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Memorandum

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to: James L. Gessford
Attorney (St. Paul)
(Large & Mid Size Business)

from: Peter C. Friedman, Senior Technician Reviewer, Branch 6
Associate Chief Counsel
(Passthroughs & Special Industries)

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subject:

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LEGEND

Taxpayer =
Date 1 =
Date 2 =
Year =
x =

ISSUES

1) Do corn-based ethanol production plants, that use the dry mill procedure to produce ethanol, process liquid fuel from qualified fuels (as defined in section 45K(c) of the Internal Revenue Code) such that they qualify for the election to expense 50 percent of the cost basis of new plant property under section 179C(a)?

2) Was the denial of double benefit provision contained in section 168(l)(8) intended, at the time of its enactment, to apply to cellulosic bioethanol producers that use the hydrolysis (cellulolysis) process to produce ethanol?

CONCLUSIONS

1) Taxpayer's corn-based ethanol production plants, that use the dry mill procedure to produce ethanol, process liquid fuel from qualified fuels (as defined in § 45K(c)). Accordingly, such plants qualify to make an election under § 179C(a) to expense 50 percent of the cost basis of new plant property.

2) The denial of the double benefit provision contained in § 168(l)(8) was intended, at the time of its enactment, to apply to cellulosic bioethanol producers that use the hydrolysis (cellulolysis) process to produce ethanol.

PROCEDURAL BACKGROUND

For its taxable year ending Date 1, Taxpayer claimed deductions under § 179C for a portion of its costs relating to x corn-based ethanol production plants that it placed into service in Year. The plants are "similar in design and function." Upon Examination, the IRS issued a Notice of Proposed Adjustment (NOPA) disallowing Taxpayer's claimed § 179C deductions. The IRS challenged Taxpayer's deductions solely on the basis that the dry mill process used at each of the corn-based ethanol production plants does not involve "gas produced from biomass" and, therefore, the plants are not "qualified refinery property" within the meaning of § 179C.

On Date 2, Taxpayer submitted a Response to the NOPA (Response) in which Taxpayer argues that its dry mill production plants process liquid fuel from a "qualified fuel" and as a result, the § 179C deductions claimed in Year should be allowed. In support of this argument, Taxpayer argues that § 168(l)(8), as in effect for Year, indicates that Congress believed that refineries that use a dry mill process are eligible for the § 179C deduction.

FACTS

Taxpayer and its subsidiaries produce ethanol from corn using a dry mill process. The dry mill process involves four major stages of production: milling, liquefaction, fermentation, and distillation/separation.

Dry Mill Ethanol Process

The dry mill process involves the receipt and grinding of corn into flour. Next, during liquefaction, the corn flour is exposed to water, steam, and enzymes. The enzymes break the long chain carbohydrates in the corn into simple sugars that are then fed into the fermentation process where yeast is added. The yeast converts the simple sugars to alcohol. The resulting alcohol and water mix then moves to the distillation/separation stage.

Distillation and separation is the final stage of ethanol production. Distillation uses the differing boiling points of ethanol and water to separate the ethanol from the water contained in the beer. Ethanol boils at a lower temperature than water and, as a result, evaporates into a gas and separates from the water (which is left behind in liquid form). The distillation process produces approximately 96% pure ethanol. A molecular sieve is then used to further purify the ethanol by removing any remaining water. Prior to the distillation and separation stage, the ethanol and water are in a liquid mixture that is not commercial usable as ethanol. It is only through the distillation and separation stage – during which the ethanol is processed into a gas by boiling it and then cooling the gas back into liquid form – that the ethanol becomes a commercial fuel product.

Cellulosic Ethanol Process

Cellulosic ethanol production – which Taxpayer does not use – starts with cellulose (instead of corn) as the primary raw material. Cellulose can be derived from a variety of sources, including cell walls, leaf stems, stalks and woody portions of plants. Cellulose is processed into ethanol using either a hydrolysis (also known as cellulolysis) process or a gasification process.

