

## Seventh Circuit Decision Complicates Documentation of Research Activities for Tax Credit Purposes

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### Key Takeaways

- The Seventh Circuit torpedoed a taxpayer's research tax credits for two watercrafts.
- The decision creates confusion about how a taxpayer should document research activities and arguably undermines Congress's purpose in using research tax credits to stimulate domestic technological investment.

The Federal Court of Appeals for the Seventh Circuit, in *Little Sandy Coal Company v. Commissioner*,<sup>[1]</sup> affirmed the United States Tax Court's disallowance of **federal income tax credits** for a taxpayer's research expenses.

A finding that substantially all of the activities constituted elements of a process of experimentation was necessary for a finding that the taxpayer was entitled to the research credits.<sup>[2]</sup> The Seventh Circuit opined that the wages of the taxpayer's employees who "supported" the taxpayer's research activities could as a matter of law be counted as "activities" constituting elements of a process of experimentation.<sup>[3]</sup> If the wages were paid for research activities, they would be included in the numerator of a fraction that determines whether substantially all of the taxpayer's research activities constituted elements of a process of experimentation.<sup>[4]</sup> The denominator of the fraction is all the expenditures for the research project. In the *Little Sandy* case, the Seventh Circuit did not include the wages of employees who supported research, not because the wages were excluded as a matter of law, but because the taxpayer failed to prove that it paid the wages to workers for research activities.

Despite the reversal of the Tax Court ruling on the inclusion of wages for support activities in the fraction's numerator, the Seventh Circuit held that the taxpayer did not document that substantially all of the activities constituted elements of a process of experimentation. The case is easy to dismiss as noteworthy if the taxpayer merely failed to prepare and retain documents. Unfortunately, the Seventh Circuit opinion raises barriers to adequate documentation that taxpayers may find problematic.

The taxpayer in *Little Sandy* designed and fabricated vessels on special order from customers. At issue in the case were designs of a floating dry dock and modifications of a tanker barge. Our critique of the case focuses on the floating dry dock, but the comments apply equally to the tanker barge. The taxpayer asserted that the design of the floating dry dock was novel because the taxpayer had never designed such a vessel. The "novelty" argument essentially asked the court to infer that the taxpayer's activities to design the floating dry dock constituted elements of a process of experimentation – because how else could the design have been created. The Tax Court refused the inference, and the Seventh Circuit affirmed on this issue.

The taxpayer seemed on firm ground in making the novelty argument because the argument had been previously accepted in *Trinity Industries, Inc. v. United States*, in which a federal district court found that research activities to design a "very novel" vessel permitted an inference that substantially all of the activities to design it constituted elements of a process of experimentation.<sup>[5]</sup> The United States did not appeal the district court's decision in favor of the taxpayer's novelty argument.

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In *Little Sandy*, the Seventh Circuit ruled that the statutory test to determine if the taxpayer conducted a process of experimentation requires an investigation of all “activities” to determine if they constitute elements of an experimental process. Novelty of the product is irrelevant. The taxpayer then pointed to its naval architects and engineers who designed the floating dry dock as activities that constituted elements of the process, and it pointed to its production workers who fabricated the floating dry dock that it subjected to a submergence and buoyance test to determine if the floating dry dock could function and perform as designed.

The Seventh Circuit was unimpressed. It wanted evidence of the specific activity of each employee that constituted an element of the experimental process and found none. It quoted a Tax Court memorandum opinion describing a process of experimentation:

*To satisfy the process of experimentation test, the taxpayer should develop a hypothesis as to how a new alternative might be used to develop a business component, test that hypothesis in a scientific manner, analyze the results of the test, and then either refine the hypothesis or discard it and develop a new hypothesis and repeat the previous steps.[6]*

The Seventh Circuit erred in relying on a Tax Court decision that was not officially published rather than on a published Treasury Department regulation that expressly describes the elements of a process of experimentation. These elements require application of hard science or engineering to eliminate technological design uncertainty in the development or improvement of a product, followed by the conduct of a process capable of evaluating one or more design alternatives. Specific regulatory examples of an experimental process are modeling, simulation, and systematic trial and error engineering. Moreover, a regulatory definition of design uncertainty is that the information available to the taxpayer does not establish the capability or method for developing the product or the appropriate design of the of the product.[7]

