this section:

Example 1. (i) X, an accrual method taxpayer using the calendar year as its taxable year, incurs qualified research expenses in 2001. X wants to compute its research credit under section 41 for the tax year ending December 31, 2001. As part of the computation, X must determine its fixed-base percentage, which depends in part on X's qualified research expenses incurred during the fixed-base period, the taxable years beginning after December 31, 1983, and before January 1, 1989.

(ii) During the fixed-base period, X reported the following amounts as qualified research expenses on its Form 6765:

1984.....	\$	100x
1985.....		120x
1986.....		150x

1987.....	180x
1988.....	<u>170x</u>
Total.....	\$ 720x

(iii) For the taxable years ending December 31, 1984, and December 31, 1985, X based the amounts reported as qualified research expenses on the definition of qualified research in effect for those taxable years. The definition of qualified research changed for taxable years beginning after December 31, 1985. If X used the definition of qualified research applicable to its taxable year ending December 31, 2001, the credit year, its qualified research expenses for the taxable years ending December 31, 1984, and December 31, 1985, would be reduced to \$ 80x and \$ 100x, respectively. Under the consistency rule in section 41(c)(5) and paragraph (d)(1) of this section, to compute the research credit for the tax year ending December 31, 2001, X must reduce its qualified research expenses for 1984 and 1985 to reflect the change in the definition of qualified research for taxable years beginning after December 31, 1985. Thus, X's total qualified research expenses for the fixed-base period (1984-1988) to be used in computing the fixed-base percentage is \$ 80 + 100 + 150 + 180 + 170 = \$ 680x.

Example 2. The facts are the same as in Example 1, except that, in computing its qualified research expenses for the taxable year ending December 31, 2001, X claimed that a certain type of expenditure incurred in 2001 was a qualified research expense. X's claim reflected a change in X's position, because X had not previously claimed that similar expenditures were qualified research expenses. The consistency rule requires X to adjust its qualified research expenses in computing the fixed-base percentage to include any similar expenditures not treated as qualified research expenses during the fixed-base period, regardless of whether the period for filing a claim for credit or refund has expired for any year taken into account in computing the fixed-base percentage.

(e) Effective date. The rules in paragraphs (c) and (d) of this section are applicable for taxable years beginning on or after the date final regulations are published in the **Federal Register**.

Par. 10. Section 1.41-4 is revised to read as follows:

§1.41-4 Qualified research for expenditures paid or incurred on or after January 3, 2001.

(a) Qualified research--(1) General rule. Research activities related to the development or improvement of a business component constitute qualified research only if the research activities meet all of the requirements of section 41(d)(1) and this section, and are not otherwise excluded under section 41(d)(3)(B) or (d)(4), or this section.

(2) Requirements of section 41(d)(1). Research constitutes qualified research only if it is research--

(i) With respect to which expenditures may be treated as expenses under section 174, see §1.174-2;

(ii) That is undertaken for the purpose of discovering information that is technological in nature, and the application of which is intended to be useful in the development of a new or improved business component of the taxpayer; and

(iii) Substantially all of the activities of which constitute elements of a process of experimentation that relates to a new or improved function, performance, reliability or quality.

For certain recordkeeping requirements, see paragraph (d) of this section.

(3) Undertaken for the purpose of discovering information--(i) In general. For purposes of section 41(d) and this section, research is undertaken for the purpose of discovering information only if it is undertaken to obtain knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in a particular field of science or

engineering. A determination that research is undertaken for the purpose of discovering information does not require that the taxpayer succeed in obtaining the knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in a particular field of science or engineering, nor does it require that the advance sought be more than evolutionary. However, research is not undertaken for the purpose of discovering information merely because an expenditure may be treated as an expense under section 174.

(ii) Common knowledge. Common knowledge of skilled professionals in a particular field of science or engineering means information that should be known to skilled professionals had they performed, before the research in question is undertaken, a reasonable investigation of the existing level of information in the particular field of science or engineering. Thus, knowledge may, in certain circumstances, exceed, expand, or refine the common knowledge of skilled professionals in a particular field of science or engineering even though such knowledge has previously been obtained by other persons. For example, trade secrets generally are not within the common knowledge of skilled professionals in a particular field of science or engineering because they are not reasonably available to skilled professionals not employed, hired, or licensed by the owner of such trade secrets.

