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1500 SAN JACINTO CENTER
98 SAN JACINTO BLVD.
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78701-4078

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VIA HAND DELIVERY

Ms. LaDonna Castañuela
Chief Clerk (MC 105)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

TEL +1 512.322.2500
FAX +1 512.322.2501
www.bakerbotts.com

Pamela M. Giblin
TEL +1 512.322.2509
FAX +1 512.322.8308
pam.giblin@bakerbotts.com

Re: TCEQ Docket Nos. 2007-0732-MIS-U (UD 06-10270/Valero Corpus Christi Refinery - Nueces County); 2007-0733-MIS-U (UD 06-10271/Valero Corpus Christi Refinery - Nueces County); 2007-0734-MIS-U (UD 06-10281/Valero Houston Refinery - Harris County); 2007-0735-MIS-U (UD 06-10268/Valero Houston Refinery - Harris County); 2007-0736-MIS-U (UD 06-10283/Diamond Shamrock McKee Refinery - Moore County); 2007-0737-MIS-U (UD 06-10282/Diamond Shamrock McKee Refinery - Moore County); 2007-0738-MIS-U (UD 06-10280/Valero Port Arthur Refinery - Jefferson County); 2007-0739-MIS-U (UD 06-10279/Valero Port Arthur Refinery - Jefferson County); 2007-0724-MIS-U (UD 06-10285/Valero Texas City Refinery - Galveston County); 2007-0740-MIS-U (UD 06-10284/Valero Texas City Refinery - Galveston County)

Dear Ms. Castañuela:

Enclosed for filing in the above-referenced and numbered proceeding please find an original and seven (7) copies of *Valero Refining - Texas, L.P., Diamond Shamrock Refining Company, L.P., and the Premcor Refining Group, Inc.'s Supplemental Response in Reply to the Executive Director, Public Interest Counsel, Galveston Central Appraisal District, and the Harris County Appraisal District's Response Briefs to the Appeal of the Executive Director's Negative Use Determinations.*

Please file the original and 7 copies of this pleading in the above-referenced matter and return one file-stamped copy to the messenger. A copy of the above referenced document is being served on the persons identified in the Certificate of Service.

Thank you for your attention to this matter. If you have any questions concerning this filing, please do not hesitate to contact me at the number above.

Sincerely,



Pamela M. Giblin

Enclosure

cc: Attached Mailing List

I. Key Legal Issues

In Valero's discussions with TCEQ Staff, the following three key legal points have been raised in relation to the "Tier II"¹ hydrotreaters: the requirement that Pollution Control Property provide an environmental benefit at the site; the statutory exclusion of manufacturers of Pollution Control Property from the Proposition 2 exemption; and the Commission's decision in the *XTO Energy Use Determination* matter. Valero believes its Tier II hydrotreaters meet all the requirements for a Proposition 2 tax exemption including the requirements raised by these three issues and respectfully requests that the Commission remand the company's Tier II hydrotreater use determinations to the Executive Director for new determinations pursuant to the provisions of 30 Tex. Admin. Code § 17.25.

Environmental Benefit at the Site

In order to qualify for a Proposition 2 exemption, Pollution Control Property must provide an "environmental benefit at the site."² This requirement was added by TCEQ in response to HB 3121, in which the Legislature directed TCEQ to establish specific standards for considering applications for use determinations.³ The equipment listed on the previous Predetermined Equipment List ("PEL") and the recently adopted Equipment and Categories List ("ECL") provides the only guidance TCEQ has issued on how the requirement should be applied.

Valero's Tier II hydrotreaters provide the following specific environmental benefits at the site: reductions in flaring events associated with unit shutdowns; reductions in emissions from associated equipment such as heaters, boilers and electrical production equipment; reductions of emissions from sample collection stations; reductions in hydrogen sulfide ("H₂S") emissions from fugitive components; reductions in H₂S emissions from product tanks and loading and unloading facilities; reductions in the firing and flaring events of refinery fuel gas; and reductions in emissions from company, contractor, and employee-owned vehicles.

In its adoption of the controlling regulations, the United States Environmental Protection Agency ("EPA") stated that "the Tier 2/gasoline sulfur rule will achieve environmental benefits in the local areas where refineries are located, due to reductions in tail pipe emissions from vehicles driven in those areas."⁴ Valero's Tier II hydrotreaters also create a significant environmental benefit in the area of the site by removing sulfur compounds from gasoline and diesel, therefore preventing the formation of sulfur dioxide ("SO₂") emissions in the immediate air shed as well as reducing emissions of nitrogen oxide ("NO_x") and fine particulate matter (PM). This reduction in NO_x emissions aides in the prevention of the formation of ozone.

¹ The term "Tier II" hydrotreater is used throughout this memorandum to distinguish the hydrotreaters included in Valero's Proposition 2 applications from other hydrotreaters in service at Valero's refineries. Tier II refers to the EPA's low sulfur regulations (40 CFR § 80.195 *et seq.* and 40 CFR § 80.500 *et seq.*) which required the installation of these hydrotreaters. The Tier II hydrotreaters include both newly installed and modified equipment.

² See TEX. TAX CODE § 11.31(g) and 30 TAC § 17.15.

³ See TEX. TAX CODE § 11.31.

⁴ 65 Fed. Reg. 6774 (Feb. 10, 2000).

Similar to much of the equipment on the PEL and ECL, Valero's Tier II hydrotreaters provide several environmental benefits at the site, create environmental benefits at the site, and provide environmental benefits in the area of the site. Because TEX. TAX CODE § 11.31(g) requires that the standards adopted by TCEQ be sufficiently specific to ensure that use determinations are equal and uniform, Valero's Tier II hydrotreaters should be evaluated in a similar manner as the equipment on the PEL and ECL. The Tier II hydrotreaters meet the requirement of providing an environmental benefit at the site.

Manufacturer of Pollution Control Property

TEX. TAX CODE § 11.31 includes a provision excluding manufacturers of Pollution Control Property from qualifying for a Proposition 2 tax exemption.⁵ This exclusion was included to clarify that the Proposition 2 exemption is "not intended as tax relief for persons engaged for profit in the pollution control business."⁶ Instead, Proposition 2 was intended to avoid the unfair result, or "double whammy," that would occur by requiring a company to make significant expenditures for Pollution Control Property and then forcing the company to annually pay taxes on the same equipment.⁷

Valero's business is the production of petroleum-derived products such as gasoline and diesel, which are products that create emissions. As such, Valero is not a manufacturer of Pollution Control Property. It has been required by law to install Pollution Control Property in the form of the Tier II hydrotreaters. Valero's Tier II hydrotreaters are properly subject to the Proposition 2 exemption. To hold otherwise would unfairly require Valero to pay taxes on property that it was required to purchase by the EPA regulations.

XTO Energy Use Determination

It has been suggested that the Commissioners' previous decision in the *XTO Energy Use Determination* matter resolves Valero's present appeal. In *XTO Energy*, the Commission determined that a natural gas manufacturer could not qualify for a Proposition 2 tax exemption on sulfur removal equipment unless such sulfur removal was required by an environmental regulation. The Commissioners found that, absent an environmental regulation requiring the sulfur removal, XTO Energy was voluntarily removing sulfur from its natural gas to meet market standards. Because the removal was intended to meet market standards and not a specific environmental regulation, the equipment was considered production equipment with no pollution control purpose and therefore not eligible for a Proposition 2 exemption.

In contrast, Valero did not install the Tier II hydrotreaters to meet marketability standards. Valero is required by EPA regulations, not market standards, to reduce the sulfur in its products to Tier II levels in order to improve air quality.⁸ The level of sulfur reduction required by these EPA rules does not increase Valero sales or otherwise provide a benefit in the production process. At some of Valero's refineries, the most efficient option for complying with

⁵ TEX. TAX CODE § 11.31(a).

⁶ *Op. Tex. Att'y Gen. No. 96-128* at 3 (1996).

⁷ Quoting Representative Steven Wolens, Deliberations of the House Ways and Means Committee on H.J.R. 86 and H.B.-1920, March 24, 1993. Transcript prepared by the Office of Attorney General, Natural Resources Division.

⁸ See 40 CFR § 80.195 *et seq.* and 40 CFR § 80.500 *et seq.*

the EPA regulations involved combining the additional hydrotreating capacity required by the EPA rules with capacity previously in place and required for production. At other refineries, entire new hydrotreating units were installed to comply with the regulations. In the instances where previously existing hydrotreaters were modified or replaced with units that meet the EPA requirements, the additional hydrotreating capacity required by the regulations qualifies for a use determination. The Commission did not determine in *XTO Energy* whether the removal of sulfur from gasoline and diesel in accordance with federal regulations qualifies as “pollution control” under Proposition 2 and as such the *XTO Energy* decision is not controlling in Valero’s appeal.

II. Exhibits

The following exhibits include the material Valero has previously submitted to TCEQ Staff as part of the discussions regarding its Tier II hydrotreaters. The exhibits provide an in depth review of each of the three key issues discussed above as well as additional background information regarding Valero’s refining process.

Exhibit A is a memorandum discussing the “environmental benefit at the site” requirement and its application to Valero’s Tier II hydrotreaters.

Exhibit B is a memorandum addressing the statutory provision that excludes a manufacturer of Pollution Control Property from qualifying for a Proposition 2 tax exemption and why Valero does not fall within this exclusion.

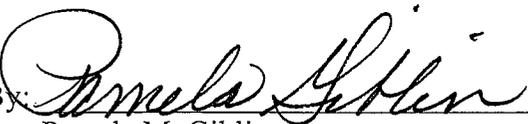
Exhibit C is a letter discussing the *XTO Energy Use Determination* and its relevance to Valero’s Tier II hydrotreater applications.

Exhibit D consists of Process Flow Diagrams Valero commissioned and produced after TCEQ Staff requested a detailed schematic of Valero’s manufacturing process. The Process Flow Diagrams clarify how the Tier II hydrotreaters are used for pollution control at its refineries.

Exhibit E contains a revised equipment list which Valero submitted to TCEQ Staff after conducting an extensive review of the equipment listed in its original Proposition 2 applications. This list was compiled with the assistance of an external engineering firm. The revised list ensures that Valero is seeking a tax exemption only for equipment that it uses for the control of air pollution and that any production value is appropriately excluded from its exemption request.

Respectfully submitted,

Baker Botts L.L.P.

By:  _____

Pamela M. Giblin

State Bar No. 07858000

Amber Garrison

State Bar No. 24055531

1500 San Jacinto Center

98 San Jacinto Center

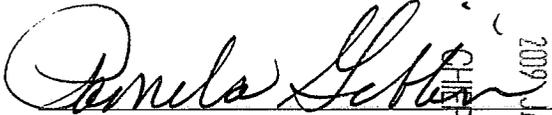
Austin, Texas 78701-4039

Tel: 512.322.2500

Fax: 512.322.8308

CERTIFICATE OF SERVICE

I certify that on January 16, 2009, copies of the "Valero Refining - Texas, L.P., Diamond Shamrock Refining Company, L.P., and the Premcor Refining Group, Inc.'s Supplemental Response in Reply to the Executive Director, Public Interest Counsel, Galveston Central Appraisal District, and the Harris County Appraisal District's Response Briefs to the Appeal of the Executive Director's Negative Use Determinations" was filed with the Office of the Chief Clerk, Texas Commission on Environmental Quality, and was served by first-class mail or facsimile to all persons on the attached mailing list.


Pam M. Giblin

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CHIEF CLERKS OFFICE
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Guy Henry
D.A. Chris Ekoh
Timothy Reidy
Texas Commission on Environmental Quality
Environmental Law Division
P.O. Box 13087, MC-173
Austin, Texas 78711-3087
T: 512.239.5487; F: 512.239.0606

Bridget Bohac
Texas Commission on Environmental Quality
Office of Public Assistance
P.O. Box 13087, MC-108
Austin, Texas 78711-3087
T: 512.239.4000; F: 512.239.4007

Ron Hatlett
Texas Commission on Environmental Quality
Small Business & Environmental Assistance Division
P.O. Box 13087, MC-110
Austin, Texas 78711-3087
T: 512.239.3100; F: 512.239.5678

Kyle Lucas
Texas Commission on Environmental Quality
Alternative Dispute Resolution Program
P.O. Box 13087, MC-222
Austin, Texas 78711-3087
T: 512.239.0687; F: 512.239.4015

Blas Coy
Garrett Arthur
Texas Commission on Environmental Quality
Office of Public Interest Counsel
P.O. Box 13087, MC-103
Austin, Texas 78711-3087
T: 512.239.6363; F: 512.239.6377

Les Trobman
General Counsel
Texas Commission on Environmental Quality
Office of General Counsel
P.O. Box 13087, MC-101
Austin, Texas 78711-3087
T: 512.239.5500; F: 512.239.5533

Ollie Grant
Chief Appraiser
Nueces County Appraisal District
210 N. Chaparral
Corpus Christi, Texas 78401-2563
T: 361.881.9978; F: 361.887.6138

Diane Ball
Chief Appraiser
Moore Central Appraisal District
P.O. Box 717
Dumas, Texas 79029-0717
T: 806.935.4193; F: 806.935.2792

Roland R. Bieber
Chief Appraiser
Jefferson County Appraisal District
P.O. Box 21337
Beaumont, Texas 77705-4547
T: 409.840.9944; F: 409.727.5621

John M. Renfrow
Assistant General Counsel
Jim Robinson
Chief Appraiser
Harris County Appraisal District
P.O. Box 920975
Houston, Texas 77292-0975
T: 713.812.5800; F: 713.957.5210

Ken Wright
Chief Appraiser
Galveston County Appraisal District
600 Gulf Freeway
Texas City, Texas 77591-2815
T: 409.935.1980; F: 409.935.4319

Anthony P. Brown
McLeod, Alexander, Powel & Apffel
802 Rosenberg
P.O. Box 629
Galveston, Texas 77533
T: 409.763.2481; F: 409.762.1155

Exhibit A

MEMORANDUM

August 20, 2008

TO: Guy Henry

FROM: Pam Giblin
Amber Garrison

RE: Environmental Benefit at the Site

I. Background

In 1993, Texas voters approved an amendment to the Texas Constitution allowing the legislature to exempt property used to control pollution from ad valorem taxation. This amendment is frequently referred to as "Proposition 2." The Texas Legislature implemented Proposition 2 in 1993 by enacting TEX. TAX CODE § 11.31. The statute exempts from taxation property that is used, constructed, acquired, or installed wholly or partly to meet or exceed rules or regulations adopted by any environmental protection agency of the United States, Texas, or a political subdivision of Texas for the prevention, monitoring, control, or reduction of air, water, or land pollution.¹

In 2006, Valero installed hydrotreater units and associated equipment (the "Tier II" hydrotreaters)² at five of its Texas refineries. Valero installed these hydrotreater units to meet United States Environmental Protection Agency ("EPA") regulations.³ Because the Tier II hydrotreater units were installed for the purpose of meeting environmental regulations for the reduction of air pollution, Valero filed applications with the Texas Commission on Environmental Quality ("TCEQ" or "Commission") for positive use determinations designating the hydrotreaters as pollution control property. Valero's applications were denied and negative use determinations issued based in part on the finding that the equipment does not satisfy the "environmental benefit at the site" criterion in the TCEQ's Chapter 17 flowchart.⁴ This memorandum addresses why the Tier II hydrotreaters and associated equipment installed by Valero at its refineries meet the environmental benefit at the site requirement.

¹ TEX. TAX CODE § 11.31(g), § 11.31(a) and (b).

² The term "Tier II" hydrotreater is used throughout this memorandum to distinguish the hydrotreaters included in Valero's Proposition 2 applications from other hydrotreaters in service at Valero's refineries. Tier II refers to the EPA's low sulfur regulations which required the installation of these hydrotreaters. The Tier II hydrotreaters include both newly installed and modified equipment.

³ See 40 CFR § 80.195 *et seq.* and 40 CFR § 80.500 *et seq.*

⁴ See Staff's Technical Review Letter for Valero Port Arthur Refinery issued April 18, 2007.

II. History of Environmental Benefit at the Site Requirement

The statute governing the Proposition 2 program, TEX. TAX CODE § 11.31, does not contain any requirement that pollution control property produce an environmental benefit at the site. This was added by the TCEQ in 2001 in response to HB 3121 which directed the Commission “to establish specific standards for considering applications for determinations,” and, importantly, mandating that those standards “be sufficiently specific to ensure that determinations are equal and uniform.”⁵

In response to this directive, the TCEQ (then the Texas Natural Resource Conservation Commission) adopted the “environmental benefit at the site requirement” as part of its procedural rule package in 2001. The “at the site” requirement is found only in the application flow chart located in 30 TAC § 17.15 and is not discussed in either the text or the preamble of the Chapter 17 rules. The TCEQ has provided no formal interpretation of what is meant by “environmental benefit at the site,” nor has the agency issued any guidance or other policy documents discussing the meaning or application of this provision. Therefore, one must look to the words of the phrase, the history of its adoption and the manner in which it has been applied, particularly as is evidenced in the previous Predetermined Equipment List (“PEL”) and the recently adopted Equipment and Categories List (“ECL”).

TEX. TAX CODE § 11.31(g) requires TCEQ to ensure that use determinations are “equal and uniform.” TCEQ has adopted a list, the previous PEL and the more recent ECL, of pollution control property that it believes meets the Chapter 17 requirements, including the requirement that there be an environmental benefit at the site. In accordance with the requirement that use determinations be equal and uniform, the application of the environmental benefit at the site requirement to the items on the ECL should be the same application that is used in evaluating all Proposition 2 use determinations. Under any reasonable application of the “at the site” requirement, Valero’s Tier II hydrotreaters and associated equipment provide an environmental benefit at the site.

III. Possible Interpretations of “Environmental Benefit at the Site”

A. “Within the Fence Line of the Site”

The most restrictive interpretation of the “at the site” requirement would limit positive use determinations to pollution control property that produces an environmental benefit literally within the fence line of a site. As discussed below, this interpretation is inconsistent with the Commission’s exposition of the meaning of the phrase “at the site” in the ECL, and it perverts the purpose of the Proposition 2 exemptions. Nevertheless, Valero’s Tier II hydrotreaters and associated equipment still qualify under this new and heightened interpretation.

In understanding the defects posed by the “fence line” interpretation of “at the site,” it is instructive to review the definition of “environment” at the core of “environmental benefit,” which is “the set of circumstances or conditions, especially physical conditions, in which a person or community lives, works, develops, etc., or a thing exists or operates; the *external*

⁵ TEX. TAX CODE § 11.31(g):

conditions affecting the life of a plant or animal...*the region surrounding a place.*”⁶ Thus to qualify as an environmental benefit, good must ultimately occur in the environment outside the fence, and the idea of an environmental benefit within the fence line, as an exclusive reading of the requirement, is inherently flawed.

Limiting the interpretation to an “environmental benefit within the fence line of the site” creates a problem of inconsistencies with items throughout the ECL and its predecessor, the PEL. While the fence line concept may appear to explain some items on the ECL (on-site monitors for instance), this reading must be supplemented by interpretations that evaluate the impact of equipment on the area outside the fence line. This concept is reinforced by the ECL which specifies a 100% use determination for off-site ambient air monitoring facilities as well as carbon absorption, zeolite absorption, and other odor neutralizing and chemical treatment systems installed to meet local ordinances or to prevent or correct nuisance odors at off-site receptors.

Even using the most restrictive interpretation alone, Valero’s Tier II hydrotreaters provide an environmental benefit at the site in the following ways: reduction in flaring events associated with unit shutdowns; reduction in emissions from associated equipment such as heaters, boilers and electrical production equipment; reduction of emissions from sample collection stations; reductions in hydrogen sulfide (“H₂S”) emissions from fugitive components; reductions in H₂S emissions from product tanks and loading and unloading facilities; reductions in the firing and flaring events of refinery fuel gas; and reductions in emissions from company, contractor, and employee-owned vehicles. For all of these reasons, Valero meets the requirement of even the most conservative interpretation of an environmental benefit at the site.

B. “In the Area of the Site”

Although an extremely literal interpretation of environmental benefit at the site seems to have been recently implied, there are other more reasonable interpretations that eliminate any inconsistencies with the ECL. Under one such interpretation, the demonstrated environmental benefit would have to exist in the area of the site, not just within the site itself. Several items on the ECL present compelling examples of this interpretation and are discussed below.

An environmental benefit in the area of the site interpretation would also address concerns raised by *Trent Wind Farm*. *Trent Wind Farm* involved an application for a partial use determination of a new wind turbine facility in West Texas that was constructed to help meet the renewable energy goals in the Texas Utilities Code and related PUC rules. While *Trent* has been cited in support of a narrow reading of the “at the site” criterion, the case was resolved on summary judgment and provides no resolution of the specific issues involved with Valero’s applications.⁷ Nevertheless, using an environmental benefit in the area of the site criterion would

⁶ New Shorter Oxford English Dictionary (1993).

⁷ The TCEQ provided four separate grounds for potentially denying Trent’s application: the wind turbines were so different from gas turbines that they were not comparable for purposes of a partial determination; the wind turbines did not satisfy the rule requirement that there be an environmental benefit at the site; the PUC rule regarding renewable energy was not a rule or regulation adopted by any environmental protection agency of the state; and the wind turbines did not qualify for a use determination because the turbines were solely production equipment, and not pollution control property. (Texas Commission on Environmental Quality and Margaret Hoffman’s Additional Motion for Summary Judgment at 3. *Trent Wind Farm, L.P. v. Texas Commission on Environmental Quality*,

impede applications, like those in *Trent*, that would seek to take advantage of the Proposition 2 exemption when there exists only a speculative benefit that may be found only in locations multiple counties away.

Similar to much of the other equipment found on the ECL, Valero's Tier II hydrotreaters create a significant environmental benefit in the area of the site by removing sulfur compounds from gasoline and diesel, therefore preventing the formation of sulfur dioxide ("SO₂") emissions in the immediate air shed as well as reducing emissions of nitrogen oxide ("NO_x") and fine particulate matter (PM) in vehicle exhaust. In its adoption of the controlling regulations, the EPA stated: "the Tier 2/gasoline sulfur rule will achieve environmental benefits in the local areas where refineries are located, due to reductions in tail pipe emissions from vehicles driven in those areas."⁸

Not only would it be inconsistent to designate equipment on the ECL that creates significant environmental benefits in the area of the site as pollution control equipment while denying the same designation for Valero's Tier II hydrotreaters, it would violate the Legislature's directive that the Commission adopt rules that ensure use determinations are equal and uniform.⁹ Any disparity between Valero's Tier II hydrotreaters and the ECL is unnecessary and can be resolved by continuing to follow the practice of granting positive use determinations for pollution control property that provides an environmental benefit in the area of the site.

C. "Created at the Site"

The environmental benefit at the site requirement could also be interpreted to mean an environmental benefit that is created at the site. Similar to the environmental benefit in the area of the site interpretation, this reading would reconcile the ECL with the TCEQ's regulations and would ensure that historic and current use determinations reflect the intent behind the Proposition 2 program.

Although much of the equipment that has been granted a positive use determination in the past has resulted in little, if any, direct environmental benefit at the site, that is not to say that the equipment did not provide a very real and tangible environmental benefit or that the benefit was not in fact created at the site by that same equipment. An environmental benefit that is created at the site will often not be realized until it is outside the fence line of the site. Rather than being confined to the specific location of the equipment, the control, capture, or prevention of most emissions and discharges is intended to provide an environmental benefit at, near, or around the site. It makes little sense to insist that the environmental benefit under the Proposition 2 program be contained within the fence line of a site if the idea and purpose of the program is to promote the protection of the surrounding public and enhancement of the overall environment - a goal

Cause No. GN2-04045, In the 200th Judicial District Court of Travis County, Texas.) These facts are significantly different from Valero's hydrotreater applications: Valero's hydrotreaters do provide several environmental benefits at the site; the hydrotreaters were installed solely in response to a regulation adopted by an environmental protection agency; and the hydrotreaters are used as pollution control equipment. As such, *Trent Wind Farm* does not provide any significant guidance to the resolution of the environmental benefit at the site requirement as applied to Valero's Tier II hydrotreaters.

⁸ 65 Fed. Reg. 6774 (Feb. 10, 2000).

⁹ TEX. TAX CODE § 11.31(g).

that is far greater than the confines of any business or industry footprint. An interpretation of the “at the site” criterion that requires the creation *at the site* of an environmental benefit would preserve the intent of the Proposition 2 program while preventing abuses of the program where the environmental benefit is either wishfully speculative or so remote as to not pass the common sense test.

Valero’s Tier II hydrotreaters and associated equipment provide a real environmental benefit which is created entirely at the site. They do so by extracting and removing sulfur in accordance with EPA regulations. As discussed above, the use of the equipment does provide environmental benefits within the fence line of the site, but more importantly, this equipment reduces SO₂ emissions resulting from the use of gasoline and diesel products. This removal of sulfur not only reduces SO₂ emissions, but also provides significant reductions in NO_x and PM emissions. NO_x is one of the major precursors to the formation of ozone. By removing sulfur at the site, and therefore reducing NO_x emissions from vehicles, the Tier II hydrotreaters create a significant environmental benefit in preventing the formation of ozone.

The interpretation of the “at the site” requirement as an environmental benefit that is created at the site is consistent with the inclusion of several types of equipment on the ECL that would otherwise be excluded from the Proposition 2 tax exemption by a literal reading of environmental benefit at the site to mean a benefit that occurs fully within the fence line of the site. To exclude this equipment because its benefits, while created at the site, are not fully realized until off-site, would thwart the clear purposes of the Proposition 2 program. The Proposition 2 program was intended to remove the unfairness of the government taxing non-productive pollution control property that the government has required to be purchased and installed. Valero requests that the Commission apply the same interpretation to Valero’s Tier II hydrotreaters as it has to other equipment on the PEL and ECL so that all use determinations, as directed by the statute, are “equal and uniform.”¹⁰

D. Analysis of the ECL

Many of the items on the recently adopted ECL do not provide an environmental benefit within the physical fence line of the site. If the requirement is interpreted, however, to mean that there must be an environmental benefit in the area of the site or, alternatively, that the pollution control property produces an environmental benefit which is created at the site, then the inconsistency between the requirement and the items on the list is resolved. A selection of items from the ECL is discussed below.

