American Institute of CPAs
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December 11, 2013

Mr. Curt Wilson
Associate Chief Counsel
(Passthroughs & Special Industries Division)
Internal Revenue Service
1111 Constitution Avenue, N.W.
Washington, DC 20224

Re: Comments on Proposed Regulations to Amend the Definition of Research and Experimental Expenditures under Section 174 of the Internal Revenue Code (REG-124148-05)

Dear Mr. Wilson:

The American Institute of Certified Public Accountants (AICPA) appreciates the opportunity to submit comments with respect to the proposed regulations under section 174 of the Internal Revenue Code.[1] These comments were developed by the Section 174 Task Force of the AICPA Tax Methods and Periods Technical Resource Panel, and approved by the Tax Executive Committee.

The AICPA is the world's largest membership association representing the accounting profession, with more than 394,000 members in 128 countries and a 125-year heritage of serving the public interest. Our members advise clients on federal, state and international tax matters and prepare income and other tax returns for millions of Americans. Our members provide services to individuals, not-for-profit organizations, small and medium-sized businesses, as well as America's largest businesses.

We have identified two key issues in the application of proposed regulations under section 174 regarding the definition of research and experimental (R&E) expenditures. We respectfully request that the Internal Revenue Service (IRS) and Treasury modify the proposed regulations to address these issues with our detailed suggestions below to provide additional clarity in this area.

* * * * *

We appreciate your consideration of our recommendations and believe minor, but important, changes are necessary to provide clarification to taxpayers. We welcome a further discussion of these issues and our recommendations, and members of the task force are available to meet with government officials in this regard. If you have any questions, please contact Rayth Myers, Co-

[1] All references herein to "section" or "§" are to the Internal Revenue Code of 1986, as amended, or the Treasury Regulations promulgated thereunder.

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Sincerely,

Jeffrey A. Porter, CPA
Chair, Tax Executive Committee

cc: Donna Young, Deputy Associate Chief Counsel (Passthroughs & Special Industries Division), Internal Revenue Service
Alexa Claybon, Attorney-Advisor, Office of Tax Legislative Counsel, Department of the Treasury
Scott Mackay, Taxation Specialist, Office of Tax Legislative Counsel, Department of the Treasury

AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS

Comments on the Proposed Regulations under Section 174 Regarding Research and Experimental Expenditures

Developed by the
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Comments on the Proposed Regulations under Section 174 Regarding Research and Experimental Expenditures

Scope of Comments

On September 6, 2013, the Department of Treasury ("Treasury") and Internal Revenue Service (IRS) issued proposed regulations that would affect taxpayers that incur section 174 research and experimental (R&E) expenditures. These proposed regulations address several long-standing issues related to the eligibility of prototype or "pilot model" costs as R&E. The proposed regulations provide a definition of a "pilot model" and address whether the subsequent sale or other business use of a pilot model created to resolve design uncertainties is a factor in section 174 eligibility. In addition, the proposed regulations clarify the interaction between the section 174(c) rule requiring capitalization of costs to acquire depreciable property used in connection with research activities and the general definition of R&E, including costs related to pilot models.

The proposed regulations request comments, and the Section 174 Task Force of the AICPA (the "Task Force") is pleased to offer the following comments addressing the application of the proposed regulations and recommendations to provide additional clarity.

I. Executive Summary

The AICPA commends the IRS and Treasury for issuing the proposed regulations, which modify and clarify the definition of R&E expenditures under section 174. The proposed definition considers the taxpayer's intended use of the unit of property when evaluating and resolving uncertainty. We believe that the proposed definition would further the objective underlying section 174.

However, the AICPA recommends the following refinements to the proposed section 174 regulations to prevent potential future controversy between taxpayers and the IRS.

1. The AICPA recommends that the IRS and Treasury clarify the operation of the shrinking-back rule in Prop. Reg. § 1.174-2(a)(5) to clearly state that the costs of product or process validation testing activities, such as testing activities undertaken to eliminate uncertainty related to the design of a business component, including the appropriate integration of various subcomponents and sub-systems, constitute R&E expenditures.

