UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

APR 15 2014

REPLY TO THE ATTENTION OF:

Ms. Anne Haaker, SHPO/Deputy Director
Illinois Historic Preservation Agency
1 Old State Capitol Plaza
Springfield, Illinois 62701-1512

Re: Consultation Under Section 106 of the National Historic Preservation Act for an Air Permitting Project Proposed by the University of Illinois at Urbana-Champaign

Dear Ms. Haaker:

The U.S. Environmental Protection Agency has reviewed the cultural resources assessment for the University of Illinois at Urbana-Champaign's Abbott Power Plant boiler replacement project. The proposed project requires a federal air permit under the Prevention of Significant Deterioration of air quality (PSD) permitting program, 40 C.F.R. § 52.21. EPA has delegated to the Illinois Environmental Protection Agency (IEPA) authority to issue PSD permits in Illinois.

In accordance with the provisions of the National Historic Preservation Act (NHPA), EPA has determined that the proposed project is an "undertaking" as defined in 36 C.F.R. § 800.16(y). Consequently, EPA has initiated the Section 106 review process. The purpose of this letter is to (1) provide an overview of the undertaking; (2) describe the Area of Potential Effects (APE) and present EPA's findings regarding historic properties located within that area; and (3) request your concurrence on our determination that no historic properties will be adversely affected by the project.

Overview of the Undertaking

The University of Illinois at Urbana-Champaign is proposing to install two new boilers at its Abbott Power Plant located at 1117 South Oak Street, Champaign, Illinois, within Section 13, Township 19 North, Range 8 East. The new boilers will be fueled with natural gas, with distillate fuel oil as backup, and will replace three existing boilers (#2, #3 and #4) and their support systems. The new boilers will be installed inside an existing building that was originally constructed in 1941. The project is subject to federal air permitting requirements under the PSD program due to its projected emissions of greenhouse gases (predominantly carbon dioxide).

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper (50% Postconsumer)

Area of Potential Effects

For purposes of this undertaking, the APE is the geographic area or areas where the proposed boiler replacement project may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. 36 C.F.R. § 800.16(d). EPA has determined the APE for this undertaking to be the area within a one-mile radius of the project site. In accordance with 36 C.F.R. § 800.4(b)(1), EPA and the applicant have taken "reasonable and good faith" efforts to identify historic properties within the APE. Based on these efforts, EPA finds that there are at least nine (9) listed university-owned properties and sixty-seven (67) additional "eligible" buildings that are located within the APE.

Finding of No Adverse Effect

Pursuant to 36 C.F.R. § 800.5(b), EPA is making a determination of "No Adverse Effect" for the undertaking because the undertaking's effects do not meet the criteria specified in 36 C.F.R. § 800.5(a)(1). Specifically, EPA has determined that the undertaking will not alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. The project will not cause any of the adverse effects listed at 36 C.F.R. § 800.5(a)(2). In particular, the project will not cause physical destruction or damage to any part of a listed or eligible property within the APE, and the increase in emissions due to the project will not introduce visual or atmospheric elements that diminish the integrity of any property's significant historic features.

By this letter, EPA is fulfilling its obligations pursuant to Section 106 of the NHPA for the University of Illinois at Urbana-Champaign's boiler replacement project permitting action that is currently before IEPA. If you have any questions with respect to this letter or disagree with this determination, please contact me at (312) 353-4761, or David Ogulei, of my staff, at (312) 353-0987.

Sincerely,

Genevieve Damico

Genevieve Damico
Chief
Air Permits Section

Enclosure: University of Illinois at Urbana-Champaign NHPA Section 106 Assessment

Ogulei, David

From: Skvarla, Melvyn [mskvarla@illinois.edu]
Sent: Monday, April 14, 2014 8:35 PM
To: Ogulei, David
Cc: Malvestuto, Tracy Michelle
Subject: RE: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements - Prevention of Significant Deterioration (PSD) for greenhouse gases only

Importance: High

Dr. Ogulei:

I understand Ms. Malvestuto earlier this morning sent you a "draft" of the project description and other related materials. The map I attached is for the buildings on our campus (University of Illinois at Urbana-Champaign) only. The area north of the top street (where the "leader line of the One Mile Radius" designation touches an east-west street) is University Avenue and our campus does not go further north than University Avenue, nor does it go any further west than the Illinois Central raised railroad tracks immediately west of the Abbott Power Plant. The areas west of the railroad tracks and north of University Avenue are all in the City of Champaign and out of my jurisdiction and are mostly residential in nature.