Hydrolysis

The hydrolysis process involves three steps: cellulosic breakdown, fermentation, and distillation/separation. During cellulosic breakdown, enzymes break the cellulose into simple sugars. This process is known as enzymatic hydrolysis, and typically occurs while the cellulosic material and enzymes are in a liquid form that is similar to the liquefaction process used to process corn ethanol. The simple sugars then go through the fermentation process. During the fermentation of cellulosic ethanol, yeast is added to the simple sugars. This process is identical to the fermentation process that occurs when producing corn-based ethanol in the dry mill process. Finally, the fermented cellulosic material undergoes the distillation and separation process. This process is identical to the distillation and separation process used to make corn-based ethanol. Like the dry mill process used to produce ethanol from corn, cellulosic ethanol produced through the enzymatic hydrolysis process passes through a gaseous state *only* during the distillation process.

Gasification

Gasification involves the conversion of cellulose into a gaseous mixture of carbon monoxide, carbon dioxide and hydrogen known as synthesis gas or syngas. Then, in what is known as the Fischer-Tropsch process, the syngas is combined with a solid catalyst to generate a chemical reaction that yields a liquid fuel. Thus, cellulosic ethanol produced through the gasification process produces gas in the form of syngas from decomposition or through a partial combustion process.

In summary, cellulosic biomass used in the hydrolysis process passes through three stages: cellulosic breakdown, fermentation, and distillation/separation. The *only* gas generated in the production of cellulosic ethanol under the enzymatic hydrolysis process exists during distillation when the alcohol is boiled off in the form of ethyl alcohol vapor. Similarly, in the dry mill process used by Taxpayer, corn-based ethanol is produced in four stages: milling, liquefaction, fermentation, and distillation/separation. Similar to hydrolysis, the *only* gas produced in the dry milling corn-to-ethanol process is the ethyl alcohol vapor created during the distillation process.

LAW AND ANALYSIS

Section 179C(a) provides that a taxpayer may elect to deduct 50 percent of the cost of any qualified refinery property in the year in which such property is placed in service.

Section 179C(c) defines "qualified refinery property" as "any portion of a qualified refinery" that meets certain requirements.

Section 179C(d) defines a "qualified refinery" as "any refinery located in the United States which is designed to serve the primary purpose of processing liquid fuel from crude oil or qualified fuels (as defined in § 45K(c)), or directly from shale or tar sands."

Section 45K(c)(1)(B)(ii) defines "qualified fuels" to include "gas produced from biomass."

Section 45K(c)(3) provides that "the term biomass means any organic material other than (A) oil and natural gas (or any product thereof), and (B) coal (including lignite) or any product thereof."

Section 168(l)(1), as in effect for the taxable year ending December 31, 2007, provides that, in the case of any qualified cellulosic biomass ethanol plant property, the depreciation deduction provided by § 167(a) for the taxable year in which such property is placed in service shall include an allowance equal to 50 percent of the adjusted basis of such property.

Section 168(l)(2), as in effect for the taxable year ending December 31, 2007, defines "qualified cellulosic biomass ethanol plant property" as property that is "used in the United States solely to produce cellulosic biomass ethanol" and meets certain other requirements.

Section 168(l)(3), as in effect for the taxable year ending December 31, 2007, defines "cellulosic biomass ethanol" as "ethanol produced by hydrolysis of any lignocellulosic or hemicellulosic matter that is available on a renewable or recurring basis."

Section 168(l)(8) provides that the special allowance provided by § 168(l)(1) does not apply to any qualified cellulosic biomass ethanol plant property with respect to which an election has been made under § 179C.

Do Taxpayer's Plants, Discussed Herein, Qualify under Section 179C?

