

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD  
OF THE STATE OF ILLINOIS**

MARATHON ASHLAND PETROLEUM, LLC )  
Gasoline Desulfurization Unit )  
)  
) PCB 07-  
) (Tax Certification)  
PROPERTY IDENTIFICATION NUMBER )  
51-34-1-21 or portion thereof )

**NOTICE**

TO: [Electronic filing] Dorothy Gunn, Clerk  
Illinois Pollution Control Board  
State of Illinois Center  
100 W. Randolph Street, Suite 11-500  
Chicago, Illinois 60601

[Service by mail] John S. Swearingen  
Marathon Ashland Petroleum  
Refinery Office Building  
Robinson, Illinois 62454

[Service by mail]  
Steve Santarelli  
Illinois Department of Revenue  
101 West Jefferson  
P.O. Box 19033  
Springfield, Illinois 62794

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Pollution Control Board the **APPEARANCE** and **RECOMMENDATION** of the Illinois Environmental Protection Agency, a paper copy of which is herewith served upon the applicant and a representative of the Illinois Department of Revenue.

Respectfully submitted by,

/s/ Robb H. Layman  
Robb H. Layman  
Assistant Counsel

Date: January 4, 2007

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, IL 62794-9276  
Telephone: (217) 524-9137

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OF THE STATE OF ILLINOIS**

MARATHON ASHLAND PETROLEUM, LLC        )  
Gasoline Desulfurization Unit            )  
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  )     PCB 07-  
  )     (Tax Certification)  
PROPERTY IDENTIFICATION NUMBER        )  
51-34-1-21 or portion thereof            )

**APPEARANCE**

I hereby file my Appearance in this proceeding on behalf of the Illinois  
Environmental Protection Agency.

Respectfully submitted by,

/s/ Robb H. Layman

Robb H. Layman  
Assistant Counsel

Date: January 4, 2007

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2. The applicant's address is as follows:

Marathon Ashland Petroleum, LLC  
Refinery Office Building  
Robinson, Illinois 62454

3. The subject matter of this request consists of a Gasoline Desulfurization Unit, which, through a two-step process utilizing a Selective Hydrogenation Unit and a Hydrodesulfurization Unit, allows the refinery to reduce the sulfur content of its gasoline in order to comply with federal gasoline content requirements. The federal requirements are meant to remove sulfur in the gasoline pool and thereby reduce sulfur dioxide emissions caused by the use of gasoline by automobiles and other gas-powered engines.

4. Section 11-10 of the Property Tax Code, 35 ILCS 200/11-10 (2002), defines "pollution control facilities" as:

"any system, method, construction, device or appliance appurtenant thereto, or any portion of any building or equipment, that is designed, constructed, installed or operated for the primary purpose of: (a) eliminating, preventing, or reducing air or water pollution... or (b) treating, pretreating, modifying or disposing of any potential solid, liquid, gaseous pollutant which if released without treatment, pretreatment, modification or disposal might be harmful, detrimental or offensive to human, plant or animal life, or to property."

5. Pollution control facilities are entitled to preferential tax treatment, as provided by 35 ILCS 200/11-5 (2002).

6. Based on information in the application and the underlying purpose of the Gasoline Desulfurization Unit to prevent, eliminate or reduce air pollution, it is the Illinois EPA's engineering judgment that the described project and/or equipment may be

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Exhibit A attached hereto, identify the first two digits of the property's parcel number as 54. Prior tax certification requests for the refinery, as received by the Illinois EPA and eventually acted upon by the Board, have employed a parcel number whose first two digits are 51. Prior to this filing, the undersigned attorney contacted Marathon Ashland's designated representative, Mr. Dennis Baker, regarding the apparent discrepancy. Mr. Baker confirmed that the correct parcel number for this tax certification request is 51-34-1-21.

considered as “pollution control facilities” in accordance with the statutory definition and consistent with the Board’s regulations at 35 Ill. Adm. Code 125.200. **[Exhibit B]**.

7. Because the Gasoline Desulfurization Unit satisfies the aforementioned criteria, the Illinois EPA recommends that the Board **grant** the applicant’s requested tax certification.