There may be some fraternity and sorority houses along with some apartment buildings and churches intermixed among some of our campus buildings, but if the CO^2 will not have any adverse effects on any of our buildings, in my opinion, this would also be true for any and all of these buildings whether they are shown on not.

I understand Anne Haaker is already "signing off" on my letter.

Should you have any other questions, or concerns, please do not hesitate to contact me.

Melvyn

From: Ogulei, David [mailto:Ogulei.David@epa.gov]
Sent: Monday, April 14, 2014 7:44 AM
To: Skvarla, Melvyn
Cc: Malvestuto, Tracy Michelle
Subject: RE: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements - Prevention of Significant Deterioration (PSD) for greenhouse gases only

Melvyn,

Could you send me a copy of the project description that you submitted to the IEPA with the PSD application? The project description should include additional details on the project including the number and size (heat input) of the proposed boilers and the estimated net increase in emissions.

David Ogulei, Ph.D., P.E.
U.S. Environmental Protection Agency
Region 5 | Air & Radiation Division | AR-18J
77 West Jackson Blvd. | Chicago, Illinois 60604
Phone: (312) 353-0987 | Fax: (312) 692-2080

Ogulei.David@epa.gov

From: Skvarla, Melvyn [mailto:mskvarla@illinois.edu]
Sent: Saturday, April 12, 2014 5:41 PM
To: Ogulei, David
Cc: 'Haaker, Anne'; Malvestuto, Tracy Michelle; Christy, Ted
Subject: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements - Prevention of Significant Deterioration (PSD) for greenhouse gases only

Dear Mr. Ogulei;

Attached herewith is my letter, dated April 11, 2014, on the above subject: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements - Prevention of Significant Deterioration (PSD) for greenhouse gases only stating no adverse effect as to the CO^2 on our officially listed National Register properties and "eligible" properties that are within a one mile radius of our Abbott Power Plant (see attached map) and requesting expedited concurrence of same from Anne Haaker, the Deputy Illinois State Historic Preservation Officer.

Should you have any questions or concerns, please do not hesitate to contact me.

Melvyn A. Skvarla
Campus Historic Preservation Officer
Architect and Capital Planner
Capital Programs at Urbana
University of Illinois at Urbana-Champaign
Facilities and Services, Planning Division
115i, Physical Plant Services Building, (PPSB)
1501 South Oak Street, M/C 800
Champaign, Illinois 61820-6905

Telephone: (217) 265-6133

Ogulei, David

From: Malvestuto, Tracy Michelle [malvestu@illinois.edu]
Sent: Monday, April 14, 2014 9:04 AM
To: Ogulei, David; Skvarla, Melvyn
Subject: RE: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements - Prevention of Significant Deterioration (PSD) for greenhouse gases only
Attachments: Project Summary 4_9_14.pdf; Project Summary Netting Exercise.pdf

Good Morning David –

Attached, please find the DRAFT Project Summary. I have also included the netting exercise submitted with the University's permit application that shows the emission increases for both phases of the boiler replacement project.

Please let me know if you have any other questions or require any additional information.

Thank you,
Tracy

From: Ogulei, David [mailto:Ogulei.David@epa.gov]
Sent: Monday, April 14, 2014 7:44 AM
To: Skvarla, Melvyn
Cc: Malvestuto, Tracy Michelle
Subject: RE: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements - Prevention of Significant Deterioration (PSD) for greenhouse gases only

Melvyn,

Could you send me a copy of the project description that you submitted to the IEPA with the PSD application? The project description should include additional details on the project including the number and size (heat input) of the proposed boilers and the estimated net increase in emissions.