1. Automotive Dynamometers. This equipment is used for the in-house emissions testing of fleet vehicles and is granted a 100% exemption.¹¹ The environmental benefit resulting from the use of these dynamometers does not occur until after the detection and correction of malfunctions. The benefit occurs when and wherever the vehicle is driven. When the vehicle is driven on-site, the environmental benefit will occur on-site, and when the vehicle is used off-site, the emissions reductions will occur off-site. The area as a whole benefits from this

¹⁰ See TAX CODE § 11.31(g).

¹¹ ECL Item A-67.

reduction in emissions.¹² The reduction in emissions results from the detection and correction of malfunctions - activities that are conducted on-site. No matter where the car is driven and the benefit occurs, the environmental benefit is created on-site.

2. Slurry and Barrier Walls. These methods of pollution control utilize a barrier to minimize the lateral migration of pollutants in soil and groundwater and are granted a 100% exemption.¹³ These methods provide a definite benefit off-site, but no benefit within the site where the pollutants are contained. The benefit of protecting neighboring properties from pollutants is created at the site where the walls are located.

3. New Stack Construction, Stack Modifications, and Stack Repairs. These categories of equipment are included on the ECL as pollution control property at 100%.¹⁴ Stacks are used to disperse pollution, but do not provide any actual reduction in that pollution either on or off-site. Their environmental benefit is the dilution of the pollution by dispersion to a larger area. To the degree stacks cause emissions to be less concentrated, there is a demonstrable environmental benefit in the area of the site. Here again, the creation of the environmental benefit occurs on-site.

4. Injection Wells. This equipment is included on the ECL and allowed a 100% exemption.¹⁵ Injection wells that accept waste from other off-site areas provide no environmental benefit on-site, but do provide a significant environmental benefit to the area. An injection well creates an environmental benefit at the point of injection although the benefit is to off-site properties.

5. Fish and Other Aquatic Organism Protection Equipment. This equipment is included on the ECL and is granted a 100% exemption.¹⁶ This equipment is installed to protect fish and other aquatic organisms from entrapment or impingement in an intake cooling water structure. Such equipment can include, among other items, aquatic filter barrier systems, fine-mesh traveling intake screens, fish return buckets, and sprays. This protection equipment does not control pollution either on or off-site. It also provides no environmental benefit on-site. At best, it encourages conservation and protection of aquatic wildlife which could create at the location of the protective equipment an environmental benefit for the area.

6. Double-Hulled Barges. This equipment is included on the ECL.¹⁷ The environmental benefit of such equipment is to reduce the chance of leakage into public waters, which by definition are off-site. There is no on-site benefit from double-hulled barges.

This is only a partial list; other examples include detention ponds, off-site ambient air monitoring facilities, stormwater and waste water outfalls, API separators, and CFC replacement projects.¹⁸

¹² The agency does not require a partial determination for on site versus off site use.

¹³ ECL Item S-15.

¹⁴ ECL Item A181, 182, 183.

¹⁵ ECL Item S-17.

¹⁶ ECL Item M-22.

¹⁷ ECL Item S-23

These examples demonstrate that a single restrictive interpretation that defines the “at the site” requirement found in the 30 TAC § 17.15 flowchart to mean an environmental benefit within the fence line of the site fails to explain the inclusion of several pollution control items that were clearly intended to be covered by the Proposition 2 program. Two interpretations are available that resolve the problems that result with applying an overly restrictive reading of this requirement. An interpretation that the rule requires an environmental benefit in the area of the site or that an environmental benefit must be created by the pollution control property at the site, would harmonize the “at the site” requirement with the items listed on the ECL. Valero’s Tier II hydrotreaters meet the environmental benefit at the site requirement under any of these three interpretations; however, Valero believes that in light of the directive that the TCEQ make use determinations on an equal and uniform basis, an overly literal interpretation (“within the fence line”) is unworkable under the Proposition 2 program.

IV. Extent of the Environmental Benefit Required

Although Valero’s Tier II hydrotreaters produce significant environmental benefits both at the site and in the area of the site,¹⁹ there has been some debate regarding the quantity of the environmental benefit at the site required for Proposition 2 pollution control property. An examination of the history of the requirement and the ECL demonstrates that increases in emissions from the site are permissible and that environmental benefit is not required to be a quantifiable or net environmental benefit.

Using the ECL as a guidepost, any incidental increase in emissions does not prevent Valero from meeting the “at the site” requirement. There is in fact an environmental benefit at the site. The rule does not require that there not be any increase in emissions at the site in addition to an environmental benefit at the site. Any suggestion that the rule prohibits any increase in emissions at the site would be inconsistent with the ECL and would violate the statute’s requirement that use determinations be equal and uniform.²⁰

In adopting the environmental benefit at the site requirement in its rules, the Commission included no limitations or standards as to the size, significance or nature of the required benefit.²¹ This unlimited meaning is clarified by the adoption history of the rule, where commenters objected that an applicant should not be required to show a net or “quantifiable” environmental benefit.²² This meaning is also consistent with both the generally broad language of the underlying statute.²³ Thus, the commission seems to have intended that the rule requirement be

¹⁸ See 30 TAC § 17.14.

¹⁹ In adopting the regulations, the EPA acknowledged that although “residual emissions increases at some refineries” could be expected, “for the vast majority of areas, we believe that these potential refinery emissions increases will be very small compared to the Tier 2 benefits in those same local areas.” 65 Fed Reg. 6774 (Feb. 10, 2000).

²⁰ See TEX. TAX CODE § 11.31(g).

²¹ This omission is consistent with the Commission’s limited discretion under the statute to deny a determination for pollution control equipment, as well as the statutory boundaries already in place to safeguard unmerited determinations. These include the requirement that the equipment be installed to meet a requirement of an environmental agency.

²² Per changes made to the rule in response to comments during the rulemaking process. See Executive Director’s Response at 24.

²³ *Op. Tex. Att’y Gen. No. JC-0327* (2001).

just that of showing *an* "environmental benefit at the site" and not a showing of a "quantifiable environmental benefit,"²⁴ or a net environmental benefit. This sensible interpretation is supported by examining several determinations recently adopted on the ECL.

1. Stacks. This equipment provides no emission reductions since the amount of pollutants emitted remains the same. Instead, by raising the emissions point and allowing better dispersion of pollution, stacks provide the benefit of minimizing the concentration of pollution off-site. In fact, the use of stacks and the calculation of stack heights is required in New Source Review authorizations as part of emissions modeling to ensure that off-site impacts are protective of human health and the environment. Stacks are granted a 100% determination for the increase in stack height.

2. Flares. This equipment decreases emissions and/or volumes of some pollutants while creating other new pollutants and potentially impacting other media. The equipment is allowed a 100% determination.

3. Selective Catalytic and Non-Catalytic Reduction Systems. This equipment reduces NO_x emissions from engines and boilers, and is included on the ECL at 100% even though these systems result in new ammonia emissions or "ammonia slip."²⁵ An applicant is not required to weigh the increases in ammonia slip with the decrease in NO_x emissions. Instead, agency review focuses simply on the NO_x reduction benefits.

4. Solid Waste Incinerators. This equipment is listed on the ECL and is allowed a 100% exemption when not used for energy recovery or material recovery.²⁶ These incinerators, along with associated feed systems, ash handling systems, and other controls, generate new air emissions at the site.

5. Stationary Waste Mixing, Stabilization and Grinding Facilities, Water Disinfection Facilities. This group of facilities is given a 100% exemption even though the equipment generates cross-media impacts. The use of stationary mixing and sizing equipment for solidification, stabilization, and grinding of waste materials for the purpose of disposal or in-house recycling generates air emissions in the form of particulate matter at the site.²⁷ Water disinfection facilities may also generate chlorine emissions.²⁸

These are just a few examples. Others include distillation recycling systems,²⁹ automotive dynamometers,³⁰ and wet and dry scrubbers.³¹ In light of this guidance, it is clear

²⁴ Per changes made to the rule in response to comments during the rulemaking process. See Executive Director's Response at 24.

²⁵ ECL Item A-80.

²⁶ ECL Item S-3.

²⁷ ECL Item S-1.

²⁸ ECL Item W-20.

²⁹ ECL Item M-5.

³⁰ The example of automotive dynamometers is particularly instructive. This equipment undoubtedly increases emissions at the site, and only results in a reduction in emissions upon detection and correction of the failure of an emissions control system

³¹ ECL A-168.

that "environmental benefit" has been construed to mean the existence of at least some benefit to the environment but not necessarily a total or complete benefit.

V. Individual Equipment Items

TCEQ has requested that Valero provide an individualized environmental benefit at the site analysis for each piece of equipment listed in Valero's applications. We are unclear as to the meaning of TCEQ's request. The text of the statute makes it clear that pollution control property includes collective groups of equipment:

In this section, "facility, device, or method for the control of air, water, or land pollution" means land that is acquired after January 1, 1994, or any structure, building, installation, excavation, machinery, equipment, or device, and any attachment or addition to or reconstruction, replacement, or improvement of that property, that is used, constructed, acquired, or installed wholly or partly to meet or exceed rules or regulations adopted by any environmental protection agency of the United States, this state, or a political subdivision of this state for the prevention, monitoring, control, or reduction of air, water, or land pollution.

TEX. TAX CODE § 11.31(b)

The Commission has not previously required each component of pollution control property to individually show an environmental benefit at the site. A wastewater treatment plant provides perhaps the best example from the ECL. A wastewater treatment plant consists of many individual pieces of equipment, each necessary for the system to provide the environmental benefit. Similarly, Valero's Tier II hydrotreaters and associated equipment work as a system to meet the EPA's low sulfur requirements. In this way, each piece of equipment provides the environmental benefits discussed in depth above.

VI. Conclusions

The requirement that pollution control property produce an environmental benefit at the site was added by TCEQ as part of procedural rulemaking. It is not required by the statute, which only requires that the Commission develop rules governing positive use determinations and that determinations are equal and uniform. While specific guidance on the "at the site" requirement has not been provided by the Commission, it is clear that a restrictive interpretation limited to an environmental benefit within the fence line of the site fails to account for many of the items included on the ECL. The application of such an interpretation to items not already on the ECL would unnecessarily result in use determinations that are not equal and uniform and not in accordance with the Legislature's intent. Other reasonable interpretations, such as an environmental benefit in the area of the site, or an environmental benefit created at the site would explain the inclusion on the ECL of many items and would allow for equal and uniform use determinations.

Valero's Tier II hydrotreaters and associated equipment do provide numerous environmental benefits within the fence line of its refineries and therefore clearly meet the requirement found in 30 TAC § 17.15 that there be an environmental benefit at the site. They also provide important environmental benefits in the surrounding areas. Perhaps most

importantly, the environmental benefits created at the refinery sites address the significant goals of reducing SO₂, NO_x, and PM emissions. Valero requests that in fairness and with regards to the statute's directive of uniformity, the Commission apply the environmental benefit at the site requirement in a manner consistent with the other items on the ECL.

Exhibit B

M E M O R A N D U M

August 20, 2008

TO: Guy Henry

FROM: Pam Giblin
Amber Garrison

RE: Production of Pollution Control Equipment

I. Background

In 1993, Texas voters approved an amendment to the Texas Constitution allowing the legislature to exempt property used to control pollution from ad valorem taxation. This amendment is frequently referred to as "Proposition 2." The Texas Legislature implemented Proposition 2 in 1993 by enacting TEX. TAX CODE § 11.31. The statute exempts from taxation property that is used, constructed, acquired, or installed wholly or partly to meet or exceed rules or regulations adopted by any environmental protection agency of the United States, Texas, or a political subdivision of Texas for the prevention, monitoring, control, or reduction of air, water, or land pollution.¹

In 2006, Valero installed hydrotreater units and associated equipment (the "Tier II" hydrotreaters)² at five of its Texas refineries. Valero installed the Tier II hydrotreater units to meet regulations, adopted by the United States Environmental Protection Agency ("EPA"), requiring refineries to reduce sulfur levels in gasoline and diesel.³ Because the Tier II hydrotreater units were installed for the purpose of meeting environmental regulations for the reduction of air pollution, Valero filed applications with the Texas Commission on Environmental Quality ("TCEQ") for positive use determinations designating the hydrotreaters as pollution control property. Valero's applications were denied and negative use determinations issued based in part on a finding that Valero manufactures or produces pollution control property.⁴ This memorandum addresses why Valero is not a manufacturer of Pollution Control Property.

¹ TEX. TAX CODE § 11.31(a) and (b).

² The term "Tier II" hydrotreater is used throughout this memorandum to distinguish the hydrotreaters included in Valero's Proposition 2 applications from other hydrotreaters in service at Valero's refineries. Tier II refers to the EPA's low sulfur regulations which required the installation of these hydrotreaters. The Tier II hydrotreaters include both newly installed and modified equipment.

³ See 40 CFR § 80.195 *et seq.* and 40 CFR § 80.500 *et seq.*

⁴ See Staff's Technical Review Letter for Valero Port Arthur Refinery issued April 18, 2007.

II. The Production or Manufacturing of Pollution Control Property Exclusion

The Proposition 2 tax exemption is found in TEX. TAX CODE § 11.31. It states:

A person is entitled to an exemption from taxation of all or part of real and personal property that the person owns and that is used wholly or partly as a facility, device, or method for the control of air, water, or land pollution. A person is not entitled to an exemption from taxation under this section solely on the basis that the person manufactures or produces a product or provides a service that prevents, monitors, controls, or reduces air, water, or land pollution.

TEX. TAX CODE § 11.31(a)

In 1996 the Attorney General was asked to interpret Section 11.31(a) and its applicability to a commercial enterprise engaged in the business of waste treatment and disposal.⁵ The Attorney General's opinion analyzes the history and the intent behind both the Proposition 2 tax exemption and the exclusion for those who manufacture or produce Pollution Control Property.⁶ The opinion addresses the same issues raised in objection to Valero's Tier II hydrotreater applications and clarifies why Valero is not a manufacturer of Pollution Control Property.

The Proposition 2 exemption was implemented to "insure that businesses required by law to install pollution control equipment which generates no additional profit for them are not taxed on such property,"⁷ or as otherwise stated in the Bill Analysis, because "[i]t would be unfair to tax businesses on property they are required by law to purchase."⁸

The original text of the statute did not exclude businesses whose purpose is to manufacture Pollution Control Property.⁹ Concerns were raised during hearings on the bill that the exemption may be used to exempt all taxable property of companies in the business of pollution control, specifically businesses such as automobile inspection stations or landfill operators.¹⁰ The original bill's sponsor, Representative Mark Stiles, stated that he did not think such businesses that were in the business of providing pollution control services were covered by the Proposition 2 exemption and that he "would be glad to accept an amendment that [if] somebody's in the business to make money with a service like that, that would not be applicable under this law."¹¹ To address these concerns, an exclusion from Proposition 2 was added to preclude businesses that make Pollution Control Property (such as wet gas scrubbers, flares, SCRs, etc.) as their stock in trade from claiming an exemption. The exclusion, as drafted and as confirmed by the Texas Attorney General, was intended to, and does make clear that "[t]he

⁵ *Op. Tex. Att'y Gen. No. 96-128* (1996).

⁶ *See Id.*

⁷ *Id.*

⁸ *Id.* at 2 citing House Research Organization, Bill Analysis, H.B. 1920, 73d Leg. (1993).

⁹ *Op. Tex. Att'y Gen. No. 96-128* at 2.

¹⁰ *Id.* at 2-3.

¹¹ *Id.* at 2 citing Hearings on H.B. 1920 & H.J.R. 86 Before the House Ways and Means Comm., 73d Leg (March 24, 1993).

statute was not intended to provide a tax exemption to businesses which are engaged for profit in the commercial trade of pollution control or abatement.”¹²

III. Valero Does Not Fall Within the Exclusion

Valero is not engaged for profit in the commercial trade of pollution control or abatement. Valero is in the refinery business and manufactures gasoline, diesel, asphalt and other crude-oil derived products. The ultra-low sulfur diesel and low sulfur gasoline produced by Valero cannot legitimately be considered pollution control property. When combusted, gasoline and diesel, no matter how low in sulfur they are, create air pollution and air pollution pre-cursors. Furthermore, Valero annually pays ad valorem taxes on its gasoline and diesel inventories and has not claimed, and has never believed it could claim, any pollution control tax exemption on these products.

Valero is, however, seeking a Proposition 2 tax exemption for the pollution control property it does own and use. The Tier II hydrotreaters at issue are by their nature pollution control property which Valero owns and uses to meet EPA regulations for the control of air pollution. This equipment is manufactured by others. The manufacturers of the hydrotreaters are not eligible for the Proposition 2 tax exemption because, by producing equipment that is used to remove sulfur from gasoline and diesel, those manufacturers are engaged for profit in the commercial trade of pollution control.

IV. TxLED Example

The ultra-low sulfur gasoline and diesel produced by Valero are not pollution control property. There are, however, fuel-related products that do constitute pollution control property.

One example is the TCEQ-approved fuel additives used by some producers of diesel to meet TxLED (Texas Low Emission Diesel) regulatory requirements. The TxLED program requires that producers of diesel consumed in regulated Texas counties meet certain emission reduction targets. These targets can be met through the use of third-party additives. The manufacturer of the additives is not entitled to an exemption under the statutory language because the additive is a product that prevents air pollution and these manufacturers therefore fall within the exclusion.

The TxLED fuel additives are manufactured and marketed as a pollution control product and are not eligible for a determination by the manufacturers of the additives. Similar to the TxLED fuel additives, Valero's Tier II hydrotreaters are purchased from third parties and are used to reduce or prevent air pollution through the removal and sequestration of sulfur compounds from gasoline and diesel. Valero does not manufacture the hydrotreaters but it does purchase, install, and operate them in order to meet EPA regulatory mandates in 40 CFR Part 80. Valero is not producing a pollution control property in the form of its ultra-low sulfur diesel or low sulfur gasoline through its use of the Tier II hydrotreaters, but is using a pollution control property to meet applicable environmental regulations governing the production of a petroleum-derived product.

¹² *Op. Tex. Att'y Gen. No. 96-128* at 3.

V. Conclusions

TEX. TAX CODE § 11.31 was “not intended as tax relief for persons engaged for profit in the pollution control business.”¹³ Valero’s business is the production of petroleum-derived products such as gasoline and diesel, products which create emissions and which do not require Tier-II-level sulfur removal to be fully functional and marketable for their intended purposes.

Valero’s Tier II hydrotreaters were purchased from manufacturers who are engaged for profit in the pollution control business. Valero does not, in turn, become a manufacturer of pollution control property through its use of this equipment. It remains a refiner that produces an inherently polluting product. It has now been required by law to install pollution control equipment which generates no additional profit. For these reasons, Valero’s Tier II hydrotreaters and equipment are properly subject to the Proposition 2 exemption. To hold otherwise would be to make a company required by the EPA to install, at great expense, additional hydrotreating capacity, suffer the “double whammy” of paying taxes annually on that same property.¹⁴

¹³ *Op. Tex. Att’y Gen. No. 96-128* at 3.

¹⁴ Quoting Representative Steven Wolens, Deliberations of the House Ways and Means Committee on H.J.R. 86 and H.B. 1920, March 24, 1993. Transcript prepared by the Office of Attorney General, Natural Resources Division.

Exhibit C

BAKER BOTTS LLP

1500 SAN JACINTO CENTER AUSTIN
98 SAN JACINTO BLVD. BEIJING
AUSTIN, TEXAS DALLAS
78701-4078 DUBAI
HONG KONG
HOUSTON
LONDON
MOSCOW
NEW YORK
PALO ALTO
RYADH
WASHINGTON

Pamela M. Giblin
TEL +1 512.322.2509
FAX +1 512.322.8308
pam.giblin@bakerbotts.com

October 3, 2008

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BY U.S. MAIL AND ELECTRONIC MAIL

Ms. Stephanie Bergeron-Perdue
Deputy Director, Office of Legal Services, MC-218
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: Valero Refining Proposition 2 Use Determination Requests - Analysis of *XTO Energy Use Determination*

Dear Ms. Bergeron-Perdue,

We would like to thank you and your staff for meeting with us on September 16, 2008 to discuss Valero's Proposition 2 hydrotreater applications.¹ During the meeting, it was suggested that the TCEQ Commissioners' previous decision in the *XTO Energy Use Determination* matter resolves the question of whether removing sulfur from gasoline and diesel in accordance with federal regulations qualifies as "pollution control" under Proposition 2. We believe the Commissioners' decision in *XTO Energy* may have been misconstrued and that it is necessary to provide additional analysis of their deliberations.

The use determination at issue in *XTO Energy* differs significantly from Valero's Tier II hydrotreater applications and any similarity between the two is limited to the removal of sulfur from a product stream. These differences, together with a full review of the Commissioners' deliberations, make it very clear that TCEQ has not decided the question of whether the EPA-mandated removal of sulfur from gasoline and diesel qualifies as pollution control for the purposes of Proposition 2.

The holding of XTO Energy is that Pollution Control Property must be required by an environmental regulation and not market driven

XTO Energy operated a facility to remove hydrogen sulfide from a produced natural gas stream. It sought, and received, from the TCEQ Executive Director a positive use determination for its entire facility. When the use determination was challenged by the appraisal district in which the facility was located, the Commissioners questioned what environmental regulation

¹ The specifics of Valero's hydrotreater applications have been discussed at length in other correspondence with the Agency. In short, Valero installed hydrotreater units (referred to as the "Tier-II" hydrotreaters) in 2006 at five of its Texas refineries specifically to meet U.S. E.P.A. regulations requiring refineries to reduce sulfur levels in gasoline and diesel (40 CFR § 80.195 *et seq.* and 40 CFR § 80.500 *et seq.*).

obligated XTO Energy to strip hydrogen sulfide from the natural gas.² While TCEQ Staff suggested there may be safety concerns that justified the removal of the hydrogen sulfide, no specific federal, state, or local environmental regulations were cited at Agenda by Staff, or even the applicant, as requiring the removal.³ XTO's decision to build its facility to remove hydrogen sulfide from natural gas was entirely market driven. Ultimately, the Commission determined that based on the lack of an environmental regulation requiring the removal of the hydrogen sulfide, the equipment was not pollution control property.

All three of the Commissioners were in agreement that the failure to identify an environmental requirement disqualified the plant from being pollution control property. Commissioner Soward stated:

“Let me ask you, can you point to me any state or federal regulation that requires this hydrogen sulfide to be stripped off? [. . .] [T]here is no obligation on the part of this company to strip this gas off. [. . .] Can you point to me a regulation that would say that this gas could not go into this pipeline? [. . .] That's the whole question here. [. . .] Is that pollution control, or is that enhancement of a product? And that's the whole issue here, and to me, for me to say it's pollution control, you have to show me something that says it's intended to be nothing but that. And I don't think the market, I don't think the industry says that. I think they strip it off to make it more marketable. [. . .] They don't have to strip it off at all.”⁴

Near the end of the Commission deliberations, Chairman White was joined by the other two Commissioners in repeating this point.

Chairman White, “Unless you can identify a specific federal, state or other environmental rule...”

Commissioner Soward, “that says they are required to extract it...”

Chairman White, “Yeah.”

Commissioner Soward, “I don't think they are going to find that.”

Commissioner Marquez, “And it has to be an environmental rule. It cannot be a Federal Trade Commission or Transportation Commission or you know, Homeland Security... It has to be an environmental rule.”⁵

² See Transcript of “XTO Energy - Use Determination Discussion,” TCEQ Commission Agenda Meeting, September 28, 2005, pp. 4-5. This transcript was prepared by Baker Botts L.L.P. from an audio recording and is attached to this letter. The audio recording is available on the TCEQ's website.

³ *Id.* at 4.

⁴ *Id.* at 4-5.

⁵ *Id.* at 8.

Unlike XTO Energy, Valero is not seeking an exemption for its entire facility and Valero is required under specific EPA regulations to extract sulfur from its gasoline and diesel.⁶ Valero installed its Tier II hydrotreaters solely for the purpose of meeting these federal environmental regulations. In the absence of the EPA regulations, there is no market-driven or safety reason requiring the removal of sulfur from gasoline and diesel to the levels now required. Prior to the EPA regulations, Valero used hydrotreaters to refine its products to marketable standards. Now the products must have significantly more sulfur removed solely to meet EPA regulations. The increase in the amount of sulfur removed is "intended to be nothing but" pollution control in the form of meeting a specific environmental regulation. Removing the sulfur from gasoline and diesel to the levels required by the EPA is not an "enhancement of [the] product," and does nothing to make Valero's products "more marketable."⁷ Valero is seeking a Proposition 2 exemption only for the additional Tier II hydrotreater units and capacity that it was required to install by the EPA regulations. It is not seeking an exemption for the previously existing hydrotreater capacity.