The Seventh Circuit’s use of the word, “hypothesis” does not appear in Treasury Regulations defining a process of experimentation. The term is “appropriate design.” The taxpayer in *Little Sandy* engaged in a “design spiral,” which involved computer modeling to formulate a design addressing the floating dry dock’s intended function and performance. The taxpayer then fabricated and evaluated the floating dry dock, not only because it had to deliver it to its customer, but also because its naval architect and engineer had no assurance that computer modeling addressed all the technical variables a physical model reveals. The taxpayer’s testing – including a submergence and buoyancy test – required several design modifications. The taxpayer modeled the floating dry dock, which is expressly described as a process to evaluate a design.

The taxpayer measured these activities by including the wages of its employees who fabricated the floating dry dock in the numerator and denominator of the substantially all fraction, relying on a regulatory definition of a “pilot model” that permits a deduction for the cost of a model fabricated to evaluate and resolve technological uncertainty.[8] The Seventh Circuit ruled that even if the fabricated dry dock were a pilot model the cost of which was deductible for tax purposes, it did not enter into the credit calculation because the taxpayer did not prove that the taxpayer used the pilot model in an experimental test. According to the Seventh Circuit, an experimental test at the level of the entire floating dry dock must evaluate the design of every component of the floating dry dock.

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The court characterized the submergence-buoyancy test of the floating dry dock as a quality control test because it merely ascertained whether the floating dry dock submerged and rose “as designed and according to a customer’s desired parameters.” The court’s statement is surprising. The very point of an experimental test is to evaluate the “design,” which is an element of a process of experimentation.

The Seventh Circuit concluded that the taxpayer did not provide a “principled way” to determine the portion of employee activities that constituted elements of a process of experimentation. One would have thought that the guiding principles were in the tax regulations, but for *Little Sandy*, that was not the case. The evidence appeared uncontested that the taxpayer was uncertain about the design because the information available to it did not, at the outset of the project, establish the appropriate design. The Seventh Circuit acknowledged that some of the taxpayer’s activities were elements of a process of experimentation. That should have given the court pause in concluding that the taxpayer did not conduct credit-eligible research.[9]

The Seventh Circuit requires a taxpayer to produce documentation showing performance of a scientific methodology if research credits are to be allowed. Yet, Congress recognized that no uniform experimental method can be required because each industry necessarily approaches research in a manner that addresses the design and development of its own products. The purpose of the research credit is to “encourage business firms to perform the research necessary to increase the innovative qualities and efficiency of the U.S. economy.”[10] The Seventh Circuit’s approach to scientific methodology may disallow research credits for a number of industries whose approach to research activities do not meet the Seventh Circuit’s amorphous definition of science.

Please contact the authors or your Miller Canfield attorney to discuss these issues further.

[1] 62 F.4<sup>th</sup> 287 (2023).

[2] The Tax Reform Act of 1986 added the process of experimentation test to ensure that the credit is limited to product development activities that are capable of evaluating more than one technological alternative where the result is uncertain at the start of the project. Joint Committee on Taxation, “General Explanation of the Tax Reform Act of 1986,” pp. 130-133 (May 4, 1987).

[3] IRC §41(d)(1)(C); Treas. Reg. §1.41-4(a)(6).

[4] Treas. Reg. §1.41-4(a)(6).

[5] *Trinity Industries, Inc. v. United States*, 691 F.Supp.2d 688 (N.D. Tex. 2010), *revd on other issues*, 757 F.3d 400 (5<sup>th</sup> Cir. 2014).

[6] *Union Carbide v. Commissioner*, T.C. Memo. 2009-50, at 81.

[7] Treas. Reg. §1.174-2(a)(1).

[8] Treas. Reg. §1.174-1(a)(4).

[9] The Seventh Circuit stated that the taxpayer could have “shrunk back” from the level of the entire vessel to specific components the design of which was uncertain and offered evidence about the process used to eliminate the uncertainty of their design. The taxpayer did not do so, thus preventing the court from determining if the taxpayer

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conducted a process of experimentation for the components. From the taxpayer's perspective, design uncertainty was at the level of the entire vessel.

[10] Staff of the Joint Committee on Taxation, "General Explanation of the Tax Reform Act of 1986," p. 130 (May 4, 1987).