To determine whether Taxpayer qualifies to make an election under § 179C(a) for the corn-based ethanol production plants that it placed in service in Year, Taxpayer must show that each plant is a "qualified refinery" with the primary purpose of processing liquid fuel from "qualified fuels (as defined in § 45K(c))." In this case, the "qualified fuel" used by Taxpayer's plants is "gas produced from biomass." The biomass used by Taxpayer's ethanol production plants is corn. More specifically, the issue is whether ethyl alcohol vapor that is produced from corn during the dry mill process is "gas produced from biomass."

In its Response, Taxpayer notes that Congress has provided no specific guidance regarding what is meant by "gas produced from biomass." Furthermore, Taxpayer points out that the statutory language and legislative history of § 45K do not require a specific process to create gas from biomass during the production of liquid fuels. Taxpayer also notes that the legislative history of § 179C reflects the fact that Congress did not intend a "specific gasification process" to be used to produce "gas from biomass" for purposes of § 179C. Taxpayer submits that Congress intended that "gas produced from biomass" be interpreted broadly for purposes of defining a qualified refinery under § 179C and § 168(l). Thus, Taxpayer contends that if Congress either didn't specify a specific gasification process to be used to produce gas from biomass, or intended a broad interpretation of the term "gas produced from biomass", then ethyl alcohol vapor (a gas) created in the distillation stage of the dry mill process converting corn to ethanol can be considered "gas produced from biomass."

Taxpayer also argues that the legislative history of § 179C makes clear that the term "refinery" includes "a facility that processes coal via gas into liquid fuel." Joint Committee on Taxation, *Description and Technical Explanation of the Conference Agreement of H.R. 6*, *Title XIII, the "Energy Tax Incentives Act of 2005"* (JCX-60-05), July 28, 2005. The Joint Committee report accompanying the enactment of § 168(l) restated that for purposes of § 179C, a refinery includes "a facility that processes coal or biomass via gas into liquid fuel." Joint Committee on Taxation, *Technical Explanation of H.R. 6408, the "Tax Relief and Health Care Act of 2006," as Introduced in the House on December 7, 2006* (JCX-50-06), December 7, 2006. The dry mill process used by Taxpayer creates ethyl alcohol vapor (a gas) from fermented biomass (corn) to process a liquid fuel (ethanol). Taxpayer also asserts, based on the legislative history of § 179C and § 168(l), that while qualified fuels may *include* liquid fuel derived from gas produced from decomposition, gasification, and partial combustion of biomass, that does not *preclude* a liquid fuel derived from gas produced from biomass through a distillation process from also being a qualified fuel within the meaning of § 179C. Therefore, Taxpayer concludes that its corn-based ethanol production plants "process biomass via gas into liquid fuel" satisfying the plain meaning of words of the legislative history.

In the instant case, the absence of legislative history specifying a gasification process that must be used to create "gas produced from biomass" under § 45K(c) or § 179C leads to the conclusion that the ethyl alcohol vapor (a gas) created in the course of Taxpayer's dry mill process is "gas produced from biomass" for purposes of § 179C. As a result, the dry mill process used by Taxpayer's corn-based ethanol production plants process liquid fuel (ethanol) from a qualified fuel (gas produced from biomass). Accordingly, Taxpayer's x corn-based ethanol production plants are "qualified refineries" with the primary purpose of processing liquid fuel from qualified fuels (as defined in § 45K(c)), and thereby qualify for the § 179C deduction.

Was § 168(l)(8) Intended, At the Time of Its Enactment, To Apply To Cellulosic Bioethanol Producers That Use the Hydrolysis Process To Produce Ethanol?

In support of its argument above, Taxpayer asserts that by the inclusion of § 168(l)(8), Congress expressed its understanding that a refinery that uses the hydrolysis process (like the dry mill process) to produce ethanol could be eligible for the § 179C deduction.

Taxpayer's Initial Brief points out that, prior to its amendment in 2006, the bonus depreciation allowed under § 168(l) was available only to plants producing ethanol from cellulosic material using the hydrolysis process. As discussed above, ethanol produced through hydrolysis (like the dry mill process) is in a gaseous state *only* during the distillation and separation stage of the process.