XTO Energy cannot be used to find that EPA-mandated removal of sulfur from fuel provides no environmental benefit at the site

The Commission did not make a determination in *XTO Energy* that EPA-required removal of sulfur from gasoline and diesel provides no environmental benefit at the site. Commissioner Marquez questioned whether XTO Energy's removal of sulfur from natural gas could, *per se*, support a finding of an environmental benefit at the site, saying: "There's no environmental benefit at the site by just removing the sulfur from the gas."⁸ This statement must be read in context of the deliberations. As the surrounding discussion shows, the Commissioner was not contemplating an application such as Valero's, where specific equipment was added in response to an EPA requirement that anticipated creating environmental benefits.⁹

As discussed above, even a cursory review of the *XTO Energy* transcript makes it clear that this case was decided on the lack of an applicable environmental requirement. As noted, all three Commissioners agreed that the XTO plant was disqualified on this basis.¹⁰ The environmental regulation requirement consumed the bulk of the discussion and was the subject discussed immediately prior to a motion being made. Commissioner Marquez's comments on environmental benefit at the site must be construed as dicta and should not be characterized as dispositive.

Finally, in *XTO*, the Company listed in its application 30 TAC Chapter 116 as the applicable environmental rule.¹¹ Chapter 116, however, does not require the installation of sulfur removal equipment. It is an air permitting rule which requires that a permit be obtained if sulfur

⁶ 40 CFR § 80.195 *et seq.* and 40 CFR § 80.500 *et seq.*

⁷ See Transcript of "XTO Energy - Use Determination Discussion" at 5 (Commissioner Soward's comments).

⁸ *Id.* at 6.

⁹ See 65 Fed. Reg. 6774 (Feb. 10, 2000).

¹⁰ Transcript of "XTO Energy - Use Determination Discussion" at 8.

¹¹ Application of XTO for Determination of Pollution Control Equipment at 2.

October 3, 2008

removal is undertaken. Valero's Tier II hydrotreaters were required to be installed by an EPA rule. In its rule adoption, EPA found that compliance with the rule will provide a benefit to the area surrounding refineries.¹²

We appreciate your attention to this matter and we look forward to continuing to work with Staff to resolve this matter.

Sincerely,



Pamela M. Giblin

Cc: Guy Henry, Environmental Law Division, MC 173
Chris Ekoh, Environmental Law Division, MC 173
Tim Reidy, Environmental Law Division, MC 173
Ron Hatlett, Small Business/Environmental Assistance Division, MC 112
David Greer, Small Business/Environmental Assistance Division, MC 112
Robert Martinez, Director, Environmental Law Division (via email only)
Grace Montgomery Faulkner, Director, Small Business/Environmental Assistance Division (via email only)
Carlos Rubinstein, Deputy Executive Director, Executive Offices (via email only)
Zak Covar, Assistant Deputy Executive Director (via email only)
Les Trobman, General Counsel (via email only)

¹² 65 Fed. Reg. 6774 (Feb. 10, 2000).

XTO ENERGY - USE DETERMINATION DISCUSSION
TCEQ AGENDA - SEPTEMBER 28, 2005

Derek Seal That brings us to Item #4, which is an appeal by the Freestone Central Appraisal District of the Executive Director's positive use determination issued to XTO Energy in Freestone County. I would note that Texas Tax Code §11.31 states that this particular appeal is not a contested case under the Texas Administrative Procedure Act. It does require that the parties be given an opportunity to testify. That being said, I would recommend five minutes for the Freestone Central Appraisal District, XTO Energy, ED, and OPIC, in that order. We do have a signature card here for Joseph Tran. I'm not aware if anybody from the Freestone Central Appraisal District is here... (inaudible from audience)... if I could just get you to ... sir, are you John Maddox? If we could just get you to fill out a form for our record (unidentified voice off camera "you could do it afterwards")... you can do it after you speak. With that, Commissioners, we recognize Freestone Central Appraisal District.

Wayne Frizzell My name is Wayne Frizzell, I'm with Pritcher & Abbott, representing Freestone. First thing I'd like to bring up is the generators on the list for the application. We have learned since we filed comments that, actually, XTO does not own the generators, they are leased. That means that that value needs to be removed off of the exemption; otherwise, the Commission will be offering exemptions greater than the value of the ...XTO actually owns there. We still believe that everything in the natural gas stream -- the prefilter, the contactor, and the post-filter are there to make the gas -- to produce the gas in a sellable form, so those should be considered production equipment, and everything else should be considered pollution control equipment. We're not talking about the bulk of it is pollution control equipment-- we think it's a very good process that they're using and we actually commend them for choosing this particular pollution control device. Lastly, I want to read one sentence from the Texas Property Tax Code. In a note, it says, "The Texas Natural Resource Conservation Commission must administer the tax exemptions to grant exemptions to only that portion of property that actually controls pollution." Well, you can't tell it from the application, but they have included a building that, although they may have a control panel in it, it's mostly office and maintenance facility and we do not believe that should receive a property tax exemption because it's on the same property with the pollution control equipment. And that's the extent of our comments.

Ch. White That takes us to XTO... Mr. Tran, representing XTO.

Joseph Tran Good afternoon. With the situation with the generation equipment-- I just found out the other day that it was leased, although XTO is accountable for the taxation. I'm unsure how that would lead towards the decision on where it would be exempted or not. For the additional equipment that's included within the plant, everything that's built for that plant itself is necessary in order to do

the actual removal of the sulfur and transitioning into a form that is not pollution. Also, the plant itself it's separate from the compressor stations and what-not buildings. What we have filed was just the equipment for the process itself and the plant. That is all I have to say. Thank you.

Ch. White

Thank you. We may have questions later. Executive Director?

Les Trobman

Good afternoon. My name is Les Trobman, I'm with the Environmental Law Division. With me is Gary McArthur with the Small Business and Environmental Assistance Division. On May 17, 2005, the Executive Director issued a positive use determination on the property identified by XTO Energy through its Prop 2 Use Determination application. The Chief Appraiser for the Freestone Central Appraisal District filed an appeal of the use determination on May 18th. The Executive Director respectfully requests that the Commission deny the appeal filed by the Appraisal District and uphold the use determination issued by the Executive Director. In furtherance of this request, the Executive Director would refer the Commission to the legal analysis contained within the filed brief. As noted therein, the Executive Director used the units subject to the property tax exemption as a single, unified, pollution control facility which removes hydrogen sulfide from natural gas within the comprehensive process of treating that H₂S in an environmentally sound manner, meeting applicable regulatory requirements. The Executive Director is cognizant of the assertion that the facility operator realizes some benefits in the extraction of the H₂S to the extent that the resulting gas will be less likely to corrode pipelines and other transportation modes. However, irrespective of the secondary benefits, the Executive Director has, in its discretion, determined that the primary purpose of the unit is pollution control in nature intended to meet applicable environmental regulations. Indeed the over-arching purpose is to extract and treat hydrogen sulfide, which is a toxic gas, and convert it to elemental sulfur, which can be safely disposed in a manner which eliminates emissions of sulfur compounds. The appellant attempts to draw a line between the extraction and treatment steps which occur during the overall process. As indicated by the Agency in the applicable General Operating Permit, the Teagues Plant is not a sulfur recovery plant or a gas sweetening plant. While the front-end extraction process does remove H₂S from treatment, for treatment purposes, the remaining gas stream contains other contaminants such as carbon dioxide, which would need to be removed through subsequent marketable gas production. As set forth by rule, a use determination will be issued as either a Tier I, Tier II or Tier III determination. It should be noted that, when the Executive Director issued use determinations on gas treatment units in prior applications, Tier III partial determinations were issued based upon the valuable nature of resulting by-product. However, in this case, like in some other prior gas treatment plants with no valuable by-product, which include other facilities with applications by XTO, the Executive Director would be limited to finding 100% positive use determinations should the facility here be run through the Tier III cost benefit analysis. Regardless, the Executive Director has treated this application as a Tier II determination, finding the singular H₂S removal and treatment unit to be

pollution control property in terms of regulation. Importantly, not only are these regulations met through the treatment of the H₂S by-product, but also by the prevention of fugitive emissions caused by the facility, that could be caused by the facility, should pipelines become corroded due to the transportation of the H₂S gas. Consequently, the extraction of the H₂S from the natural gas may reasonably be found to satisfy regulatory emission limitations through reducing the real threat of fugitive emissions. Thank you. We are available for any questions that you might have.

- Ch. White I have a couple I'd like to ask and these may or may not be relevant in further discussion, but I understand that, you know, very few of these use determinations come to the Commission so we don't see a wide variety of them. But I understand this, this type of use determination for this type of plant has been made repeatedly in the past?
- Les Trobman That is correct.
- Ch. White Is that correct?
- Les Trobman That is correct.
- Ch. White So we're, by using a Tier II analysis, right...
- Les Trobman By using a Tier II and a Tier III in those cases where the facility process resulted in a by-product of sulfur that was resellable and had value in and of itself. In cases such as these where there is no value to the by-product, they were all, they have all been handled in a Tier II manner.
- Ch. White Could you estimate a number?
- Les Trobman Yes, I believe our numbers reflect 26 total applications have been processed -- 16 of them as...
- G. McArthur Sixteen of the applications were processed as Tier III applications using mostly conventional Clouse sulfur technology and 10 of them were processed as Tier II applications.
- Ch. White With that distinction you just mentioned, those processes Tier III had a marketable by-product . . .
- G. McArthur Correct.
- Ch. White ... after the extraction process.
- G. McArthur Correct.
- Ch. White These types of facilities

G. McArthur No, that is what we used to determine partial percentage it qualified, deducting the value of the marketable sulfur that was produced over the life of the equipment.

Ch. White Okay. The other question is, would you not consider the generators differently as leased equipment, rather than personal property?

(audience, probably Wayne Frizzell) If I may...

Ch. White Could you please let him...

Les Trobman Well, we certainly would be interested in looking at that further, and I think a key issue might be whether the lease agreement itself and, as I think Mr. Tran might have indicated, that the lessee retains the tax obligations, but something that we would need to look into further.

Com. Soward Without regard to the number that have been processed uncontested, has this Commission ever had this same situation before it, and how did this Commission rule on a contested determination?

Les Trobman I don't believe hydrogen sulfur... there have been a number of hydrogen sulfur...

Com. Soward So, I don't feel bound by what's happened on an unopposed fashion when we have one that is opposed.

Ch. White I don't feel by, in a sort of legal procedure, but it is of interest to me.

Com. Soward Yeah, I agree with how they treated them...

Ch. White And it gives me pause per you know, one of the variables...

Com. Soward Let me ask you, can you point to me any state or federal regulation that requires this hydrogen sulfide to be stripped off?

Les Trobman What we, what we would point to are requirements that fugitive emissions do not occur and we would, we do find that the end result of leaving the H₂S in the gas has been shown to result in not only corroded pipelines but as well as incidents of explosion.

Com. Soward But there is no obligation on the part of this company to strip this gas off. It's a market item.

Com. Marquez Let me ask it differently... is there a regulation that applies to things like pipelines to relieve a certain concentration of hydrogen sulfide in the gas

because of corrosion?

Les Trobman Could you repeat that... I'm sorry.

Com. Marquez Is there a regulation as it applies to pipelines -- not environmental regulations -- that applies to pipelines that limits the amount of hydrogen sulfide that is allowed to be put natural gas in that pipeline?

Les Trobman We have conducted review of Railroad Commission regulations and they're quite, quite extensive. At this point in time, we have not been able to locate regulatory language that is as specific as the type that you have indicated.

G. McArthur Excuse me, could I speak, Commissioner? There are regulations by the Railroad Commission that restrict the amount of sulfur that is allowed in pipeline-grade natural gas to, I believe, 0.5 grains per 100 standard cubic foot of gas, and there are, EPA has similar regulations restricting the amount of sulfur that can be contained in pipeline-grade natural gas, as well.

Com. Marquez So if the sulfur is not removed from this natural gas -- only gas is extracted -- could it go through the pipeline based on existing regulations, or not?

G. McArthur I don't think it could safely -- it would be a very dangerous situation because of the corrosiveness of the H₂S and also of the explosive potential and also, it's a toxic gas, so if H₂S was released in a compressed form, there could be enough concentration to cause toxicity to humans.

Com. Soward Can you point to me a regulation that would say that this gas could not go into this pipeline? I mean, I heard you express your opinion, but what says that this gas has to be stripped off at this point as opposed to some other point or not at all? That's the whole question here. I don't think anybody's really challenging the part of the operation... the facilities that are used to dispose of what's stripped off. The issue is the part before you strip it, the process of stripping it off. Is that pollution control, or is that enhancement of a product? And that's the whole issue here, and to me, for me to say it's a pollution control, you have to show me something that says it's intended to be nothing but that. And I don't think the market, I don't think the industry says that. I think they strip it off to make it more marketable. And then what they do with it then becomes a pollution control issue, and we can look at that from a tax standpoint. They don't have to strip it off at all.

Com. Marquez Or they have to strip it for other reasons, like safety.

Com. Soward But not for pollution.

Com. Marquez Not for pollution...

Com. Soward Then once you do strip it, then we've got a pollution issue.

Com. Marquez There's a different type of restrictions that they have to meet, like so many other people that do business. They double that waste -- now, how they handle that waste after it becomes a waste, yeah may be subject to some of the tax benefits, but the act of separating the waste from the product is not a pollution... and you know, I go to the decision flow chart and Step 5, is there an environmental benefit at the site? There's no environmental benefit at the site by just removing the sulfur from the gas. Now, once you start purifying it, and you apply pollution control devices to it, then yes, it prevents the hydrogen sulfide from leaking out at that site, and that part of it maybe, may qualify. But I agree with Commissioner Soward... the fact that the sulfur has been separated from the gas, I just do not see that as being a pollution control device. There's no difference that some refiners coming in a few years ago and saying we are to, we're going to build a new refinery that makes reformulated gasoline -- reformulated gasoline is required, you know, is a pollution control issue. It reduces pollution, so we tear the refinery down and it's a pollution control device. You can stretch this too far. I think... I'm glad that this case came up to us because I think that, after the review we had a few years ago, after the groups of appraisers and industry reps may have even come up with some compromises. We thought we had even more strict direction as to how to look at pollution control devices. And this is the first time that a case risen to us where we have seen some impacts of it ... so

Com. Soward And I think, you know, it's a common rule of law that exemptions from taxation are discouraged, and you strictly construe any statutes or regulations that would allow exemption from taxes. I didn't make that policy, that was the Legislature. And I think that we have to strictly construe application of the statute when it comes to these and that's why I say, to me, it's clear that, once it's stripped off and you have a disposal issue, then that comes within our world as far as the use exemption. But prior to that, it's simply a business and processing issue that the Legislature hasn't granted an exemption to. So I think we are totally consistent with the Tax Code and the legislative intent by being very strict in how we apply this to even this fact situation.

Ch. White How often does an entity which holds one of these use determinations for a reduction of ad valorem taxes have to come in and have it renewed? I mean, how often, once the ED has made a positive use determination, how often does the entity which holds that have to, have to come back in for that review?

G. McArthur It's good for the life of the equipment -- the useful life of the equipment. They only have to apply one time.

Com. Soward So let's assume we were to approve an exemption applicable to the generator. If utility service became available in a cost-effective manner, the use exemption still applies to the generator, even though they have other service?

G. McArthur Well, if they change the use of that equipment, I think that would reopen it. As long as it maintains the same use that was originally represented, they would

keep it, but if they changed the use, they would have to reapply.

Com. Marquez But it would be up to the appraisal district to bring that back up to us, because nobody else would.

Ch. White What I was wondering about, if, as both of you have spoken, you think this is more appropriate for a Tier III evaluation with identification of specific environmental rule and a more specific analysis of on-site environmental benefits for each piece of equipment? I wonder how that would affect the -- what are there many others, evidently that have plants like this that...

Com. Marquez I don't know what would happen to past actions that this agency has taken.

Ch. White Well, this is a kind of different kind of beast than a permit or something like that... I just wondered how that...

Com. Marquez Maybe the only way that they come up to us is if the taxing district brings it up.

Ch. White Right.

Com. Marquez And if it wasn't challenged by the taxing district in the past, I don't see that they have any recourse right now. They may make a case for future years, I don't know...

Les Trobman I would just point out, in discussing the Tier III, the guidance that I believe was referred to that was developed back in 2000 dealing with Tier III consideration, if I'm not mistaken, and I'll let Gary explain it further, but it allows the reduction percentages to be based on only a couple of considerations-- one being there being a presence of resellable or value of by-product, and the second one being the difference between old versus new, the property itself being old versus new. So that it might not account, the result might be 100% in the end, if you will, to the extent that the guidance limits those two items...

Ch. White But I think -- I don't know whether this requirement of identification of the specific environmental requirement met in this case by the extraction which seems to go, that's a requirement of the guidance, isn't it? For Tier I, II and III?

Com. Marquez It could be partial use, I think. I'm hung up with the determination of whether it's pollution control equipment or not. It's not of the partial use issue.

Ch. White On the extraction phase.

Com. Marquez Not having a detailed flow diagram and not having studied the process, I've got to admit, I'm going here on some shaky knowledge of this. But the extraction part -- I didn't see that as being a pollution control process. What you do with the sulfur once it has been removed could very well be a pollution control process and then you have the value obtained from the sale of the sulfur and those pieces of equipment that qualify as pollution control then some of that

may be taxable, some maybe not.

Com. Soward Yeah, I think you have to run the extraction part of the process through the flow chart. I wouldn't -- I don't agree with running the extraction part. I think you need to run the disposal part, if you will, through the flow chart.

Ch. White Unless you can identify a specific federal, state, or other environmental rule...

Com. Soward ... that says they're required to extract it.

Ch. White Yeah.

Com. Soward I don't think they're going to find that.

Com. Marquez And it has to be an environmental rule. It cannot be a Federal Trade Commission or Transportation Commission or you know, Homeland Security -- it has to be an environmental rule.

Ch. White "To meet or exceed rules or regulations adopted by any environmental protection agency of the U.S., state, or political subdivision of the state for the prevention, monitoring, control or reduction of air, water or land pollution." That's the...

Would one of you like to make a motion on how to treat this?

Com. Soward Well, I was going to suggest ... I think we ought to send this one back and let the parties sit down and see if they can't discuss the issues here and work something out. We certainly have an issue of the generator, whichever way we go, because that's also on the "disposal side." So I just think that we ought to remand it back and let the three parties at interest discuss the issues and see what they can work out. I think they've gotten at least guidance from a couple of us on one side of the issue.

Ch. White Well, Blas, would you...

Emily Collins Good afternoon, Commissioners. My name is Emily Collins, from the Office of Public Interest Counsel. We would support a remand to the Executive Director to do a Tier III review; however, I'd like to point out that, in this Tier II review, there was no indication of a thorough and documented analysis of each step of the flow chart, and we would like to see that in each tier. In our brief, we stopped at the anticipated environmental benefits because we weren't sure how to confront the CAD's concern that the equipment actually generates its own emissions. We weren't sure if the ED actually took that into account, or what the ED took into account to prove anticipated environmental benefits existed. So, just as in permitting matters, we see a technical summary of the Executive Director's review, we would like to see some sort of documented analysis of what of the ED's decision-making and hence the transparency of how they

analyzed their use determination.

Ch. White Would you like to...

Com. Marquez I think that I will add and I guess I will make a formal motion to remand back to the ED and for the parties to participate in getting this resolved quickly and efficiently. I would add that if the ED has any doubt as to the direction that we've given here today, and as they look at changing the way the ED handles those requests, contested or not contested, bring it back to us in regular or at work session or whenever next we meet. The uncontested ones we need to treat in the same way.

Ch. White Then there's a motion, a motion and a second?

Com. Marquez I'll second.

Ch. White All in favor, aye.