Respectfully submitted by,

/s/ Robb H. Layman

Robb H. Layman  
Assistant Counsel

DATED: January 4, 2007

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, Illinois 62794-9276  
Telephone: (217) 524-9137

**CERTIFICATE OF SERVICE**

I hereby certify that on the 4<sup>th</sup> day of January, 2007, I electronically filed the following instruments entitled **NOTICE, APPEARANCE** and **RECOMMENDATION** with:

Dorothy Gunn, Clerk  
Illinois Pollution Control Board  
100 West Randolph Street  
Suite 11-500  
Chicago, Illinois 60601

and, further, that I did send a true and correct paper copy of the same foregoing instruments, by First Class Mail with postage thereon fully paid and deposited into the possession of the United States Postal Service, to:

Steve Santarelli  
Illinois Department of Revenue  
101 West Jefferson  
P.O. Box 19033  
Springfield, Illinois 62794

John S. Swearingen  
Marathon Ashland Petroleum  
Refinery Office Building  
Robinson, Illinois 62454

/s/ Robb H. Layman  
Robb H. Layman  
Assistant Counsel



Property & Severance Tax Department

**Marathon Petroleum Company LLC**

539 South Main Street  
Findlay, OH 45840-3295  
Telephone 419/422-2121

January 30, 2006

Mr. Don Sutton  
Bureau of Air – Number 11  
1021 North Grand Avenue – East  
Springfield, IL 62702

Re: Application for Certification Pollution Control Facility

Dear Mr. Sutton:

Prior to December 31, 2005, Marathon Petroleum Company submitted five applications for facilities at our Robinson Refinery in Crawford County, Illinois. The applications were for the following units:

- Platformer Vent Gas Scrubber
- Gasoline Desulfurization Unit (GDU)
- Steam Supply to #1 and #5 Flares
- Crude Unit Off-Gas Handling
- Ultraformer 3 F-1 and 3F-2 CEMs

Shortly after the start of the new year, I contacted Mr. Floyd McKinney and advised him that Marathon would be submitting amended applications for two of the units, the Platformer Vent Gas Scrubber and the GDU.

The amended applications are attached, please forward to Mr. McKinney and begin the review process.

If there are questions or comments, please contact me at 419-421-3759.

Thank you for your help in this matter.

Sincerely,

A handwritten signature in black ink that reads "Dennis Baker".

Dennis Baker  
Tax Agent

RECEIVED  
FEB 01 2006  
IEPA - DAPC - SPFLD

Exhibit A

APPLICATION FOR CERTIFICATION (PROPERTY TAX TREATMENT)  
 POLLUTION CONTROL FACILITY  
 AIR  WATER

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
 P. O. Box 19276, Springfield, IL 62794-9276

This Agency is authorized to request this information under Illinois Revised Statutes, 1979, Chapter, 120, Section 502a-5. Disclosure of this information is voluntary. However, failure to comply could prevent your application from being processed or could result in denial of your application for certification.

FOR AGENCY USE

File No.	Date Received	Certification No.	Date
Sec. A  APPLICANT	Company Name Marathon Petroleum Company LLC		AMENDED Person to Contact for Additional Details Debora Krupp Street Address 539 South Main Street Municipality, State & Zip Code Findlay, OH 45840 Telephone Number 419-421-4527 Municipality Township Robinson Robinson County Book Number Crawford Parcel Number Part of 54-34-1-21
	Person Authorized to Receive Certification John Swearingen		
	Street Address Refinery Office Building		
	Municipality, State & Zip Code Robinson, IL 62454		
	Telephone Number 618-544-2121		
	Location of Facility	Quarter Section Township Range	
	Street Address Route 33		
	Property Identification Number		
Sec. B  MANUFACTURING OPERATIONS	Nature of Operations Conducted at the Above Location Petroleum Refining  Gasoline Desulfurization Unit (GDU)		
	Water Pollution Control Construction Permit No. 2003-EB-3095	Date Issued May 20, 2003	
	NPDES PERMIT No. IL0004073	Date Issued Sept. 30, 1986	Expiration Date August 1, 1991
	Air Pollution Control Construction Permit No. 03030085	Date Issued July 14, 2003/Sept. 13, 2005(revised)	
	Air Pollution Control Operating Permit No. 96010007 (Title V Permit)	Date Issued November 24, 2003	
Sec. C  MANUFACTURING PROCESS	Describe Unit Process  See Attached		
	Materials Used in Process  See Attached		
Sec. D  POLLUTION CONTROL FACILITY DESCRIPTION	Describe Pollution Abatement Control Facility		
	See Attached		