(iii) Means of discovery. In seeking to obtain knowledge that exceeds, expands, or refines the common knowledge of skilled



professionals in a particular field of science or engineering, a taxpayer may employ existing technologies in a particular field and may rely on existing principles of science or engineering.

(iv) Patent safe harbor. For purposes of section 41(d) and paragraph (a)(3)(i) of this section, the issuance of a patent by the Patent and Trademark Office under the provisions of section 151 of title 35, United States Code (other than a patent for design issued under the provisions of section 171 of title 35, United States Code) is conclusive evidence that a taxpayer has obtained knowledge that exceeds, expands, or refines the common knowledge of skilled professionals. However, the issuance of such a patent is not a precondition for credit availability.

(v) Rebuttable presumption. If a taxpayer demonstrates with credible evidence that research activities were undertaken to obtain the information described in the taxpayer's contemporaneous documentation required under paragraph (d)(1) of this section, and if that documentation also sets forth the basis for the taxpayer's belief that obtaining this information would exceed, expand, or refine the common knowledge of skilled professionals in the particular field of science or engineering, the research activities are presumed to satisfy the requirements of this paragraph (a)(3). However, the presumption applies only if the taxpayer cooperates with reasonable requests by the Commissioner for witnesses, information, documents, meetings, and interviews. Furthermore, the Commissioner may overcome the presumption in this paragraph if the Commissioner demonstrates

that the information described in the taxpayer's documentation was within the common knowledge of skilled professionals (as described in paragraph (a)(3)(ii) of this section), or that the research activities were not undertaken to obtain the information described in the taxpayer's documentation.

(4) Technological in nature. For purposes of section 41(d) and this section, information is technological in nature if the process of experimentation used to discover such information fundamentally relies on principles of the physical or biological sciences, engineering, or computer science.

(5) Process of experimentation. For purposes of section 41(d) and this section, a process of experimentation is a process to evaluate more than one alternative designed to achieve a result where the capability or method of achieving that result is uncertain at the outset. A process of experimentation does not include the evaluation of alternatives to establish the appropriate design of a business component, if the capability and method for developing or improving the business component are not uncertain. A process of experimentation in the physical or biological sciences, engineering, or computer science may involve--

(i) Developing one or more hypotheses designed to achieve the intended result;

(ii) Designing an experiment (that, where appropriate to the particular field of research, is intended to be replicable with an established experimental control) to test and analyze those

hypotheses (through, for example, modeling, simulation, or a systematic trial and error methodology);

(iii) Conducting the experiment; and

(iv) Refining or discarding the hypotheses as part of a sequential design process to develop or improve the business component.

(6) Substantially all requirement. The substantially all requirement of section 41(d)(1)(C) and paragraph (a)(2)(iii) of this section is satisfied only if 80 percent or more of the research activities, measured on a cost or other consistently applied reasonable basis (and without regard to §1.41-2(d)(2)), constitute elements of a process of experimentation for a purpose described in section 41(d)(3). The substantially all requirement is applied separately to each business component.

(7) Use of computers and information technology. The employment of computers or information technology, or the reliance on principles of computer science or information technology to store, collect, manipulate, translate, disseminate, produce, distribute, or process data or information, and similar uses of computers and information technology does not itself establish that qualified research has been undertaken.

(8) Illustrations. The following examples illustrate the application of this paragraph (a):

Example 1. (i) Facts. X and other manufacturing companies have previously designed and manufactured a particular kind of machine using Material S. Material T is less expensive than Material S. X wishes to design a new machine that appears and functions exactly the same as its existing machines, but that is

made of Material T instead of Material S. The capability and method necessary to achieve this objective should not have been known to skilled professionals had they conducted a reasonable investigation of the existing information in the relevant field of science or engineering at the time the research was undertaken.

(ii) Conclusion. X's activities to design the new machine using Material T may be qualified research within the meaning of section 41(d)(1) and this paragraph (a). In seeking to design the machine, X undertook to obtain knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field of science or engineering.

Example 2. (i) Facts. X is engaged in the business of developing and manufacturing widgets. X wants to manufacture an improved widget made out of a material that X has not previously used. Although X is uncertain how to use the material to manufacture an improved widget, the capability and method of using the material to manufacture such widgets should have been known to skilled professionals had they conducted a reasonable investigation of the existing level of information in the particular field of science or engineering at the time the research was undertaken.