All Aye

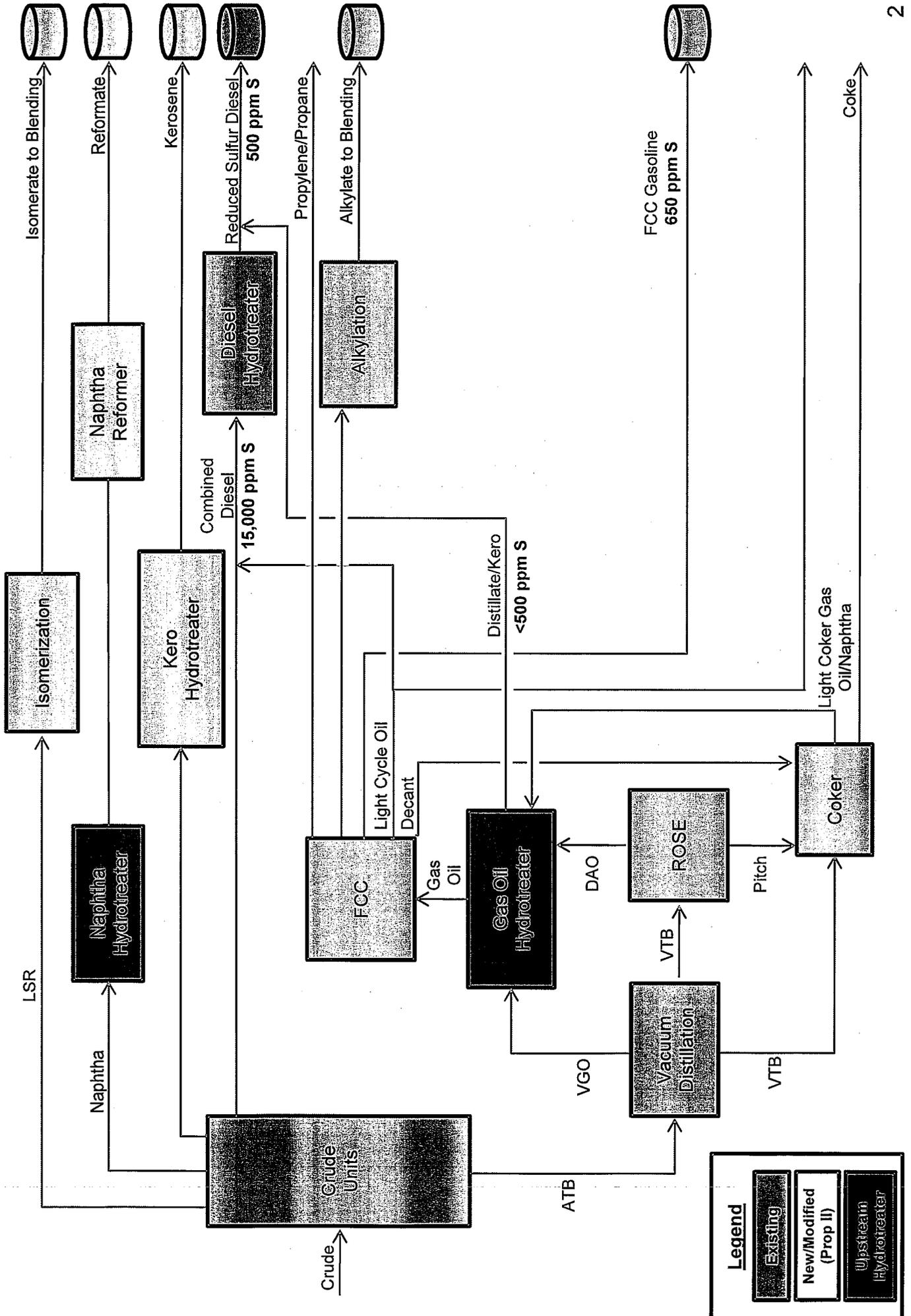
Exhibit D

Texas City Refinery Tier II Overview

July 14, 2008

Texas City Refinery Operations Flow Diagram Before Tier II

Simplified Diagram

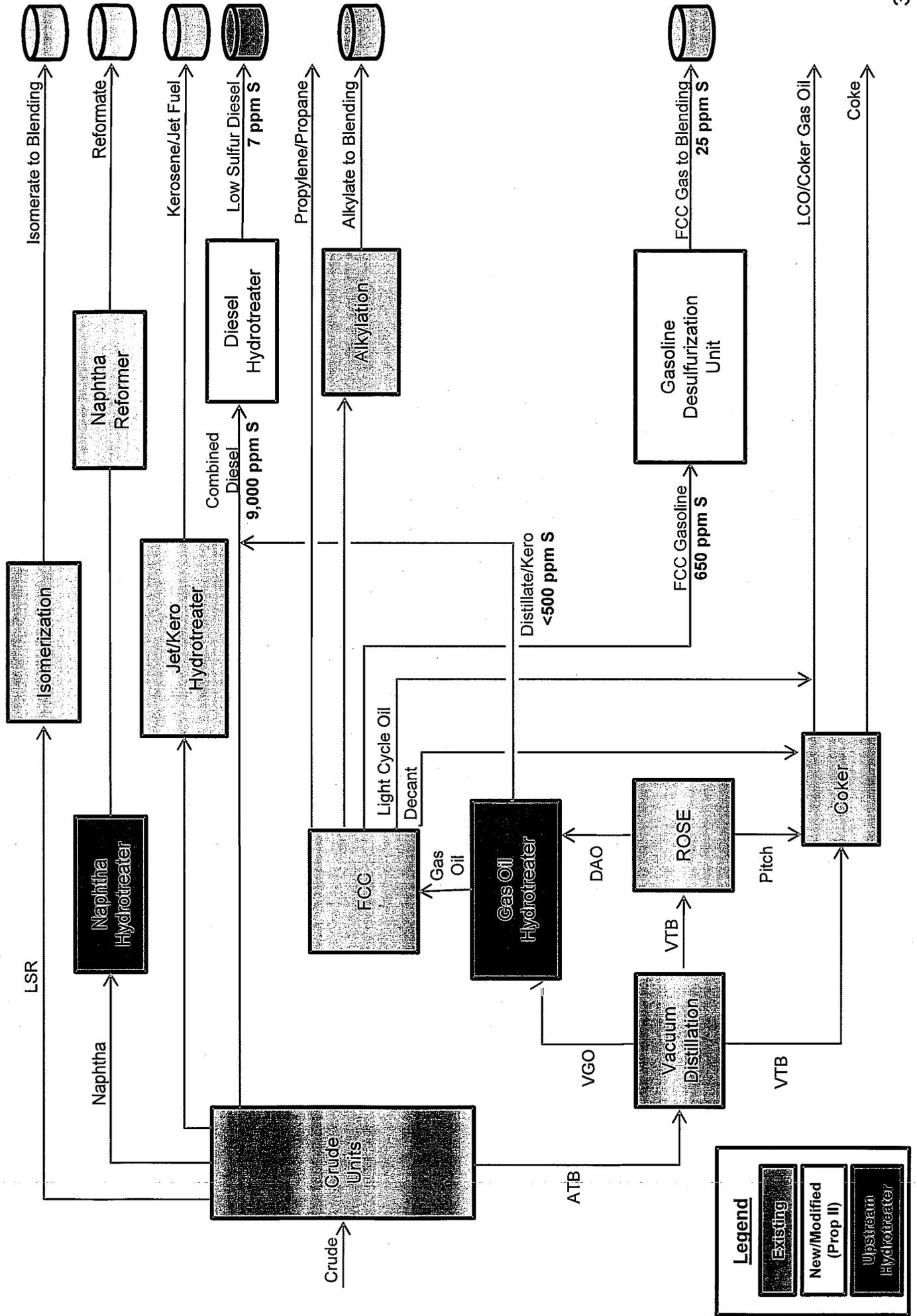


Legend

- Existing
- New/Modified (Prop II)
- Upstream Hydrotreater

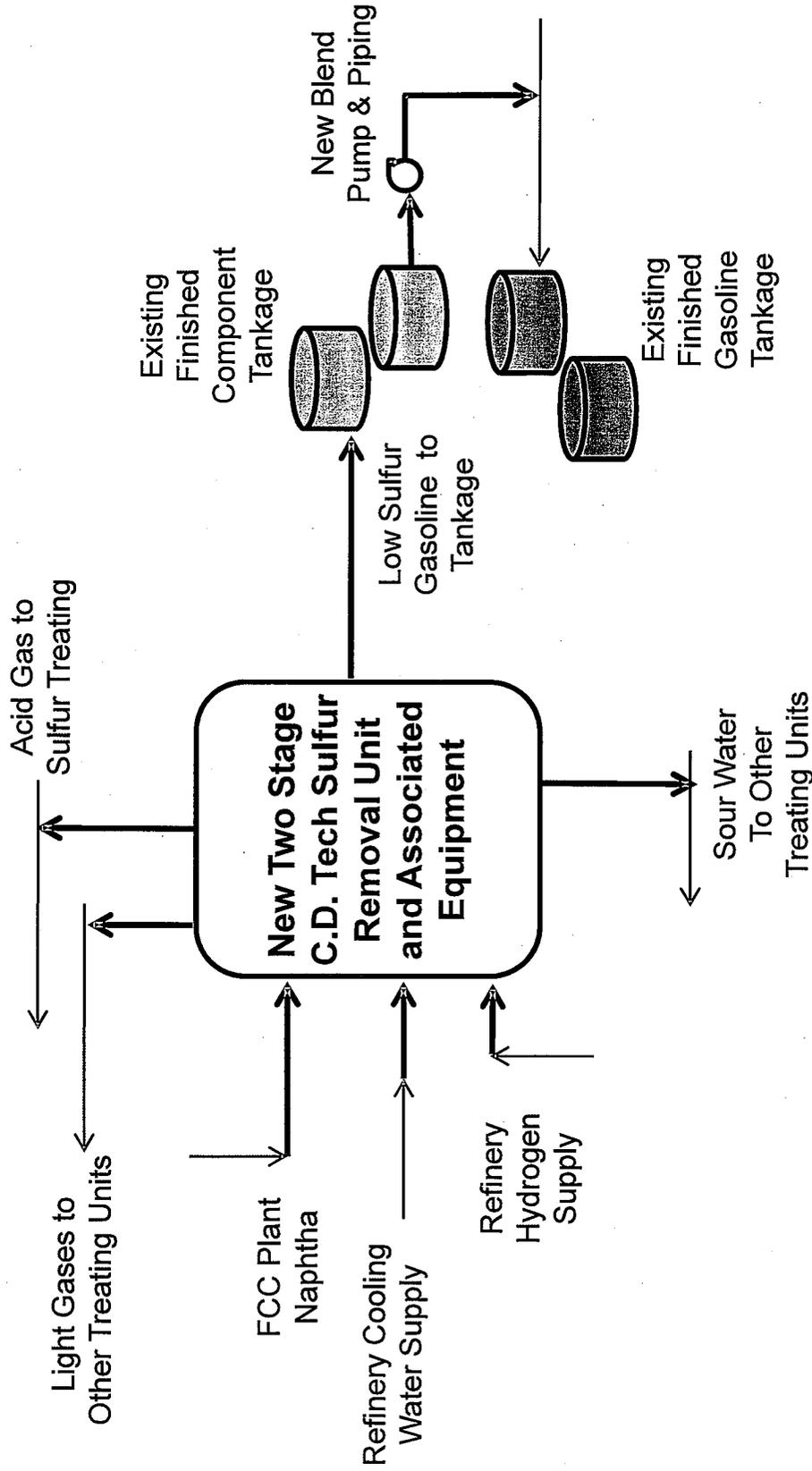
Texas City Refinery Operations Flow Diagram After Tier II

Simplified Diagram



Texas City Gasoline Desulfurization Unit Overview

Simplified Diagram

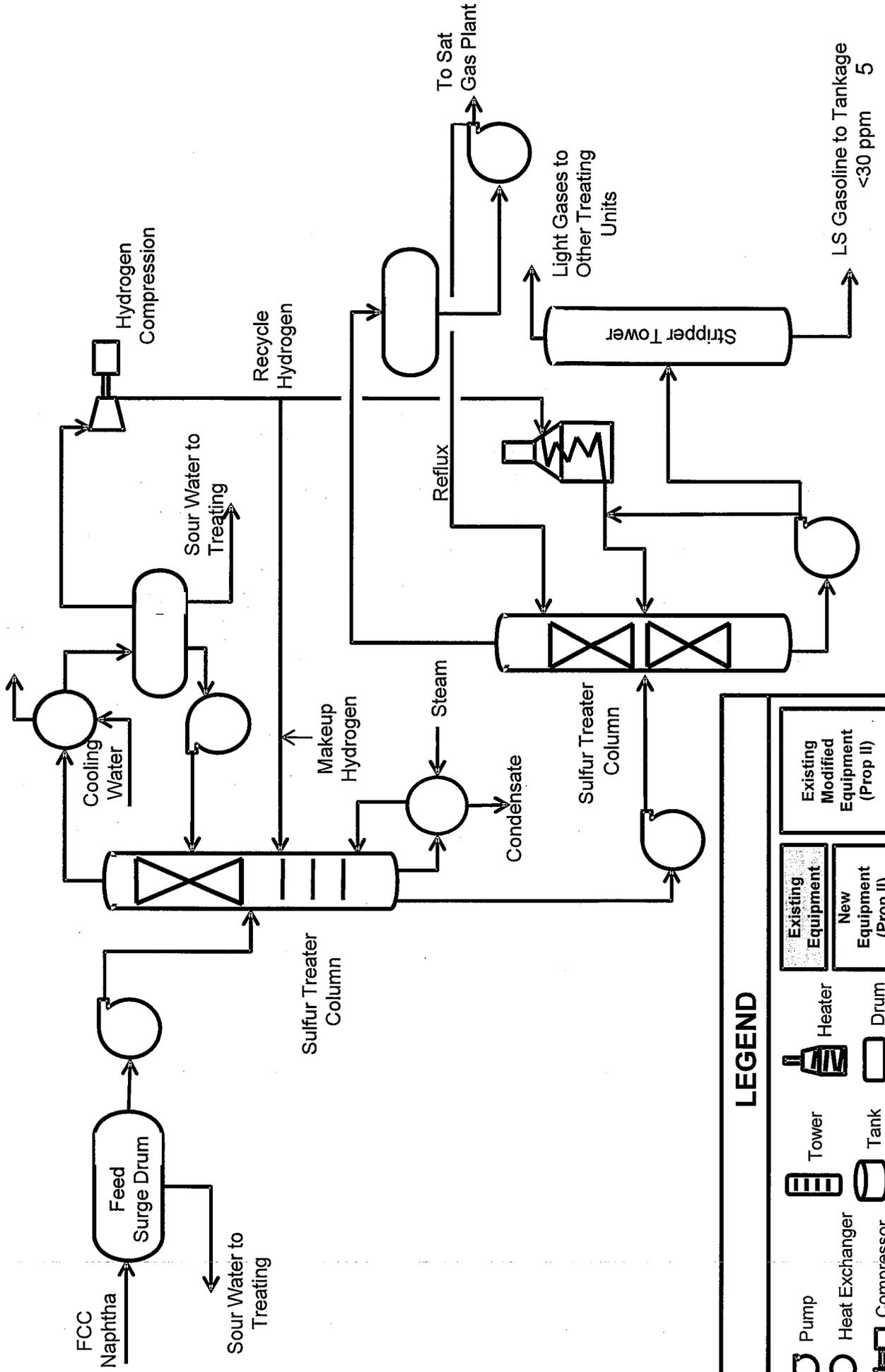


LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Heater
	Tank
	Drum
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

Texas City Gasoline Desulfurization Unit Overview

CD Tech Unit

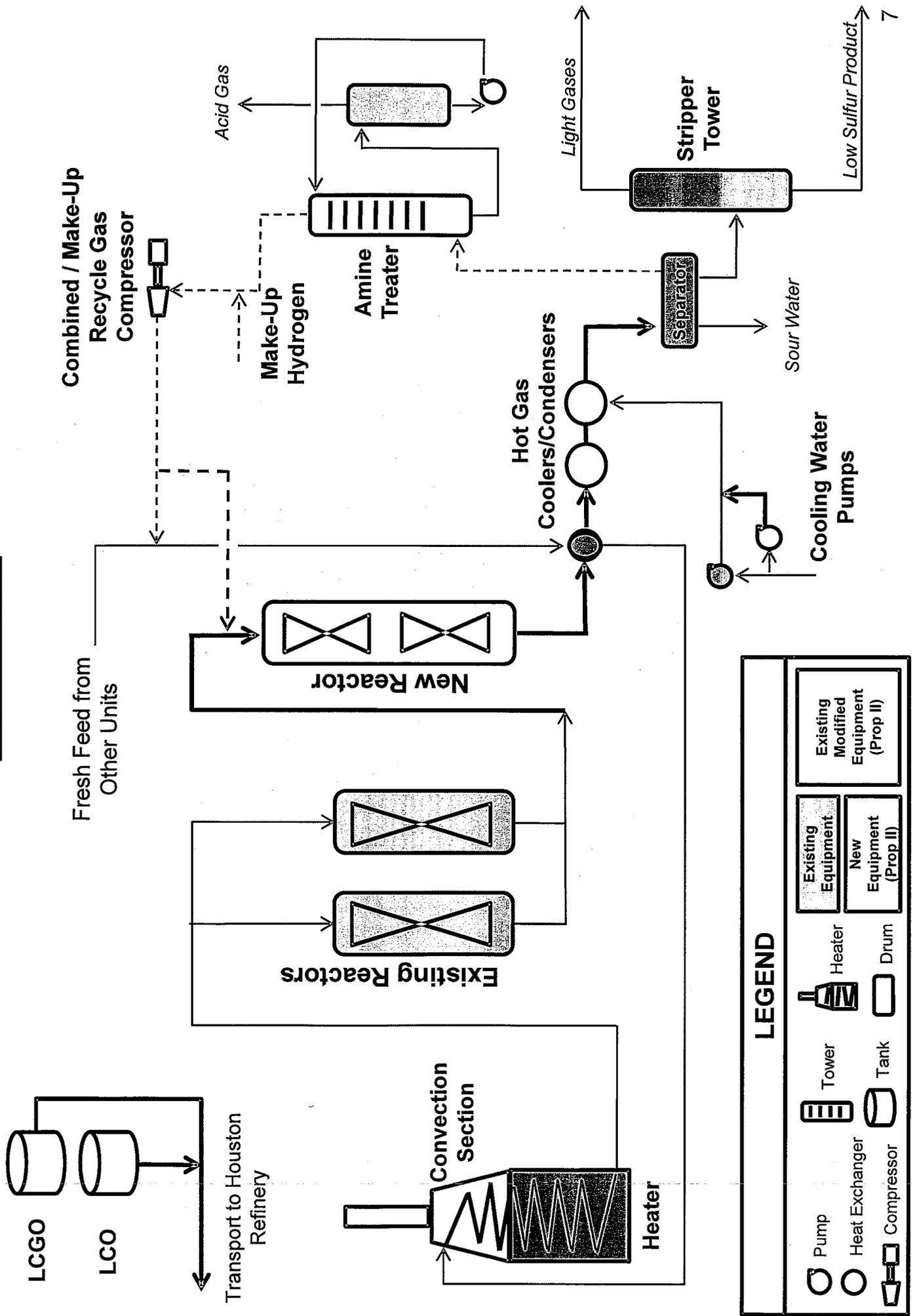
Simplified Diagram



LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Heater
	Tank
	Drum
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

Texas City ULSD Unit Overview

Simplified Diagram

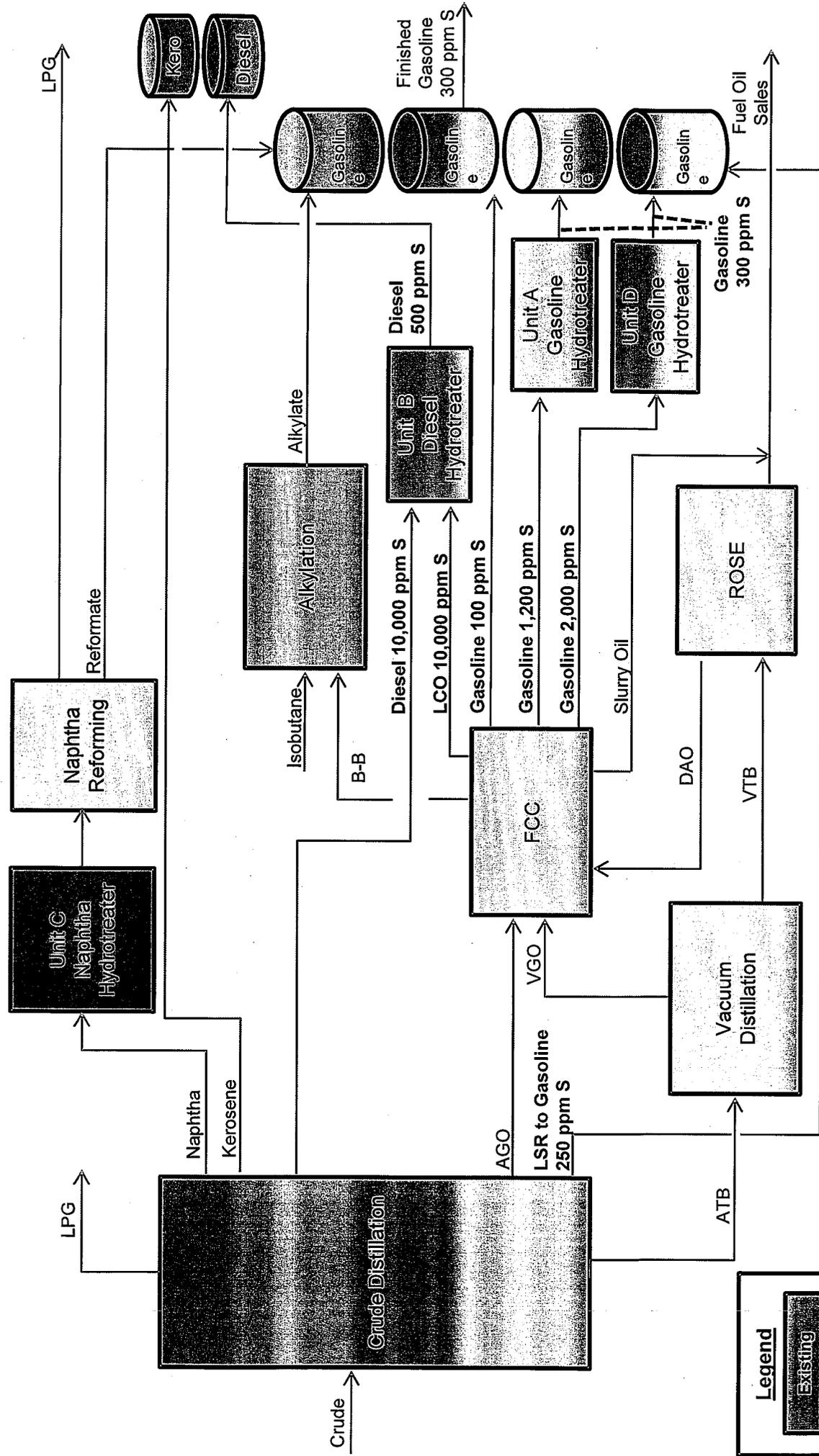


LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Heater
	Drum
	Tank
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

Houston Refinery Tier II Overview

July 14, 2008

Houston Operations Flow Diagram Before Tier II Simplified Diagram

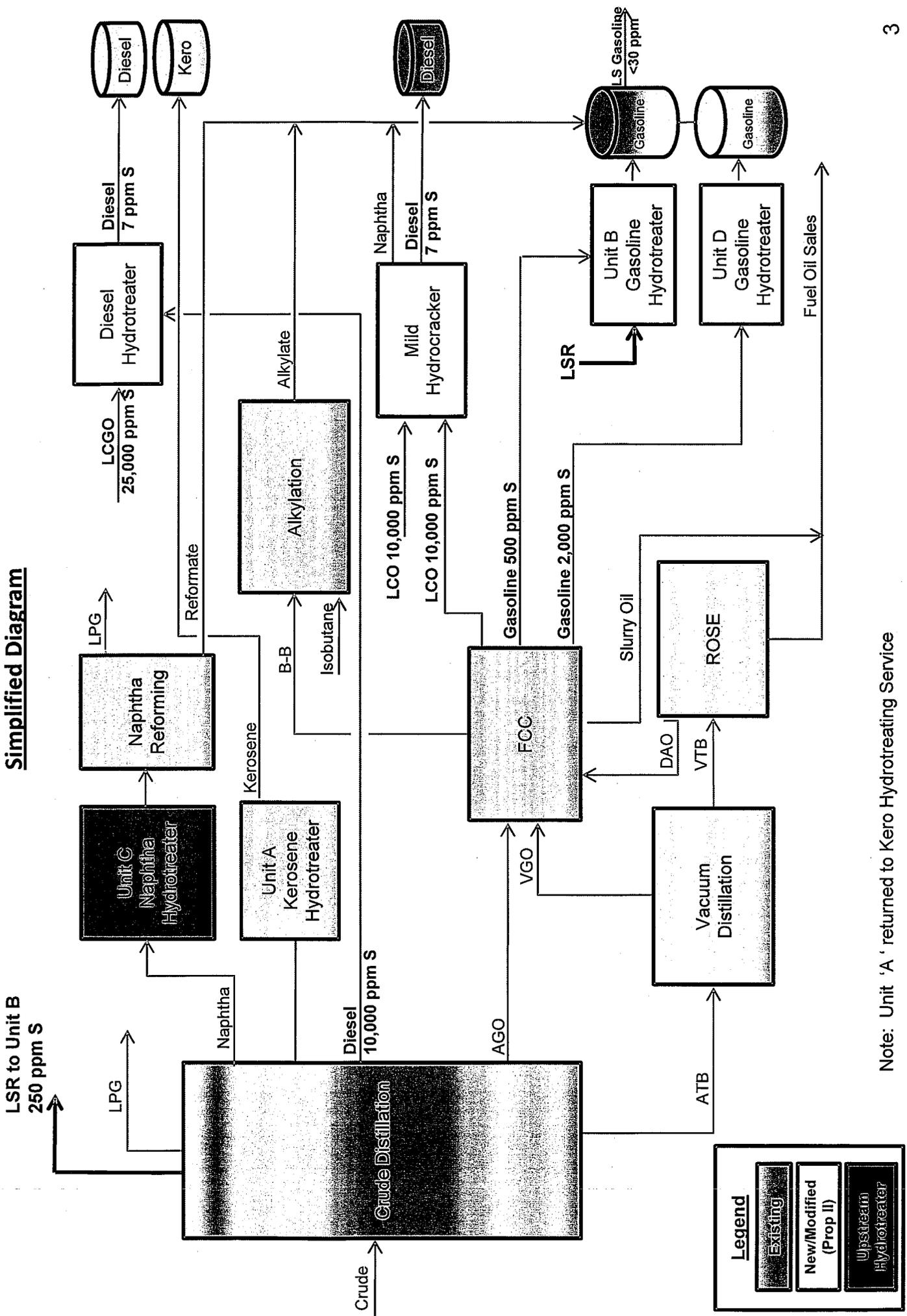


Legend

- Existing
- New/Modified (Prop II)
- Upstream Hydrotreater

Houston Operations Flow Diagram After Tier II

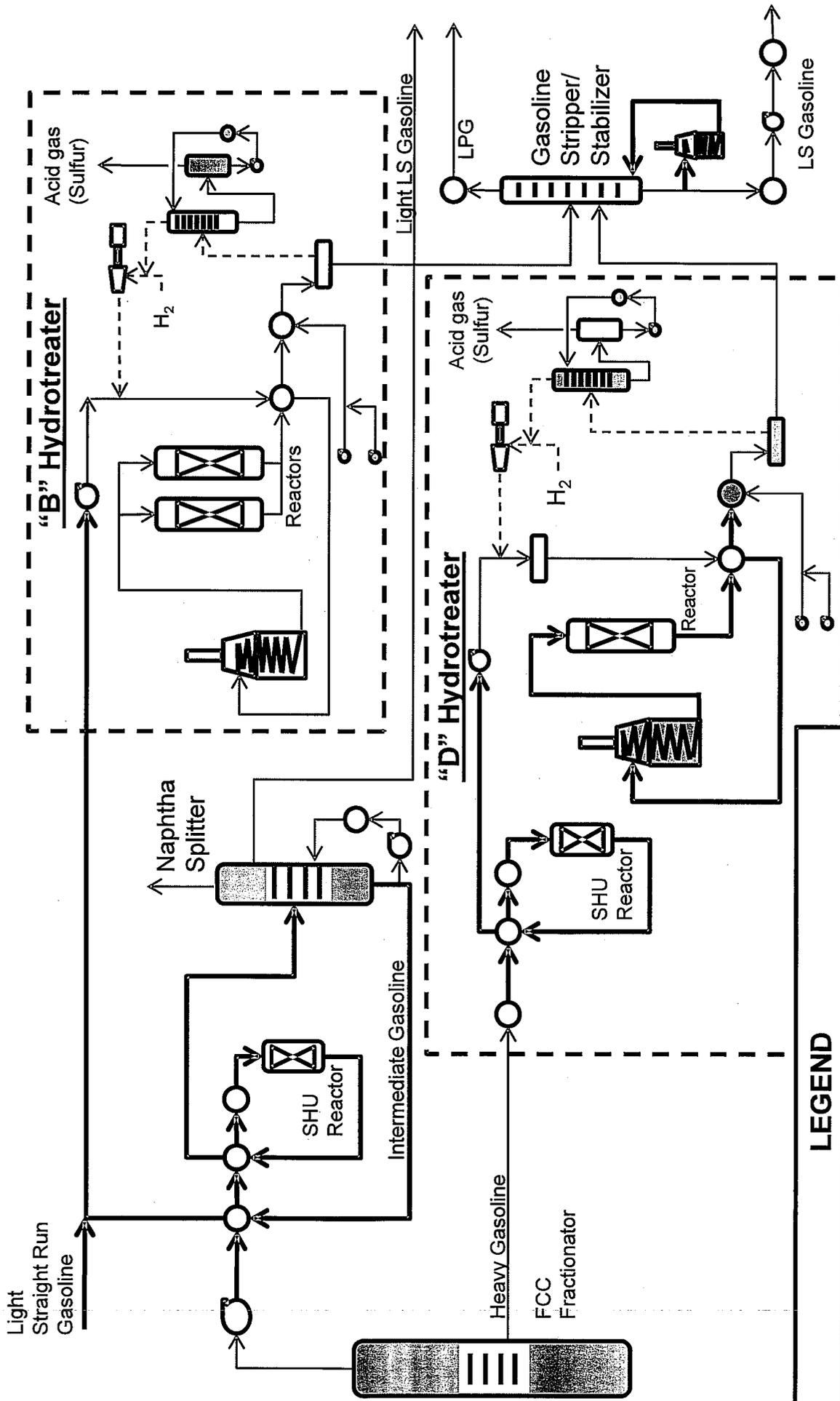
Simplified Diagram



Note: Unit 'A' returned to Kero Hydrotreating Service

Houston Gasoline Desulfurization Unit Overview

Simplified Diagram



LEGEND

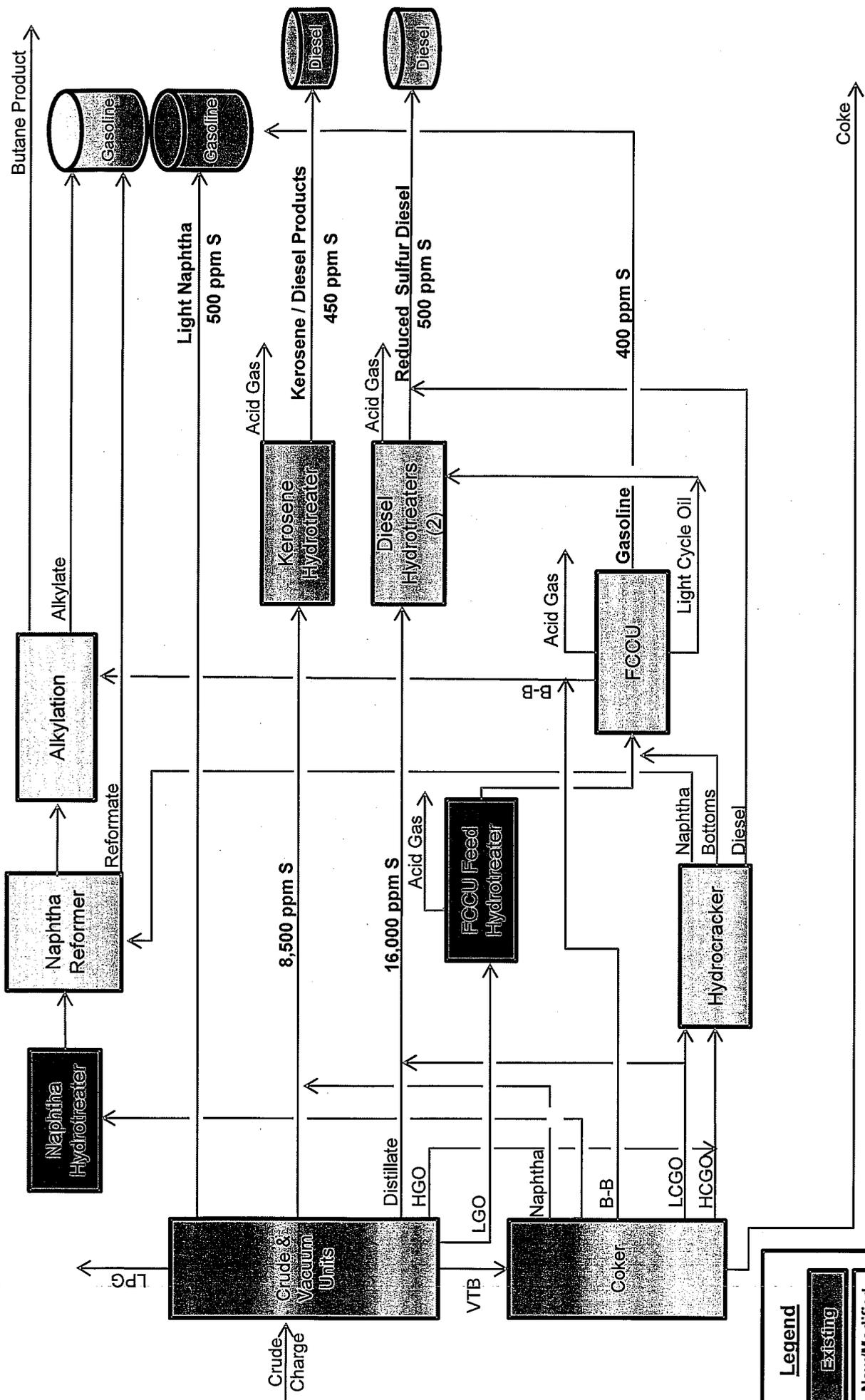
	Pump		Tower		Existing Modified Equipment (Prop II)
	Heat Exchanger		New Equipment (Prop II)		Heater
	Compressor		Tank		Drum

