

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

WRB REFINING, LLC)	
Gasoline Hydrotreater)	
)	
)	PCB 12-
)	(Tax Certification - Air)
PROPERTY IDENTIFICATION NUMBER)	
19-1-08-35-00-000-001 or portion thereof)	

NOTICE

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

[Service by mail]
 Michael Kemp
 WRB Refining, LLC
 404 Phillips Building
 Bartlesville, Oklahoma 74004

[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: November 28, 2011

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**

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19-1-08-35-00-000-001 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: November 28, 2011

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RECOMMENDATION

NOW COMES the ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (“Illinois EPA”), through its attorneys, and pursuant to 35 Ill. Adm. Code 125.204 of the ILLINOIS POLLUTION CONTROL BOARD’S (“Board”) procedural regulations, files the Illinois EPA’s Recommendation in the above-referenced request for tax certification of pollution control facilities. The Illinois EPA recommends **issuance** of a tax certification covering the subject matter of the request. In support thereof, the Illinois EPA states as follows:

1. On or about October 14, 2010, the Illinois EPA received an application and supporting information from WRB REFINING, LLC, (“WRB Refining”) concerning the proposed tax certification of certain air emission sources and/or equipment located at its Wood River petroleum refinery in Madison County, Illinois. A copy of the application is attached hereto. **[Exhibit A]**.

2. The applicant’s principal business address is as follows:

WRB Refining LLC
404 Phillips Building
Bartlesville, Oklahoma 74004

3. The facility address is as follows:

WRB Refining LLC
900 South Central Avenue
P.O. Box 76
Roxana, Illinois 62084

4. The subject matter of this request involves the installation of a hydrotreater to enable the refinery to remove sulfur from the heavy gasoline stream produced by the Fluid Catalytic Cracker Unit (“FCCU”) and thereby comply with the stricter requirements previously put into place by the United States Environmental Protection Agency for reformulated gasoline. The Gasoline Hydrotreater employs a fixed bed hydrotreating catalyst, hydrogen, high pressure and high temperature to process the FCCU stream into a stable, low-sulfur gasoline product used for blending with finished gasoline. The system acts to prevent or reduce emissions of sulfur oxides from the gasoline pool supplied to consumers for use in automobiles and other gasoline-powered engines. Secondly, the improved quality of low-sulfur gasoline allows consumers to make use of more advanced emission control systems for gasoline engines, which can result in lower emissions of nitrogen oxides and particulate matter.

5. 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.”

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

7. Based on information in the application and the underlying purpose of the Gasoline Hydrotreater to prevent, eliminate or reduce air pollution, it is the Illinois EPA’s engineering judgment that the various systems, constructions, devices and/or buildings or equipment from the project relating to air pollution control may be 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]**.

8. Because the substantive components of the application for the Gasoline Hydrotreater satisfies the aforementioned criteria, the Illinois EPA recommends that the Board **issue** the applicant’s requested tax certification.

Respectfully submitted by,

/s/ Robb H. Layman

Robb H. Layman
Assistant Counsel

DATED: November 28, 2011

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 28th day of November, 2011, I electronically filed the following instruments entitled **NOTICE, APPEARANCE** and **RECOMMENDATION** with:

John Therriault, Assistant 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

Michael Kemp
WRB Refining, LLC
404 Phillips Building
Bartlesville, Oklahoma 74004

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

POLLUTION CONTROL FACILITY - CONTAMINANTS	Sec. E (1) Nature of Contaminants or Pollutants		
			Material Retained, Captured or Recovered
	Contaminant or Pollutant	DESCRIPTION	DISPOSAL OR USE
	Sulfur oxides (SOx)	Hydrogen Sulfide	Recovered and converted to solid elemental sulfur.
	Sec. E (2) Point(s) of Waste Water Discharge		
			Plans and Specifications Attached Yes <input type="checkbox"/> No <input checked="" 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>10/04/97</u> status of installation on date of application <u>100%</u>	
ACCOUNTING DATA	(5) a.	TOTAL INSTALLED COST	\$ 31,800,000.00
	b.	NET SALVAGE VALUE IF CONSIDERED REAL PROPERTY:	\$ 190,800.00
	c.	PRODUCTIVE GROSS ANNUAL INCOME OF CONTROL FACILITY:	\$ 0.00
	d.	PRODUCTIVE NET ANNUAL INCOME OF CONTROL FACILITY:	\$ 0.00
	e.	PERCENTAGE CONTROL FACILITY BEARS TO WHOLE FACILITY VALUE:	% To Be Determined
SIGNATURE	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.		
		<u>Ken C. Gray</u> Signature	<u>DIRECTOR - PTRRC</u> Title
INSTRUCTIONS	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 pollution control facility. Include a listing of each major piece of equipment included in the claimed fair cash value for real property. Include an average 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