(ii) Conclusion. Even though X's expenditures for the activities to resolve the uncertainty in manufacturing the improved widget may be treated as expenses for research activities under section 174 and §1.174-2, X's activities to resolve the uncertainty in manufacturing the improved widget are not qualified research within the meaning of section 41(d) and this paragraph (a). Although X's activities were intended to eliminate uncertainty, the activities were not undertaken to obtain knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field of science or engineering.

Example 3. (i) Facts. X desires to build a bridge that can sustain greater traffic flow without deterioration than can existing bridges. The capability and method used to build such a bridge should not have been known to skilled professionals had they conducted a reasonable investigation of the existing level of information in the particular field of science or engineering at the time the research was undertaken. X eventually abandons the project after attempts to develop the technology prove unsuccessful.

(ii) Conclusion. X's activities to develop the technology to build the bridge may be qualified research within the meaning of section 41(d)(1) and this paragraph (a), regardless of the fact that X did not actually succeed in developing that technology. In seeking to develop the technology, X undertook to

obtain knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field of science or engineering.

Example 4. (i) Facts. The facts are the same as in Example 3, except that Y successfully builds a bridge that can sustain the greater traffic flow. Thereafter, Z seeks to build a bridge that can also sustain such greater traffic flow. The method Y used to build its bridge is a closely guarded trade secret that is not known to Z and should not have been known to skilled professionals had they conducted a reasonable investigation of the existing level of information in the particular field of science or engineering at the time the research was undertaken.

(ii) Conclusion. Z's activities to develop the technology to build the bridge may be qualified research within the meaning of section 41(d)(1) and this paragraph (a), even if it so happens that the technology Z used to build its bridge is similar or identical to the technology Y used. In developing the technology, Z undertook to obtain knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field of science or engineering.

Example 5. (i) Facts. X, a widget manufacturer, seeks to develop a new widget and initiates Project A. Before or during the early stages of Project A, X's employees prepare contemporaneous documentation that describes the principal questions to be answered by Project A and the information that X seeks to obtain to exceed, expand, or refine the common knowledge of skilled professionals in the relevant field of science or engineering. The documentation includes a statement from one of X's skilled professionals setting forth the basis for that professional's belief that the information is beyond the common knowledge of skilled professionals in the relevant field. Upon examination by the Commissioner, X presents credible evidence that the research activities were undertaken to obtain the information described in the contemporaneous documentation. X cooperates with all requests by the IRS for witnesses, information, documents, meetings, and interviews.

(ii) Conclusion. X's research activities with respect to Project A are presumed to be undertaken for the purpose of obtaining knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field of science or engineering. The Commissioner may overcome this presumption by demonstrating that the information X sought to obtain was within the common knowledge of skilled professionals in the relevant field of science or engineering (*i.e.*, by demonstrating that, at the time Project A began, the information should have been known to skilled professionals had they

performed a reasonable investigation of the existing level of knowledge in the relevant field).

(b) Application of requirements for qualified research--(1) In general. The requirements for qualified research in section 41(d)(1) and paragraph (a) of this section, must be applied separately to each business component, as defined in section 41(d)(2)(B). In cases involving development of both a product and a manufacturing or other commercial production process for the product, research activities relating to development of the process are not qualified research unless the requirements of section 41(d) and this section are met for the research activities relating to the process without taking into account the research activities relating to development of the product. Similarly, research activities relating to development of the product are not qualified research unless the requirements of section 41(d) and this section are met for the research activities relating to the product without taking into account the research activities relating to development of the manufacturing or other commercial production process.

(2) Shrinking-back rule. The requirements of section 41(d) and paragraph (a) of this section are to be applied first at the level of the discrete business component, that is, the product, process, computer software, technique, formula, or invention to be held for sale, lease, or license, or used by the taxpayer in a trade or business of the taxpayer. If the requirements for credit eligibility are met at that first level, then some or all

of the taxpayer's research expenses are eligible for the credit. A special shrinking-back rule applies in the case where a taxpayer incurs some research expenses with respect to that discrete business component that would constitute qualified research expenses with respect to that business component but for the fact that less than substantially all of the research activities with respect to that component constitute elements of a process of experimentation that relates to a new or improved function, performance, reliability or quality. In such a case, the requirements for the credit are to be applied at the next most significant subset of elements of the business component. The shrinking-back of the applicable business component continues until a subset or series of subsets of elements of the business component satisfies the substantially all requirement of section 41(d)(1)(C) and paragraph (a)(2)(iii) of this section (treating that subset of elements as a business component) or the most basic element fails to satisfy the requirements. This shrinking-back rule is applied only if a taxpayer does not satisfy the requirements of section 41(d)(1)(C) and paragraph (a)(2)(iii) of this section with respect to the overall business component. The shrinking-back rule is not itself applied as a reason to exclude research activities from credit eligibility.

