INTERNAL REVENUE SERVICE
NATIONAL OFFICE TECHNICAL ADVICE MEMORANDUM

March 10, 2006

Third Party Communication: None
Date of Communication: Not Applicable

Index (UIL) No.: 168.20-00
CASE-MIS No.: TAM-140474-05
Number: **200629031**
Release Date: 7/21/2006
Director Field Operations
LMSB:CTM

Taxpayer's Name:
Taxpayer's Address:

Taxpayer's Identification No
Year(s) Involved:
Date of Conference:

LEGEND:

Taxpayer =
Facility =
Date 1 =
Year 2 =

ISSUE(S):

Whether certain assets at Taxpayer's Facility were properly classified under Revenue Procedure 87-56, 1987-1 C.B. 674, as assets in Asset class 13.3 (Petroleum Refining) or Asset class28.0 (Manufacture of Chemicals and Allied Product) ("Manufacture of Chemicals").

CONCLUSION(S):

The process units at issue were properly included in Asset class 13.3 for purposes of tax depreciation because all the units were integral parts of a highly integrated refinery.

FACTS:

Taxpayer owns and operates refineries in the United States, producing gasoline, diesel fuel, distillates, jet fuel, asphalt and other petroleum based products. Taxpayer owns and operates the Facility, which processes crude oils and produces a high percentage of light products. The main products were motor gasoline, jet fuel and diesel fuel; byproducts include Liquidified Petroleum Gas (LPG), carbon black oil, coke, bunker fuel and sulfur. The Facility was dedicated in Date 1 and acquired by Taxpayer in Year 2. The facts below describe Taxpayer's operation of the Facility, a petroleum refinery, in Year 2.

In simplified terms, a refinery separates crude oil into fractions by distillation (separation of the fractions based on a boiling point range), processes the fractions by physical and chemical operations, separates the products of the operations, usually by distillation, and further process the product streams. A separated product stream may be recycled to the process that produced it, fed to a process further back in the production chain, fed to a new process, be a blending stock used in producing various products of the refinery (for example, various grades of gasoline), or be a final product (for example, LPG). The properties of the crude oil fed to a refinery and the desired product mix from the refinery determine how much of particular feed stream is fed to a particular operation, its operating condition, and how the products of the operation were separated and further processed.

The Facility's operating units include crude distillation, vacuum distillation, fluid catalytic cracking, hydrocracking, catalytic reforming, and coking. The Facility was subject to Federal, state and local air quality regulations and its motor gasoline meets fuel specifications for a number of factors, including the blending of oxygenated compounds to lower carbon monoxide emissions from vehicle exhausts. During the year at issue, MTBE (Methyl tertiary butyl ether) was produced and blended into the gasoline to meet the required oxygen content.

For the year of acquisition, Taxpayer has reclassified the following operating units from Asset class 13.3, Petroleum Refining (as delineated in Rev. Proc. 87-56) to Asset class 28.0 Manufacture of Chemicals (collectively, these units are referred to as the Units):

UNIT	UNIT FEED AND SOURCE	UNIT PRODUCTS	USE OF PRODUCT AT FACILITY
Hydrogen Unit	Refinery fuel gas (propane, butane) and purchased natural gas	hydrogen	Hydrocracker, hydrofiner, reformulation and alkylation units
Sulfur Recovery, Sulfur Gas Treating, Amine Recovery and Sour Water Stripper Units	H2S, sour gas, sour water from: Distillation, coker hydrocracker and catalytic cracker units	Sulfur, water	Water recycling, waste water treatment Sulfur: sale to outside parties

MTBE Unit	Isobutylene from Alkylation unit, purchased methanol	MTBE, raffinate	Gasoline blending, Alkylation unit
Dimersol Unit high-octane	Propylene from fluid catalytic cracker and coker units	dimate & LPG	Gasoline blending LPG: hydrofiner and fractionation units
Catalytic Reformer Unit	Heavy hydrocrate from hydrocracker, heavy virgin naphtha from hydrofiner	reformate & hydrogen	Gasoline blending Hydrogen: hydrogen unit
Naptha Pre-treater Unit	Raw naphtha from distillation unit	treated Naptha	Gasoline blending, catalytic reformer unit
Alkylation Unit	Olefins from fluid catalytic cracker and coker units, raffinate from MTBE unit, hydrogen from hydrogen unit	alkylates	Gasoline blending, MTBE unit
Benzene Saturation Unit.	Intermediate gasoline blending components	cyclohexane	Gasoline blending, further processing within Facility

Except for elemental sulfur, all of products of the units that taxpayer has reclassified as assets used in Manufacture of Chemicals, were used within the refinery in production of the blend stocks or intermediate products that were further processed within the refinery to produce motor fuel (gasoline, jet plane fuel, diesel fuel) and Liquefied Petroleum Gas (LPG). Management, operation, and maintenance of the Units was not separate from the rest of the refinery. Taxpayer does not market the products of these Units (except for sulfur), but further processes the products or uses the products as blend stock for producing motor fuel. Taxpayer has not shown that it treats the Units as chemical manufacturing instead of petroleum refining for any other regulatory or industry purpose.