   R&E expenditures paid or incurred to eliminate uncertainty regarding the appropriate design of components and integration of subcomponents frequently include costs of validation testing of the interaction of sub-systems as well as the design of product or process as a whole. However, the proposed regulations provide that the shrinking-back rule is not itself applied as a reason to exclude amounts from R&E expenditures. As a result, the AICPA is concerned that the proposed rule is still applicable with the benefit of hindsight to exclude amounts incurred during validation testing to eliminate uncertainty regarding the

integration of a component or subcomponent into the product's sub-systems or product as a whole. These activities should remain eligible as R&E expenditures.

Consequently, the AICPA provides suggested modifications to Example 8 to address the application of the shrinking-back rule to validation testing activities.

2. The AICPA recommends that the IRS and Treasury clarify the proposed modifications to the R&E expenditures definition through additional examples. Specifically, the final regulations should include examples illustrating that R&E expenditures incurred to eliminate uncertainty with respect to a product or component where such product results in a depreciable property eligible for section 174 treatment based on the operative language in Prop. Reg. § 1.174-2(a)(1). We also recommend that the final regulations include an example related to software. Such example should illustrate that development costs paid or incurred after some production activity begins, but before uncertainty concerning the design of the software is eliminated, are R&E expenditures.

A more detailed discussion of the above recommendations is included below.

II. Modify the Shrinking-Back Rule to Address Integration Risk

A. Background

1. General Section 174 Principles

Section 174(a) provides that a taxpayer may treat R&E expenditures that are paid or incurred during the taxable year in connection with the taxpayer's trade or business as expenses that are not chargeable to capital account. "The expenditures so treated shall be allowed as a deduction."[2]

Treasury Reg. § 1.174-2(a)(1) defines R&E expenditures as expenditures incurred in connection with the taxpayer's trade or business, which represent research and development costs in the experimental or laboratory sense. The term generally includes all such costs incident to the development or improvement of a product. Treasury Reg. § 1.174-2(a)(1) further provides that expenditures represent research and development costs in the experimental or laboratory sense if they are for activities intended to discover information that would eliminate uncertainty concerning the development or improvement of a product. Uncertainty exists if the information available to the taxpayer does not establish the capability or method for developing or improving the product or the appropriate design of the product.

Treasury Reg. § 1.174-2(a)(2) provides that "the term *product* includes any pilot model, process, formula, invention, technique, patent, or similar property, and includes products to be used by the taxpayer in its trade or business as well as products to be held for sale, lease, or license."

[2] Id. Under section 174(b), a taxpayer may elect to capitalize and treat certain R&E expenses as amortizable over a period of not less than 60 months.

The legislative history of section 174 indicates two purposes underlying the enactment of section 174(a): (1) to encourage research and experimental activities, and (2) to eliminate the uncertainty as to the tax treatment of research or experimental expenditures.[3]

2. Proposed Section 174 Regulations Add Shrinking-Back Rule

Proposed Reg. § 1.174-2(a)(5) propounds a shrinking-back rule allowing taxpayers to determine whether costs are section 174 eligible R&E expenditures at the level of the component or subcomponent, when costs are not section 174 eligible at the level of the entire product or process that the taxpayer would sell or place in service. As proposed, the shrinking-back rule is applied and administered in a manner that is consistent with the principles underlying the shrinking-back rule in Treas. Reg. § 1.41-4(b)(2), and should not be itself applied as a reason to exclude research or experimental expenses from section 174 eligibility.[4] Under the proposed shrinking-back rule, the presence of uncertainty concerning the development or improvement of certain components of a product would not necessarily indicate the presence of uncertainty concerning the development or improvement of other components of the product or the product as a whole.[5]

The preamble to the proposed regulations indicates that this rule was added because, as with business components under section 41, R&E expenditures may relate only to one or more components of the product after production of the product has begun. In that event, amounts paid to eliminate uncertainty regarding the appropriate design of certain components of the product should continue to qualify under section 174 even though the expenditures do not eliminate uncertainty with respect to the product as a whole.