(3) Illustration. The following example illustrates the application of this paragraph (b):

(i) Facts. X, a widget manufacturer, develops a widget that is improved in several respects. Among the various improvements to the widget is an improvement to the widget's cooling

mechanism. Although the capability and method of making the other improvements to the widget would have been known to skilled professionals had they conducted a reasonable investigation of the existing level of information in the particular field of science or engineering, the method of developing the improved cooling mechanism and of incorporating the improved mechanism into the widget would not have been known to skilled professionals had they conducted a reasonable investigation of the existing level of information in the particular field of science or engineering. Substantially all of X's research activities in improving the widget constitute elements of a process of experimentation for purposes of improving the performance of the widget. None of X's research activities in improving the widget are described in section 41(d)(4) or paragraph (c) of this section.

(ii) Conclusion. Some, but not all, of X's research activities in developing the improved widget are qualified research within the meaning of section 41(d)(1) and paragraph (a) of this section. In seeking to improve the widget, some of X's activities (related to improving the cooling mechanism and incorporating the improved cooling mechanism into the widget) were undertaken to obtain knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field of science or engineering. However, other activities (related to the other improvements) were not undertaken to obtain knowledge that exceeds, expands, or refines the common knowledge of skilled professionals in the relevant field of science or engineering, and thus are not qualified research and are not eligible for the credit. Not all of X's research activities relating to the widget are eligible for the credit because some of the activities are not qualified research as defined in section 41(d) and paragraph (a) of this section, even though the widget qualifies as a business component with respect to which qualified research that satisfies the requirements of section 41(d) and paragraph (a) of this section is undertaken.

(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.

(iv) Clinical testing. Clinical testing of a pharmaceutical product prior to its commercial production in the United States is not treated as occurring after the beginning of commercial production even if the product is commercially available in other countries. Additional clinical testing of a pharmaceutical product after a product has been approved for a specific therapeutic use by the Food and Drug Administration and is ready for commercial production and sale are not treated as occurring after the beginning of commercial production if such clinical tests are undertaken to establish new functional uses, characteristics, indications, combinations, dosages, or delivery forms for the product. A functional use, characteristic, indication, combination, dosage or delivery form shall be considered new only if such functional use, characteristic, indication, combination, dosage or delivery form must be approved by the Food and Drug Administration.

(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 inspects 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.

(6) Internal-use computer software--(i) General rule. Research with respect to computer software that is developed by (or for the benefit of) the taxpayer primarily for the taxpayer's internal use is eligible for the research credit only if the

software satisfies the requirements of paragraph (c)(6)(ii) of this section.

(ii) Requirements. The requirements of this paragraph (c)(6)(ii) are--

(A) The research satisfies the requirements of section 41(d)(1);

(B) The research is not otherwise excluded under section 41(d)(4) (other than section 41(d)(4)(E)); and

(C) One of the following conditions is met--

(1) The taxpayer develops the software for use in an activity that constitutes qualified research (other than the development of the internal-use software itself);

(2) The taxpayer develops the software for use in a production process that meets the requirements of section 41(d)(1);

(3) The taxpayer develops a new or improved package of computer software and hardware together as a single product, of which the software is an integral part, that is used directly by the taxpayer in providing technological services in its trade or business to customers. In these cases, eligibility for the research credit is to be determined by examining the combined hardware-software product as a single product;

(4) The taxpayer develops the software for use in providing computer services to customers; or

(5) The software satisfies the high threshold of innovation test of paragraph (c)(6)(vi) of this section.

(iii) Primarily for internal use. Software is developed primarily for the taxpayer's internal use if the software is to be used internally, for example, in general administrative functions of the taxpayer (such as payroll, bookkeeping, or personnel management) or in providing noncomputer services (such as accounting, consulting or banking services). If computer software is developed primarily for the taxpayer's internal use, the requirements of paragraph (c)(6) apply even though the taxpayer intends to, or subsequently does, sell, lease, or license the computer software.

(iv) Software used in the provision of services--(A) Computer services. For purposes of this section, a computer service is a service offered by a taxpayer to customers who conduct business with the taxpayer primarily for the use of the taxpayer's computer or software technology. A taxpayer does not provide a computer service merely because customers interact with the taxpayer's software.