The Hydrogen Unit. This unit processes various gas streams produced by various units to increase the purity of the hydrogen and convert hydrocarbons within the gas stream into carbon oxides and additional hydrogen. The purity of the hydrogen must be increased to satisfy the operating requirements of the units in which the hydrogen was used. Because insufficient hydrogen for refinery needs can be produced from refinery gas streams, Taxpayer purchases natural gas for the unit to convert into additional hydrogen. More than half of the hydrogen produced was attributable to hydrogen and hydrocarbons contained in the internally generated gas streams. Nine different process units at Facility require hydrogen feeds ((hydrocracker, cat feed hydrofiner, jet fuel hydrofiner, diesel hydrofiner, virgin naphtha hydrofiner , heavy cat Naphtha hydrofiner, alkylation hydrogenerator , mogas reformulation unit, and the hydrogen plant's own hydrotreater). Supplemental hydrogen was needed to meet the demands of the

processes used in a modern refinery. A primary use of hydrogen was in a step in removal of sulfur. Sulfur poisons the catalysts used in various refinery steps and must be strictly limited in refinery effluents. Hydrogen aids the breaking of large hydrocarbon molecules into desirable smaller molecules that make up gasoline and other fuel products. All of the hydrogen produced at Facility was used internally to supply its processes.

The Sulfur Unit. There are four parts of the sulfur recovery processes at Taxpayer's refinery: Sulfur Gas Treating Unit, Amine Recovery Unit, Sour Water Stripper, and Sulfur Recovery Unit. Taxpayer's refinery processes high sulfur crude oil. Sulfur must be removed as part of the refining process to produce clean burning gasoline and to prevent the sulfur compounds from deactivating the catalysts used in many of the refinery processes (for example, catalytic cracking and reforming).

Sulfur Gas Treating Unit. High and low pressure gas streams produced in numerous refinery units were processed through high pressure and low pressure scrubbers in which hydrogen sulfide was absorbed into an amine solution. The scrubbed high pressure gas was compressed and was fed to the hydrogen unit. The scrubbed low pressure gas was burned for process heat.

Amine Recovery Unit. The amine solution containing the absorbed hydrogen sulfide was regenerated by heating to release the hydrogen sulfide in the amine recovery unit. The hydrogen sulfide gas was fed to the Sulfur Recovery Unit. The regenerated amine solution was pumped back to the scrubbers to absorb more hydrogen sulfide. The processes of absorption and regeneration run continuously to remove hydrogen sulfide from a continuous flow of the high and low pressure gas streams.

Sour Water Stripper Unit. In various refinery processes a water stream absorbs hydrogen sulfide. In the Sour Water Stripper Unit the hydrogen sulfide was stripped from the water by heat. The released hydrogen sulfide was fed to the Sulfur Recovery Unit.

Sulfur Recovery Unit. In the Sulfur Recovery Unit part of the hydrogen sulfide was burned to produce sulfur dioxide. The sulfur dioxide reacts with remaining hydrogen sulfide to produce elemental sulfur and water. The elemental sulfur was sold by the taxpayer.

The MTBE Unit. Taxpayer produced MTBE[1] as an additive to gasoline primarily to increase the amount of oxygenates (chemically combined oxygen) in the gasoline. MTBE was produced in the MTBE unit from purchased methanol and a stream containing a mixture of compounds with four carbon atoms (a mixed C_4 stream). The mixed C_4 stream was produced in a preliminary hydrogenation step in the Alkylation Unit. The isobutylene in the mixed C_4 stream selectively reacts with the methanol to produce MTBE. The MTBE was separated from the remaining mixed C_4 compounds, which were then returned for processing in the Alkylation Unit. All the MTBE produced by Taxpayer in this refinery was added to its gasoline product. Many large refineries

[1] In the year at issue, MTBE was produced and used as a gasoline additive, but because of regulatory changes it is no longer produced.

manufacture their own supplies of MBTE (or alternative ethers); smaller refineries usually purchase their supplies from chemical manufacturers or the larger refineries.