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 FEB 01 2006

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Sec. E	(1) Nature of Contaminants or Pollutants			
	CONTAMINANTS	Material Retained, Captured or Recovered		
		Contaminant or Pollutant	DESCRIPTION	DISPOSAL OR USE
		Sulfur	Sulfur in gasoline	The sulfur is collected and routed to the amine units for treatment.
	(2) Point(s) of Waste Water Discharge    Waste Water Treatment Plant			
	Plans and Specifications Attached		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	(3)	Are contaminants (or residues) collected by the control facility?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	(4)	Date installation completed <u>March 2005</u> status of installation on date of application <u>95%</u>		
ACCOUNTING DATA	(5) a.	FAIR CASH VALUE IF CONSIDERED REAL PROPERTY:	\$106,404,865.27	
	b.	NET SALVAGE VALUE IF CONSIDERED REAL PROPERTY:	\$ 532,024	
	c.	PRODUCTIVE GROSS ANNUAL INCOME OF CONTROL FACILITY:	\$ 0	
	d.	PRODUCTIVE NET ANNUAL INCOME OF CONTROL FACILITY:	\$ 0	
	e.	PERCENTAGE CONTROL FACILITY BEARS TO WHOLE FACILITY VALUE:	% 11.4142%	
Sec. F	The following information is submitted in accordance with the Illinois Property Tax Code, as amended, and to the best of my knowledge, is true and correct. The facilities claimed herein are "pollution control facilities" as defined in Section 11-10 of the Illinois Property Tax Code.			
	SIGNATURE	<div style="display:flex; justify-content:space-between;"> <span>Signature    <u>John Swearingen</u></span> <span>Title    <u>Illinois Refining Division</u></span> </div>		
Sec. G	INSTRUCTIONS FOR COMPILING AND FILING APPLICATION			
	General: Separate applications must be completed for each control facility claimed. Do not mix types (water and air). Where both air and water operations are related, file two applications. If attachments are needed, record them consecutively on an index sheet.			
	Sec. A	Information refers to applicant as listed in the tax records and the person to be contacted for further details or for inspection of facilities. Define facility location by street address or legal description. A plat map location is required for facilities located outside of municipal boundaries. The property identification number is required.		
	Sec. B	Self-explanatory. Submit copies of all permits issued by local pollution control agencies. (e.g. MSD Construction Permit)		
	Sec. C	Refers to manufacturing processes or materials on which pollution control facility is used.		
	Sec. D	Narrative description of the pollution control facility, indicating that its primary purpose is to eliminate, prevent or reduce pollution. State the type of control facility. State permit number, date, and agency issuing permit. A narrative description and a process flow diagram describing the <u>pollution control facility</u> . Include a listing of each major piece of equipment included in the claimed fair cash value for real property. Include an <u>average</u> analysis of the influent and effluent of the control facility stating the collection efficiency.		
	Sec. E	List air contaminants, or water pollution substances released as effluents to the manufacturing processes. List also the final disposal of any contaminants removed from the manufacturing processes. Item (1) - Refers to pollutants and contaminants removed from the process by the pollution control facility. Item (2) - Refers to water pollution but can apply to water-carried wastes from air pollution control facilities. Submit drawings, which clearly show (a) Point(s) of discharge to receiving stream, and (b) Sewers and process piping to and from the control facility. Item (3) - If the collected contaminants are disposed of other than as wastes, state the disposition of the materials, and the value in dollars reclaimed by sale or reuse of the collected substances. State the cost of reclamation and related expense. Item (4) - State the date which the pollution control facility was first placed in service and operated. If not, explain. Item (5) - This information is essential to the certification and assessment actions. This accounting data must be completed to activate project review prior to certification by this Agency.		
	Sec. F	Self-explanatory. Signature must be a corporate authorized signature.		
		Submit to:	Attention:	Attention:
		Illinois EPA P.O. Box 19276 Springfield, IL 62794-9276	Al Keller Permit Section Division of Water Pollution Control	Donald E. Sutton Permit Section Division of Air Pollution Control

**Attachment**  
**Application for Certification (Property Tax) Pollution Control Facility**  
**Marathon Petroleum Company LLC**

Project: Gasoline Desulfurization Unit (GDU)

**Section C - Manufacturing Process**

**Describe Unit Process:**

The project is to install a Gasoline Desulfurization Unit (GDU) at the Robinson refinery to remove sulfur from petroleum fuels to meet government regulations for mandated sulfur levels in gasoline. Sulfur atoms can be attached or imbedded anywhere in the various hydrocarbon molecules and mechanical processes such as distillation can not remove this sulfur. Therefore, the following two-step GDU process is required for sulfur removal:

- Selective Hydrogenation Unit (SHU)
- Hydrodesulfurization Unit (HDS)

The feed streams for the GDU are from the Fluid Catalytic Cracking Unit (FCCU) and Light Coker Naphtha which contain almost all of the sulfur in the gasoline pool. With the use of reactors and splitters, the SHU and HDS remove sulfur from the raw material (naphtha) as it comes out of the FCCU and the Coker units. In this process, the naphtha is separated into two streams: light naphtha (low-sulfur product) and heavy naphtha (high sulfur). The goal is to reduce the sulfur content to an acceptable reading of 50 ppm or less. The desired results are achieved with the Prime-G+ Process developed by Axens.