In its Response, Taxpayer asserts that § 168(l)(8) was enacted to prevent the same taxpayer from claiming deductions under both § 168(l) and § 179C. During Year, § 168(l) did not apply to any method of producing ethanol other than hydrolysis (in which ethanol is in gaseous form *only* during distillation and separation). Consequently, Taxpayer notes that there could never be a situation in which the same taxpayer could be eligible for deductions under both § 168(l) and § 179C unless § 179C applied to hydrolysis processes (like the dry mill process) in which the ethanol is in a gaseous state *only* during the distillation and separation stage. Hence, Taxpayer asserts that *unless* § 179C applied to ethanol produced through hydrolysis there was no need for § 168(l)(8)'s denial of a double benefit under both sections. Accordingly, Taxpayer argues that because Congress amended § 168(l) in 2006 by adding § 168(l)(8) to prevent a double benefit, there is a clear indication that § 179C can, and does, apply to production processes in which the ethanol is in gaseous state *only* during distillation and separation. Furthermore, Taxpayer argues that the enactment of § 168(l)(8) confirms that distillation satisfies the "via gas" processing requirement for a "qualified refinery" discussed in the legislative history of § 179C because, if it did not, there could never be any overlap between § 168(l) and § 179C and the denial of double deduction contained in § 168(l)(8) would have been meaningless at the time of enactment.

In considering the legislative history of § 179C and § 168(l)(8), we must start with the statutory language. In general, statutory language is interpreted in its ordinary, everyday sense. *See, e.g.*, Crane v. Commissioner, 331 U.S. 1 (1947) (*citing* Old

Colony R. Co. v. Commissioner, 284 U.S. 552 (1932)). In addition, statutes should be interpreted to give each word meaningful effect. *See, e.g.*, Walters v. Metropolitan Educ. Enter., Inc., 519 U.S. 202 (1997). Where statutory language is ambiguous, legislative history is often consulted to infer Congressional intent. *See, e.g.*, Begier v. United States, 446 U.S. 53 (1990).

In the instant case, Congress included § 168(l)(8) as part of its enactment of §168(l). Using basic principles of statutory construction to give effect to the statutory provision, and giving the language used its ordinary meaning, it is therefore apparent that Congress believed that a cellulosic biomass ethanol plant that uses the hydrolysis process to produce ethanol could be eligible for the § 179C deduction. Nothing in the legislative history to § 168(l) suggests a contrary interpretation.

We must consider that the purpose underlying § 179C and § 168(l) was to provide incentives to expand refinery capacity for alternatives fuels. A literal reading and plain-language interpretation of the terms “gas” and “gas produced from biomass” to include ethyl alcohol vapor (a gas) derived from fermented corn (biomass) in the dry mill process is consistent with that legislative purpose. Accordingly, Taxpayer may claim § 179C deductions for the x corn-based ethanol production plants placed into service in Year.

SUMMARY

Taxpayer’s position is that the x dry mill corn-based ethanol production plants that it placed in service in Year use a dry mill process to produce a liquid fuel from “gas produced from biomass” a “qualified fuel” within the meaning of § 45K(c). Accordingly, the plants are “qualified refineries” for purposes of § 179C.

Taxpayer supports this argument by asserting that the only way the denial of double benefit provision at § 168(l)(8) has meaning as originally enacted is if cellulosic ethanol produced by hydrolysis would also qualify for the benefits of § 179C (if the qualifications under § 168(l)(8) are otherwise met). Based on a plain language interpretation of the statute that is consistent with the legislative intent and history, Taxpayer argues that its corn-based ethanol production plants meet the definition of “qualified refineries” for purposes of § 179C. Consequently, Taxpayer asserts that the § 179C deductions that it claimed in Year should be allowed.

We agree with Taxpayer’s position with respect to both issues.

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