Naphtha Pre-Treater Unit. The Naphtha Pre-Treater adds hydrogen to a low boiling point stream taken from the first distillation of the crude oil. The hydrogen converts sulfur compounds in the naphtha feed stream into hydrogen sulfide, a compound of sulfur that can be separated from the naphtha stream. The hydrogen sulfide was removed either through the sour water system or in fuel gas stream. The naphtha stream was distilled to separate out propane and butane and to separate the naphtha into a light virgin naphtha, which can be used as a blending stock, and heavy virgin naphtha, which was the primary feed to the catalytic reforming unit..

Catalytic Reforming Unit. The catalytic reformer produces high octane aromatic hydrocarbons called reformate, which was suitable for blending into finished gasoline. The feed to the catalytic reformer was both the heavy virgin naphtha produced in the Naphtha Pre-Treater and the heavy hydrocrackate produced from various cracking process that were applied to streams removed from the first distillation of the crude oil. Catalytic reforming differs from catalytic cracking in that catalytic cracking breaks molecules into a range of smaller molecules while catalytic reforming “reforms” molecules into components with desirable characteristics. Primarily, this was accomplished by removing hydrogen from various components that were fed to unit in order to produce aromatic feedstock. Hydrogen produced by the unit was either recycled in the process or sent to the hydrogen unit. The reformate may be used for gasoline blending or processed in the Benzene Saturation Unit. All reformate and hydrogen was consumed internally in the operation of the refinery.

Benzene Saturation Unit. The Benzene Saturation Unit was a component of the motor gasoline reformulation unit, that corrects certain properties of the product streams that were to be used to produce motor gasoline. Approximately 80% of the products destined for use in motor gasoline were processed through the motor gasoline reformulation unit. The benzene concentration of the streams fed to this unit must be reduced to meet motor gasoline standards. The first step in the motor gas reformulation unit was distillation of the feed streams to increase the concentration of benzene in the portion of the stream that will be fed to the Benzene Saturation Unit. Next, the concentrated benzene stream was treated with hydrogen to convert (saturate) the benzene into cyclohexane. Fuel gas was stripped from cyclohexane product stream; the product stream was used for blending motor gasoline. No benzene or cyclohexane products produced at the Facility was sold to third parties.

Alkylation Unit. In the alkylation unit low-molecular weight compounds were combined to form higher molecular weight alkylates. Alkylates have desirable characteristics as a gasoline blending stock, because alkylates have a low sulfur content, burn cleanly, and increase the octane of product into which they were blended. The major feed stream to the Alkylation Unit were the butanes (C_4) that were separated out of the product of the

Naphtha Pre-Treater. Butanes separated from the products of the catalytic reformer and of the hydrocracker were additional sources within the refinery for butanes fed to the Alkylation Unit. The initial step in the Alkylation Unit was the addition of hydrogen to compounds in the feed streams. The product of this hydrogenation was distilled to produce a stream of mixed butylenes compounds that were fed to the MTBE Unit (discussed above). The isobutylene in the mixed butylenes stream was selectively reacted in the MTBE unit. After the MTBE was separated from the reaction mixture, the remaining butylenes were returned to the Alkylation Unit for the production of alkylates. All of the alkylates produced was blended into the fuels sold by the refinery.

The Dimersol Unit. The Dimersol Unit processes propylene from other units in the refinery by reacting the propylene with itself to produce a high-octane dimate and propane. All of the dimate produced by the Facility was used as a gasoline blending component at the refinery. The propane produced was purified within the refinery and sold.

LAW AND ANALYSIS:

Section 167(a) of the Internal Revenue Code provides a depreciation allowance for property used in a trade or business or held for the production of income. The depreciation deduction provided by section 167(a) for tangible property placed in service after 1986 generally is determined under section 168. The classification of depreciable property subject to section 168 is determined under section 168(e) by reference to class life or by statute. The applicable recovery period for purposes of either section 168(a) or 168(g) is determined by reference to class life. Section 168(i)(1) provides that the term “class life” means the class life (if any) that would be applicable with respect to any property as of January 1, 1986, under former section 167(m) as if it were in effect and the taxpayer were an elector under that section. Former section 167(m) provided that the asset classes shall be by industry or other groups.