Port Arthur Refinery Tier II Overview

July 14, 2008

Port Arthur Refinery Operations Flow Diagram Before Tier II

Simplified Diagram

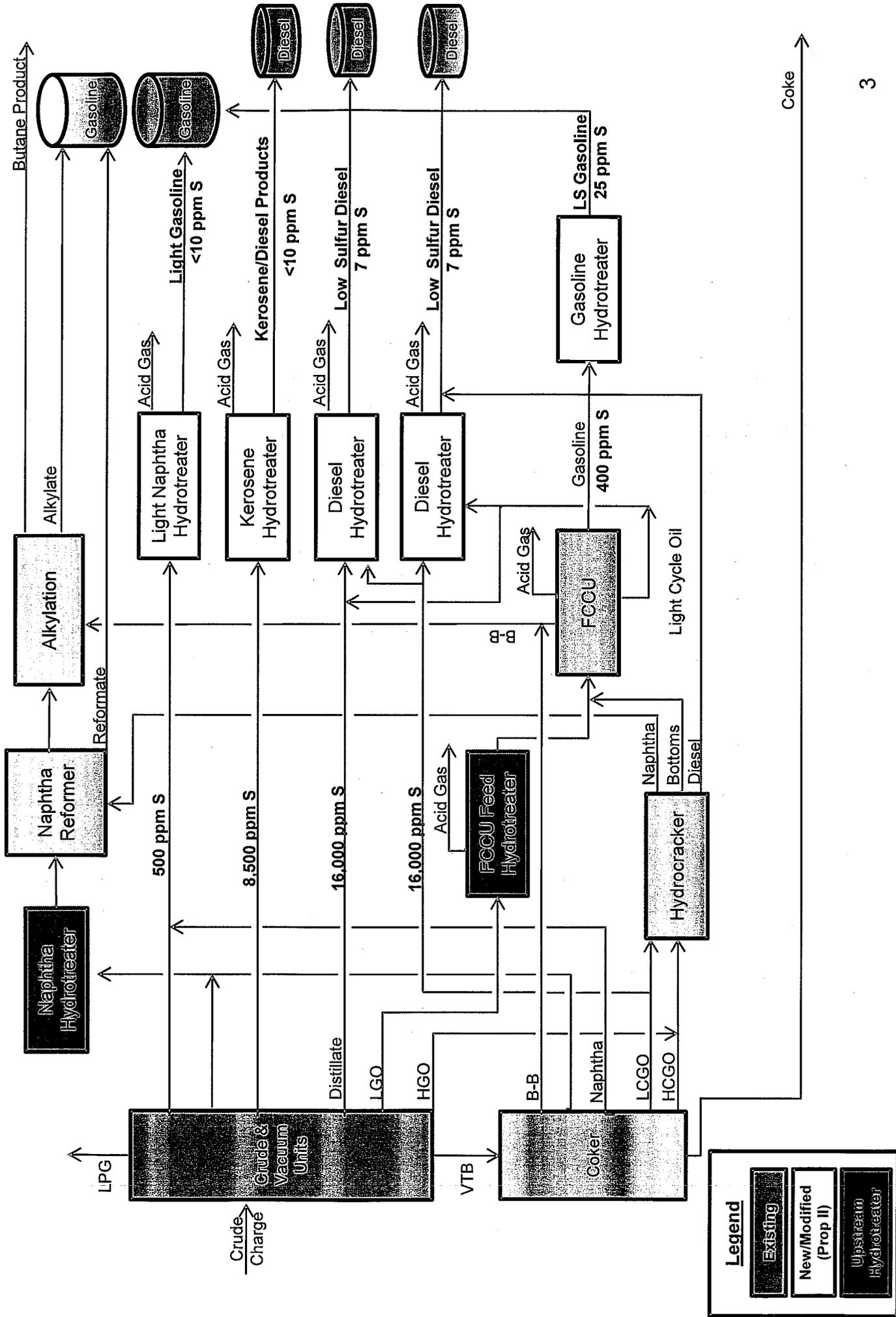


Legend

- Existing
- New/Modified (Prop II)
- Upstream Hydrotreater

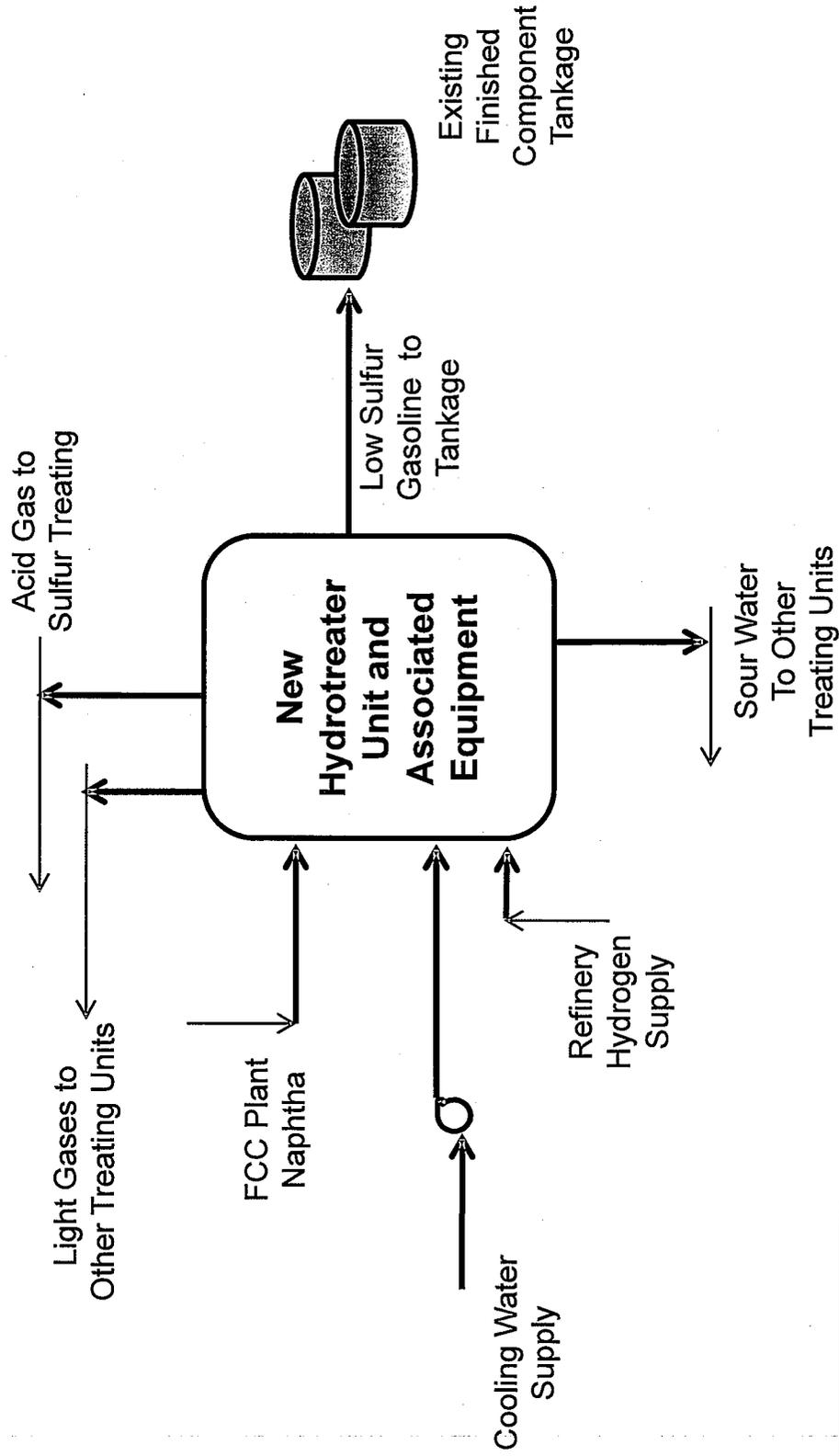
Port Arthur Refinery Operations Flow Diagram After Tier II

Simplified Diagram



Port Arthur Gasoline Desulfurization Unit Overview

Simplified Diagram



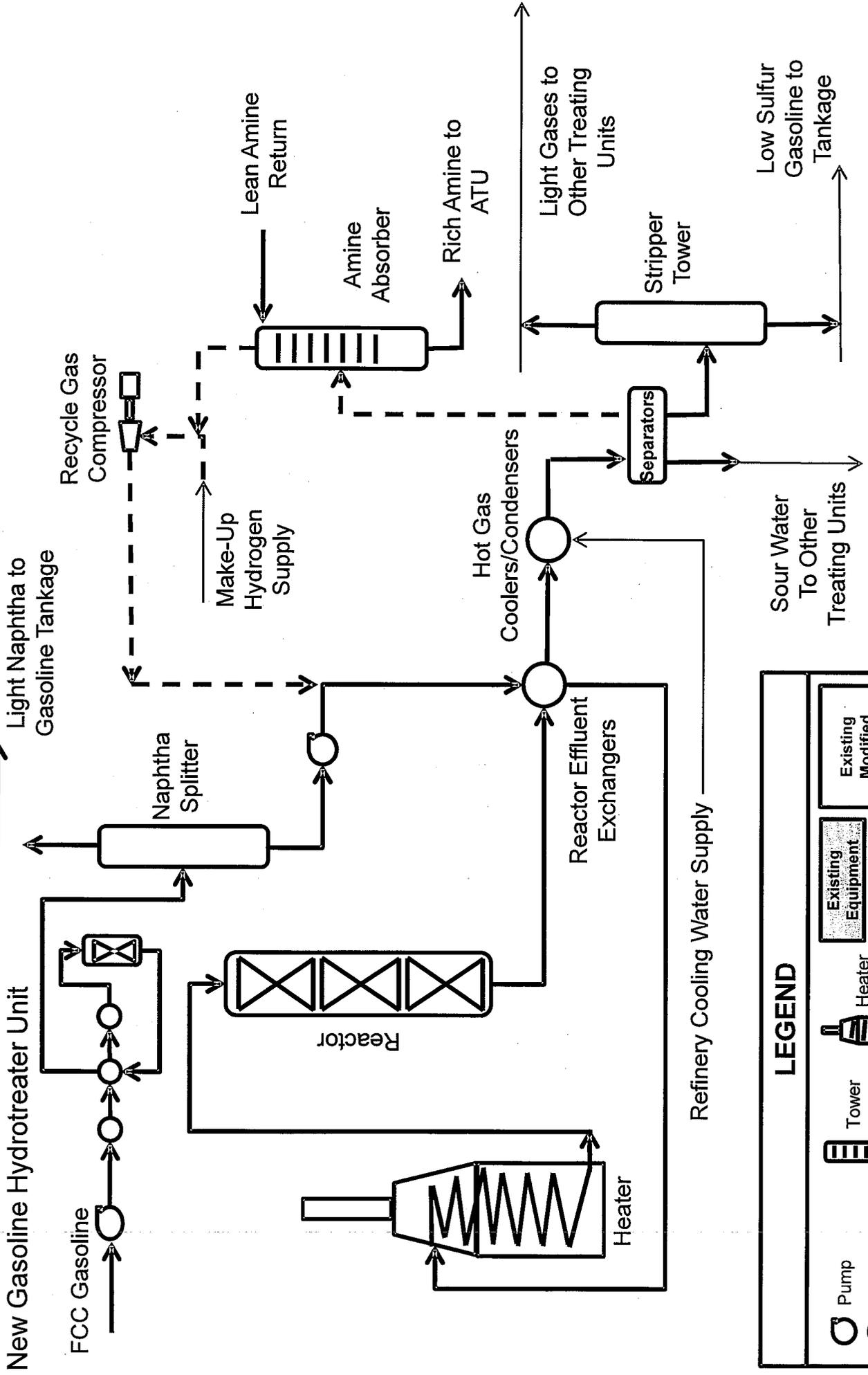
LEGEND	
	Pump
	Heat Exchanger
	Tower
	Compressor
	Heater
	Tank
	Drum
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

GFU 242 Minor Modifications

1. New Condenser/Cooler Bundles and Piping
2. Modify Heater Convection Section
3. Increase Unit Design Pressure

Port Arthur Gasoline Desulfurization Unit Overview

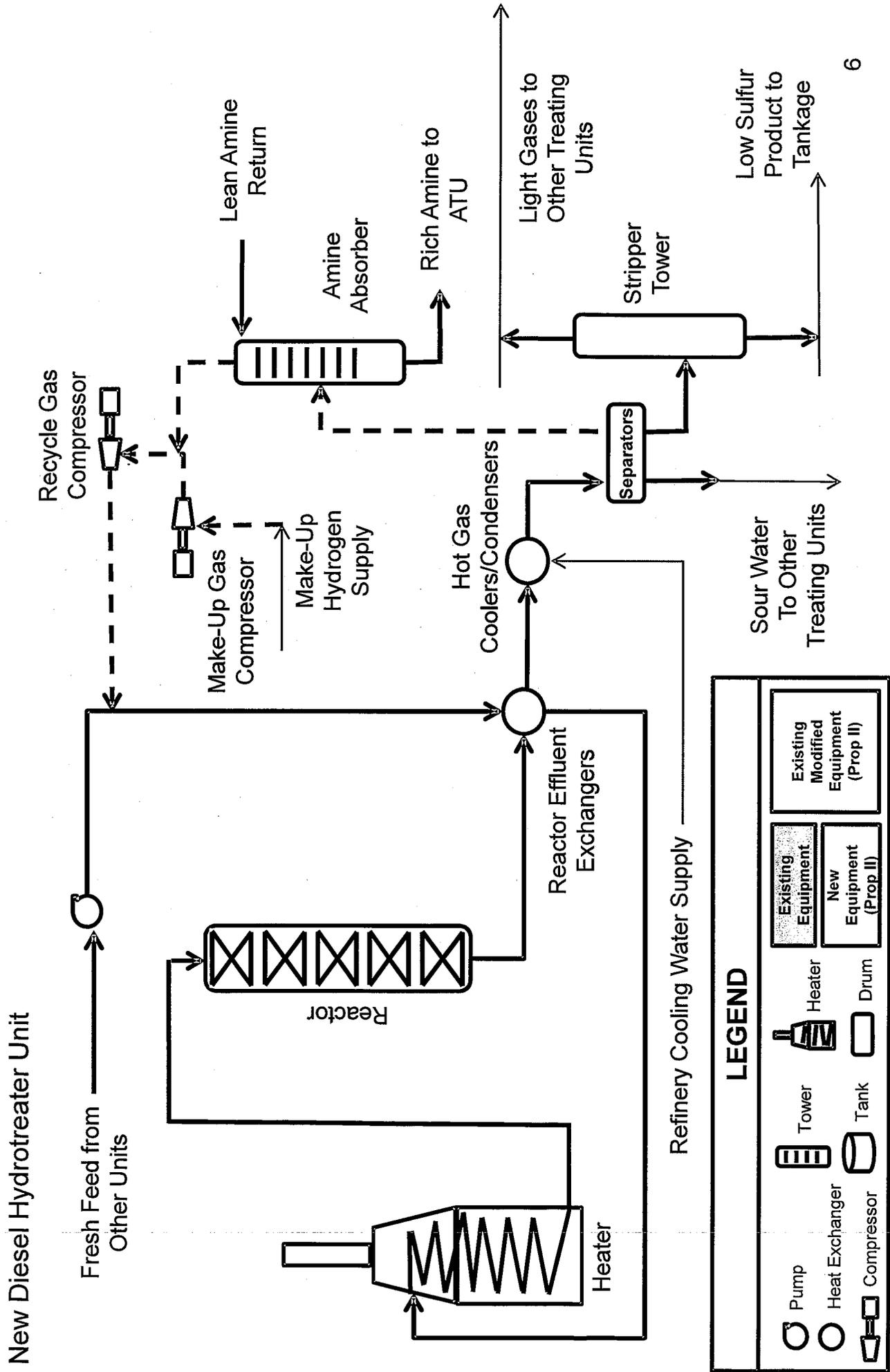
Simplified Diagram



LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Heater
	Tank
	Drum
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

Port Arthur ULSD Unit Overview

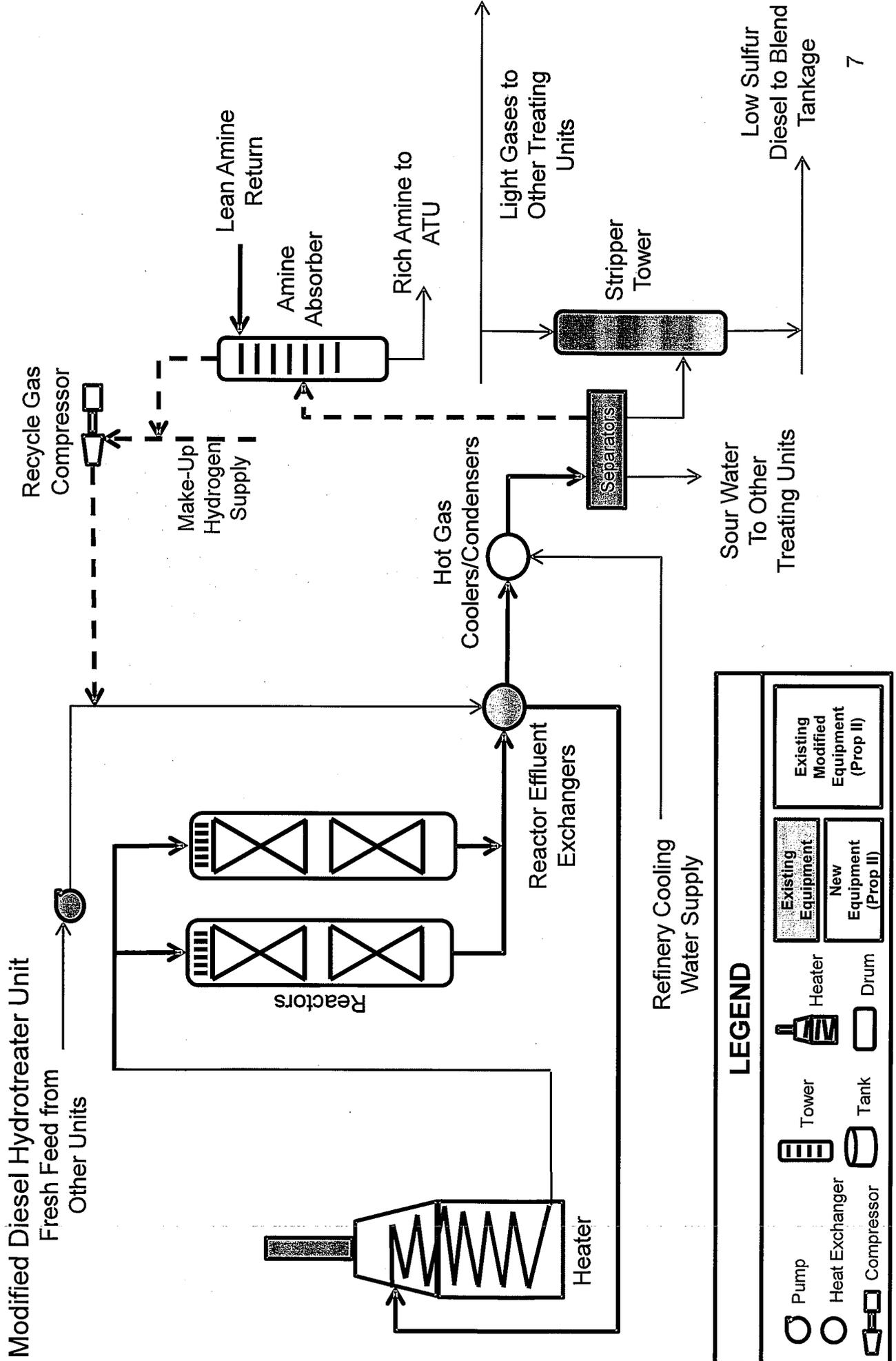
Simplified Diagram



LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Heater
	Tank
	Drum
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