To illustrate the shrinking-back rule, Example 8 in Prop. Reg. § 1.174-2(a)(11) analyzes R&E expenditures for developing a new type of compressor blade, a component of an aircraft engine, to improve the existing aircraft engine's design performance, as follows:

> *Example 8.* Y is a manufacturer of aircraft engines. Y is researching and developing a new type of compressor blade, a component of an aircraft engine, to improve its existing aircraft engine design's performance. To test the appropriate design of the new compressor blade and evaluate the impact of fatigue on the design, Y produces and installs the compressor blade on an aircraft engine produced by Y. The costs of producing and installing the compressor blade component that Y incurred represent research and development costs in the experimental or laboratory sense. Because Y produced the compressor blade component to resolve uncertainty regarding the appropriate design of the component, the component is a pilot model under paragraph (a)(4) of this section. Therefore, the costs that Y incurred to produce and install the component qualify as research or experimental expenditures under section 174. See paragraph (a)(5) of this section (shrinking-back rule). However, section 174 does not apply to Y's costs of producing the aircraft engine on which the component was installed. See paragraph (a)(2) of this section (relating to production costs).

[3] See H.R. Rep. No. 1337, 83rd Cong., 2d Sess. 28 (1954).
[4] Prop. Reg. § 1.174-2(a)(5).
[5] See id.

The proposed regulations do not specifically indicate whether – under certain circumstances – expenditures incurred during validation testing to eliminate uncertainty regarding the integration of a component or subcomponent (such as a compressor blade) into the product's sub-systems or the product as a whole, are R&E expenditure for purposes of section 174.

B. Comments on the Shrinking-Back Rule under the Proposed Regulations

The AICPA is concerned that the application of the proposed shrinking-back rule may work to exclude from section 174 treatment expenditures incurred to conduct validation testing to eliminate uncertainty regarding the integration of a component or subcomponent into the product's other sub-systems or product as a whole. Specifically, the AICPA is concerned that IRS examining agents may deny section 174 eligibility to qualifying R&E expenditures incurred during validation testing based on a broad interpretation of Prop. Reg. § 1.174-2(a)(5) and Example 8 in Prop. Reg. § 1.174-2(a)(11).

As noted above, Prop. Reg. § 1.174-2(a)(5) states "[t]he presence of uncertainty concerning the development or improvement of certain components of a product does not necessarily indicate the presence of uncertainty concerning the development or improvement of other components of the product or the product as a whole." The AICPA is concerned that IRS examining agents will refer to that language to challenge expenditures incurred to eliminate uncertainty with respect to integrating an improved or re-designed component with other components, product sub-systems, or the product as a whole. In particular, the AICPA is concerned that such language would enable IRS examining agents, using hindsight, to exclude research undertaken to test a hypothesis that fails.

For example, the IRS might challenge testing conducted by an aircraft manufacturer as in Example 8 of whether the manner in which a bearing was assembled might cause vibration leading to compressor blade fatigue. If the testing ultimately disproves the hypothesis that the problem lies in the bearing assembly procedures, such result would not modify the bearing assembly process, even though these costs were part of the process of attempting to discover factors contributing to the compressor blade fatigue problem. As a result, we are concerned that an IRS examining agent could attempt to rely on Example 8 as justification for excluding these testing costs as R&E expenditures. Product systems do not exist in a vacuum, and, as discussed in detail below, R&E activities initially undertaken to eliminate uncertainty with respect to a particular component or subcomponent may raise additional uncertainties with respect to other portions and sub-systems of the product, or the product as a whole, such that all costs incident to these activities should qualify under section 174.[6]