Former section 167(m) was added by section 109 of the Revenue Act of 1971 and was effective for property placed in service after December 31, 1970. In June 1971, the ADR regulations were issued by Treasury. Treasury issued Announcement 71-76 1971-2 C.B. 503, to explain the ADR regulations. The announcement provided in part at pages 507 & 514, as follows:

> The 1962 action [Rev. Proc. 62-21, 1962-2 C.B. 418] represented a fundamental change in concept because it permitted depreciation deductions based on “useful lives” determined by reference to industry-wide experience but substantially shortened from the experience shown by most of the taxpayers within an industry. **It treated assets as a class, rather than as individual assets--as a stock of capital even though assets within a class were heterogeneous with respect to ages, useful lives, and physical characteristics. Assets within the class would have individual lives far**

> **longer and far shorter than the guideline class**. For example, the category "office furniture and equipment," which includes items as diverse as desks and chairs and electronic computer, was established and given a single guideline life of 10 years. Similarly, broad industrial categories were given a single guideline life. For example, all manufacturing assets used in the "chemical and allied products" industry were given a guideline life of 11 years. All assets used in air transport, regardless of their nature, were grouped in a single class for which a guideline life of six years was established. [emphasis added]
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> … .
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> … ADR gears the annual depreciation allowance and the repair allowance to industry average lives and experience.
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> … .
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> … Taxpayers in a particular industry, competing in free markets, will tend to move toward similar production processes, will tend to use similar equipment, and will tend to retire equipment on similar schedules.
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> ….
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> Thus, ADR represents the Treasury Department's conclusion that a reasonable allowance for depreciation (including a reasonable allowance for obsolescence) need not necessarily be based on the taxpayer's individualized experience but may be based on industry-wide experience. The past experience of the particular taxpayer is not a better guide to the future period than the experience in the taxpayer's industry as a whole.

The Revenue Act 1971 (Revenue Act) was enacted in December 1971; both the House and Senate reports on the Revenue Act of 1971 referred to the then recently issued ADR regulations. Although the Revenue Act changed some aspects of the ADR regulations, for example, the three-quarter year convention was removed, the Senate and House Reports adopted the ADR asset classification methodology, which was named the class life system. The discussion of the class life system was as follows:

> Your committee is also concerned with the fact that at the present time there are in effect 3 systems for determining the useful life of property for depreciation purposes: the ADR system, the guideline lives, and the actual life of property to the taxpayer as determined on the basis of his own facts and circumstances. It appears to your committee that a desirable simplification of the depreciation rules would be achieved if the ADR system and the guideline lives were combined. Accordingly, your committee's bill provides for a class life depreciation system which is to replace both ADR and the guideline lives for property placed in service after 1970. In general, under the class life system, the Treasury Department is given authority to prescribe class lives based on anticipated industry norms (or norms based on other classes) and to permit taxpayers to elect the application of the system.
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> … .

> Prior actions.-- Before 1962, business firms depreciated their property in terms of useful lives that were established for several classifications of assets (so-called Bulletin 'F' lives). The guidelines lives for depreciable assets that were put into effect in 1962 consolidated assets into about 75 broad asset classes and also shortened the prescribed lives by up to 30 or 40 percent. The 1962 guidelines also established the use of industry classifications, as distinct from classifying assets by types of assets.
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> …..
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> Provision for class lives.-- The bill provides a unified system of class lives which may be elected by taxpayers for assets placed in service after 1970. A taxpayer which elects to determine the useful life of assets it acquires during a taxable year under this class life system must use the system for all assets acquired during the year which fall within any class for which the Treasury has established a class life. The Treasury may permit taxpayers to use a useful life for one or more classes of property which varies from the class life by up to 20 percent. (In determining the limitation of this variance, lives may be rounded to the nearest half year).
>
> In prescribing the lives of property within a specified class, the Treasury is to determine a life which reasonably reflects the anticipated useful life of the class of property in question to the industry (in the case of an industry or sub-industry classification) or other group (in the case of an asset or other type of classification). Initially, it is intended that the new class lives will be the same as those prescribed by the 1962 guideline lives. As the Treasury Department collects and analyzes data regarding the useful life of property to taxpayers, it may adjust the class life it has prescribed in order to reflect in general the lives used by taxpayers in the 30th percentile. As previously indicated, this was in general the basis on which the guideline lives were established.
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> Under the class life system, the Treasury also may redefine or subdivide the classes of property both in order to provide a more reasonable classification for depreciation purposes and also as is required for the effective functioning of the new system. For example, a separate class could be established for used property and for foreign property.