**Materials Used in Process:**

- Naphtha
- Axens (HR806, ACT 068, HR 841, ACT 072, and ACT 845S)
- Betz Max-Amine (57c, 70b)
- Ondeo-Nalco Ec1014a
- Fuel Gas
- Lean MDEA and Rich MDEA
- Sour Water
- Hydrogen rich gas
- Steam
- SHU feed drums
- SHU reactors
- Naphtha Splitter
- HDS reactor
- HDS heater

## **Section D – Pollution Control Facility Description**

### **Describe Pollution Abatement Control Facility:**

Government mandated environmental regulations have identified sulfur in petroleum fuels as an air pollutant. It has also been state that the presence of sulfur in gasoline retards pollution control equipment on motor vehicles, thus increasing tailpipe emissions that adversely affects human health and the environment. Therefore, to eliminate the source of this contamination under “Tier 2” of the Clean Air Act, sulfur in the gasoline pool must be reduced to 30 ppm by January 1, 2006. The sole purpose of the Robinson Gasoline Desulfurization Unit (GDU) is to reduce the sulfur content in the FCCU and Light Coker Naphtha (LCN) streams with no economic benefits resulting to the refinery. The GDU was designed, constructed, installed and operated for the primary purpose of reducing the sulfur content of hydro-carbon fuels. Without such treatment of the FCCU's and Light Coker Naphthas' streams, sulfur would continue to be present in the petroleum fuels which would result in air pollution in excess of the “Tier 2” standards. Should sulfur not be removed from petroleum fuels, it will interfere with the vehicle catalytic converter's ability to remove NOx and other “critical pollutants” resulting in the creation of smog which causes lung inflammation, reduced lung function, breathing discomfort as well as damaging crops and forests.

In summary, the GDU was constructed only to meet a governmental mandate which enables the Robinson refinery to stay in business. The Robison refinery receives no economic incentives or financial benefit from the GDU. The GDU will reduce the sulfur content in naphtha from a maximum of 1,769 ppm down to an acceptable nominal sulfur content of 50 ppm, thus reducing smog and enhancing human health.

Below is an overview of the process:

## **GDU Overview**

### **SHU Feed & Preheat Section**

1. Feed drum provides surge capacity, hold up capacity & water removal
2. Hydrogen injection point to SHU feed
3. Provides temp. control for the SHU reactors

### **SHU Reactors**

1. Decrease diolefins present in the feed sources
2. Conversion of light sulfur compounds to heavy sulfur compounds
3. Minor octane increase due to isomerization of external olefins to internal olefins (higher octane number)

### **Naphtha Splitter**

1. Fractionate SHU Rx effluent into light naphtha and heavy naphtha stream

### **Purpose of First HDS Reactor**

1. Decrease sulfur in the splitter bottoms stream down to sulfur specifications

### **Second HDS Rx & Heater**

1. Complete the residual desulfurization reactions (10-15%)
2. Prevent recombination of H<sub>2</sub>S and Mercaptans to form sulfur compounds