Additionally, while Example 8 indicates the R&E expenditures associated with developing an improved compressor blade are section 174 eligible, it appears to assume that Y can insert effortlessly a re-designed compressor blade into an existing engine. A compressor blade is a vital component of an aircraft engine, influencing, among other things, the engine's weight, mass, moment of inertia, ability to generate thrust, fuel efficiency, and thermal characteristics. It is impossible to evaluate a modified compressor blade in isolation without giving careful

[6] As the court in *Trinity Indus. v. United States*, 691 F. Supp. 2d 688, 692 (N.D. Tex. 2010), noted, "the systems do not exist in a vacuum. They interact with each other, sometimes in complex and nonintuitive ways. A change in electronics may require a change in power generation and distribution, which may require a change in the engine plant, any one of which may affect the weight distribution and performance of the vessel as a whole."

consideration to the influence of the blade on the engine design. Subsequently, Example 8 does not address the section 174 eligibility of activities related to validation testing of the blade, that is, the activities related to testing the impact the improved compressor blade might have on the engine's other components, sub-systems, or engine as a whole. The AICPA is concerned that IRS examining agents will interpret too broadly the Example's penultimate sentence – "However, section 174 does not apply to Y's costs of producing the aircraft engine on which the component was installed." Costs associated with validation testing activities are an essential element of product development and fall within the scope of section 174. The AICPA believes the potential denial of section 174 eligibility for these R&E expenditures would contravene the purpose of section 174, which as noted above is to (1) to encourage research and experimental activities, and (2) to eliminate the uncertainty as to the tax treatment of R&E expenditures.[7]

We can further illustrate our concerns with the language of the proposed rule and Example 8 in the context of the automobile industry. Validation testing of products is required for many heavily regulated industries, including the automobile industry. Automobiles may contain thousands of parts, all of which must work in concert to contribute to the functionality of the vehicle as a whole. Modifications designed to improve a portion of a vehicle is very complex as they may have cascading effects on other systems. Thus, evaluating each modification to a portion of an automobile is required in conjunction with the potential impact that it may have on numerous other component parts, sub-assemblies, assemblies, and the vehicle as a whole. A re-design of any particular part of the vehicle typically requires extensive testing to reduce risks and eliminate uncertainties with respect to other components, sub-systems, and the vehicle as a whole. The testing not only must ensure that modification of the particular part has been appropriately accomplished, but must validate the continuing utility of existing functions that may not have been taken into account when first attempting to improve a single part.

For example, if one of an automobile's parts is modified, testing is required for that modified part, or groupings of parts as the modified part interacts with other components, subassemblies, assemblies, and the automobile as a whole. Manufacturers cannot simply presume that eliminating uncertainties at the component or subcomponent level necessarily eliminates all uncertainties for the vehicles' other components and systems, and the vehicle as a whole. Rather, manufacturers must ensure these remaining uncertainties have actually been eliminated through validation testing, i.e., the process of development, simulation testing, prototyping, and prototype testing of the integrated product as a whole.

Accordingly, the AICPA proffers the following example illustrating these concepts, which was originally submitted in March 1993 comments to the IRS and Treasury by the American Automobile Manufacturers Association in response to proposed regulations under section 174 issued on March 23, 1993.[8] Assume that a manufacturer of motor vehicles undertakes the development of an improved powertrain assembly that it intends to use in an existing line of smaller cars and light trucks. The manufacturer intends to complete the development in time to market the existing models with the improved powertrains two model years in the future. The manufacturer was uncertain at the outset as to the most appropriate powertrain design alternative. After considering a number of alternative methods for improving the powertrain, the manufacturer decided to develop a small, powerful, fuel-efficient engine. The manufacturer

[7] See H.R. Rep. Ho. 1337, 83rd Cong., 2d Sess. 28 (1954).
[8] Prop. Reg. § 1.174-2, 58 Fed. Reg. 15819 (March 24, 1993).

expects the new engine to operate in the powertrain assembly with existing components (e.g., using existing clutch and transmission components).