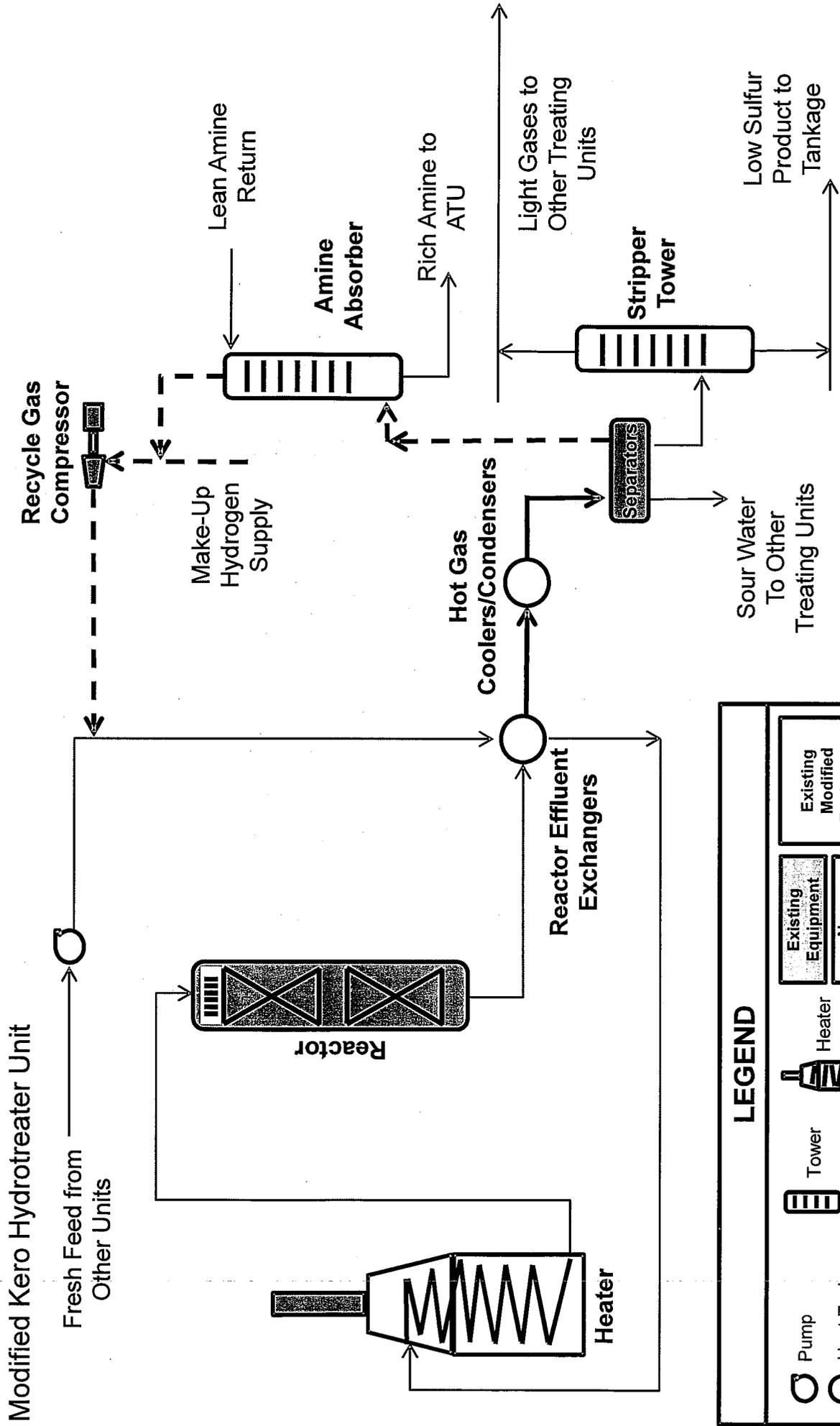
Port Arthur ULSD Unit Overview

Simplified Diagram



Port Arthur ULSD Unit Overview

Simplified Diagram



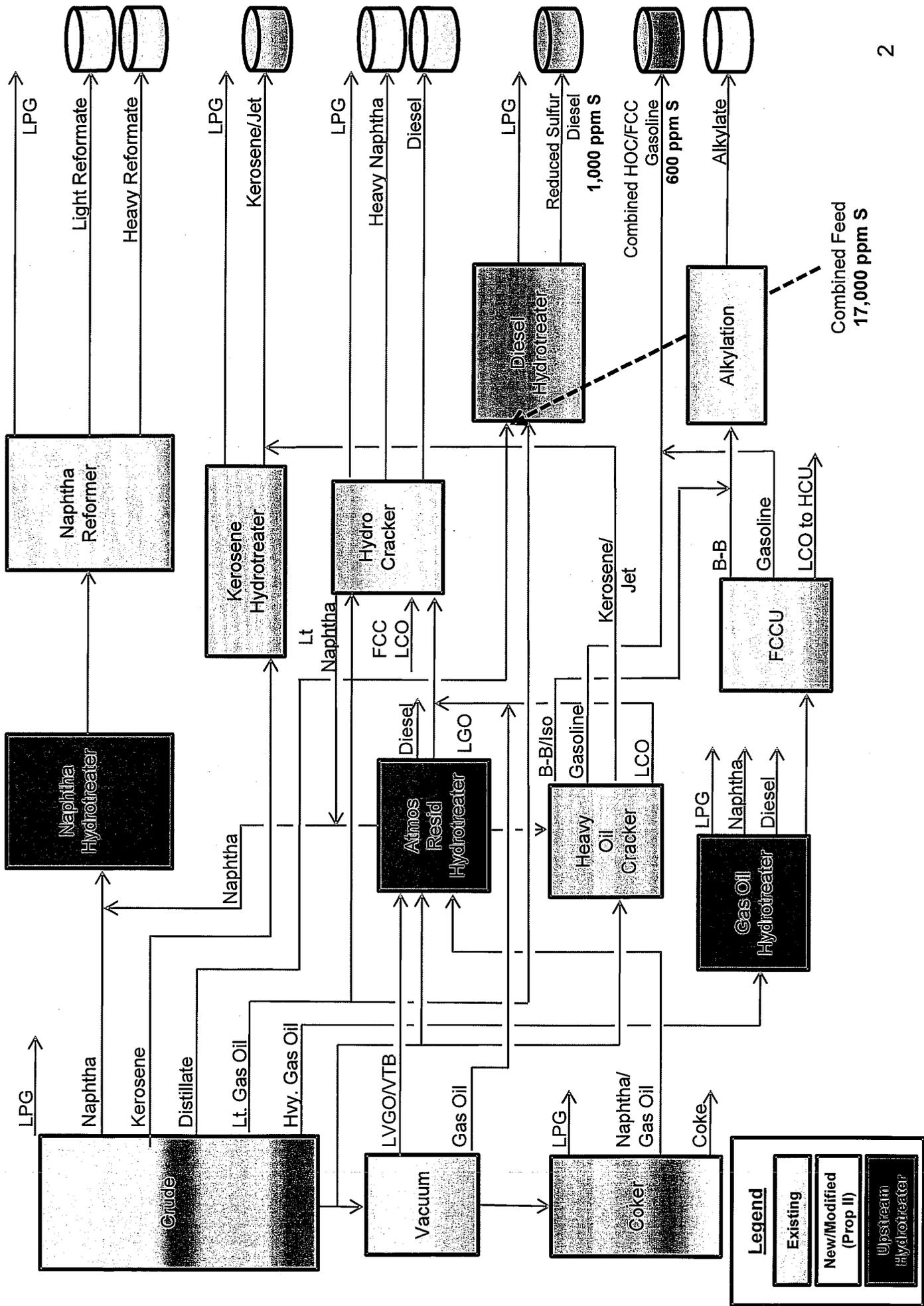
LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Heater
	Tank
	Drum
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

Corpus Christi Refinery Tier II Overview

July 14, 2008

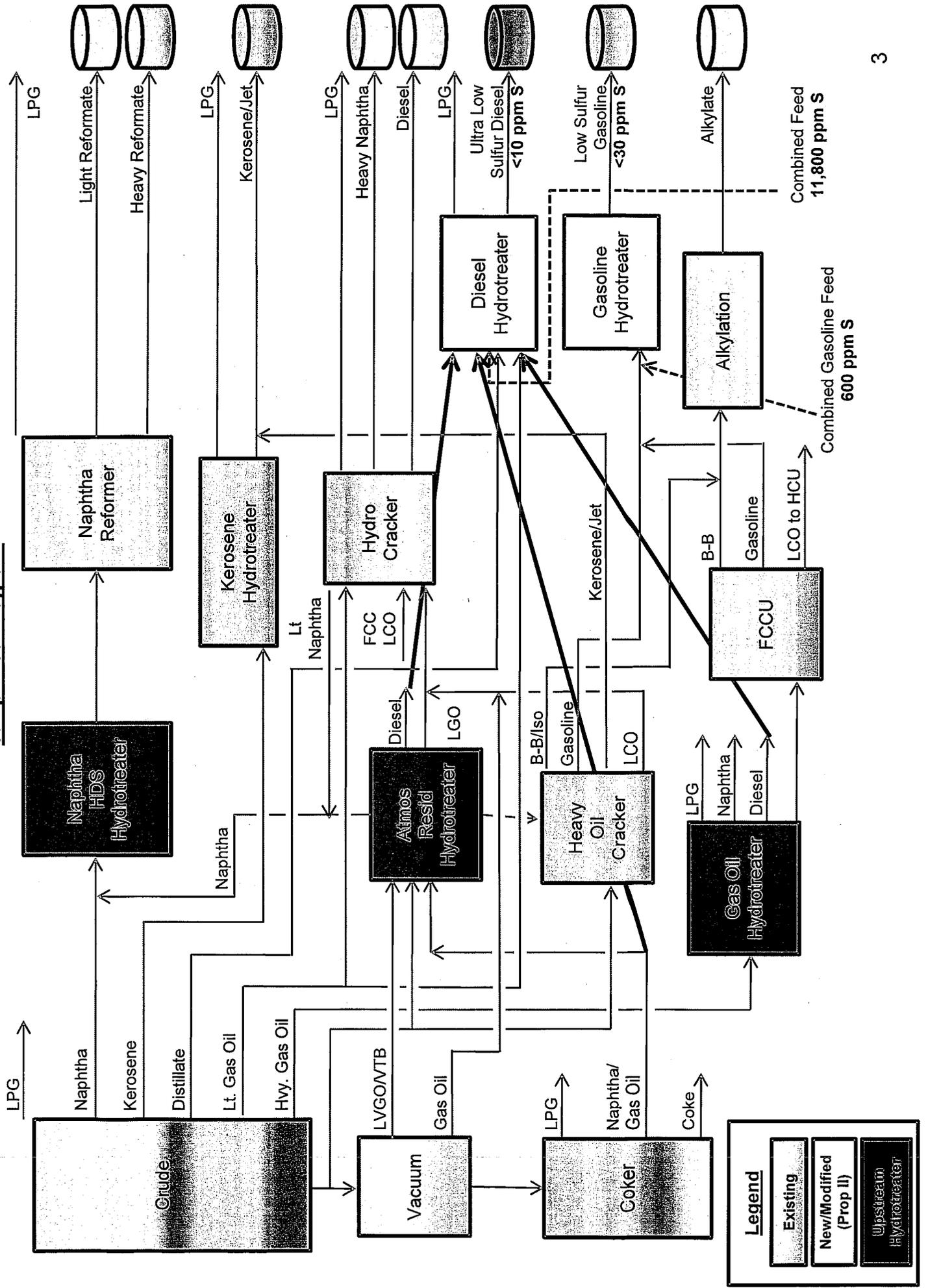
Corpus Christi Refinery East & West Operations Flow Diagram Before Tier II

Simplified Diagram



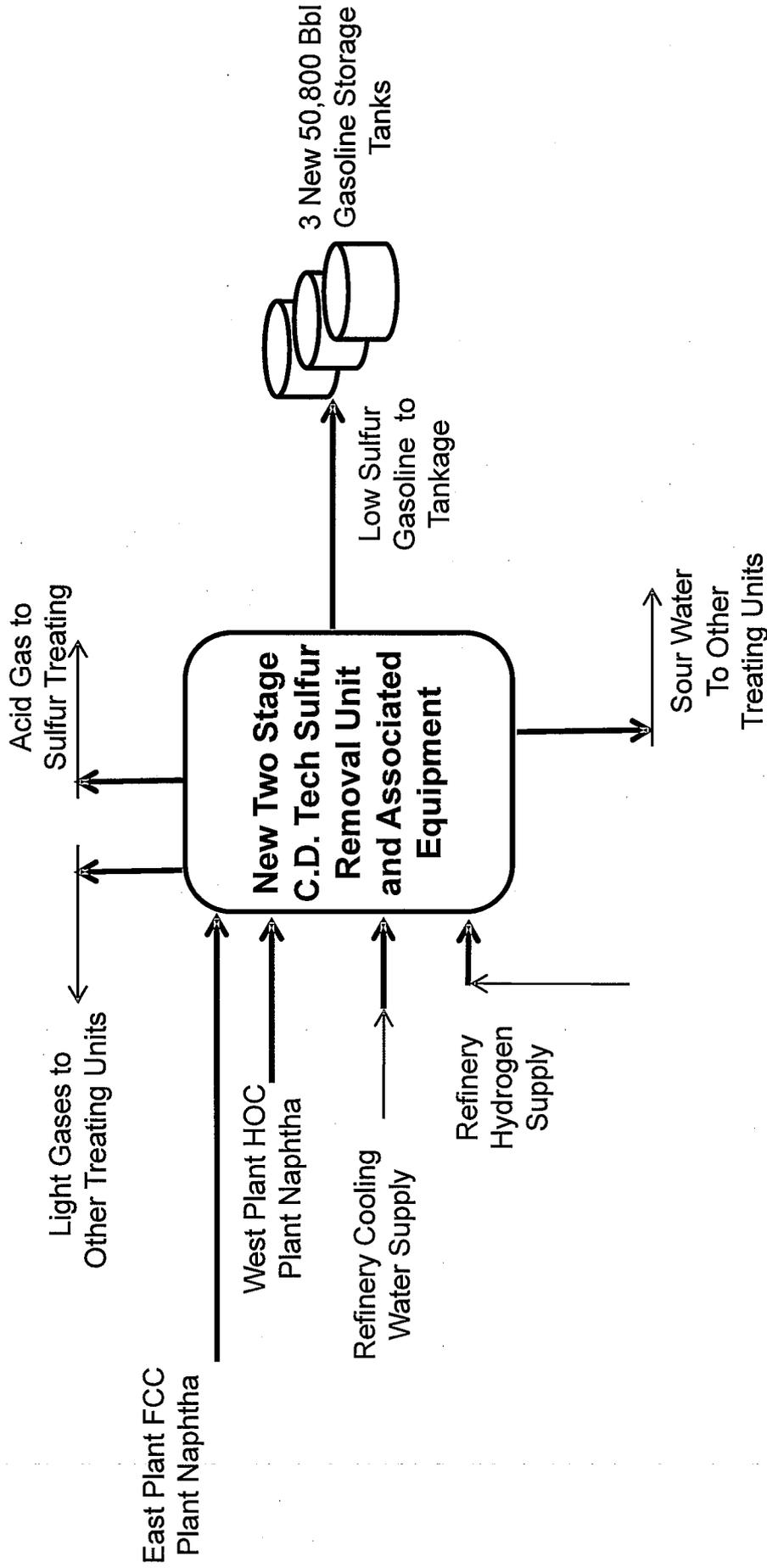
Corpus Christi Refinery East & West Operations Flow Diagram After Tier II

Simplified Diagram



Corpus Christi Gasoline Desulfurization Unit Overview

Simplified Diagram

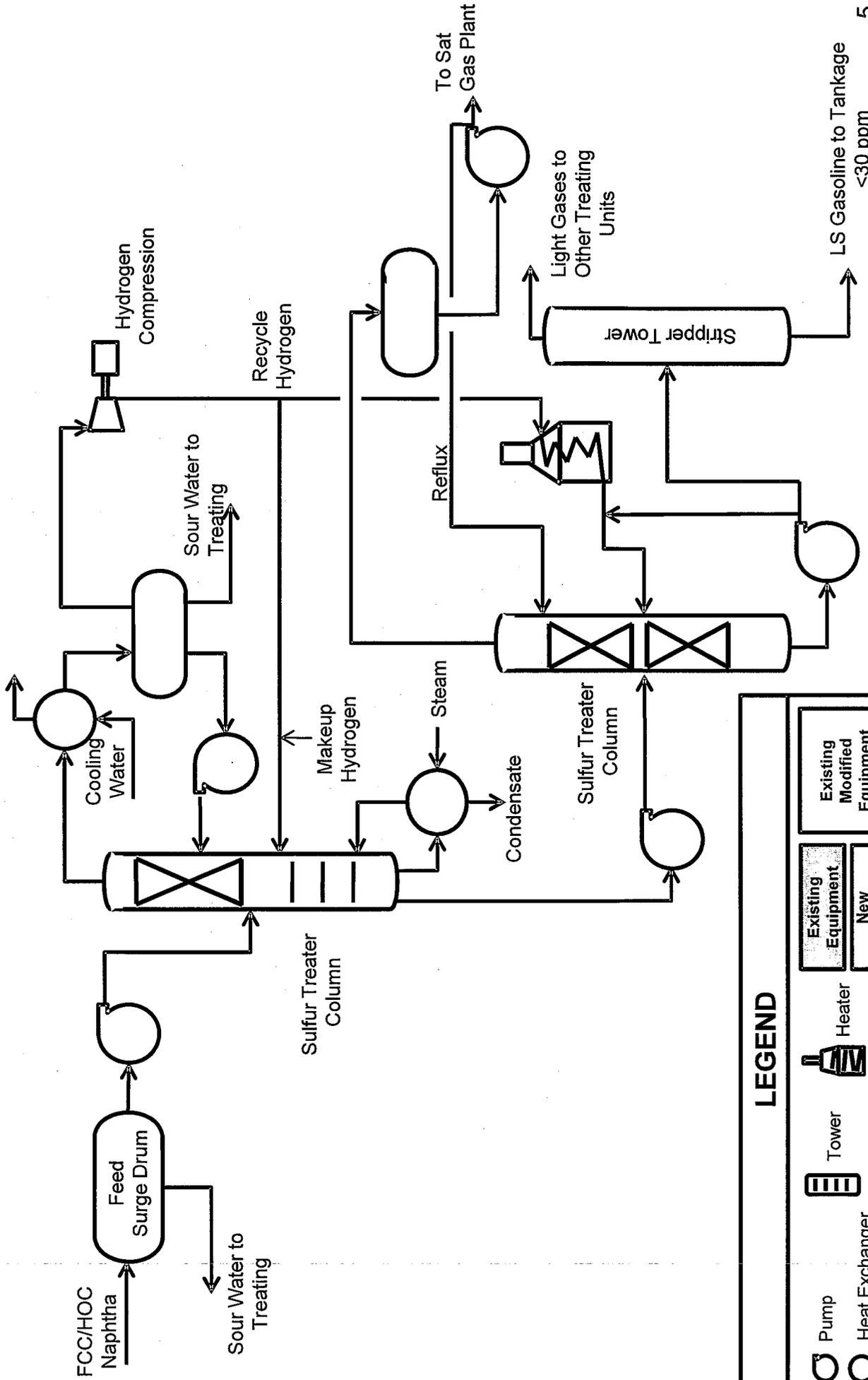


LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Heater
	Tank
	Drum
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

Corpus Christi Gasoline Desulfurization Unit Overview

CD Tech Unit

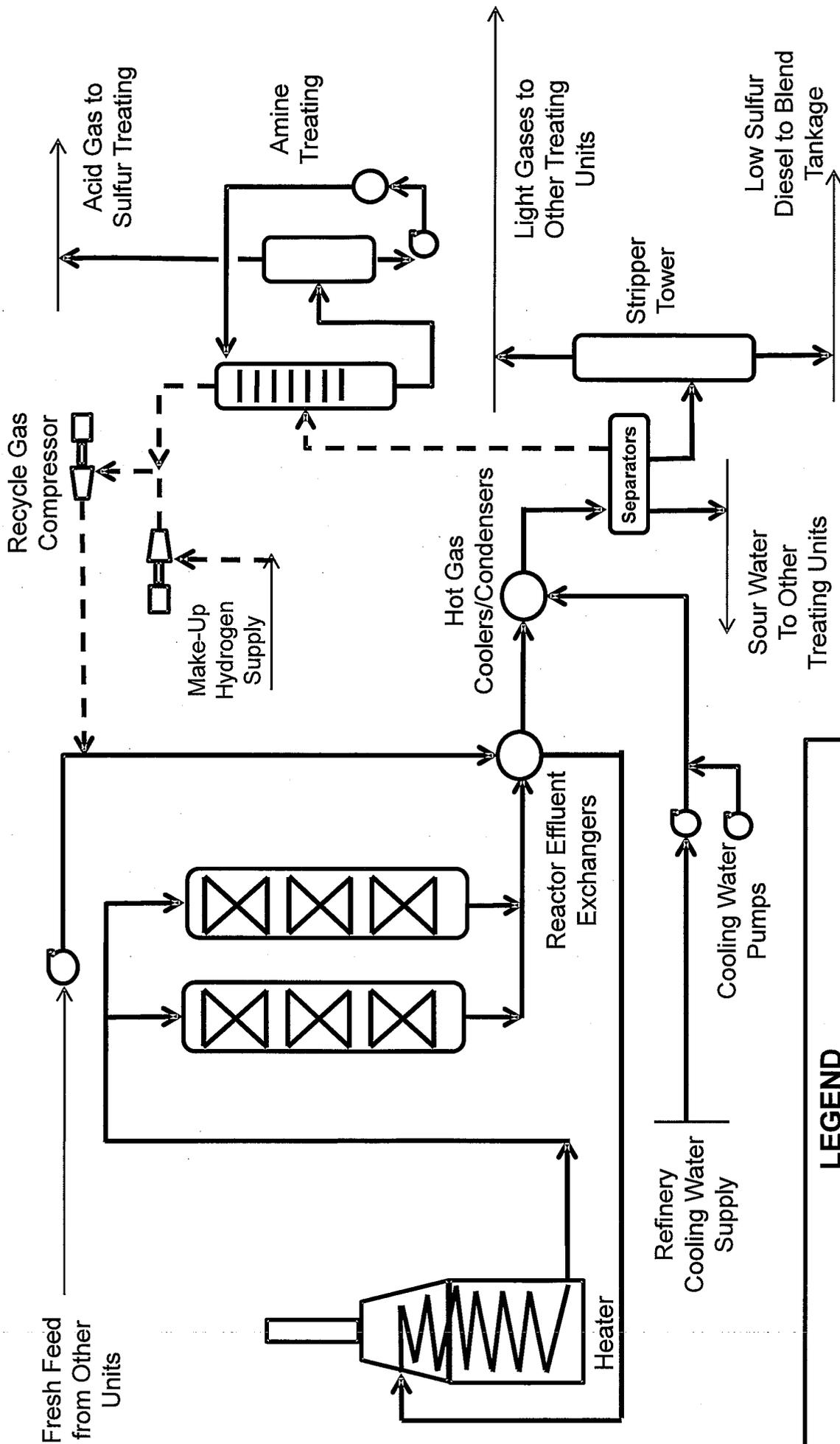
Simplified Diagram



LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Tank
	Drum
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

Corpus Christi ULSD Unit Overview

Simplified Diagram

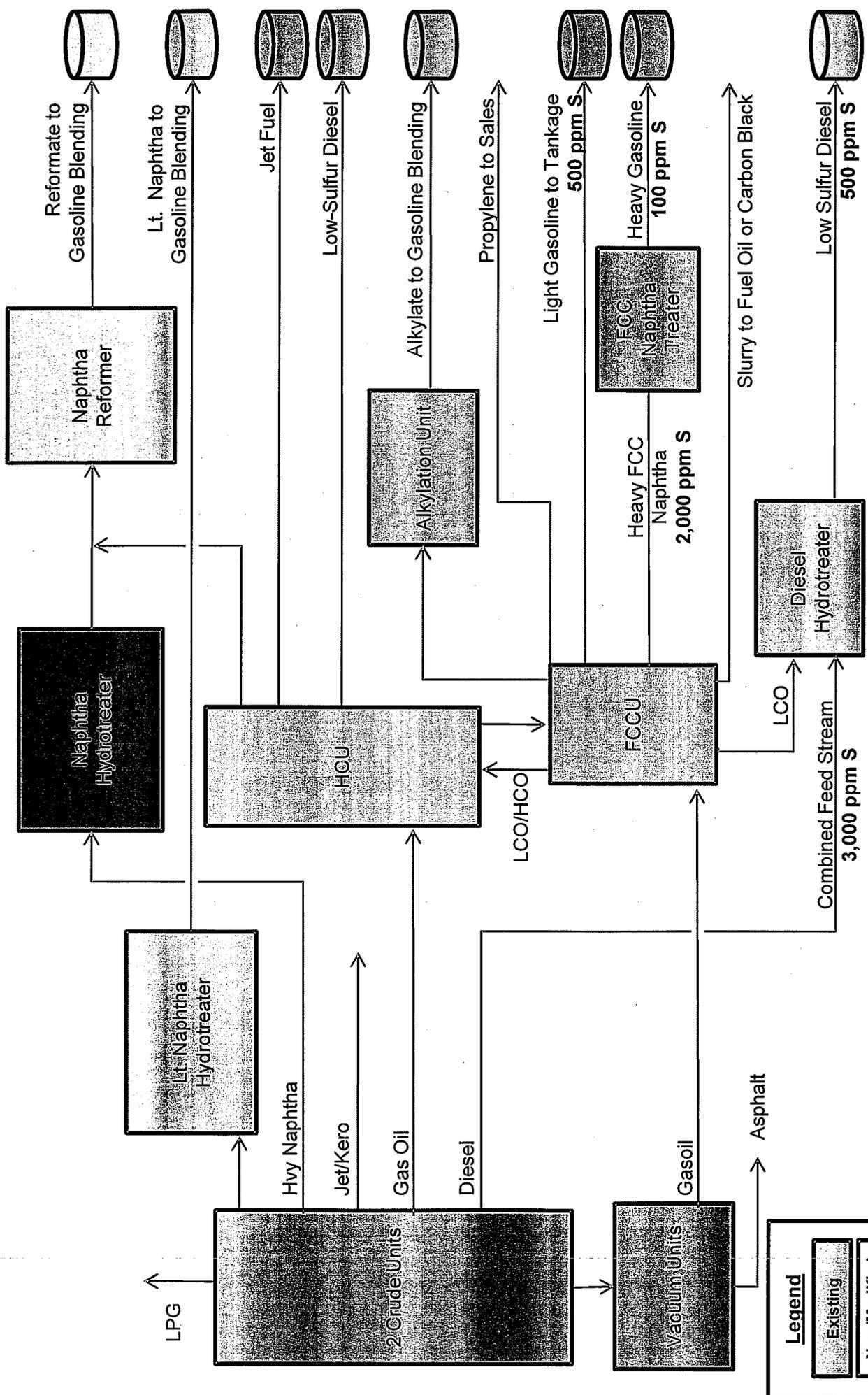


LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Heater
	Existing Equipment
	New Equipment (Prop II)
	Drum
	Tank
	Existing Modified Equipment (Prop II)