### **74C-9 Amine Absorber**

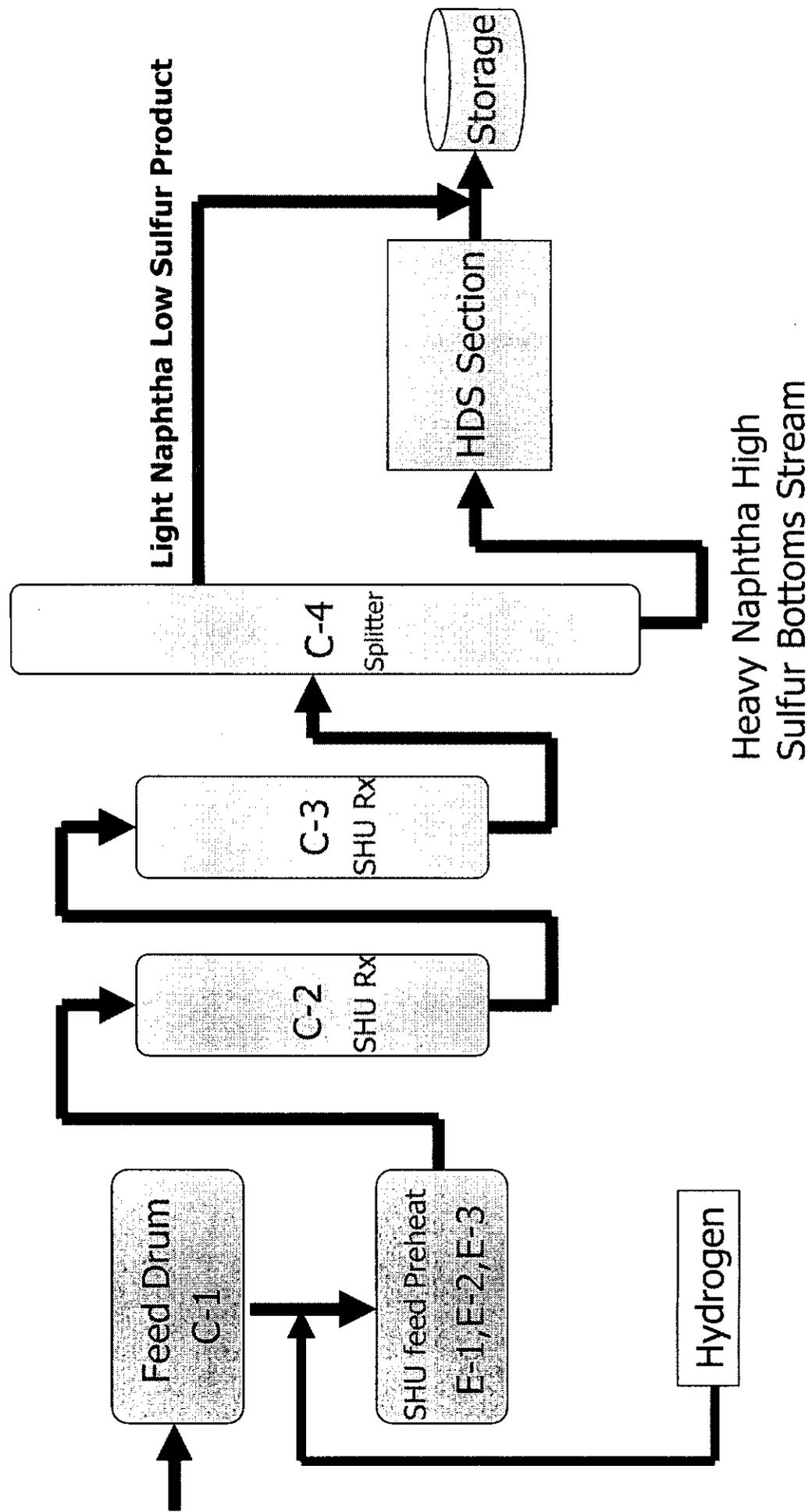
1. Uses Lean Amine to remove H<sub>2</sub>S from the recycle hydrogen stream