(B) Noncomputer services. For purposes of this section, a noncomputer service is a service offered by a taxpayer to customers who conduct business with the taxpayer primarily to obtain a service other than a computer service, even if such other service is enabled, supported, or facilitated by computer or software technology.

(v) Exception for certain software used in providing noncomputer services. The requirements of paragraph (c)(6)(ii)(C) of this section are deemed satisfied for research

with respect to computer software if, at the time the research was undertaken--

(A) The software is designed to provide customers a new feature with respect to a noncomputer service;

(B) The taxpayer reasonably anticipated that customers would choose to obtain the noncomputer service from the taxpayer (rather than from the taxpayer's competitors) because of those new features provided by the software; and

(C) Those new features were not available from any of the taxpayer's competitors.

(vi) High threshold of innovation test. Computer software satisfies the high threshold of innovation test of this paragraph (c)(6)(vi) only if the taxpayer can establish that--

(A) The software is innovative in that the software is intended to result in a reduction in cost, improvement in speed, or other improvement, that is substantial and economically significant;

(B) The software development involves significant economic risk in that the taxpayer commits substantial resources to the development and there is a substantial uncertainty, because of technical risk, that such resources would be recovered within a reasonable period; and

(C) The software is not commercially available for use by the taxpayer in that the software cannot be purchased, leased, or licensed and used for the intended purpose without modifications

that would satisfy the requirements of paragraphs (c)(6)(vi)(A) and (B) of this section.

(vii) Application of high threshold of innovation test. In determining if the high threshold of innovation test of paragraph (c)(6)(vi) of this section is satisfied, all of the facts and circumstances are considered. The determination of whether the software is intended to result in an improvement or cost reduction that is substantial and economically significant is based on a comparison of the intended result with software that is within the common knowledge of skilled professionals in the relevant field of science or engineering, see §1.41-4(a)(3)(ii). Similarly, the extent of uncertainty and technical risk is determined with respect to the common knowledge of skilled professionals in the relevant field of science or engineering. Further, in determining if the high threshold of innovation test of paragraph (c)(6)(vi) of this section is satisfied, the activities to develop the new or improved software are considered independent of the effect of any modifications to related hardware or other software.

(viii) Illustrations. The following examples illustrate the application of this paragraph (c)(6):

Example 1. (i) Facts. X is engaged in the business of manufacturing and selling widgets to wholesalers. X has experienced strong growth and at the same time has expanded its product offerings. X also has increased significantly the size of its business by expanding into new territories. The increase in the size and scope of its business has strained X's existing financial management systems such that management can no longer obtain timely comprehensive financial data. Accordingly, X undertakes the development of a financial management computer

software system that is more appropriate to its newly expanded operations.

(ii) Conclusion. X's new computer software system is developed by X primarily for X's internal use. X's activities to develop the new computer software system may be eligible for the research credit only if the computer software development activities satisfy the requirements of paragraph (c)(6)(ii) of this section.

Example 2. (i) Facts. X is engaged in the business of designing, manufacturing, and selling widgets. X delivers its widgets in the same manner and time as its competitors. In keeping with X's corporate commitment to provide customers with top quality service, X undertakes a project to develop for X's internal use a computer software system to facilitate the tracking of the manufacturing and delivery of widgets which will enable X's customers to monitor the progress of their orders and know precisely when their widgets will be delivered. X's computer software activities include research activities that satisfy the discovery requirement in section 41(d)(1) and paragraph (a)(3) of this section. At the time the research is undertaken, X reasonably anticipates that if it is successful, X will increase its market share as compared to X's competitors, none of which has such a tracking feature for its delivery system.

(ii) Conclusion. Although X's computer software system is developed primarily for X's internal use, X's activities are excepted from the high threshold of innovation test of paragraph (c)(6)(vi) of this section because, at the time the research is undertaken, X's software is designed to provide improved tracking features, X reasonably anticipates that customers will purchase widgets from X because these improved tracking features, and because comparable tracking features are not available from any of X's competitors.

(ix) Effective dates. This paragraph (c)(6) is applicable for taxable years beginning after December 31, 1985, except paragraphs (c)(6)(ii)(C)(4), (c)(6)(iv)(A) and (B), (c)(6)(v), the second and third sentences of paragraph (c)(6)(vii), and paragraph (c)(6)(viii) Example 2 of this section apply to expenditures paid or incurred on or after January 3, 2001.