At the engine level, the manufacturer evaluated a number of design alternatives and after a number of experiments settled on increasing the stroke of a previously developed engine to increase the engine's displacement. This alternative involved both the utilization of existing parts and the creation of new parts. The manufacturer designed, developed, and tested prototype parts and, as the development effort progressed, integrated these new parts with the existing parts to create prototypes of the improved engine. These initial prototype engines were tested extensively; for example, dynamometer testing was performed to evaluate the operation of the improved engine.

While the dynamometer tests reduced some of the uncertainties surrounding the operation of the engine, prototype testing in an actual operating environment always is required. For purposes of conducting these engine tests, existing transmissions and clutches were used to build prototype powertrains. The data obtained from these tests validated the design changes to the engine. The tests also eliminated the uncertainty of whether the existing transmissions and clutches functioned properly with the improved engine.

Testing to determine that the transmissions and clutches function properly with the improved engine was required because the operating characteristics of the improved engine differed from the characteristics of existing engines. Following the results of these tests, the development of automobiles utilizing the new powertrain assembly was undertaken, followed by the same type of prototyping and testing activities undertaken at the powertrain level. These tests of the automobile were undertaken not only to validate the efficacy of the powertrain assembly, but also to ascertain the impact of the new assembly on other components or subassemblies and other factors such as fuel efficiency, vibration, noise, etc... For example, the new powertrain may require changes in suspension, braking, or steering components due to different weight and performance characteristics of the vehicle.

Although the validation testing methodologies described above are well known, and the engineers are capable of performing the testing, new knowledge is discovered during this process in determining, for example, whether the existing transmissions and clutches function properly with the improved engine. Notwithstanding the fact that the manufacturer had already "discovered" a design alternative that appeared to meet its requirements, the previously performed simulation testing was not sufficient to establish whether the improved engine would function properly with the existing transmission and clutch in an actual operating environment.

Thus, we believe that testing activities to validate whether the existing transmission and clutch will work with the improved engine are R&E expenditures within the meaning of section 174. Such testing activities are considered R&E expenditures because the information obtained during these activities will eliminate the uncertainty of whether this improved engine would operate properly in the existing powertrain assembly of a specific automobile.

As shown by the above example, R&E expenditures paid or incurred during validation testing to remove uncertainty regarding the integration of the component or subcomponent into the product's sub-systems or product as a whole are section 174 eligible R&E expenditures, and

should maintain its section 174 eligibility because the costs are incurred in the product's development stage.

C. AICPA Recommendations

In order to address the AICPA's concerns regarding the application of the proposed shrinking-back rule, the AICPA respectfully recommends that the IRS and Treasury modify the shrinking-back rule in Prop. Reg. §1.174-2(a)(5) to address validation testing activities, which constitute section 174 eligible R&E expenditures, as follows:

> (5) Shrinking-back rule. If the requirements of paragraph (a)(1) of this section are not met at the level of a product (as defined in paragraph (a)(3) of this section), then whether expenditures represent research and development costs is determined at the level of the component or subcomponent of the product. The presence of uncertainty concerning the development or improvement of certain components of a product ***may*** ~~**does not necessarily**~~ indicate the presence of uncertainty concerning the development or improvement of other components of the product or the product as a whole. ***For example, the research and experimental expenditures of product validation testing activities qualify under section 174.*** The rule in this paragraph (a)(5) is not itself applied as a reason to exclude research or experimental expenditures from section 174 eligibility. The rule in this paragraph (a)(5) is to be applied and administered in a manner that is consistent with the principles underlying the shrinking-back rule in § 1.41-4(b)(2).