(S. Rep. No. 437, 92st Cong., 1st Sess. 1971, 1952-1955, 1971-2 C. B 559,584-586).

In response to the Revenue Act of 1971 and this legislative history, section 167(a)-11(b)(4)(ii) of the regulations provides that the asset classes are established in Rev. Proc. 72-10 or its successors. Section 167(a)-11(b)(4)(iii)(b) sets out the asset classification by placing assets in groups by primary activity of use. Property is included in the asset guideline class for the activity in which the property is primarily used. Property is classified according to its primary use even though the activity in which such property is primarily used is insubstantial in relation to all the activities of the taxpayer. However, for an activity to be classified as a separate activity, the activity must be substantial, significant, and separate; not merely part of the activity in question. The current successor to Rev. Proc. 72-10 is Rev. Proc. 87-56, this revenue procedure sets forth the class lives of property that are necessary to compute the depreciation

allowances under § 168. Rev. Proc. 87-56 establishes two categories of depreciable assets: (1) asset classes 00.11 through 00.4, which consist of specific assets used in all business activities (asset categories); and (2) asset classes 01.1 through 80.0, which consist of assets used in specific business activities (activity categories) based on broadly defined industry classifications. The activity categories correspond to the industry classification described in the legislative history of section 167(m).

Rev. Rul. 2003-81, 2003-2 C.B. 126, in a discussion of classes of property under Rev. Proc. 87-56, provides that asset classes 01.1 through 80.0 consist of assets used in specific business activities based on broadly defined industry classifications. Rev. Rul. 2003-81 explains that all assets used in a particular industry classification, regardless of their nature, continue to be grouped into a single class (except for assets in classes 00.11 through 00.4--the asset based classes (or activities) which are not relevant here). Although Rev. Proc. 72-10 specifically revoked Rev. Proc. 62-28, because Rev. Proc. 62-28, the original ADR regulations, and the legislative history of section 167(m) in the Revenue Act of 1971, all provide for use of the same approach for determining asset classes, the discussions of the meaning of a particular asset class under Rev. Proc.62-21 is helpful in understanding the asset classes. Supplement 1 of Rev. Proc. 62-21, which contains annotations to the class descriptions in Rev. Proc. 62-21, adds that the Chemicals and Allied Products group includes petrochemical processing beyond that which is ordinarily is a part of petroleum refining and that the Petroleum Refining class excludes petrochemical processing. The Manufacture Chemical and Allied Product class description continued to provide that it included petrochemical processing beyond that which is ordinarily part of refining until the asset class was revised in Rev. Proc. 79-35, 1979-2 C.B. 498. No explanation was given for any of the revision in the asset class description.

For the years and assets in issue, Rev. Proc. 87-56 provides the following description of depreciable assets used in the following activities:'

> Asset Class 13.3: Petroleum Refining:
> Includes assets used for the distillation, fractionation, and catalytic cracking of crude petroleum into gasoline and its other components. (The class life is 16 years and the GDS recovery period is 10 years.)
>
> Asset Class 28.0: Manufacture of Chemicals and Allied Products:
> Includes assets used to manufacture basic organic and inorganic chemicals; chemical products to be used in further manufacture, such as synthetic fibers and plastics materials; and finished chemical products. Includes assets used to further process man-made fibers, to manufacture plastic film, and to manufacture nonwoven fabrics, when such assets are located in the same plant in an integrated operation with chemical products producing assets. Also includes assets used to manufacture photographic supplies, such as film, photographic paper, sensitized photographic paper, and developing chemicals. Includes all

> land improvements associated with plant site or production processes, such as effluent ponds and canals, provided such land improvements are depreciable but does not include building and structural components as defined in section 1.48-1(e) of the regulations. Does not include assets used in the manufacture of finished rubber and plastic products or in the production of natural gas products, butane, propane, and by-products of natural gas production plants. (The class life is 9.5 years and the GDS recovery period is 5 years.)

Rev. Rul. 77-63, 1977-1 C.B. 60, discusses whether the production of alumina by chemical processes precluded classification of the assets used to produce the alumina in Asset Class 33.2--Manufacture of Primary Nonferrous Metals. The chemical processes were part of the taxpayer's overall process of producing semifinished and finished aluminum products from bauxite ore that the taxpayer mined. Asset Class 33.2 included assets used in the smelting, refining, and electrolysis of nonferrous metals from ore. The revenue ruling concluded that the chemical processes used to produce the alumina were an integral part of refining of the nonferrous metal. However, the revenue ruling also provided that assets used to process the alumina for use in activities other than those required to produce the basic metal should be classified in those other asset classes.