(7) Activities outside the United States, Puerto Rico, and other possessions--(i) In general. Research conducted outside the United States, as defined in section 7701(a)(9), the Commonwealth of Puerto Rico and other possessions of the United States does not constitute qualified research.

(ii) Apportionment of in-house research expenses.

In-house research expenses paid or incurred for qualified services performed both (A) in the United States, the Commonwealth of Puerto Rico and other possessions of the United States and (B) outside the United States, the Commonwealth of Puerto Rico and other possessions of the United States must be apportioned between the services performed in the United States, the Commonwealth of Puerto Rico and other possessions of the United States and the services performed outside the United States, the Commonwealth of Puerto Rico and other possessions of the United States. Only those in-house research expenses apportioned to the services performed within the United States, the Commonwealth of Puerto Rico and other possessions of the United States are eligible to be treated as qualified research expenses, unless the in-house research expenses are wages and the 80 percent rule of §1.41-2(d)(2) applies.

(iii) Apportionment of contract research expenses. If contract research is performed partly in the United States, the Commonwealth of Puerto Rico and other possessions of the United States and partly outside the United States, the Commonwealth of Puerto Rico and other possessions of the United States, only 65

percent (or 75 percent in the case of amounts paid to qualified research consortia) of the portion of the contract amount that is attributable to the research activity performed in the United States, the Commonwealth of Puerto Rico and other possessions of the United States may qualify as a contract research expense (even if 80 percent or more of the contract amount is for research performed in the United States, the Commonwealth of Puerto Rico and other possessions of the United States).

(8) Research in the social sciences, etc. Qualified research does not include research in the social sciences (including economics, business management, and behavioral sciences), arts, or humanities.

(9) Research funded by any grant, contract, or otherwise. Qualified research does not include any research to the extent funded by any grant, contract, or otherwise by another person (or governmental entity). To determine the extent to which research is so funded, §1.41-4A(d) applies.

(10) Illustrations. The following examples illustrate provisions contained in paragraphs (c)(1) through (9) of this section. No inference should be drawn from these examples concerning the application of section 41(d)(1) and paragraph (a) of this section to these facts. The examples are as follows:

Example 1. (i) Facts. X, a tire manufacturer, seeks to build a tire that will not deteriorate as rapidly under certain conditions of high speed and temperature as do existing tires. X commences laboratory research on January 1. On April 1, X determines in the laboratory that a certain combination of materials and additives can withstand higher rotational speeds and temperatures than the combination of materials and additives

used in existing tires. On the basis of this determination, X undertakes further research activities to determine how to design a tire using those materials and additives, and to determine whether such a tire functions outside the laboratory as intended under various actual road conditions. By September 1, X's research has progressed to the point where the new tire meets X's basic functional and economic requirements.

(ii) Conclusion. Any research activities conducted by X after September 1 with respect to the design of the tire are not qualified research within the meaning of section 41(d)(1) and paragraph (a) of this section because they are undertaken after the beginning of commercial production of the tire. Whether any activities X engaged in to develop a process for manufacturing the new tire constitute qualified research depends on if the development of the process itself separately satisfies the requirements of section 41(d) and paragraph (c)(2) of this section, and also depends on if the activities occur before the point in time when the process meets the taxpayer's basic functional and economic requirements or is ready for commercial use.

Example 2. (i) Facts. For several years, X has manufactured and sold a particular kind of widget. X initiates a new research project to develop an improved widget.

(ii) Conclusion. X's activities to develop an improved widget are not excluded from the definition of qualified research under section 41(d)(4)(A) and paragraph (c)(2) of this section until the beginning of commercial production of the improved widget. The fact that X's activities relating to the improved widget are undertaken after the beginning of commercial production of the unimproved widget does not bar the activities from credit eligibility because those activities constitute a new research project to develop a new business component, an improved widget.

Example 3. (i) Facts. X, a computer software development firm, owns all substantial rights in a general ledger accounting software core program that X markets and licenses to customers. X incurs expenditures in adapting the core software program to the requirements of C, one of X's customers.

(ii) Conclusion. Because X's activities represent activities to adapt an existing software program to a particular customer's requirement, X's activities are excluded from the definition of qualified research under section 41(d)(4)(B) and paragraph (c)(3) of this section.

Example 4. (i) Facts. The facts are the same as in Example 3, except that C pays X to adapt the core software program to C's requirements.

