

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

WRB REFINING, LLC )  
MACT II Compliance Project for Fluid Catalytic )  
Cracking Unit No. 1 )  
 ) PCB 14-  
 ) (Tax Certification - Air)  
PARCEL NUMBER )  
19-1-08-35-00-000-001 or portion thereof )

**NOTICE**

TO: [*Electronic filing*]  
John Therriault, 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: December 12, 2013

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**

WRB REFINING, LLC	)	
MACT II Compliance Project for Fluid Catalytic	)	
Cracking Unit No. 1	)	
	)	PCB 14-
	)	(Tax Certification - Air)
PARCEL NUMBER	)	
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: December 12, 2013

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	)	PCB 14-
	)	(Tax Certification - Air)
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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 involves a valve modification to the Fluid Catalytic Cracking Unit (“FCCU”) No. 1, which was constructed and installed to enable the refinery to assure compliance with federal environmental regulations and enhance environmental safety. The main component of the MACT II Compliance Project for the FCCU No. 1 is a MACT II valve, a reference to standards promulgated by USEPA in its National Emissions Standards for Hazardous Air Pollutants. Based on the application, the valve acts as a tighter shut-off to piping to ensure that carbon monoxide from the regenerator flue gas does not leak continuously to the atmosphere. *See*, Exhibit A, Attachment at Section D. In addition to the improved shut-off capabilities, the new valve also incorporated controls to comply with MACT’s requirements for continuously monitoring whether flow is present in the by-pass line, which confirms that the valve position is closed. *Id.* Lastly, the valve potentially alleviates particulate matter emissions that would occur during an unplanned shutdown of the carbon monoxide (“CO”) heater (i.e., furnace used to complete combustion process in the cracking operations). *Id.* at Sections C and D. The absence of the valve would necessitate a shutdown of the FCCU No. 1 operations during any brief CO heater malfunction, thus resulting in catalyst emissions to the atmosphere in excess of normal operation. *Id.*

5. The tighter shut-off capabilities and enhanced monitoring of the new MACT II valves, together with the potential avoidance of flue gas emissions during shutdown of the CO heater, enable the refinery to reduce or prevent emissions of carbon monoxide and particulate matter that would otherwise be emitted to the atmosphere, and therefore prevents or reduces air pollution.

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 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 MACT II Compliance Project for FCCU No. 1 to prevent or reduce air pollution, it is the Illinois EPA’s engineering judgment that MACT II valves and related appurtenances 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]**. In keeping with prior recommendations in similar matters, the Illinois EPA would expect any preferential tax treatment, as determined by the Department of Revenue in separate proceedings, to address only the incremental costs associated with the MACT II valves in relation to conventional valve systems.

9. Because the applicant's request concerning the MACT II Compliance Project for FCCU No. 1 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: December 12, 2013

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 12<sup>th</sup> day of December, 2013, I electronically filed the following instruments entitled **NOTICE**, **APPEARANCE** and **RECOMMENDATION** with:

John Therriault, 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

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.

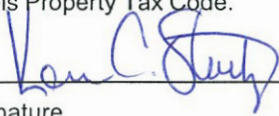
FOR AGENCY USE

File No. Date Received Certification No. Date

APPLICANT	Sec. A	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		
	MANUFACTURING OPERATIONS	Sec. B	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.		Date Issued		
		Air Pollution Control Operating Permit No. 95120306		Date Issued 11/07/03		
MANUFACTURING PROCESS	Sec. C	Describe Unit Process  See CCU-1 MACT II Compliance Project attachment.				
		Materials Used in Process  Heavy Oil, Catalyst, Air, Steam				
POLLUTION CONTROL FACILITY DESCRIPTION	Sec. D	Describe Pollution Abatement Control Facility  See CCU-1 MACT II Compliance Project attachment.				

