

that in order to constitute qualified research, substantially all of the activities of the research must constitute elements of a process of experimentation related to a new or improved function, performance, or reliability or quality. The legislative history to the 1986 Act explained that “[t]he determination of whether research is undertaken for the purpose of discovering information that is technological in nature depends on whether the process of experimentation utilized in the research fundamentally relies on principles of the physical or biological sciences, engineering, or computer science.” H.R. Conf. Rep. No. 99-841, at II-71 (1986). The legislative history further explained that 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.” Id., at II-72. In addition, a process of experimentation may involve developing one or more hypotheses, testing and analyzing those hypotheses (through, for example, modeling or simulation), and refining or discarding the hypotheses as part of a sequential design process to develop the overall component. Id.

The 1998 proposed regulations defined a process of experimentation as “a process to evaluate more than one alternative designed to achieve a result where the means of achieving that result are uncertain at the outset.” Further, the 1998 proposed regulations specified that a process of experimentation is a four-step process requiring that the taxpayer: (i) Develop one or more hypotheses designed to achieve the intended result; (ii) design a scientific 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) conduct the experiment and record the results; and (iv) refine or discard the hypotheses as part of a sequential design process to develop or improve the business component. Commentators generally objected to this prescribed four-step test arguing that it would not be appropriate for evaluating the qualification of certain commercial and industrial research activities.

In response to these comments, the Treasury Department and the IRS in TD 8930 provided that taxpayers conducting a process of experimentation may, but were not required to, engage in the four-step process described in the 1998 proposed regulations, but

eliminated, for this purpose, the specific recordation requirement. (As an addition to the general recordkeeping requirement under section 6001, TD 8930 instead included a contemporaneous documentation requirement that was intended to be less burdensome than the specific recordation requirement. The contemporaneous documentation requirement in TD 8930 was eliminated in the 2001 proposed regulations.) Consistent with the legislative history, however, TD 8930 retained the underlying process of experimentation requirement in the 1998 proposed regulations by providing that 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.”

The 2001 proposed regulations further clarified the definition of a process of experimentation and provided, in relevant part, that “a process of experimentation is a process designed to evaluate one or more alternatives to achieve a result where the capability or the method of achieving that result, or the appropriate design of that result, is uncertain as of the beginning of the taxpayer’s research activities.” More specifically, however, the general requirement was modified in the 2001 proposed regulations to provide, first, that “a process of experimentation is a process *designed* to evaluate *one or more* alternatives to achieve a result.” (Emphasis added). The 2001 proposed regulations also provided that a process of experimentation may exist if a taxpayer performs research to establish the appropriate design of a business component even when the capability and method for developing or improving the business component are not uncertain. The 2001 proposed regulations further stated that a taxpayer’s activities do not constitute elements of a process of experimentation where the capability and method of achieving the desired new or improved business component, and the appropriate design of the desired new or improved business component, are readily discernible and applicable as of the beginning of the taxpayer’s research activities so that true experimentation in the scientific or laboratory sense would not have to be undertaken to test, analyze, and choose among viable alternatives. Finally, the 2001 proposed regulations emphasized that the determination of whether a taxpayer has engaged in a process of experimentation was dependent on the facts and circumstances of the

taxpayer’s research activities and, for this purpose, contained three non-dispositive and non-exclusive factors that tend to indicate that a taxpayer has engaged in a process of experimentation.

In response to the 2001 proposed regulations, a number of commentators expressed concern with the rules for the process of experimentation requirement, and, in particular, stated that the rules and terms used (including *uncertainty*, *appropriate design*, and *readily discernible and applicable*) did not provide clear guidance for the requirement. More specifically, commentators stated that the term *readily discernible and applicable* was highly subjective in nature, and thus arguably could be construed as a variant of the discovery test of TD 8930. In addition, one commentator expressed concern regarding the meaning and scope of the term *uncertain* and suggested adding examples illustrating the factors that tend to indicate that a taxpayer has engaged in a process of experimentation. Another commentator also noted that the 2001 proposed regulations appeared to allow the inclusion of all design costs as qualified research expenditures to the extent that the appropriate design of the desired result is never certain at the outset of the typical design process.

The Treasury Department and the IRS continue to believe that the process of experimentation test requires an evaluation of the facts and circumstances of a taxpayer’s research activities. As reflected by the changes made in the 2001 proposed regulations, this requirement is not intended to be inflexible or overly narrow. Nevertheless, the Treasury Department and the IRS continue to believe that the requirement in the 2001 proposed regulations that a process of experimentation is “a *process* designed to evaluate one or more alternatives to achieve a result” (emphasis added) implies that research activities must contain certain core elements in order to constitute a process of experimentation within the meaning of section 41(d)(1)(C). These final regulations, therefore, make the following clarifications relating to the process of experimentation requirement in the 2001 proposed regulations.

#### **Process of Experimentation—Requirements**

The final regulations retain, but further clarify, the requirement in the 2001 proposed regulations that “a process of experimentation is a process designed to evaluate one or more alternatives to achieve a result where