Taxpayer argues that Asset Class 13.3 is limited just to those assets that were used for the named processes of distillation, fractionation, and catalytic cracking. Taxpayer analyzed certain identified units to determine the functional use of the units based upon the activity description. Taxpayer believes the identified processing units were not used functionally in the refining activity; rather they were used in the activity of Manufacture of Chemicals. Thus Taxpayer believes the units were properly categorized in the Asset class 28.0 because the units do not perform a process specifically listed in Asset Class 13.3.

Taxpayer point to the recent appellate decisions in Clajon Gas Co., 354 F.3d 786 (8th Cir. 2004), Saginaw Bay Pipeline Co. 330 F.3d 600 (6th Cir. 2003), and Duke Energy Natural Gas Corp., 172 F.3d 1255 (10th Cir. 1999), which discuss the "primary use" standard of Section 1.167(a)-11(b)(4)(iii)(b). Specifically, Taxpayer cites these cases for a practical use-driven functional standard for assigning asset classification. Thus, the Taxpayer argues that it is the actual purpose and function of an asset that determines its asset class, rather the terminology used to describe an asset by its owners or others. Taxpayer asserts that all of the units at issue involve chemical processes that create chemicals, some of which were the same chemical (or mixtures of chemicals) that were sold by other refiners to third parties. In addition, Taxpayer points out that the processes at Facility were identical or closely related to processes performed at petrochemical plants.

Petroleum refining begins with the distillation or fractionation of crude oil into separate hydrocarbon fractions with different boiling points. To produce motor fuels and other

petroleum products, the hydrocarbon fractions are converted by thermal and catalytic cracking, reforming, and other processes. The product streams from these processes; are separated by distillation and additional processes were applied. Treatment processes, such as extraction, hydrotreating, and sweetening, are applied to remove or alter undesirable constituents to improve product quality. Integrated refineries incorporate fractionation, conversion, treatment and blending operations; at some sites a refinery's petroleum products may be further processed by activities that are within Asset class 28.0, the Manufacture of Chemicals.

The description of Asset Class 13.3 is not limited to the three named processes (distillation, fractionation and catalytic cracking). Those processes are illustrative of processes used in and necessary for the operation of a modern integrated refinery. Taxpayer's reading of the asset class description fails to take in to account that the asset class description is illustrative, not an exclusive listing. Further, the Taxpayer does not appear to recognize that the thrust of the class description is to include assets used in the manufacture of gasoline and products of crude oil. Finally, the Taxpayer does not point to, in the Manufacture of Chemicals Asset class description, specifically named processes that the Units performed. This is because the Manufacture of Chemicals Asset class description does not use terms similar to distillation, fractionation, and catalytic cracking but describes the asset class in terms of the products produced, such as basic organic and inorganic chemicals, plastics, and synthetic fibers. The Units were not used in the Manufacture of Chemicals activity merely because the Units produced chemicals; Rev. Rul. 77-63 shows that producing alumina by a chemical reaction as a step in the non-ferrous metal refining is not an a Chemical Manufacturing Activity. Here the production of intermediate products that were further processed into motor fuels and other products of petroleum is likewise not the Manufacture of Chemicals. Extension of the argument that mere production of chemicals removes a processing step from the Petroleum Refining activity into the Manufacture of Chemicals activity would remove all refinery processing from the Petroleum Refining Activity because gasoline and all of the intermediate products of a refinery technically are chemicals or mixtures of chemicals.

Most, if not all, of the processes used in the Manufacture of Chemicals are also used in the Petroleum Refining activity. In both, chemicals are broken into various smaller compounds by chemical reaction and then additional chemical reactions either beak the resulting compounds into smaller components or reform the compounds into different chemicals. An essential step in both activities is the separation of a desirable compounds from other compounds by fractionation or distillation. The distinction between Manufacture of Chemicals and Petroleum Refining activities is determined by the products of the activity. The products of Manufacture of Chemicals activity include basis organic and inorganic chemicals, chemical products to be used in further manufacture (such as synthetic fibers and plastic materials), finished chemical products, and photographic supplies. The products of the Petroleum Refining Activity, which are described as gasoline and other components of crude petroleum, are either mixtures of

chemical compounds, such as gasoline and other fuels, or the first marketable purified product produced from the crude petroleum provided that product is not used to produce fuels and other products of crude petroleum that are normally produced by refineries, such as LPG, petroleum coke, and lubricants. The first marketable purified product of the Petroleum Refining activity that is further manufactured in the chemical industry is referred to as a petrochemical feedstock. The products of the Manufacture of Chemicals activity include purified chemical products produced from petrochemicals.