(ii) Conclusion. Because X's activities are excluded from the definition of qualified research under section 41(d)(4)(B) and paragraph (c)(3) of this section, C's payments to X do not constitute contract research expenses under section 41(b)(3)(A).

Example 5. (i) Facts. The facts are the same as in Example 3, except that C's own employees adapt the core software program to C's requirements.

(ii) Conclusion. Because C's employees' activities are excluded from the definition of qualified research under section 41(d)(4)(B) and paragraph (c)(3) of this section, the wages C paid to its employees do not constitute in-house research expenses under section 41(b)(2)(A).

Example 6. (i) Facts. An existing gasoline additive is manufactured by Y using three ingredients, A, B, and C. X seeks to develop and manufacture its own gasoline additive that appears and functions in a manner similar to Y's additive. To develop its own additive, X first inspects the composition of Y's additive, and uses knowledge gained from the inspection to reproduce A and B in the laboratory. Any differences between ingredients A and B that are used in Y's additive and those reproduced by X are insignificant and are not material to the viability, effectiveness, or cost of A and B. X desires to use with A and B an ingredient that has a materially lower cost than ingredient C. Accordingly, X engages in a process of experimentation to discover potential alternative formulations of the additive (i.e., the development and use of various ingredients other than C to use with A and B).

(ii) Conclusion. X's activities in analyzing and reproducing ingredients A and B involve duplication of existing business components and are excluded from qualified research under section 41(d)(4)(C) and paragraph (c)(4) of this section. X's experimentation activities to discover potential alternative formulations of the additive do not involve duplication of an existing business component and are not excluded from qualified research under section 41(d)(4)(C) and paragraph (c)(4) of this section.

Example 7. (i) Facts. X, an insurance company, develops a new life insurance product. In the course of developing the product, X engages in research with respect to the effect of pricing and tax consequences on demand for the product, the expected volatility of interest rates, and the expected mortality rates (based on published data and prior insurance claims).

(ii) Conclusion. X's activities related to the new product represent research in the social sciences, and are thus excluded from qualified research under section 41(d)(4)(G) and paragraph (c)(8) of this section.

(d) Documentation. No credit shall be allowed under section 41 with regard to an expenditure relating to a research project unless the taxpayer--

(1) Prepares documentation before or during the early stages of the research project, that describes the principal questions to be answered and the information the taxpayer seeks to obtain to satisfy the requirements of paragraph (a)(3) of this section, and retains that documentation on paper or electronically in the manner prescribed in applicable regulations, revenue rulings, revenue procedures, or other appropriate guidance until such time as taxes may no longer be assessed (except under section 6501(c)(1), (2), or (3)) for any year in which the taxpayer claims to have qualified research expenditures in connection with the research project; and

(2) Satisfies section 6001 and the regulations thereunder.

(e) Effective dates. In general, the rules of this section are applicable for expenditures paid or incurred on or after January 3, 2001. The rules of paragraph (d), however, apply to research projects that begin on or after March 4, 2001.

**§1.41-5 [Redesignated as §1.41-4A, and Amended]**

Par. 11. Section 1.41-5 is redesignated as §1.41-4A, and the last sentence of paragraph (d)(1) is amended by removing the language "§1.41-8(e)" and adding "§1.41-6(e)" in its place.

**§1.41-6 [Redesignated as §1.41-5, and Amended]**

Par. 12. Section 1.41-6 is redesignated as §1.41-5 and the section heading is amended by removing the language "December 31, 1985" and adding "December 31, 1986" in its place.

**§1.41-7 [Redesignated as §1.41-5A, and Amended]**

Par. 13. Section 1.41-7 is redesignated as §1.41-5A, and amended as follows:

1. The section heading is amended by removing the language "January 1, 1986" and adding "January 1, 1987" in its place.

2. Paragraph (e)(2) is amended by removing the language "§1.41-5(c)" and adding "1.41-4A(c)" in its place.

**§1.41-8 [Redesignated as §1.41-6, and Amended]**

Par. 14. Section 1.41-8 is redesignated as §1.41-6, and the last sentence of paragraph (c) is amended by removing the language "§1.41-3, except that §1.41-3(c)(2)" and adding "§1.41-3A, except that §1.41-3A(c)(2)" in its place.

**§1.41-9 [Redesignated as §1.41-7]**

Par. 15. Section 1.41-9 is redesignated as §1.41-7.