**APPLICATION FOR CERTIFICATION (PROPERTY TAX TREATMENT)
POLLUTION CONTROL FACILITY
WRB – Wood River Refinery**

Project: Gasoline Hydrotreater (GHT)

Section C – Manufacturing Process

Process Description:

The Wood River Refinery Gasoline Hydrotreater (GHT) Project was implemented to reduce the emission of sulfur oxides (SOx) pollution from the use of gasoline.

The timing and extent of the gasoline sulfur reduction was set to meet the US EPA requirements for Reformulated Gasoline which went into effect January 1, 1998. Prior to the Reformulated Gasoline requirements, gasoline produced by the Wood River Fluid Catalytic Cracking (FCC) units was routed to gasoline blending with no reduction in sulfur content. The Reformulated Gasoline mandate required the Wood River Refinery to install equipment to deeply hydrotreat approximately 30% of the FCC produced gasoline.

The Fluid Catalytic Cracker Unit (FCC or CCU) is a process that uses heat and a catalyst to break large hydrocarbon molecules into smaller, more useful molecules. The solid FCC catalyst is similar in texture and size to sugar. This catalyst can be fluidized by passing air, steam, or hydrocarbon vapors through the catalyst. In the FCC process, the feed stream which contains large hydrocarbon molecules is heated and mixed with hot regenerated catalyst at the bottom of a reactor riser. The hot catalyst vaporizes the feed producing a fluidized catalyst/oil mixture which flows up the reactor riser. The large oil molecules break into a wide range of smaller molecules in the reactor riser. At the top of the riser, the hydrocarbon vapors are separated from the catalyst by cyclones in the reactor. The hydrocarbons flow to a distillation column where they are condensed and separated by boiling range. A full range of products are produced including fuel gas, LPG, gasoline, diesel, and heavy oil. Coke is laid down on the catalyst as a byproduct of the cracking reaction in the reactor. The coked (spent) catalyst separated in the reactor cyclones drops into a stripping section where steam is used to remove any light hydrocarbons that remain on the catalyst before sending the catalyst to the regenerator. In the regenerator air is blown through the catalyst to burn the coke off the catalyst making it suitable to send back to the reactor.

Due to the presence of sulfur in the FCC feed stream, the FCC products also contain sulfur. The GHT Project modified the FCC gasoline system and the Column 6 Distillation Tower to produce a Heavy FCC gasoline stream. Production of a Heavy FCC gasoline stream allowed the Wood River Refinery to meet the Reformulated Gasoline requirements by deeply hydrotreating only 30% of the FCC produced gasoline.

The GHT unit uses hydrogen, fixed bed hydrotreating catalyst, high pressure, and elevated temperature to remove sulfur from Heavy FCC gasoline. The Heavy FCC gasoline feed stream is mixed with hydrogen, heated, and sent to the reactor. In the reactor, the gasoline contacts fixed bed hydrotreating catalyst which removes the sulfur from the gasoline and converts it to H₂S. The reactor effluent is cooled via heat recovery exchangers and routed to a recovery/stabilization section where light material is recovered and sent to the Sats Gas Plant for further processing. The stabilized low sulfur gasoline product is routed to storage for blending into finished gasoline. A simplified process flow diagram for the GHT unit is attached.

