

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

WRB REFINING, LLC)
Coker Blowdown System Off-Gas Recovery)
)
) PCB 12-
) (Tax Certification - Air)
PROPERTY IDENTIFICATION NUMBER)
19-1-08-35-00-000-001 or portion thereof)

NOTICE

TO: [Electronic filing] [Service by mail]
John Therriault, Assistant Clerk Michael Kemp
Illinois Pollution Control Board WRB Refining, LLC
State of Illinois Center 404 Phillips Building
100 W. Randolph Street, Suite 11-500 Bartlesville, Oklahoma 74004
Chicago, Illinois 60601

[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

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

WRB REFINING, LLC)	
Coker Blowdown System Off-Gas Recovery)	
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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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**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD
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Coker Blowdown System Off-Gas Recovery)	
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19-1-08-35-00-000-001 or portion thereof)	

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 consists of a project designed to recover off-gases generated from the off-line coke drums associated with the Delayed Coker Unit of the refinery. As described in the application, effluent from the off-line coke drums is run through the Coker Blowdown System, which leaves a remaining mixture of non-condensable steam, hydrocarbons, hydrogen sulfides and ammonia. These off-gases have been routed to a flare system in the past, rather than recovered. However, new federal regulations governing refining operations are requiring recovery of the off-gases, which will be accomplished through the installation of three recovery compressors. The liquid ring compressors are each equipped with an affiliated discharge drum, circulating water cooler, piping and instrumentation. The compressors will also act to reduce pressure in the off-line drums that will reduce a vapor stream found at the opening of the drum vent. The vapor stream is suspected of containing potential hydrocarbons, hydrogen sulfides and ammonia that would otherwise be vented to the atmosphere. The off-gases captured by the compressors will be sent to the Delayed Coker gas recovery facility for recovery, where hydrogen sulfide will be converted to elemental sulfur and the ammonia is converted nitrogen gas and released.

5. The new off-gas recovery compressors will result in the reduction or prevention of various off-gasses, including hydrocarbons, hydrogen sulfides and ammonia, that might otherwise be flared or emitted to the atmosphere.¹

6. 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

¹ It should be noted that parallels can be drawn from a similar vent gas recovery project recommended for tax certification by the Illinois EPA, and ultimately granted by the Board, in July of this year. See, *Marathon Petroleum Company, LLC*, PCB No. 12-6 (Vent Gas Recovery Project)(Property Identification No. 51-34-021-001)(July 21, 2011).

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.”

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

8. Based on information in the application and the underlying purpose of the Coker Blowdown System Off-Gas Recovery project 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]**.

9. Because the substantive components of the application for the Coker Blowdown System Off-Gas Recovery to Flares 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

***** PCB 12-076 *****
 APPLICATION FOR CERTIFICATION (PROPERTY TAX TREATMENT)
 POLLUTION CONTROL FACILITY
 AIR WATER

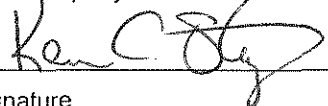
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
 P. O. Box 19276, Springfield, IL 62794-9276

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 WRB Refining LLC				
	Person Authorized to Receive Certification Michael Kemp		Person to Contact for Additional Details Gordon Terhune		
	Street Address 404 Phillips Building		Street Address 900 S. Central Ave., P.O. Box 76		
	Municipality, State & Zip Code Bartlesville, OK 74004		Municipality, State & Zip Code Roxana, IL 62084		
	Telephone Number (918) 661-9055		Telephone Number (618) 255-2876		
	Location of Facility Quarter Section	Township	Range	Municipality	Township
	Street Address 900 S. Central Ave.		County Madison	Book Number	
	Property Identification Number		Parcel Number 19-1-08-35-00-000-001		
	Sec. B MANUFACTURING OPERATIONS	Nature of Operations Conducted at the Above Location Petroleum Refining			
Water Pollution Control Construction Permit No.		Date Issued			
NPDES PERMIT No. IL0000205		Date Issued 04/14/04	Expiration Date 04/14/09		
Air Pollution Control Construction Permit No. 06050052		Date Issued 08/05/08			
Air Pollution Control Operating Permit No. 95120306		Date Issued 11/07/03			
Sec. C MANUFACTURING PROCESS	Describe Unit Process See Coker Blowdown System Off Gas Recovery Project Attachment.				
	Materials Used in Process See Coker Blowdown System Off Gas Recovery Project Attachment.				
Sec. D POLLUTION CONTROL FACILITY DESCRIPTION	Describe Pollution Abatement Control Facility See Coker Blowdown System Off Gas Recovery Project Attachment.				