### **74K-1 Recycle Compressor**

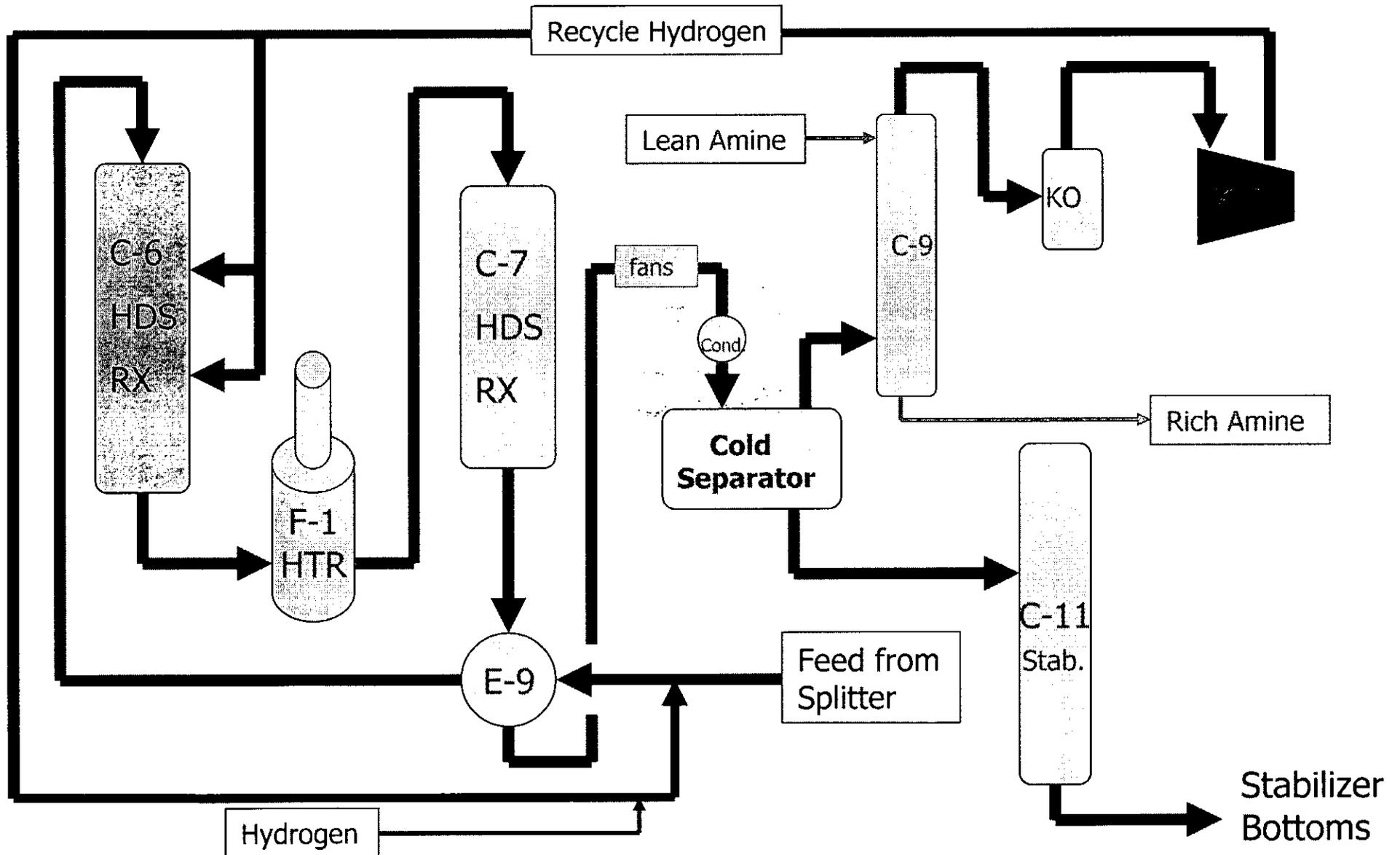
1. Takes suction from the KO drum and "recycles" the hydrogen for reuse in HDS section
2. Recycle hydrogen is used for:
  - a. Quench gas in the First HDS Rx
  - b. Treat gas to the HDS feed stream

Process flow diagrams of the SHU and HDS are attached.

# SHU Section Process Flow Diagram



# HDS Section Process Flow Diagram





ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19506, SPRINGFIELD, ILLINOIS 62794-9506 - (217) 782-2113

ROD R. BLAGOJEVICH, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

**Memorandum**

**Technical Recommendation for Tax Certification Approval**

Date: December 04, 2006

To: Robb Layman

From: Don Sutton

Subject: Marathon Petroleum Company LLC TC-06-02-01A

This Agency received a request on February 01, 2006 from Marathon Petroleum Company LLC for an Illinois EPA recommendation regarding tax certification of air pollution control facilities pursuant to 35 Ill. Adm. Code 125:204. I offer the following recommendation.

The air pollution control facilities in this request include the following:

Gasoline Desulfurization Unit(GDU) whose primary purpose is to remove Sulfur from petroleum fuels to meet government regulations for mandated Sulfur levels. The reduced Sulfur levels in turn reduces the amount of SO2 emissions. Because the primary purpose of this unit is to reduce or eliminate air pollution, it is certified as a pollution control facility.

*This facility is located at Route 33, Robinson, Crawford County*  
The property identification number is Part of 54-34-1-21

Based on the information included in this submittal, it is my engineering Judgement that the proposed facility may be considered "Pollution Control Facilities" under 35 IAC 125.200(a), with the primary purpose of eliminating, preventing, or reducing air pollution, or as otherwise provided in this section, and therefore eligible for tax certification from the Illinois Pollution Control Board. Therefore, it is my recommendation that the Board issue the requested tax Certification for this facility.

*Exhibit B*