Exhibit A



Sec. E	(1) Nature of Contaminants or Pollutants				
			Material Retained, Captured or Recovered		
		DESCRIPTION	DISPOSAL OR USE		
	Contaminant or Pollutant				
	Particulates	Catalyst	Retained		
	Carbon Monoxide	CO2	To atmosphere		
POLLUTION CONTROL FACILITY -- CONTAMINANTS ACCOUNTING DATA	(2) Point(s) of Waste Water Discharge				
	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>11/15/03</u> status of installation on date of application <u>100%</u>			
	(5)	a. TOTAL INSTALLED COST	\$ 803,000.00		
		b. NET SALVAGE VALUE IF CONSIDERED REAL PROPERTY:	\$ 0.00		
		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		
	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		<u>DIRECTOR - PTRRC</u> Title			
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.			
	INSTRUCTIONS	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: CCU-1 MACT II Compliance Project

Section C – Manufacturing Process

Process Description:

The Wood River Refinery has 2 Fluid Cat Cracking Units, CCU-1 and CCU-2. Fluid Cat Cracking is a refinery process that uses heat and a catalyst to break large hydrocarbon molecules into smaller, more useful molecules. The solid catalyst flows like a fluid between a reactor and regenerator. Oil is heated and mixed with regenerated catalyst in a reactor/riser. The large oil molecules break into a wide range of smaller molecules in the riser and 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 the catalyst suitable to send back to the reactor. This burning of coke generates heat used in the reactor. Regenerated catalyst is separated from the flue gas from the regenerator by another set of cyclones. Under normal operation the combustion process does not go completely to CO<sub>2</sub>, so the flue gas contains a mixture of CO and CO<sub>2</sub>. In order to complete the combustion process the flue gas is routed to the combustion chamber of a furnace called the CO Heater where more air and fuel is added to fully convert the CO to CO<sub>2</sub> and produce steam for use both in the unit and in the refinery. In case of a CO Heater malfunction, a valve, called the MACT II Valve, on the flue gas line upstream of the CO Heater can be opened to route the CO containing flue gas to the atmosphere while another valve in the flue gas line closes to stop the flue gas flow to the CO Heater. See attached sketch which shows the position of the MACT II valve.

The MACT II valve allows the CCU to continue safely operating at reduced throughput while the CO Heater malfunction is corrected. If the CO Heater malfunction can not be corrected in a timely manner, the MACT II valve allows the CCU to be safely shut down. If the MACT II valve was not present or not functioning, any CO Heater malfunction would require an immediate and unplanned shutdown of the CCU. During such a shutdown, catalyst emissions to air are greater than during normal CCU operation and greater than catalyst emissions with the MACT II valve open.

Section D – Pollution Control Facility Description

This project installed a Pollution Control Facility to prevent CO pollution and particulate pollution to air.