Exhibit A

POLLUTION CONTROL FACILITY - CONTAMINANTS ACCOUNTING DATA	Sec. E (1) Nature of Contaminants or Pollutants			
			Material Retained, Captured or Recovered	
	Contaminant or Pollutant	DESCRIPTION	DISPOSAL OR USE	
	Light Hydrocarbons, including VOC & HAPs	Hydrocarbons	Recovered and converted to products	
	Hydrogen sulfide (H2S)	H2S	Converted to elemental sulfur & sold	
	Ammonia (NH3)	NH3	Converted to N2 gas	
	(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>04/01/11</u> status of installation on date of application <u>80%</u>			
(5)	a. TOTAL INSTALLED COST	\$ 22,971,186.00		
	b. NET SALVAGE VALUE IF CONSIDERED REAL PROPERTY:	\$ 229,711.00		
	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.		
	 Signature		DIRECTOR - PTRRC 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 <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

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

Project: Coker Blowdown System Off Gas Recovery Project

Section C – Manufacturing Process

Process Description:

The Delayed Coking Unit (DCU) employs a semi-batch process in which heavy oil vacuum residue from the Vacuum Unit is thermally cracked to lighter products and a solid petroleum coke. The feedstock to the DCU is heated to coking temperature by process heat recovery and a coking furnace and then transferred to one of a pair of coke drums. The coke drum provides residence time for the cracking reactions and coke formation to take place. While the on-line coke drum is in service, coke is removed from the off-line drum. When the on-line drum is full of coke, the furnace effluent is transferred to the now empty and preheated off-line drum.

A sequence of steps is necessary to remove the coke fill from the off-line drum. Hydrocarbons are first stripped from the coke bed with steam. Quench water is then injected into the bottom of the drum to begin cooling the coke. When the cooling is complete, the top of the drum is vented to atmosphere and the quench water is drained to the coke pit below the drum. The coke is next removed from the drum by cutting it with high pressure water jets. The coke plus cutting water drain to the coke pit. The air in the now empty coke drum is displaced by injecting steam into the bottom of the drum. The drum vent is closed, and a pressure test is conducted with steam to ensure that the drum is now fully isolated from the atmosphere. Finally, the drum is warmed by back-flowing some of the vapors from the on-line drum back through it. When the drum is sufficiently heated and the on-line drum is full, the furnace effluent is routed to the empty drum and the sequence above is repeated for the drum that is full of coke.

The operating steps above on the off-line drum produce a steam, water, and hydrocarbon effluent. The effluent from the drum is routed to the Closed Blowdown System, which condenses most of the material as heavy slop oil, water, or light slop oil. The remaining effluent is essentially a non-condensable mixture of light hydrocarbons, steam, hydrogen sulfide (H₂S), and ammonia (NH₃). Historically, this off gas was routed to a flare for disposal because recovery and reprocessing of this material is not economical due to the low volume and low pressure of the streams and the high cost of recovery. However, new environmental regulations including the Consent Decree and 40 Code of Federal Regulations Subpart Ja require this off gas be recovered. For the primary purpose of reducing pollution due to flaring emissions, the Wood River Refinery is installing a pollution control facility consisting of three liquid ring compressors to recover the off gas from the Closed Blowdown System.

Another environmental concern with the operating steps on the off-line drum is the opening of the drum vent to atmosphere prior to draining the quench water. The vapors in the top of the drum prior to venting should be essentially steam, as substantial stripping of hydrocarbons out of the coke bed has occurred prior to the venting step. However, due to tightening environmental regulations, there is increasing concern that there may be some hydrocarbons, H₂S, and NH₃ in the vent stream. The best control device to ensure that any pollutants in the vent stream are not released to atmosphere is to reduce the pressure in the drum as far as practical prior to opening of the vent. The Closed Blowdown System recovery compressors do this task as well.

Gases compressed by the Closed Blowdown System recovery compressors are routed to the inlet of the main compression section of the Delayed Coker gas recovery plant and are recovered. The recovered H₂S is converted to elemental sulfur, a low valued product and the recovered NH₃ is converted to nitrogen gas and released.

Materials Used in Process:

Petroleum coke
Hydrocarbon vapors and gases
H₂S
Steam
Water

Section D – Pollution Control Facility Description

The Closed Blowdown System Off Gas Recovery Compressors consist of three liquid ring compressor packages. Each package includes a compressor, discharge drum, circulating water cooler, and piping and instrumentation.

The Closed Blowdown System Off Gas Recovery Compressors recover light hydrocarbons, hydrogen sulfide (H₂S), and ammonia (NH₃) which would otherwise be combusted in a flare. Thus, the Off Gas Recovery Compressors prevent SO_x and NO_x pollution from being emitted from the flare to atmosphere.

In addition, the Closed Blowdown System Off Gas Recovery Compressors recover light hydrocarbons, H₂S, and NH₃ which would otherwise be vented directly to atmosphere when the off-line coke drum is vented. Thus, the Off Gas Recovery Compressors prevent H₂S, NH₃, and Volatile Organic Carbon (VOC) pollution from being emitted directly to atmosphere.

Thus, the sole purpose of the Closed Blowdown System Off Gas Recovery Compressors is to reduce emission of pollutants to the atmosphere. This reduction in emission of pollutants is required by new environmental regulations including the Consent Decree and 40 Code of Federal Regulations Subpart Ja. The hydrocarbon 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




ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR

Memorandum

Technical Recommendation for Tax Certification Approval

Date: November 28, 2011
To: Robb Layman
From: Ed Bakowski 
Subject: WRB Refining LLC TC-10-14-10N

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:

Coker Blowdown System Off-Gas Recovery, which recovers various off-gases from the Coker Blowdown System and thereby reduces or prevents emissions that would otherwise be flared or emitted to the atmosphere. Because the primary purpose of this system is to reduce or prevent air pollution, it can be certified as a pollution control facility.

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

Based on the information included in this submittal, it is my engineering judgment 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