Additionally, we respectfully recommend that the IRS and Treasury modify Example 8 to address the application of the shrinking-back rule to validation testing activities, as follows:

> *Example 8.* Y is a manufacturer of aircraft engines. Y is researching and developing a new type of compressor blade, a component of an aircraft engine, to improve its existing aircraft engine design's performance. To test the appropriate design of the new compressor blade and evaluate the impact of fatigue on the design, Y produces and installs the compressor blade on an aircraft engine produced by Y. The costs of producing and installing the compressor blade component that Y incurred represent research and development costs in the experimental or laboratory sense. Because Y produced the compressor blade component to resolve uncertainty regarding the appropriate design of the component, the component is a pilot model under paragraph (a)(4) of this section. Therefore, the costs that Y incurred to produce and install the component qualify as research or experimental expenditures under section 174. See paragraph (a)(5) of this section (shrinking-back rule). ***Research and experimental expenditures paid or incurred during validation testing to eliminate uncertainty regarding the integration of the compressor blade into the aircraft engine's sub-systems or engine as a whole qualify as section 174 research and experimental expenditures. However, section 174 does not apply to Y's costs of producing the aircraft engine (on which the component was installed) after uncertainty has been eliminated through validation testing with respect to the entire engine.*** See paragraph (a)(2) of this section (relating to production costs).

III. Clarify Definition of Research and Experimental Expenditures with Additional Examples

A. Background

1. Section 174 Eligibility for Depreciable Property

Section 174(c) and Treas. Reg. § 1.174-2(b)(1) provide that section 174 does not apply to any expenditure for the acquisition or improvement of property which is used in connection with research and experimentation and of a character that is subject to the allowance for depreciation or depletion. However, for purposes of section 174, depreciation or depletion allowances for such property are considered as eligible section 174 expenditures to the extent that the property to which the allowances relate is used in connection with research or experimentation.[9] Further, Treas. Reg. § 1.174-2(b)(2) provides that R&E expenditures "which result, as an end product of the research or experimentation in depreciable property to be used in a taxpayer's trade or business may be allowable as a current expense under section 174(a)." However, under the current final regulations, the cost of the component materials of the asset constructed is not deductible and is charged to an asset account.[10] This comment letter refers to the rules in Treas. Reg. §§ 1.174–2(b)(1) and 1.174–2(b)(4) as the ''Depreciable Property Rule.''

2. Treatment of Production Costs Under the Proposed Regulations

The IRS and Treasury made clear in Prop. Reg. § 1.174-2(a)(1) that "[t]he ultimate success, failure, sale, or use of the product is not relevant to a determination of eligibility under section 174. Costs may be eligible under section 174 if paid or incurred after production begins but before uncertainty concerning the development or improvement of the product is eliminated." The AICPA commends this approach, and notes that it is consistent with the Tax Court's holding in *T.G. Missouri Company v. Commissioner*.[11] In the preamble to the proposed regulations, the IRS and Treasury indicate this addition was made since "an interpretation of the Depreciable Property Rule that creates an override to section 174 eligibility upon the occurrence of a subsequent event (such as a sale of a resulting product or ***its use in the taxpayer's trade or business***) does not further the Congressional purpose of resolving accounting uncertainties and encouraging business investment in research because taxpayers may not be able to know whether an expenditure was section 174 eligible at the time the expense is paid or incurred." ***(emphasis added)***. Rather, the IRS and Treasury intend the Depreciable Property Rule to (1) limit the amount that a taxpayer can treat as an eligible section 174 expense to depletion or depreciation deductions with respect to land or depreciable property used in connection with R&E,[12] and (2) reiterate that the only expenditures related to the production of depreciable property that are deductible section 174 expenditures are amounts expended for research or experimentation.[13] Notably, Prop. Reg. § 1.174-2(b)(4) eliminates the requirement in current Treas. Reg. § 1.174-2(b)(4) that "amounts expended for research or experimentation do not include the costs of the component materials of the depreciable property, the costs of labor or

[9] See Treas. Reg. § 1.174-2(b)(1).
[10] See Treas. Reg. § 1.174-2(b)(4) (providing "amounts expended for research or experimentation do not include the costs of the component materials of the depreciable property, the costs of labor or other elements involved in its construction and installation, or costs attributable to the acquisition or improvement of the property.").
[11] 133 T.C. 278 (2009) (rejecting the Commissioner's argument that research or experimental expenditures were disqualified under section 174 because the product resulting from research was sold to customers and was subject to depreciation in the customers' hands).
[12] See Treas. Reg. § 1.174-2(b)(1).
[13] See id.; Prop. Reg. § 1.174-2(b)(4).

other elements involved in its construction and installation, or costs attributable to the acquisition or improvement of the property."