David Ogulei, Ph.D., P.E.
U.S. Environmental Protection Agency
Region 5 | Air & Radiation Division | AR-18J
77 West Jackson Blvd. | Chicago, Illinois 60604
Phone: (312) 353-0987 | Fax: (312) 692-2080
Ogulei.David@epa.gov

From: Skvarla, Melvyn [mailto:mskvarla@illinois.edu]
Sent: Saturday, April 12, 2014 5:41 PM
To: Ogulei, David
Cc: 'Haaker, Anne'; Malvestuto, Tracy Michelle; Christy, Ted
Subject: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements - Prevention of Significant Deterioration (PSD) for greenhouse gases only

Dear Mr. Ogulei;

Attached herewith is my letter, dated April 11, 2014, on the above subject: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements - Prevention of Significant Deterioration (PSD) for greenhouse gases only stating no adverse

effect as to the CO^2 on our officially listed National Register properties and "eligible" properties that are within a one mile radius of our Abbott Power Plant (see attached map) and requesting expedited concurrence of same from Anne Haaker, the Deputy Illinois State Historic Preservation Officer.

Should you have any questions or concerns, please do not hesitate to contact me.

Melvyn A. Skvarla
Campus Historic Preservation Officer
Architect and Capital Planner
Capital Programs at Urbana
University of Illinois at Urbana-Champaign
Facilities and Services, Planning Division
115i, Physical Plant Services Building, (PPSB)
1501 South Oak Street, M/C 800
Champaign, Illinois 61820-6905

Telephone: (217) 265-6133

April 9, 2014

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
Springfield, Illinois

Project Summary for a
Construction Permit Application from the
University of Illinois at
Urbana-Champaign (UIUC) for
Two Boilers at Its
Abbott Power Plant in
Champaign, Illinois

Facility Identification No.:	019010ADA
Application No.:	13120041
Date Initially Received:	December 30, 2013

Schedule

Additional Public Comment Period Begins: ??
Additional Public Comment Period Closes: ??

Illinois EPA Contacts

Permit Analyst:	Bob Smet
Community Relations Coordinator:	Brad Frost

I. INTRODUCTION

The University of Illinois at Urbana-Champaign (UIUC) has applied for an air pollution control construction permit for two new boilers at its existing central steam plant located southwest of the main campus. The new boilers would be fired on natural gas and oil. The new boilers would replace three existing boilers.

The Illinois EPA has reviewed UIUC's application and made a preliminary determination that the application for the proposed project meets applicable requirements.

The Illinois EPA has prepared a draft of the construction permit that it would propose to issue for the proposed boilers. Prior to issuing any permit, the Illinois EPA is holding a public comment period to receive comments on this proposed action and the terms and conditions of the draft permit.

II. PROJECT DESCRIPTION

The two new boilers that would combust natural gas and fuel oil to supply steam to the university campus, as well as to generate electricity. The primary fuel would be natural gas. Distillate fuel oil would be a backup fuel to address possible interruptions and curtailments in the supply of natural gas.

The two boilers would be constructed in phases. In the first phase, two existing natural gas/oil-fired boilers would be dismantled and removed and the first new boiler would be constructed. In the second phase, the third existing boiler would be dismantled and removed, and the second new boiler would be constructed.

The new boilers would be located at UIUC's existing steam plant, the Abbott Power Plant. This plant supplies steam to the campus as well as generates some of the electricity used by the campus.

III. PROJECT EMISSIONS

The potential emissions from the new boilers are listed below. The potential emissions reflect the maximum emission rates and operation of the new boilers that would be allowed by the draft permit. The actual emissions of the boilers will be less than these potential emissions. In particular, the new boilers would not normally operate at their maximum capacity. The actual emissions of the boilers will also be lower to the extent that they operate with a reasonable margin of compliance from permitted emission rates.

Potential Emissions of the New Boilers (Tons Per Year)	
Pollutant	Emissions
Nitrogen Oxides (NOx)	??
Carbon Monoxide (CO)	??
Particulate Matter (PM)	??
Particulate Matter$_{10}$ (PM_{10})	??

Particulate Matter$_{2.5}$ ($PM_{2.5}$)	??
Volatile Organic Material (VOM)	??
Sulfur Dioxide (SO_2)	??
Greenhouse Gases (GHG), as CO_2e[1]	??

Champaign County is an attainment area. As such, the applicability of the federal rules for Prevention of Significant Deterioration of Air Quality (PSD), 40 CFR 52.21, must be considered for this proposed project. Because UIUC is an existing major source for purposes of PSD, this project must be reviewed to see whether it is a major modification for any regulated NSR pollutants under the PSD rules. This review shows that this project is only a major modification for greenhouse gases (GHG). Accordingly, the substantive requirements of the PSD rules only apply to this project for GHG. For other regulated NSR pollutants, the "net increases" or "increases" or in emissions are below the respective PSD significant emission rates under the PSD rules, 40 CFR 52.21(b)(23)(i).