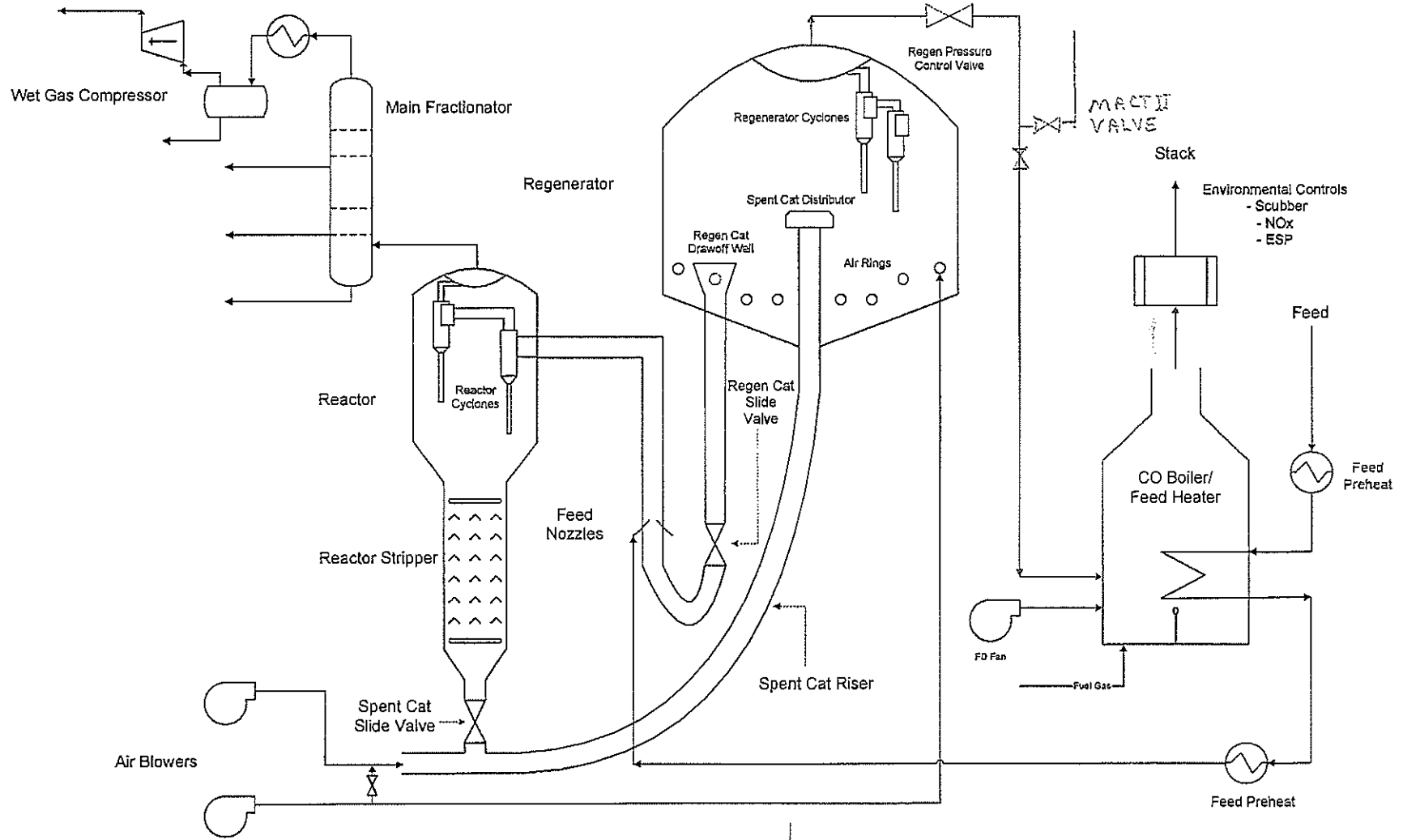
This project installed a new tight shutoff MACT II valve to ensure that CO containing regenerator flue gas is not continually leaking to atmosphere. The project also installed controls on the MACT II valve to comply with National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations that requires a device on the bypass valve to continuously detect whether flow is present in the bypass line. A valve position monitor to confirm the valve is closed complies with the regulation.

This project also reduces particulate pollution to air by installing a reliable MACT II valve. If the MACT II valve was not present or not functioning, any CO Heater malfunction would require an immediate and unplanned shutdown of the CCU. During such a shutdown, catalyst emissions to

air are greater than during normal CCU operation and greater than catalyst emissions with the MACT II valve open.

Thus, this project reduces CO pollution to air by installing a new tight shutoff MACT II valve and by installing controls to ensure the valve is closed and reduces catalyst emissions by installing a reliable MACT II valve to prevent unplanned CCU shutdowns during a brief CO Heater malfunction.

This project was completed solely to reduce air pollution. The Wood River Refinery receives no financial benefit due to this project.





## ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217)782-2829

PAT QUINN, GOVERNOR

LISA BONNETT, DIRECTOR

### Memorandum

#### Technical Recommendation for Tax Certification Approval

Date: December 6, 2013

To: Robb Layman, Assistant Counsel

From: Jim Ross, <sup>gr</sup> Division Manager

Subject: WRB Refining, LLC, **TC-10-14-10B**

The Illinois EPA 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. In consultation with my staff, I approve the following recommendation:

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

MACT II Compliance Project for FCCU No. 1, which consists of the installation of MACT II shut-off valves on piping equipment at the refinery, which will act to prevent or reduce emissions of carbon monoxide and particulate matter emissions that would otherwise be emitted to the atmosphere. Because the primary purpose of the valves is to reduce or prevent air pollution, and enables the source to comply with federal environmental regulations, 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 the Division of Air Pollution Control's engineering judgment that the proposed facility may be considered "Pollution Control Facilities" under 35 IAC 125.200(a), with the primary purpose of preventing or reducing air pollution, or as otherwise provided in this section, and is therefore eligible for tax certification from the Illinois Pollution Control Board. Therefore, it is the Illinois EPA's recommendation that the Board issue the requested tax certification for this facility.

Exhibit B