Materials Used in Process:

FCC gasoline

Hydrogen

Catalysts

Steam

Hot Oil Heat Medium

Section D – Pollution Control Facility Description

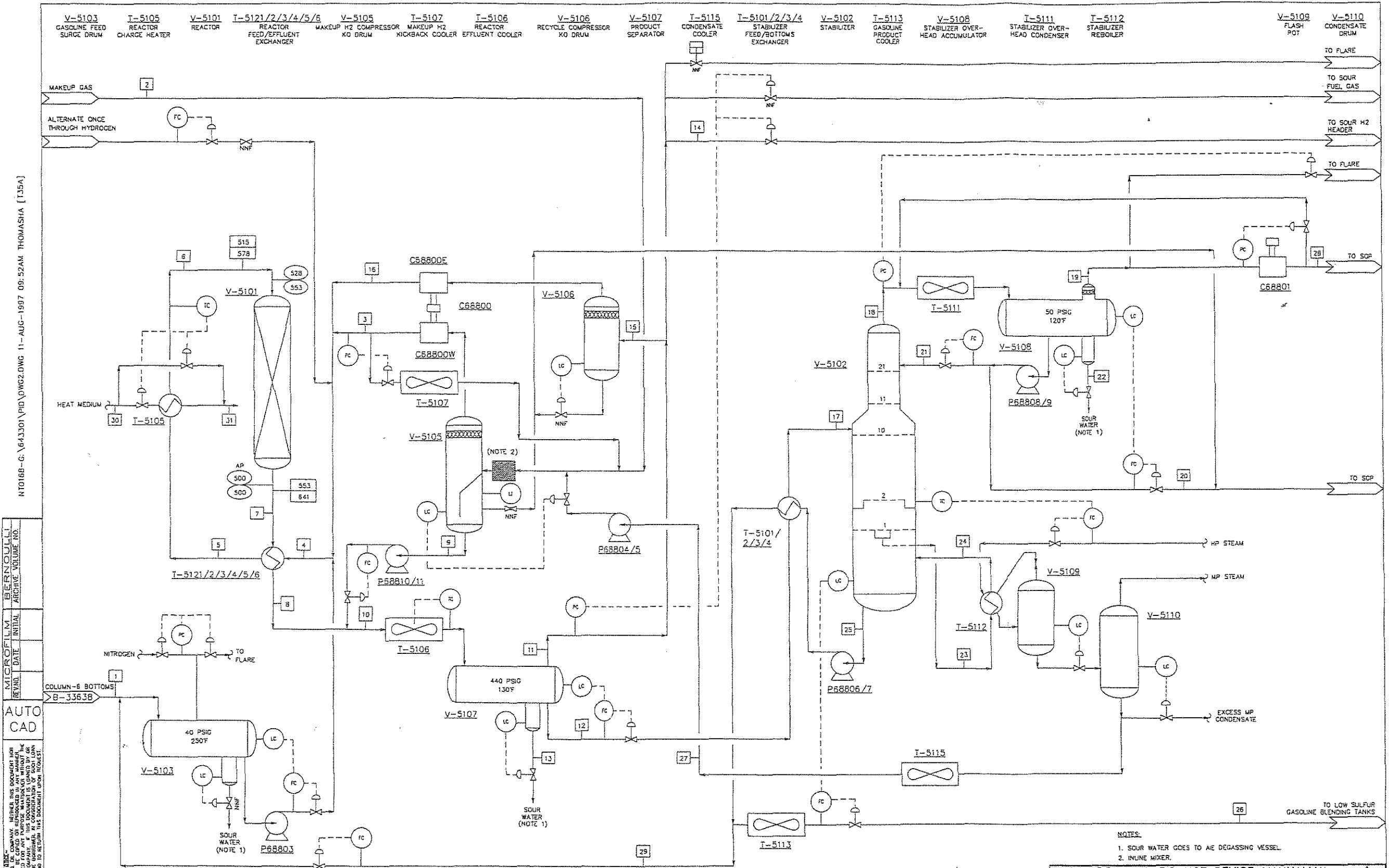
The Wood River Refinery Gasoline Hydrotreater (GHT) Project was implemented solely to reduce air pollution due to SO_x, NO_x, and particulates. By removing sulfur from a gasoline stream, this Pollution Control Facility reduces the emission of sulfur oxides (SO_x) pollution from the use of gasoline. Prior to the Reformulated Gasoline requirements, gasoline produced by the Wood River Fluid Catalytic Cracking (FCC) units was routed to gasoline blending with no reduction in sulfur content. This project installed a pollution control facility which allowed the Wood River Refinery to deeply hydrotreat and thus eliminate the sulfur from approximately 30% of the FCC produced gasoline. This pollution control facility directly prevents the emission to the atmosphere of approximately 2,800 tons per year of SO_x.