Mckee Refinery Tier II Overview

July 14, 2008

McKee Refinery Operations Flow Diagram Before Tier II

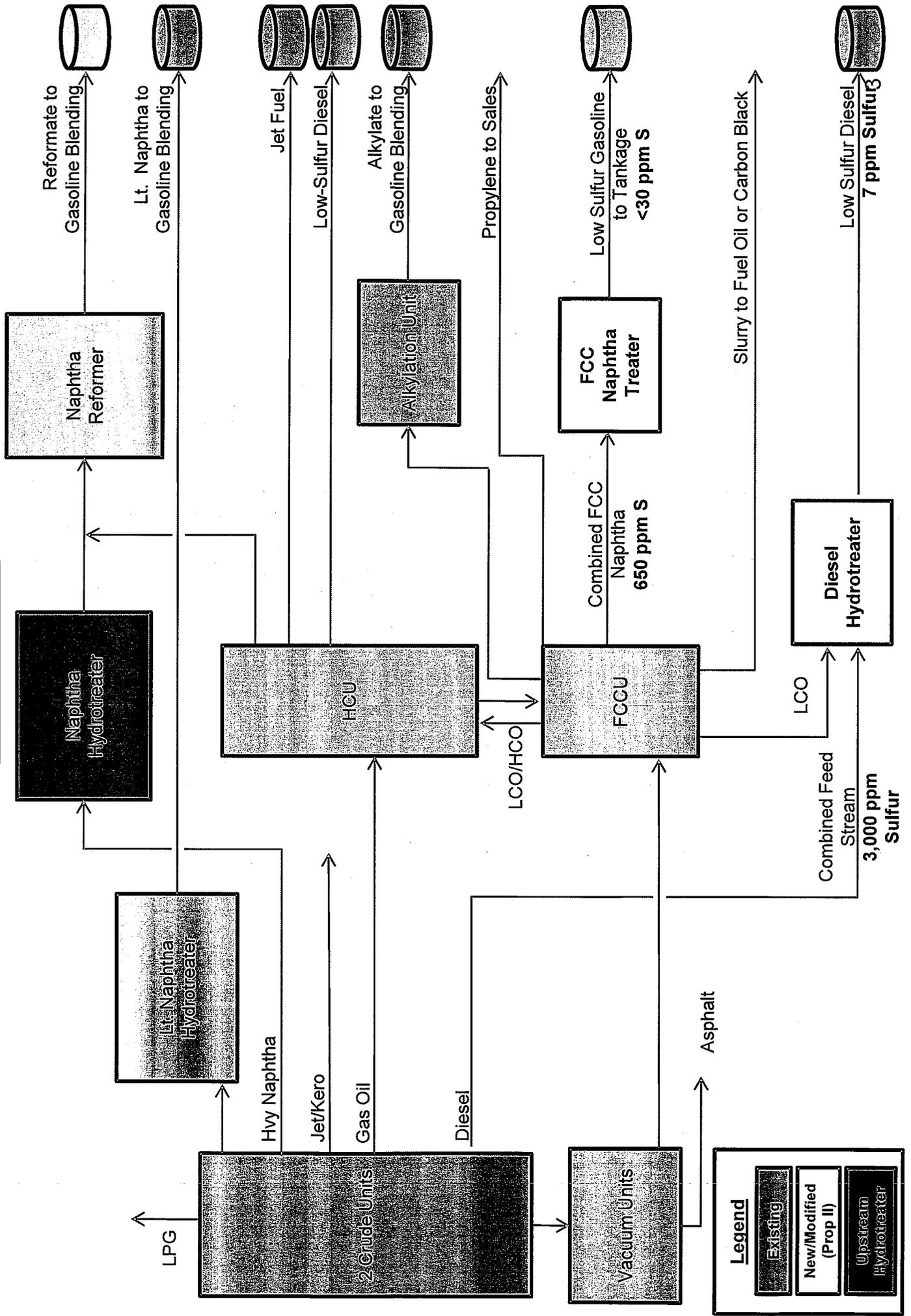


Legend

- Existing
- New/Modified (Prop II)
- Upstream Hydrotreater

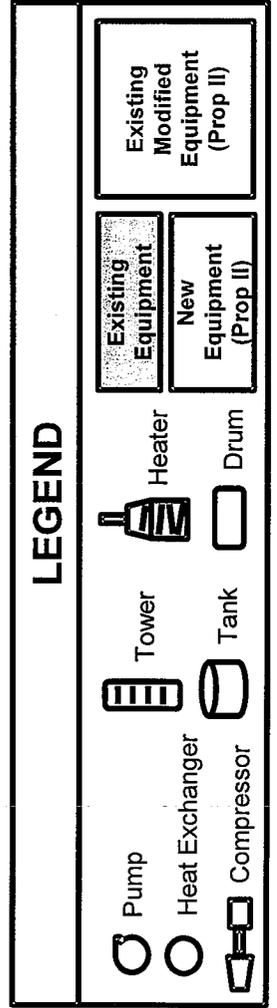
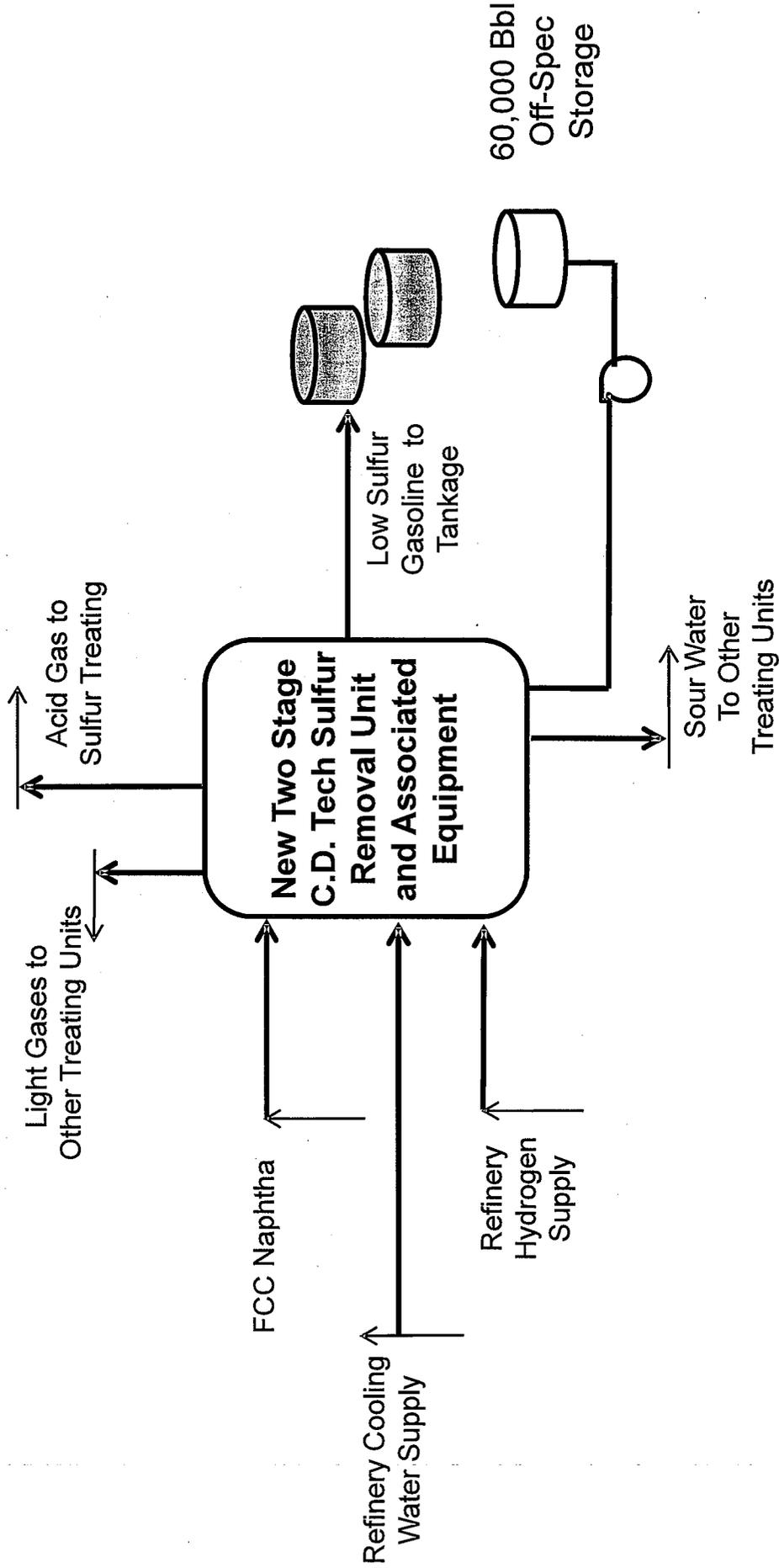
McKee Refinery Operations Flow Diagram After Tier II

Simplified Diagram



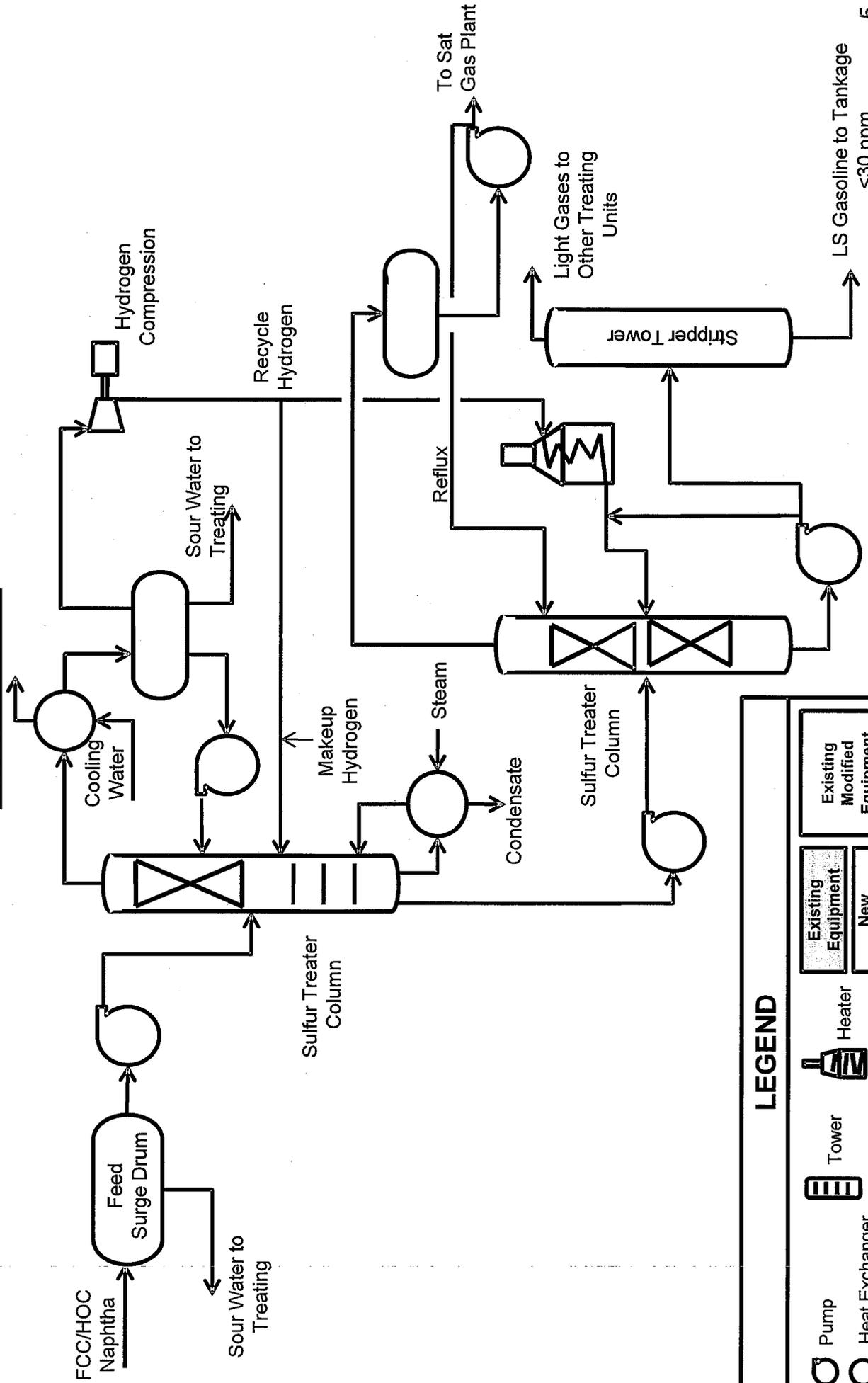
McKee Gasoline Desulfurization Unit Overview

Simplified Diagram



McKee Gasoline Desulfurization Unit Overview

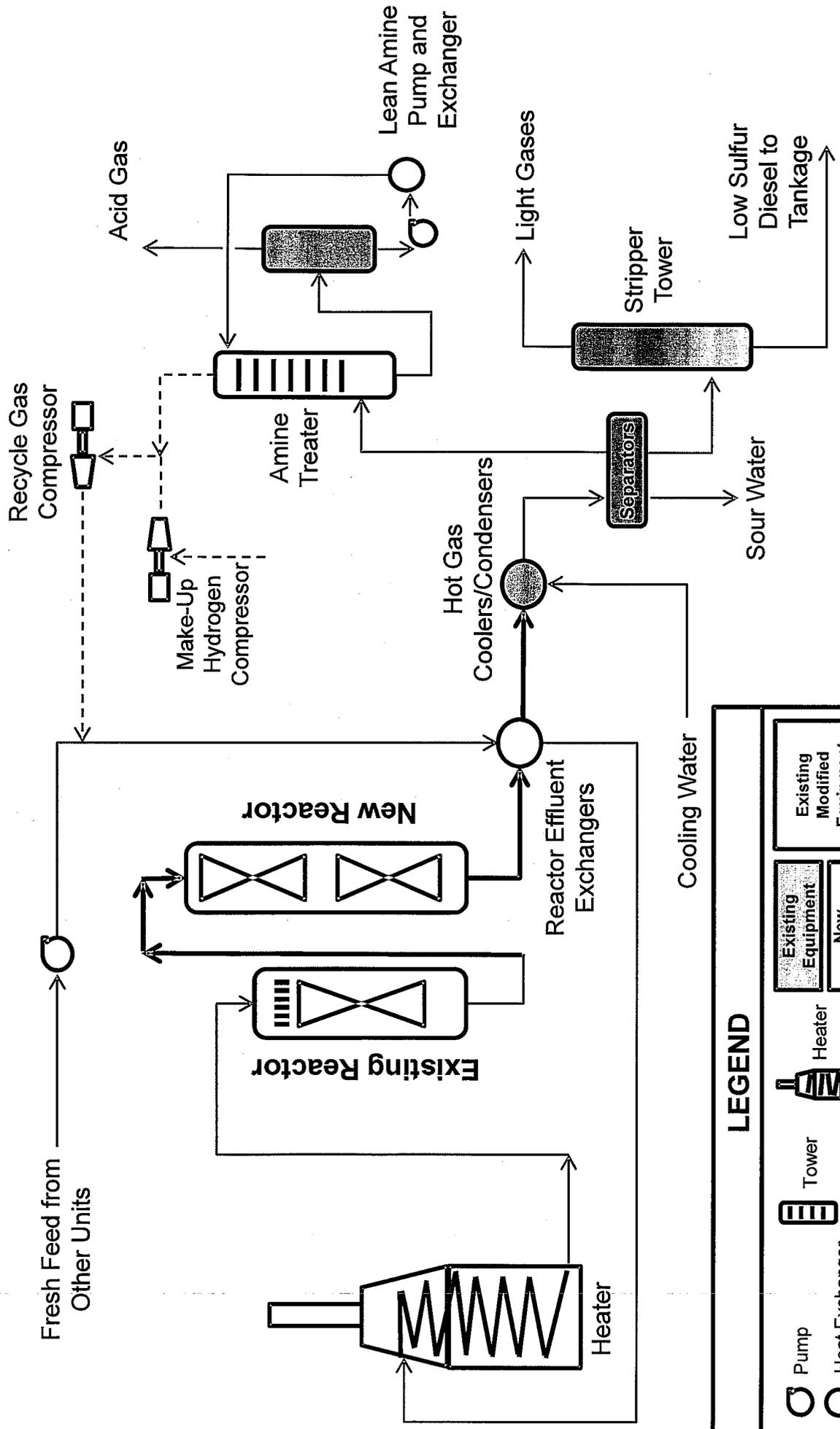
CD Tech Unit Simplified Diagram



LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Tank
	Heater
	Drum
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

McKee ULSD Unit Overview

Simplified Diagram



LEGEND	
	Pump
	Heat Exchanger
	Compressor
	Tower
	Tank
	Heater
	Drum
	Existing Equipment
	New Equipment (Prop II)
	Existing Modified Equipment (Prop II)

Exhibit E

Equipment Lists

Valero Tier II Hydrotreaters 2007 Use Determination Applications

Following are ten tables listing and describing the Tier II hydrotreating equipment which was installed by Valero at its Texas refineries to meet EPA's low sulfur regulations in 40 CFR Part 80. This is the same equipment for which a tax exemption is being sought under the state's Proposition 2 program. Each table corresponds to either a gasoline or diesel hydrotreating unit at the various five refineries (McKee, Houston, Texas City, Port Arthur, and Corpus Christi), and each designates the Tier and percentage of exemption applicable to that equipment.

With respect to the identification of "environmental benefit at the site," that question has yet to be resolved. The TCEQ has provided no formal interpretation of the phrase nor has it issued any guidance or other policy document that would help clarify the requirement.

It has become clear that the "at the site" requirement can be subject to multiple interpretations. It can, for example, be literally construed to mean that there must be an environmental benefit "within the fence line of the site." This would seem to be an unusual and unnecessarily strict interpretation of the phrase considering the history of the Proposition 2 program. Yet even under such a strict construction there are real and tangible environmental benefits that exist at Valero's refineries as a result of its Tier II hydrotreaters. They include such things as: reduction in flaring events associated with unit shutdowns; reduction in emissions from associated equipment such as heaters, boilers and electrical production equipment; reduction of emissions from sample collection stations; reductions in hydrogen sulfide ("H₂S") emissions from fugitive components; reductions in H₂S emissions from product tanks and loading and unloading facilities; reductions in the firing and flaring events of refinery fuel gas; and reductions in emissions from company, contractor, and employee -owned vehicles

Of course, "environmental benefit at the site" could also be interpreted to mean "in the area of the site," or "created at the site." Valero believes that these interpretations are more reasonable and are consistent with the history and intent of the Proposition 2 program. They also carry with them the benefit of protecting the program from the risk of speculative or attenuated applications. Regardless of which interpretation the TCEQ ultimately chooses, Valero believes its applications meet the requirements and purpose of the Proposition 2 program and therefore qualify for an exemption from ad valorem taxation.

Valero McKee Refinery

Tier-II Gasoline Hydrotreating Equipment

SCOPE: New C. D. Tech gasoline sulfur removal unit; New gasoline tank, piping, and pump; Modifications to Diesel Hydrotreating Unit Amine scrubbers; New Reformer hydrogen gas compressor; Modifications to blend pump and piping.

	Equipment / Component	Description and Function of Equipment / Component	Tier	PCP %
1	Exchangers / Air Coolers / Pumps	Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the gasoline or other process streams through the hydrotreater unit equipment components. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.	II	100%
2	Heaters	A heater burns fuel to increase the temperature of the gasoline and hydrogen stream prior to entering the reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from gasoline. One new heater was installed to maintain the appropriate heat balance.	II	100%
3	Hydrogen Compressors	Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the gasoline inside the heaters. Compressed hydrogen is also injected into the reactors to assist with temperature control and desulfurization. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the gasoline. New hydrogen recycle, make-up, and reformer gas compressors were installed as part of this investment.	II	100%
4	Sulfur Treating Columns	A sulfur treating column is a vertical vessel that contains the hydrotreating catalyst. The C.D. Tech sulfur treating columns function as the hydrotreater reactor in this technology. The heated gasoline and hydrogen are sent through the columns where the heat, high pressure, and catalyst create the chemical reaction which removes the sulfur from the gasoline. Two new hydrotreating columns were installed as part of this investment.	III	88%
5	Separator Drums	A separator drum is a horizontal vessel that facilitates the separation of the hydrotreater gases and liquids that have passed through the reactors. New	II	100%

		separator drums were installed with this investment to process the combined reactor product streams. These components are necessary to maintain process and pressure balance on the hydrotreating unit.		
6	Gasoline Stripper Tower	This is a large diameter vertical vessel. The stripper tower removes residual hydrogen sulfide from the gasoline stream before being sent to blend tankage. A new stripper tower was installed with this investment. New pumps, exchangers, and piping were also installed to maintain the proper heat and pressure balances.	II	100%
7	New gasoline tank, piping, and pump	Tankage and piping modifications were necessary as part of the installation of the new gasoline hydrotreater. A new tank was constructed and connected to the gasoline hydrotreater to operate as a combined feed and off specification product tank.	II	100%

Valero McKee Refinery

Tier-II Diesel Hydrotreating Equipment

SCOPE: Modification of Diesel Hydrotreater Unit.

Equipment / Component	Description and Function of Equipment / Component	Tier	PCP %
<p>1 Modification of Diesel Hydrotreater Unit</p>	<p><u>Hydrogen compressors</u> - Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the heated diesel inside the hydrotreater reactors. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the diesel. New recycle and make-up hydrogen compressors were necessary to supply additional hydrogen needed by the hydrotreater reactors.</p> <p><u>Exchangers / Air Coolers / Pumps</u> - Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the diesel or other process streams through the hydrotreater unit equipment components. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.</p> <p><u>Heater</u> - A heater burns fuel to increase the temperature of the diesel and hydrogen stream prior to entering the hydrotreating reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from diesel. New convection and radiant section heater tubes were installed to maintain the appropriate heat and pressure balance. Existing burners were replaced with new Low NOx burners.</p> <p><u>Reactor</u> - A reactor is a vertical vessel that contains the hydrotreating catalyst. The heated diesel and hydrogen are sent through the reactor</p>	II	100%

where the heat, high pressure, and catalyst create the chemical reaction which removes the sulfur from the diesel. An additional, larger reactor was necessary to hold more catalyst needed to maximize the sulfur removal reaction.

Reactor internals – Catalyst is supported inside a hydrotreater reactor by specially designed metal components capable of withstanding the process temperature and weight of the catalyst. The liquid feed is distributed evenly through the catalyst beds by specially designed liquid distribution trays. Each catalyst bed is temperature controlled by injecting a portion of the recycle hydrogen from the hydrogen compressor. The existing reactor internals required replacement to maximize the sulfur removal reaction.

Amine Treater Absorber Tower – An amine absorber tower receives the hydrotreater gas, which is mostly hydrogen and hydrogen sulfide. The hydrogen sulfide is absorbed from the gas by an amine solution. The hydrogen sulfide free hydrogen is compressed and returned to the hydrotreater reactors. The amine treater absorber tower internal parts were replaced to facilitate removal of the additional hydrogen sulfide resulting from the increased sulfur removal. An amine pump and exchanger were also replaced to provide more amine flow through the absorber tower.

Valero Houston Refinery

Tier-II Gasoline Hydrotreating Equipment

SCOPE: Modification of B Unifiner and D Unifiner; Modification of FCCU fractionator; Modification of naphtha splitter tower; New Selective Hydrogenation Units (SHU) for B and D Unifiners; New gasoline stripper/stabilizer tower, exchangers, & pumps.

	Equipment / Component	Description and Function of Equipment / Component	Tier	PCP %
1	Modification of B Unifiner	<p><u>Hydrogen compressors</u> - Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the heated gasoline inside the hydrotreater reactors. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the gasoline. New hydrogen compressors were installed on B Unifiner.</p> <p><u>Exchangers / Air Coolers / Pumps / Drums</u> - Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the gasoline or other process streams through the hydrotreater unit equipment components. A separator drum is a horizontal vessel that facilitates the separation of the hydrotreater gases and liquids that have passed through the reactors. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.</p> <p><u>Heater</u> - A heater burns fuel to increase the temperature of the gasoline and hydrogen stream prior to entering the hydrotreating reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from gasoline. New heater tubes were installed to maintain the appropriate heat and pressure balance.</p> <p><u>Reactor internals</u> - Catalyst is supported inside a hydrotreater reactor by</p>	II	100%

	<p>specially designed metal components capable of withstanding the process temperature and weight of the catalyst. The liquid feed is distributed evenly through the catalyst beds by specially designed liquid distribution trays. Each catalyst bed is temperature controlled by injecting a portion of the recycle hydrogen from the hydrogen compressor. New reactor internals were installed to maximize the sulfur removal reaction.</p> <p>Amine Treater Absorber Tower – An amine absorber tower receives the hydrotreater gas, which is mostly hydrogen and hydrogen sulfide. The hydrogen sulfide is absorbed from the gas by an amine solution. The hydrogen sulfide free hydrogen is compressed and returned to the hydrotreater reactors. A new amine treater absorber tower was installed to remove the additional hydrogen sulfide resulting from the increased sulfur removal.</p>	
2	<p>Modification of D Unifiner</p> <p>Hydrogen compressors - Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the heated gasoline inside the hydrotreater reactors. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the gasoline. New hydrogen compressors were installed on D Unifiner.</p> <p>Exchangers / Air Coolers / Pumps / Drums - Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the gasoline or other process streams through the hydrotreater unit equipment components. A feed drum is a horizontal vessel that facilitates the stabilization of the combined liquid gasoline and hydrogen streams before entering the heater and reactor. An amine knock out drum is a horizontal vessel that facilitates the separation of the acid (high H₂S) gases and the liquid amine. All of these components are necessary to maintain the heat, pressure, and chemical process balances on the hydrotreating unit.</p> <p>Reactor – A reactor is a vertical vessel that contains the hydrotreating catalyst. The heated gasoline and hydrogen are sent through the reactor</p>	100%

		where the heat, high pressure, and catalyst create the chemical reaction which removes the sulfur from the gasoline. A new larger reactor was necessary to hold additional catalyst needed to maximize the sulfur removal reaction.		
3	FCC Main Fractionator Modifications	This equipment was required to permit the proper separation of a heavy gasoline stream prior to being sent to the hydrotreater reactors. The modifications consisted of the installation of new internal tray parts to facilitate the separation. Heavy gasoline streams contain higher levels of sulfur and are segregated in order to facilitate sulfur removal most effectively with the downstream processing equipment.	II	100%
4	Naphtha Splitter Tower Modifications	The naphtha splitter is a large vertical vessel that separates a light gasoline stream and an intermediate gasoline stream after being treated by the SHU. The light gasoline does not require further desulfurization. The intermediate gasoline is sent to Unit B hydrotreater for sulfur removal.	II	100%
5	Two New Selective Hydrogenation Units (SHU)	These units contain reactors, pumps, piping, exchangers, drums, towers, and other necessary equipment required to provide additional catalyst and treatment necessary to remove sulfur in the gasoline streams. A SHU was installed on Units B and D hydrotreaters.	II	100%
6	New Gasoline Stabilizer	This equipment is a large diameter vertical vessel that separates light gases (e.g. methane, ethane, propane, butane) generated during the gasoline hydrotreating process from the low sulfur gasoline product. New pumps, exchangers, and piping were also installed necessary to maintain the proper heat and pressure balances.	II	100%

Valero Houston Refinery

Tier-II Diesel Hydrotreating Equipment

SCOPE: New combined diesel hydrotreater and hydrocracker unit; Modifications to sour water stripper tower.