Par. 16. New §1.41-8 is added to read as follows:

§1.41-8 Special rules for taxable years ending on or after January 3, 2001.

(a) Alternative incremental credit. At the election of the taxpayer, the credit determined under section 41(a)(1) equals the amount determined under section 41(c)(4).

(b) Election--(1) In general. A taxpayer may elect to apply the provisions of the alternative incremental credit in section

41(c)(4) for any taxable year of the taxpayer beginning after June 30, 1996. If a taxpayer makes an election under section 41(c)(4), the election applies to the taxable year for which made and all subsequent taxable years.

(2) Time and manner of election. An election under section 41(c)(4) is made by completing the portion of Form 6765, "Credit for Increasing Research Activities," relating to the election of the alternative incremental credit, and attaching the completed form to the taxpayer's timely filed original return (including extensions) for the taxable year to which the election applies.

(3) Revocation. An election under this section may not be revoked except with the consent of the Commissioner. A taxpayer must attach the Commissioner's consent to revoke an election under section 41(c)(4) to the taxpayer's timely filed original return (including extensions) for the taxable year of the revocation.

(4) Effective date. Paragraphs (b)(2) and (3) of this section are applicable for taxable years ending on or after January 3, 2001.

Par. 17. Section 1.41-0A is added under the new undesignated centerheading "RESEARCH CREDIT--FOR TAXABLE YEARS BEGINNING BEFORE JANUARY 1, 1990" to read as follows:

§1.41-0A Table of contents.

This section lists the paragraphs contained in §§1.41-0A, 1.41-3A, 1.41-4A and 1.41-5A.

§1.41-0A Table of contents.

§1.41-3A Base period research expense.

- (a) Number of years in base period.
- (b) New taxpayers.
- (c) Definition of base period research expenses.
- (d) Special rules for short taxable years.
  - (1) Short determination year.
  - (2) Short base period year.
  - (3) Years overlapping the effective dates of section 41 (section 44F).
  - (i) Determination years.
  - (ii) Base period years.
- (4) Number of months in a short taxable year.
- (e) Examples.

§1.41-4A Qualified research for taxable years beginning before January 1, 1986.

- (a) General rule.
- (b) Activities outside the United States.
  - (1) In-house research.
  - (2) Contract research.
- (c) Social sciences or humanities.
- (d) Research funded by any grant, contract, or otherwise.
  - (1) In general.
  - (2) Research in which taxpayer retains no rights.
  - (3) Research in which the taxpayer retains substantial rights.
    - (i) In general.
    - (ii) Pro rata allocation.
    - (iii) Project-by-project determination.
  - (4) Independent research and development under the Federal Acquisition Regulations System and similar provisions.
  - (5) Funding determinable only in subsequent taxable year.
  - (6) Examples.

§1.41-5A Basic research for taxable years beginning before January 1, 1987.

- (a) In general.
- (b) Trade or business requirement.
- (c) Prepaid amounts.
  - (1) In general.
  - (2) Transfers of property.
- (d) Written research agreement.
  - (1) In general.
  - (2) Agreement between a corporation and a qualified organization after June 30, 1983.
    - (i) In general.
    - (ii) Transfers of property.
  - (3) Agreement between a qualified fund and a qualified educational organization after June 30, 1983.



- (e) Exclusions.
- (1) Research conducted outside the United States.
- (2) Research in the social sciences or humanities.
- (f) Procedure for making an election to be treated as a qualified fund.

**§1.218-0 [Removed]**

Par. 18. Section 1.218-0 is removed.

**§1.482-7 [Amended]**

Par. 19. In §1.482-7, the sixth sentence of paragraph (h)(1) is amended by removing the language "§1.41-8(e)" and adding "§1.41-6(e)" in its place.

PART 602-OMB CONTROL NUMBERS UNDER THE PAPERWORK REDUCTION ACT.

Par. 20. The authority citation for part 602 continues to read as follows:

Authority: 26 U.S.C. 7805.

Par. 21. In §602.101, paragraph (b) is amended by adding an entry to the table in numerical order to read as follows:

**§602.101 OMB Control numbers.**

\* \* \* \* \*

(b) \* \* \*

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CFR part or section where identified and described	Current OMB control No.
* * * * *	
1.41-4(d).....	1545-1625
* * * * *	
1.41-8(b).....	1545-1625
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Deputy Commissioner of Internal Revenue

Approved:

Acting Assistant Secretary of the Treasury