Also, the production of low sulfur gasoline allows gasoline engines to be fitted with advanced emission control systems that would otherwise be poisoned by sulfur. These advanced emission control systems can greatly reduce emissions of oxides of nitrogen and particulate matter. Thus, low sulfur gasoline is a necessary and integral part of the automotive pollution reduction system.

Thus, this project provides pollution control in two ways. First, the project directly reduces SO_x pollution by removing sulfur from the gasoline product. Second, the project provides the gasoline quality necessary for reducing emissions of oxides of nitrogen and particulate matter through the use of advanced emission control systems in gasoline engines.

The sulfur recovered by this pollution control facility does generate some revenue for the Wood River Refinery, but the costs to operate the pollution control facility are greater than this revenue and thus this pollution control facility results in no net income for the Wood River Refinery

In summary, the Wood River Refinery Gasoline Hydrotreater (GHT) Project was implemented solely to reduce SO_x, NO_x, and particulate pollution.



NT0168-G:\643301\PIB\DWG2.DWG 11-AUG-1997 09:52AM THOMASHA [135A]

MICROFILM	BERNOULLI
REVNO.	INITIAL
DATE	ARCHIVE VOLUME NO.

AUTO CAD

THIS DOCUMENT IS THE PROPERTY OF SHELL OIL COMPANY. IT IS TO BE KEPT IN CONFIDENTIALITY AND NOT TO BE LOANED, REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF SHELL OIL COMPANY. IT IS TO BE DESTROYED UPON THE REQUEST OF SHELL OIL COMPANY. IT IS TO BE KEPT IN CONFIDENTIALITY AND NOT TO BE LOANED, REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF SHELL OIL COMPANY. IT IS TO BE DESTROYED UPON THE REQUEST OF SHELL OIL COMPANY.

- P68803 CHARGE PUMP
- P68804/5 CONDENSATE PUMPS
- C68800F H2 RECYCLE CYLINDER
- C68800W H2 MAKEUP CYLINDER
- P68806/7 STABILIZER BOTTOMS PUMPS
- P68808/9 STABILIZER REFLUX/TOP PUMPS
- P68810/11 CONDENSATE BOOSTER PUMPS
- C68801 STABILIZER VENT GAS COMPRESSOR

LEGEND

	TEMPERATURE, F		STREAM NUMBER
	PRESSURE, PSIG		NORMALY NO FLOW
	ANCHOR POINT		

NOTES:

- SOUR WATER GOES TO AIE DEGASSING VESSEL.
- INLINE MIXER.

CAD DRAWING-DO NOT REVISE MANUALLY

DATE	24APR97	REVISION	REMOVE HCU & CDU VENTS
ACCT. NO.		NO. OR. CK	

SHELL WOOD RIVER REFINING COMPANY

WOOD RIVER MFG. COMPLEX

CCG SULFUR REDUCTION PROJECT
GASOLINE HYDROTREATER (GHT)
DESIGN CASE
PROCESS FLOW DIAGRAM

UNIT CODE: _____

SCALE: _____

B-33639 REV 2

FORM PFD.DWG REV. 10-2-95 KJS

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY



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

PAT QUINN, GOVERNOR

Technical Recommendation for Tax Certification Approval

Date: November 18, 2011
To: Robb Layman
From: Edwin C. Bakowski *EB*
Subject: WRB Refining, LLC. TC-10-10-14AE

This Agency received a request on October 14, 2010 from WRB Refining, 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 Hydrotreater Project (GHT) which removes Sulfur from the gasoline stream produced by the fluid catalytic cracking unit (FCC). The gasoline Hydrotreater project modifies the FCC gasoline system which reduces SOX emissions. Because the primary purpose of this system is to reduce or eliminate air pollution, it is certified as a pollution control facility.

This facility is located at 900 South Central Avenue, Roxana, Madison County
The property identification number is 19-1-08-35-00-000-001

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.

FEM:psj

Exhibit B