For emissions of NOx, PM_{10} and $PM_{2.5}$ from these pollutants, as summarized in the table below, UIUC evaluated the net increases in emissions with this project to show that the project would not result in significant net increases in emissions. Thus, this project is not a major modification for NOx, PM_{10} and $PM_{2.5}$ under the PSD rules. This "netting analysis" was conducted by UIUC because the potential emissions of the proposed boilers are more than the relevant significant emission rates under the PSD rules. This analysis considered the decreases in actual emissions that will be contemporaneous with this project from the permanent shutdown of the three existing natural gas and oil fired boilers at the Abbott Power Plant.[2] Considering these decreases in emissions, this project will not result in significant net increases in emissions of NOx, PM_{10} and $PM_{2.5}$. This is what one would reasonably expect since the primary fuel of these boilers is natural gas, the new boilers will have modern burner systems and the heat input capacity of the new boilers will be less than the total capacity of the existing boilers.

---

[1] CO_2e or carbon dioxide equivalents are the means used by USEPA to address the combined emissions of the compounds that are regulated under the Clean Air Act as greenhouse gases (GHG). Values for global warming potential (GWP) of compounds other than CO_2 have been developed to account the effect that the emissions of those compounds have on global warming compared to CO_2. For these GHG compounds other than CO_2, the mass of emissions of the compound must be multiplied by their GWP to calculate their equivalent mass as CO_2, expressed as CO_2e. The emissions of CO_2 and other GHG compounds in CO_2e are then summed to provide a single value for GHG emissions as CO_2e.

[2] Three existing natural gas-fired boilers will be removed from service at the same time that the proposed boilers are to be constructed. Aside from the requirement to avoid PSD applicability, the existing boilers must physically be dismantled before installation of the new boilers because the new boilers will occupy the same physical location as the existing boilers. The decreases in emissions that will result from the permanent shutdown of these existing boilers were determined as the "baseline emissions" of these boilers, that is, the average actual annual emissions of these boilers during the 24-month period from _____, 20xx through _____ 20xx, during which period all these boilers operated.

Net Changes in Emissions of NOx, PM_{10}, $PM_{2.5}$ and GHG (tons/year)[3]					
Pollutant	Project Emissions	Contemporaneous Changes in Emissions		Net Increase	Significant Emission Rate
		Decreases	Increases		
NOx	??	??	---	??	40
PM_{10}	??	??	---	??	15
$PM_{2.5}$	??	??	---	??	10
GHG, as CO_2e	??	??	---	---	75,000

The potential emissions of other regulated NSR pollutants from this project, including emissions of CO, PM, VOM and SO_2 are all below the applicable significant emission rates in the PSD rules. For example, the potential PM emissions of the new boilers are only ??? tons/year, which is less than the applicable significant emission rate, 25 tons/year. As such, this project is not a major modification for any of these other pollutants.

IV. APPLICABLE EMISSION STANDARDS

UIUC's application for the proposed project shows that the new boilers will comply with applicable federal and state emission standards, including applicable federal emission standards adopted by the USEPA (40 CFR Parts 60 and 63) and the emission standards of the State of Illinois (35 Ill. Adm. Code: Subtitle B, Subchapter c).

The boilers will be designed to comply with requirements of the federal New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60 Subpart Db.[4] In addition, the new boilers would also be designed to comply with the applicable requirements of the federal National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63 Subpart JJJJJJ. The Illinois EPA administers the NESHAP in Illinois on behalf of the EPA under a delegation agreement.

V. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) AND BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

As already discussed, the proposed project is a major modification under the federal rules for the Prevention of Significant Deterioration (PSD), 40 CFR 52.21, for emissions of greenhouse gases (GHG). A project that is subject to PSD for a pollutant must control emissions of that pollutant with Best Available Control Technology (BACT). UIUC has provided a BACT demonstration in its application addressing the GHG emissions of the new boilers and showing that the boilers will utilize BACT for GHG emissions. Air quality analyses were not conducted for GHG because USEPA has not

[3] Emissions of VOM, SO_2 and CO are not addressed in the netting analysis. This is because the emissions of these pollutants from the proposed project are below their respective significant emission rates under the PSD rules, i.e., 40, 40 and 100 tons/year, for VOM, SO_2 and CO.