In terms of the functional use of any one of the Units, the product(s) of the Unit and the use of the product(s) determine whether the asset is used in Petroleum Refining activity or Manufacture of Chemical activity. Applying this use-driven functional standard, the Units were dedicated to producing gasoline and other petroleum products and were an integral part of this function. At Facility, Taxpayer was engaged in only this industrial activity; thus, its primary and only use was the production of gasoline and other petroleum products.

In the three pipeline cases, the pipe systems, although owned by a pipeline transportation companies, were found by the appeals courts to be used as gathering lines by the producers. Here, the Units were used in the processing of intermediate refinery streams or, in the case of sulfur removal units, the removal and processing of sulfur from the refinery feed and intermediate streams. The sulfur must be removed to produce marketable gasoline and other products of petroleum. The removal of sulfur was not completed until the various sulfur compounds have been converted into a form in which Taxpayer can dispose of it.

As discussed above, the Asset classes of Rev. Proc. 87-56 describe assets used in broad industrial activity groups. The Units function as integral parts of the activity of refining of crude petroleum into gasoline and other products of petroleum. Although many of the processing steps in Taxpayer's refinery were similar, or identical to, the processing steps that take place in the manufacture of chemicals, at the Taxpayer's refinery the primary purpose of those processing steps was the production of gasoline and other products of crude petroleum. Three of the Units are discussed separately below to address particular arguments for inclusion of the units in the Manufacture of Chemicals activity: the Hydrogen Unit, the various sulfur recovery and treating units, and the MTBE unit.

The hydrogen unit. The taxpayer uses hydrogen in various process within the facility to produce marketable gasoline. Some of this hydrogen was produced as a by-product of refinery processes; however, additional hydrogen was required. Taxpayer produces this hydrogen in the hydrogen unit by converting hydrocarbons produced in the refinery, and purchased natural gas into additional hydrogen. In addition, a significant purpose of the unit was to increase the purity of the hydrogen contained in the internally generated gas streams so the hydrogen can be used as part of the refining process. Property is included in the asset guideline class for the activity in which the property is

primarily used even though that activity is insubstantial in relation to taxpayer's other activities. The question raised is whether the hydrogen unit, which standing alone is insubstantial in relation to Taxpayer's Petroleum Refining activity, is primarily used in a Manufacture of Chemicals activity that is separate from Taxpayer's Petroleum Refining activity. Section 167(a)-11(e)(3) of the regulations provides that in the case of leased property generally the asset guideline class is determined as if the property were owned by the lessee. These provisions recognize that a Taxpayer may have more than one activity and provide for classification of a taxpayer's property in the activity in which the property is primarily used. The primary activity provision addresses two situations. First, the instance of a single item of property being used by a Taxpayer in two separate activities, for example, a forklift being used 75% of the time in a Petroleum Refining activity and 25% of the time in a Manufacture of Chemicals activity would be depreciated as an asset used in the Petroleum Refining activity. Second, the provision addresses the issue of a taxpayer that has a primary activity but is using an asset, or a group of assets, in a second activity that may be insubstantial in relation to the primary activity. The Manufacture of Chemicals activity description specifically provides that certain activities in the same plant in an integrated operation with the production of the chemical will be included in the chemical manufacturing activity, for example assets used to further process man-made fibers when such assets are located in the same plant and used in an integrated operation with the chemical products producing assets. Asset class 37.11 Manufacture of Motor Vehicles provides detailed rules for determining whether activities are included in that class as incidental to the manufacturing of automobiles.

The Hydrogen Units produce hydrogen that was required to remove sulfur compounds contained in crude petroleum and to reduce the benzene content of its motor fuels. Sulfur must be removed to meet air and water pollution requirement, to avoid poisoning of catalyst used in refining and to met sulfur requirements for the motor fuel products. Taxpayer purchases natural gas to produce some of the hydrogen produced in the hydrogen unit. Although the chemical reaction that reforms the purchased methane into hydrogen was the same reaction that was used in chemical plants to produce hydrogen, the hydrogen unit converts hydrocarbons produced from other refinery units into hydrogen and purifies hydrogen produced in other refinery units. More than half of the hydrogen produced in the Hydrogen Unit was produced from feed streams that originate from other units within the refinery. The hydrogen unit was not a separate Manufacture of Chemicals activity because the primary activity of the unit was to process streams produced within the refinery to produce hydrogen necessary for the refining of crude petroleum.