	Equipment / Component	Description and Function of Equipment / Component	Tier	PCP %
1	Exchangers / Air Coolers / Pumps	Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the diesel or other process streams through the hydrotreater unit equipment components. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.	II	100%
2	Heaters	A heater burns fuel to increase the temperature of the diesel and hydrogen stream prior to entering the reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from diesel. Three new heaters were installed to maintain the appropriate heat balance.	II	100%
3	Hydrogen Compressors	Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the diesel inside the heaters. Compressed hydrogen is also injected into the reactors to assist with temperature control and desulfurization. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the gasoline. New hydrogen recycle and make-up gas compressors were installed as part of this investment.	II	100%
4	Hydrotreating Reactor	A reactor is a vertical vessel that contains the hydrotreating and/or hydrocracking catalyst. The heated diesel and hydrogen are sent through the reactor where the heat, high pressure, and catalyst create the chemical reaction which removes the sulfur from the diesel. A new hydrotreating reactor was installed as part of this investment.	III	75%
5	Hydrotreating & Hydrocracking Reactor	A reactor is a vertical vessel that contains the hydrotreating and/or hydrocracking catalyst. The heated diesel and hydrogen are sent through the reactor where the heat, high pressure, and catalyst create the chemical	III	43%

		reaction which removes the sulfur from the diesel and chemically cracks certain diesel molecules into gasoline and light gases. This new reactor contains four "hydrotreating" catalyst beds and three "hydrocracking" catalyst beds.		
6	Amine Absorber Tower	An amine absorber tower receives the hydrotreater gas, which is mostly hydrogen and hydrogen sulfide. The hydrogen sulfide is absorbed from the gas by an amine solution. The hydrogen sulfide free hydrogen is compressed and returned to the hydrotreater reactors. A new amine treater absorber tower was installed to remove the hydrogen sulfide resulting from the increased sulfur removal.	II	100%
7	Separator Drums	A separator drum is a horizontal vessel that facilitates the separation of the hydrotreater gases and liquids that have passed through the reactors. New separator drums were installed with this investment to process the combined reactor product streams. These components are necessary to maintain process and pressure balance on the hydrotreating unit.	II	100%
8	Gasoline Stripper and Stabilizer	These items are large diameter vertical vessels. The stripper tower removes hydrogen sulfide from the combined gasoline and diesel stream before entering the stabilizer tower. The stabilizer tower separates light gases (e.g. methane, ethane, propane, butane) generated during the hydrotreating/hydrocracking reactions and the low sulfur gasoline from the ultra low sulfur diesel product. New pumps, exchangers, and piping were also installed necessary to maintain the proper heat and pressure balances.	II	100%
9	Saturates Gas Plant	A saturates (sat) gas plant consists of towers, drums, exchangers, heaters, pumps, piping, electrical, instrumentation, and other equipment items necessary to receive the light gases from the combined hydrotreating/hydrocracking unit. These light gases are separated into individual streams of methane, ethane, propane, and butane by the sat gas plant. A new sat gas plant was necessary because the existing sat gas plant was running at capacity limits.	II	100%
10	ULSD Product Tank	A new ULSD product tank was necessary to provide the capacity and needed segregation for the very low sulfur diesel product.	II	100%
11	Modifications to Sour Water Stripper Tower	A sour water stripper tower receives process water that has come into contact with hydrocarbons containing hydrogen sulfide. The stripper tower removes any hydrogen sulfide from the water before being sent on to the water treating unit. New tower internals were installed to treat the increase in sour water production generated by the new ULSD unit.	II	100%

Valero Texas City Refinery

Tier-II Gasoline Hydrotreating Equipment

SCOPE: New C. D. Tech gasoline sulfur removal unit; Modifications to Amine scrubbers; New Reformer hydrogen gas compressor; Modifications to blend pump and piping.

	Equipment / Component	Description and Function of Equipment / Component	Tier	PCP %
1	Exchangers / Air Coolers / Pumps	Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the gasoline or other process streams through the hydrotreater unit equipment components. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.	II	100%
2	Heaters	A heater burns fuel to increase the temperature of the gasoline and hydrogen stream prior to entering the reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from gasoline. One new heater was installed to maintain the appropriate heat balance.	II	100%
3	Hydrogen Compressors	Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the gasoline inside the heaters. Compressed hydrogen is also injected into the reactors to assist with temperature control and desulfurization. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the gasoline. New hydrogen recycle, make-up, and reformer gas compressors were installed as part of this investment.	II	100%
4	Sulfur Treating Columns	A sulfur treating column is a vertical vessel that contains the hydrotreating catalyst. The C.D. Tech sulfur treating columns function as the hydrotreater reactor in this technology. The heated gasoline and hydrogen are sent through the columns where the heat, high pressure, and catalyst create the chemical reaction which removes the sulfur from the gasoline. Two new hydrotreating columns were as part of this investment.	II	100%
5	Separator Drums	A separator drum is a horizontal vessel that facilitates the separation of the	II	100%

		hydrotreater gases and liquids that have passed through the reactors. New separator drums were installed with this investment to process the combined reactor product streams. These components are necessary to maintain process and pressure balance on the hydrotreating unit.		
6	Gasoline Stripper Tower	This is a large diameter vertical vessel. The stripper tower removes residual hydrogen sulfide from the gasoline stream before being sent to blend tankage. A new stripper tower was installed with this investment. New pumps, exchangers, and piping were also installed to maintain the proper heat and pressure balances.	II	100%
7	Modifications to Amine Absorber (Scrubber) Towers	An amine absorber tower, sometimes called a scrubber tower, receives the hydrotreater gas, which is mostly hydrogen and hydrogen sulfide. The hydrogen sulfide is absorbed from the gas by an amine solution. The hydrogen sulfide free hydrogen is compressed and returned to the hydrotreater reactors. Two new amine treater absorber towers were installed to remove the additional hydrogen sulfide resulting from the increased sulfur removal.	II	100%
8	New Reformer hydrogen gas compressor	A reformer unit is a source of hydrogen for a hydrotreating unit. The reformer gas compressor is used to transport the hydrogen from the reformer unit to the hydrotreater unit. A new reformer gas compressor was necessary to send needed additional hydrogen to the hydrotreater.	II	100%
9	Modifications to blend pump and piping	Blend pumps, piping and control loops are used in the blending of gasoline components to the specifications necessary for shipment. A new blend pump and associated equipment was installed to properly blend this new low sulfur gasoline with other components into finished gasoline tankage.	II	100%

Valero Texas City Refinery

Tier-II Diesel Hydrotreating Equipment

SCOPE: Modification of Diesel Hydrotreater Unit; New Light Coker Gasoil and Light Cycle Oil tankage, pumps, and piping.

	Equipment / Component	Description and Function of Equipment / Component	Tier	PCP %
1	Modification of Diesel Hydrotreater Unit	<p><u>Hydrogen compressors</u> - Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the heated diesel inside the hydrotreater reactors. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the diesel. The combined recycle/make-up hydrogen compressors required upgrading to supply additional hydrogen needed by the hydrotreater reactors.</p> <p><u>Exchangers / Air Coolers / Pumps</u> - Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the diesel or other process streams through the hydrotreater unit equipment components. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.</p> <p><u>Heater</u> - A heater burns fuel to increase the temperature of the diesel and hydrogen stream prior to entering the hydrotreating reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from diesel. New convection section heater tubes were installed to maintain the appropriate heat and pressure balance.</p> <p><u>Reactor</u> - A reactor is a vertical vessel that contains the hydrotreating catalyst. The heated diesel and hydrogen are sent through the reactor where the heat, high pressure, and catalyst create the chemical reaction</p>	II	100%

2	Light Coker Gasoil and Light Cycle Oil tankage	<p>which removes the sulfur from the diesel. An additional, larger reactor was necessary to hold more catalyst needed to maximize the sulfur removal reaction.</p> <p><u>Amine Treater Absorber Tower</u> – An amine absorber tower receives the hydrotreater gas, which is mostly hydrogen and hydrogen sulfide. The hydrogen sulfide is absorbed from the gas by an amine solution. The hydrogen sulfide free hydrogen is compressed and returned to the hydrotreater reactors. The amine treater absorber tower internal parts were replaced to facilitate removal of the additional hydrogen sulfide resulting from the increased sulfur removal. An amine pump was also upgraded to provide more amine flow through the absorber tower.</p>	II	100%
	Light Coker Gasoil (LCGO) is a diesel stream produced by the Texas City Coking Unit. Light Cycle Oil (LCO) is a diesel stream produced by the Texas City Fluid Catalytic Cracking Unit. These two streams are segregated in new tankage at the Texas City refinery for transport to desulfurization at the Valero Houston refinery ULSD unit. New tanks, pumps, and piping were installed to facilitate the transport of these streams to the Houston refinery.			

Valero Port Arthur Refinery

Tier-II Gasoline Hydrotreating Equipment

SCOPE: New Gasoline hydrotreater Unit and associated equipment (GFU-245); Modifications to GFU-242; Modifications to Flare; Modifications to Tankage & piping.

	Equipment / Component	Description and Function of Equipment / Component	Tier	PCP %
1	Exchangers / Air Coolers / Pumps	Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the gasoline or other process streams through the hydrotreater unit equipment components. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.	II	100%
2	Heaters	A heater burns fuel to increase the temperature of the gasoline and hydrogen stream prior to entering the reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from gasoline. One new heater was installed to maintain the appropriate heat balance.	II	100%
3	Hydrogen Compressors	Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the gasoline inside the heaters. Compressed hydrogen is also injected into the reactors to assist with temperature control and desulfurization. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the gasoline. A new hydrogen recycle gas compressor was installed as part of this investment.	II	100%
4	Reactor	A reactor is a vertical vessel that contains the hydrotreating catalyst. The heated gasoline and hydrogen are sent through the reactor where the heat, high pressure, and catalyst create the chemical reaction which removes the sulfur from the gasoline. A new reactor was installed as part of this investment.	II	100%
5	Separator Drums	A separator drum is a horizontal vessel that facilitates the separation of the hydrotreater gases and liquids that have passed through the reactors. New	II	100%

		separator drums were installed with this investment to process the reactor product stream. These components are necessary to maintain process and pressure balance on the hydrotreating unit.		
6	Gasoline Stripper Tower	This is a large diameter vertical vessel. The stripper tower removes residual hydrogen sulfide from the gasoline stream before being sent to blend tankage. A new stripper tower was installed with this investment. New pumps, exchangers, and piping were also installed to maintain the proper heat and pressure balances.	II	100%
7	Selective Hydrogenation Reactor (SHU) and equipment	This reactor, pumps, piping, and exchangers are necessary equipment required to provide additional catalyst and treatment to remove sulfur in the gasoline streams. A new SHU reactor and equipment was installed as part of the gasoline hydrotreater investment.	II	100%
8	Naphtha Splitter Tower	The naphtha splitter is a large vertical vessel that separates a light gasoline stream and a heavier gasoline stream after being treated by the SHU. The light gasoline does not require further desulfurization. The heavier gasoline is sent to a second larger hydrotreating reactor for sulfur removal.	II	100%
9	Amine Absorber Tower	An amine absorber tower, sometimes called a scrubber tower, receives the hydrotreater gas, which is mostly hydrogen and hydrogen sulfide. The hydrogen sulfide is absorbed from the gas by an amine solution. The hydrogen sulfide free hydrogen is compressed and returned to the hydrotreater reactors. One new amine treater absorber tower was installed to remove the hydrogen sulfide resulting from the increased sulfur removal.	II	100%
10	Modifications to GFU-242	GFU-242 was an existing kerosene hydrotreating unit that was converted to a gasoline hydrotreating unit to meet the refinery gasoline hydrotreating requirements. <u>New exchangers and piping</u> - Exchangers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. New reactor product, reactor feed, recycle gas, stripper, and unit product exchangers were necessary to maintain the heat and pressure balance on the unit. <u>Heater</u> - A heater burns fuel to increase the temperature of the gasoline and hydrogen stream prior to entering the reactors. Heat is necessary to	II	100%

	<p>facilitate the chemical reaction which removes the sulfur from gasoline. New tubes were installed in the heater convection section to maintain the heat and pressure balance on the unit.</p> <p>Unit Design Pressure Increase – the unit design pressure was increased to 79 pounds per square inch from 29 pounds per square inch. The increase in unit pressure was necessary to achieve the increased sulfur removal requirements in the gasoline. As part of the unit design pressure increase, new vessel connections were required on the stripper tower and the stripper drum.</p>		
11	<p>Modifications to Flare</p> <p>A flare system provides an emergency relief outlet for units which may need to relieve pressure at the refinery. The flare operates to complete the combustion of any hydrocarbon that may be relieved from a unit to the flare system. A flare system consists of piping, drums, pumps, compressors, instrumentation/electrical, and flare stack. Flare number 15 at the Port Arthur refinery was modified in order to contain the possible hydrocarbon relief from the new gasoline hydrotreater unit (GHU-245). Modifications to flare number 15 included a new piping, drum modifications, and pump modifications.</p>	II	100%
12	<p>Modifications to Tankage and piping</p> <p>Tankage and piping modifications were necessary as part of the installation of the new gasoline hydrotreater and the modifications to the existing unit GFU-242. An existing tank was connected to operate as the necessary gasoline feed tank for GFU-245. An existing tank was connected as the necessary feed tank for GFU-242.</p>	II	100%

Valero Port Arthur Refinery

Tier-II Diesel Hydrotreating Equipment

SCOPE: New Diesel Hydrotreating Unit (DHT-246); Modification of Diesel Hydrotreater Unit (GFU-243); Modification of Kerosene Hydrotreater (GFU-241); Modifications to Sour Water Stripper Unit; Modifications to Amine Treating Unit; Modifications to Sulfur Recovery Unit.

	Equipment / Component	Description and Function of Equipment / Component	Tier	PCP %
1	Exchangers / Air Coolers / Pumps	Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the diesel or other process streams through the hydrotreater unit equipment components. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.	II	100%
2	Heaters	A heater burns fuel to increase the temperature of the diesel and hydrogen stream prior to entering the reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from diesel. A new heater was installed to maintain the appropriate heat balance.	II	100%
3	Hydrogen Compressors	Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the diesel inside the heaters. Compressed hydrogen is also injected into the reactors to assist with temperature control and desulfurization. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the gasoline. New hydrogen recycle and make-up gas compressors were installed as part of this investment.	II	100%
4	Hydrotreating Reactor	A reactor is a vertical vessel that contains the hydrotreating and/or hydrocracking catalyst. The heated diesel and hydrogen are sent through the reactor where the heat, high pressure, and catalyst create the chemical reaction which removes the sulfur from the diesel. A new hydrotreating reactor was installed as part of this investment.	III	80%
5	Amine Absorber Tower	An amine absorber tower receives the hydrotreater gas, which is mostly	II	100%

		hydrogen and hydrogen sulfide. The hydrogen sulfide is absorbed from the gas by an amine solution. The hydrogen sulfide free hydrogen is compressed and returned to the hydrotreater reactors. A new amine treater absorber tower was installed to remove the hydrogen sulfide resulting from the increased sulfur removal.		
6	Separator Drums	A separator drum is a horizontal vessel that facilitates the separation of the hydrotreater gases and liquids that have passed through the reactors. New separator drums were installed with this investment to process the combined reactor product streams. These components are necessary to maintain process and pressure balance on the hydrotreating unit.	II	100%
7	Stripper Tower	This item is a large diameter vertical vessel. The stripper tower removes hydrogen sulfide from the diesel stream generated during the hydrotreating reactions. New pumps, exchangers, and piping were also installed to maintain the proper heat and pressure balances.	II	100%
8	Modification of Diesel Hydrotreater Unit (GFU-243)	<p><u>Hydrogen compressors</u> - Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the heated diesel inside the hydrotreater reactors. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the diesel. The combined recycle/make-up hydrogen compressors required replacement to supply additional hydrogen needed by the hydrotreater reactors.</p> <p><u>Exchangers / Air Coolers</u> - Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.</p> <p><u>Heater</u> - A heater burns fuel to increase the temperature of the diesel and hydrogen stream prior to entering the hydrotreating reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from diesel. New convection and radiant section heater tubes were installed in the existing heater to maintain the appropriate heat and pressure balance.</p> <p><u>Reactor internals</u> - Catalyst is supported inside a hydrotreater reactor by</p>	II	100%

9	Modification of Kerosene Hydrotreater Unit (GPU-241)	<p>specially designed metal components capable of withstanding the process temperature and weight of the catalyst. The liquid feed is distributed evenly through the catalyst beds by specially designed liquid distribution trays. Each catalyst bed is temperature controlled by injecting a portion of the recycle hydrogen from the hydrogen compressor. New reactor internals were installed to maximize the sulfur removal reaction.</p> <p><u>Amine Treater Absorber Tower</u> – An amine absorber tower receives the hydrotreater gas, which is mostly hydrogen and hydrogen sulfide. The hydrogen sulfide is absorbed from the gas by an amine solution. The hydrogen sulfide free hydrogen is compressed and returned to the hydrotreater reactors. The amine treater absorber tower internal parts were replaced to facilitate removal of the additional hydrogen sulfide resulting from the increased sulfur removal.</p> <p><u>Exchangers / Air Coolers / Pumps</u> - Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the gasoline or other process streams through the hydrotreater unit equipment components. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.</p> <p><u>Heater</u> – A heater burns fuel to increase the temperature of the diesel and hydrogen stream prior to entering the hydrotreating reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from diesel. New convection and radiant section heater tubes were installed in the existing heater to maintain the appropriate heat and pressure balance.</p> <p><u>Reactor internals</u> – Catalyst is supported inside a hydrotreater reactor by specially designed metal components capable of withstanding the process temperature and weight of the catalyst. The liquid feed is distributed evenly through the catalyst beds by specially designed liquid distribution trays. Each catalyst bed is temperature controlled by injecting a portion of the recycle hydrogen from the hydrogen compressor. New reactor feed</p>	100%
		II	

		distributors were installed to maximize the sulfur removal reaction.		
		<u>Amine Treater Absorber Tower</u> – An amine absorber tower receives the hydrotreater gas, which is mostly hydrogen and hydrogen sulfide. The hydrogen sulfide is absorbed from the gas by an amine solution. The hydrogen sulfide free hydrogen is compressed and returned to the hydrotreater reactors. The amine treater absorber tower internal parts were replaced to facilitate removal of the additional hydrogen sulfide resulting from the increased sulfur removal.		
		<u>Stripper Tower</u> - This item is a large diameter vertical vessel. The stripper tower removes hydrogen sulfide from the diesel stream generated during the hydrotreating reactions. New internal stripper tower parts were necessary to properly strip hydrogen sulfide from the low sulfur kerosene before being sent to tankage.		
10	Modifications to Sour Water Stripper Unit	The sour water stripping unit removes hydrogen sulfide and other contaminants from water that has come into contact with hydrocarbons containing hydrogen sulfide. This unit was modified at the Port Arthur refinery in order to treat the increase in water loading resulting from the addition of gasoline and diesel hydrotreaters in the refinery. Modifications included piping changes, replacement of exchangers, and pumps in order to maintain the unit heat and pressure balances.	II	100%
11	Amine Treating Unit	The amine treating unit regenerates amine that is used in the new ULSD unit to scrub the circulating hydrogen gas to low levels of sulfur and sends sulfur to the sulfur recovery unit.	II	100%
12	Sulfur Recovery Unit	Sulfur recovery units convert sulfur species to elemental sulfur. This additional unit was added as a necessary part of the new ULSD unit but was sized to provide additional backup capacity to the existing sulfur recovery unit.	III	45%

Valero Corpus Christi Refinery

Tier-II Gasoline Hydrotreating Equipment

SCOPE: New C. D. Tech gasoline sulfur removal unit; Modifications to pumps, pipelines, and tanks.

	Equipment / Component	Description and Function of Equipment / Component	Tier	PCP %
1	Exchangers / Air Coolers / Pumps	Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the gasoline or other process streams through the hydrotreater unit equipment components. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.	II	100%
2	Heaters	A heater burns fuel to increase the temperature of the gasoline and hydrogen stream prior to entering the reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from gasoline. One new heater was installed to maintain the appropriate heat balance.	II	100%
3	Hydrogen Compressors	Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the gasoline inside the heaters. Compressed hydrogen is also injected into the reactors to assist with temperature control and desulfurization. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the gasoline. New hydrogen gas compressors were installed as part of this investment.	II	100%
4	Sulfur Treating Columns	A sulfur treating column is a vertical vessel that contains the hydrotreating catalyst. The C.D. Tech sulfur treating columns function as the hydrotreater reactor in this technology. The heated gasoline and hydrogen are sent through the columns where the heat, high pressure, and catalyst create the chemical reaction which removes the sulfur from the gasoline. Two new hydrotreating columns were installed as part of this investment.	II	100%
5	Separator Drums	A separator drum is a horizontal vessel that facilitates the separation of the hydrotreater gases and liquids that have passed through the reactors. New	II	100%

		separator drums were installed with this investment to process the combined reactor product streams. These components are necessary to maintain process and pressure balance on the hydrotreating unit.		
6	Gasoline Stripper Tower	This is a large diameter vertical vessel. The stripper tower removes residual hydrogen sulfide from the gasoline stream before being sent to blend tankage. A new stripper tower was installed with this investment. New pumps, exchangers, and piping were also installed necessary to maintain the proper heat and pressure balances.	II	100%
7	Electrical	Hydrotreaters consume large amounts of electricity in the process of removing sulfur from gasoline. The Corpus refinery electrical supply system did not have available spare capacity to supply the new gasoline desulfurization unit. A new electrical supply was installed as part of this investment in order to provide the needed electricity to the hydrotreater.	II	100%
8	Modifications to pumps, pipelines, and tanks	The Corpus Christi refinery is made up of an East and West Plant which are separated by a short distance. It was necessary to install pumps, piping, and tanks to consolidate the gasoline hydrotreater feed in West Plant tanks for hydrotreating at the new desulfurization unit.	II	100%

Valero Corpus Christi Refinery

Tier-II Diesel Hydrotreating Equipment

SCOPE: New Diesel Hydrotreater Unit; New Hydrogen Production Unit; Modifications to tanks, pumps, and piping.

	Equipment / Component	Description and Function of Equipment / Component	Tier	PCP %
1	Exchangers / Air Coolers / Pumps	Exchangers and air coolers are pieces of equipment that exchange heat from hot streams to cooler streams. The use of these types of equipment makes the process more energy efficient and reduces the amount of heat required from firing a heater. Pumps are pieces of rotating equipment used to propel the diesel or other process streams through the hydrotreater unit equipment components. All of these components are necessary to maintain the heat and pressure balance on the hydrotreating unit.	II	100%
2	Heaters	A heater burns fuel to increase the temperature of the diesel and hydrogen stream prior to entering the reactors. Heat is necessary to facilitate the chemical reaction which removes the sulfur from diesel. A new heater was installed to maintain the appropriate heat balance.	II	100%
3	Hydrogen Compressors	Hydrogen compressors are pieces of rotating equipment used to compress hydrogen gas to high pressures before being combined with the diesel inside the heaters. Compressed hydrogen is also injected into the reactors to assist with temperature control and desulfurization. The hydrogen is a necessary element in the chemical reaction which removes sulfur from the gasoline. New hydrogen recycle and make-up gas compressors were installed as part of this investment.	II	100%
4	Hydrotreating Reactors	A reactor is a vertical vessel that contains the hydrotreating and/or hydrocracking catalyst. The heated diesel and hydrogen are sent through the reactor where the heat, high pressure, and catalyst create the chemical reaction which removes the sulfur from the diesel. Two new hydrotreating reactors were installed as part of this investment.	III	67%
5	Amine Absorber Tower	An amine absorber tower receives the hydrotreater gas, which is mostly hydrogen and hydrogen sulfide. The hydrogen sulfide is absorbed from the gas by an amine solution. The hydrogen sulfide free hydrogen is	II	100%

		compressed and returned to the hydrotreater reactors. A new amine treater absorber tower and associated equipment was installed to remove the hydrogen sulfide resulting from the increased sulfur removal.		
6	Separator Drums	A separator drum is a horizontal vessel that facilitates the separation of the hydrotreater gases and liquids that have passed through the reactors. New separator drums were installed with this investment to process the combined reactor product streams. These components are necessary to maintain process and pressure balance on the hydrotreating unit.	II	100%
7	Stripper Tower	This item is a large diameter vertical vessel. The stripper tower removes hydrogen sulfide from the diesel stream generated during the hydrotreating reactions. New pumps, exchangers, and piping were also installed necessary to maintain the proper heat and pressure balances.	II	100%
8	New Hydrogen Production Unit	As described above, hydrogen is a necessary element in the chemical reaction that is removing the sulfur from the diesel. The Corpus Christi refinery's available hydrogen was not sufficient to supply the new ULSD unit. A new hydrogen production unit was constructed for the purpose of supplying needed hydrogen to the new ULSD unit.	III	41%
9	Modifications to tanks, pumps, and piping	The Corpus Christi refinery is made up of an East and West Plant which are separated by a short distance. It was necessary to install pumps, piping, and tanks to consolidate the diesel hydrotreater feed in East Plant tanks for hydrotreating at the new desulfurization unit constructed at the East Plant.	II	100%