Additionally, the IRS and Treasury added a new paragraph in Prop. Reg. § 1.174-2(a)(2) which states "Except as provided in paragraph (a)(5) of this section (the shrinking-back rule), costs paid or incurred in the production of a product after the elimination of uncertainty concerning the development or improvement of the product are not eligible under section 174." The preamble to the proposed regulations provides an example to explain the Depreciable Property Rule, as follows:

> [W]here a $30,000 total cost expended on a machine includes $20,000 of research-related labor and materials and, after all uncertainties related to the machine are resolved, $10,000 of construction-related labor and materials, the $10,000 of construction-related labor and materials is not a section 174 expenditure because that cost was not a research or experimental cost within the meaning of [Treas. Reg.] § 1.174-2(a).

B. Application of Proposed Regulations to Depreciable Property Rule

The AICPA agrees with the clarification in Prop. Reg. § 1.174-2(a)(1) that the ultimate success, failure, sale, or use of the product is not relevant to a determination of eligibility under section 174, but rather section 174 eligibility hinges on whether R&E expenditures were incurred to eliminate uncertainty with respect to a product or component. R&E expenditures paid or incurred to eliminate uncertainty with respect to a product or component that result in depreciable property of the taxpayer, are section 174 eligible based on the operative language in Prop. Reg. § 1.174-2(a)(1) (i.e., the ultimate use of the product is not relevant for a determination of section 174 eligibility).[14] As discussed below, the AICPA recommends additional examples showing R&E expenditures paid or incurred to eliminate uncertainty that result in depreciable property owned by the taxpayer are section 174 eligible.

Additionally, we note that Examples 1 and 3 in Prop. Reg. § 1.174-2(b)(5) are variations of the example in the preamble (which is a variation of the example in Treas. Reg. § 1.174-2(b)(4)). These examples are adequate for those fact patterns, in which a taxpayer's uncertainty is eliminated prior to using the produced property in their trade or business (i.e., resulting in depreciable property). However, they do not provide clarity in those instances in which the taxpayer's uncertainty is not eliminated until after the taxpayer uses such the property in its trade or business. For example, in the case of software, generally R&E expenditures are paid or incurred after production begins but before uncertainty concerning the development or improvement of the software is eliminated. Additionally, there are no costs of production paid or incurred for software development after uncertainty is eliminated. In these situations a taxpayer's uncertainty is not resolved until after production and final testing and product completion. In this situation, the examples indicate that the cost of tangible property is not deductible under section 174, even though uncertainty may exist until production is completed and tested. This result is consistent with the language in the proposed changes to Treas. Reg. § 1.174-2(a)(1). As discussed below, the AICPA recommends the proposed regulations address this factual situation through additional examples.

[14] See Treas. Reg. § 1.174-2(b)(2).

C. AICPA Recommendations

In order to provide additional clarity with respect to the proposed R&E expenditures definition, the AICPA respectfully recommends that the IRS and Treasury add Examples 1 and 2 below. Our examples demonstrate that the ultimate use of the product as depreciable property is not relevant to a determination of eligibility under section 174, but rather, the determination depends on whether there was uncertainty at the time the R&E expenditures were incurred.