The sulfur recovery and treating units. Sulfur removal was an integral part of refining of crude oil because the sulfur must be removed to produce a clean-burning gasoline and to meet pollution control requirement for gas and water effluents from the refinery. Several processes within a refinery (crude distillation, thermal cracking, catalytic cracking, naptha reforming and hydrodesulfurizing processes) liberate sulfur in the form

of H2S gas from crude oil components. Removal of sulfur from crude oil components is necessary to avoid catalytic poisoning and to comply the mandated low sulfur specifications for gasoline and other fuel products. The reduction of sulfur from both refinery environmental emissions and from gasoline, diesel, distillate oils and fuel oil products is legally mandated and must be done in order to continue refining of crude oil. In the sulfur removal process, hydrogen sulfide is absorbed into an amine solution from refinery gas streams. Then the amine solution is regenerated by causing a relatively pure hydrogen sulfide gas stream to be released from the solution. Hydrogen sulfide is an extremely poisonous gas. Taxpayer must convert hydrogen sulfide gas into elemental sulfur to transform it into a stable form in which the sulfur can be stored and sold. Producing the elemental sulfur from the hydrogen sulfide gas in the Sulfur Recovery Unit is the necessary final step of the sulfur removal process. Thus, the various steps in the sulfur recovery and treating units were primarily carried on to produce gasoline and other products of crude petroleum in a refinery that complies with regulatory limits on the sulfur content of its effluents.

The MTBE Unit. Taxpayer produced and used MTBE as an additive to gasoline to increase the amount of oxygenates (chemically combined oxygen) in the gasoline. MTBE was produced in the MTBE Unit from the chemical reaction between isobutylene and purchased methanol. The source of the isobutylene was a stream of mixed C_4 produced in the hydrogenation system of the Alkylation unit. All the MTBE produced by Taxpayer in this refinery was added to the gasoline product from this refinery. The issue is whether the Taxpayer's assets used in the production of MTBE was primarily used in the Manufacture of Chemicals activity (although insubstantial relative to the Petroleum Refining activity) or was it a part of the Taxpayer's Petroleum Refining Activity, here, the production of gasoline. The regulation that provides for classification of an asset in a second activity, although insubstantial relative to the taxpayer's other activity, or activities, gives no guidance on how to determine whether an activity was a second activity

The description of the Manufacture of Chemicals activity deals with this issue in a few limited situations; for example, the activity includes assets used to further process man-made fibers when such assets are located in the same plant, in integrated operation with the chemical product producing activity. No similar guidance is given in the asset class descriptions that address the issue of whether the Taxpayer's production of MTBE was primarily used in the Manufacture of Chemicals.[2]

[2] Section 6253 of the Technical and Miscellaneous Revenue Act of 1988 removed Treasury's authority to prescribe new class lives (and, consequently, removed the authority to revise asset class descriptions that would result in any assets being placed in a different asset class). The Conference Committee Report, H.R. Rep. No. 100-1104 at 237, 1988-3 C. B. 727, explained, "The conferees wish to clarify that the prohibition on Treasury authority to shorten or lengthen depreciable lives extends to assets which do not have class lives."

A possible reason for classifying assets used in a second activity that is insubstantial relative to a taxpayer's other activities, is to provide for the same depreciation calculation for assets used in the second activity for a taxpayer primarily engaged in a different activity as the depreciation calculations for assets used by all other taxpayers in the second activity. In Rev. Rul. 77-63, merely because chemical reactions occurred or chemicals were produced, steps in the production of alumina were not a separate chemical manufacturing activity from the primary activity of producing non-ferrous metals. The revenue ruling did provide that if separate steps were carried out to produce a marketable chemical product those steps would be a separate activity. Taxpayer was not producing a marketable chemical product from a refinery product. Taxpayer diverts an intermediate stream of mixed C_4 compounds from a preliminary step in its Alkylation unit, reacts a constituent chemical in that stream with purchased methanol, and separates out the product, which was then added to the refinery's principal product. The MTBE Unit was primarily used in the petroleum refining activity because the product of the unit was dedicated to use in the gasoline produced in the refinery and the MTBE was produced in large part from intermediate streams produced within the refining process.

CAVEAT(S):
A copy of this technical advice memorandum is to be given to the taxpayer(s). Section 6110(k)(3) of the Code provides that it may not be used or cited as precedent.