1. Taxpayer is a manufacturer. Taxpayer develops a pilot model for a new machine (e.g., 3D printer) to use in its trade or business to produce a variety of products, including E, P, and M. There is uncertainty regarding the appropriate design of the machine, including the materials to construct the machine, software, and the machine's compatibility with 3D print materials (e.g., metal alloys, thermoplastics, ceramics, and etc.). Taxpayer incurs $5,000,000 in costs, which include materials, labor, and other costs in producing the machine, testing the machine using various materials, modifying the machine, the software that operates the machine and the procedures employed for some of the materials, and testing the modified machine to confirm the validity of the design changes. Although certain amounts were incurred to produce the machine, the amounts were incurred while there was uncertainty as to the machine's design and process (i.e., the technique the machine uses for all materials), and which resulted in a pilot model of the machine that was used to test the design. After testing the machine on various materials, Taxpayer placed the property in service in its trade or business. As uncertainty existed at the time of production of the machine, all $5,000,000 of the costs incurred, including the production costs, are eligible under section 174(a).

2. Taxpayer develops and uses production molds to manufacture automotive parts for its customers. Taxpayer contracts with third-party toolmakers to build the production molds engineering specification, but the molds are produced at Taxpayer's risk, as the toolmakers do not guarantee the operability or economic utility of the molds. After a third-party toolmaker finishes constructing a new version of the mold, Taxpayer incurs costs to test the mold to see if it will successfully produces parts. If the molds fail to produce parts, Taxpayer will incur additional design and engineering costs to modify the mold design. If after testing a mold, it is determined that the mold successfully produce parts, Taxpayer then either sells the completed production molds to its customers or retains ownership of the molds, but in either case Taxpayer will use the molds for production of automotive parts. Taxpayer incurs $1,000,000 in costs, which include materials, labor, and other costs in producing the molds. Although certain amounts were incurred to produce the molds, there is uncertainty as to whether the design of molds was tested. Because the ultimate success, failure, sale, or ***use*** of the product is not relevant to a determination of eligibility under section 174, the amounts Taxpayer paid for the molds it uses to produce parts are deductible under section 174, regardless of whether those molds are sold to customers or are retained and used in Taxpayer's trade or business, because they were incurred to eliminate uncertainty with respect to the molds.

Additionally, in order to address the concern that uncertainty concerning the development or improvement of a product is not eliminated prior to production, the AICPA respectfully recommends that the IRS and Treasury provide Example 3 below as an additional example. Our recommended example would clarify the section 174 eligibility of taxpayers' R&E expenses where all such costs, including materials, labor, and other production costs, are paid or incurred after production begins but before the elimination of uncertainty concerning the development or improvement of the property used in the taxpayers trade or business.

3. Taxpayer incurs a total of $30,000 to improve a product for use in its trade or business. All of the $30,000 is incurred prior to eliminating the uncertainty. Of the $30,000, $20,000 was incurred for research-related labor and materials, and $10,000 was incurred for labor (and de minimis supplies) to develop and produce software. The uncertainty of the design was not eliminated until the taxpayer tested the product with the software to determine if the design of the product is appropriate. The design of the software succeeded. Although the software is produced or developed for use in the taxpayer's business, the software-related labor and materials are qualifying research and experimental expenditures within the meaning of Treas. Reg. § 1.174-2(a) because they are for amounts paid or incurred to eliminate uncertainty regarding the design of the software. Accordingly, all $30,000 is eligible research or experimental costs under section 174(a).

IV. Conclusion

The AICPA recommends that the IRS and Treasury modify the shrinking-back rules and Example 8 in the proposed section 174 regulations to state that validation testing activities are section 174 eligible R&E expenditures. Additionally, the AICPA recommends the IRS and Treasury add examples indicating R&E expenditures paid or incurred to eliminate uncertainty with respect to a product or component which result in depreciable property of the taxpayer, are section 174 eligible based on the operative language in Prop. Reg. § 1.174-2(a)(1). The AICPA also recommends additional examples demonstrating that R&E expenditures paid or incurred after production begins but before uncertainty concerning the development of the software is eliminated qualify as R&E expenditures under section 174. We believe the proposed regulations, with these modifications, further support the purpose of section 174 – to encourage R&E activities and to eliminate the uncertainty as to the tax treatment of R&E expenditures – and will reduce future controversy between taxpayers and the IRS.