[4] The Illinois EPA administers the federal NSPS in Illinois on behalf of the USEPA under a delegation agreement.

adopted National Ambient Air Quality Standards (NAAQS) or PSD increments for GHG.

BACT is defined by Section 169(3) of the federal Clean Air Act as:

> An emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental and other costs, determines is achievable for such facility through application of production processes and available methods, systems and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant.

BACT is generally set by a "Top-Down Process." In this process, the most effective control option that is available and technically feasible is assumed to constitute BACT for a particular unit unless the energy, environmental and economic impacts associated with that control option are found to be excessive. A demonstration of BACT for GHG was provided in the permit application. The Illinois EPA's proposed determination of BACT by the Illinois EPA is discussed in Attachment 1 to this Project Summary.

The draft permit includes proposed BACT limits, which have generally been determined based on the following:

- Information provided by the applicant;
- The demonstrated ability of similar equipment to meet the proposed emission limits or control requirements;
- Review of emission limits and requirements for other boilers as reflected in USEPA's *RACT/BACT/LAER Clearinghouse*.

An important resource for BACT determinations is USEPA's *RACT/BACT/LAER Clearinghouse* (Clearinghouse), a national compendium of control technology determinations maintained by USEPA. Other documents that are consulted include general information in the technical literature and information on other similar or related projects that are proposed or have been recently permitted. For the proposed boilers, another important resource for the BACT determinations was USEPA's current NSPS rulemakings for GHG emissions of utility boilers.

The Illinois EPA is proposing that the BACT technology for GHG emissions from the boilers be a combination of design and operational practices that enhance the thermal efficiency of the boilers reducing the amount of fuel that is used for each pound of steam that is produced, thereby lowering GHG emissions. Implementation of good combustion practices would be required. Distillate oil would be restricted to use as a backup fuel.[5]

The BACT limit for GHG is proposed to be set at <u>either</u> 0.203 pounds of CO_2e per pound of steam or ??? pounds of CO_2 per pound of steam. The

[5] The carbon content of distillate oil is higher than that of natural gas. On a heat input basis, the CO_2 emissions of distillate oil are about 36 percent higher than those of natural gas (159 lbs/mmBtu compared to 117 lbs/mmBtu).

Illinois EPA is seeking comments on whether the limit should be set to address all GHG, in terms of CO2e, or whether CO2 can be used as a surrogate for GHG emissions, as it constitute the bulk of the GHG. As discussed further in Attachment 1, the Illinois EPA is proposing that the technology for BACT for the boilers for GHG be:

~~(a) Control of emissions through design and operation of the boiler for energy efficiency, including the following: feedwater economizer, variable frequency drive forced draft fans, oxygen analyzer/combustion control systems, and heat recovery from condensate and boiler blowdown.(CO2, N20 and CH4)~~

~~(b) Good combustion practices. (CH4).~~

~~(c) Use of distillate fuel only a back-up fuel.~~

~~The proposed BACT limit for GHG for each boiler would be 0.203 lb CO_2e/lb of steam, annual average, rolled monthly. Other option?~~

~~(f) Each of the boilers shall be designed to achieve a thermal efficiency of 82% (HHV).~~

VII. DRAFT PERMIT

The Illinois EPA has prepared a draft of the construction permit that it would propose to issue for the new boilers. The conditions of the permit set forth the emission limits and the air pollution control requirements that the boilers must meet. These requirements include the applicable emission standards that apply to the boilers. They also include the measures that must be used and the emission limits that must be met for emissions of different regulated pollutants from the boilers.

In addition to annual limits on emissions, the permit includes short-term emission limits and operational limits, as needed to provide practical enforceability of the annual emission limits.

The permit would also establish appropriate compliance procedures for the project, including requirements for fuel certification upon delivery (i.e., sulfur content of fuel to the boilers), emission testing, required work practices, operational monitoring (e.g., fuel usage), recordkeeping, and reporting. These measures are imposed to assure that the operation and emissions of the facility are appropriately tracked to confirm compliance with the various limits and requirements established for individual units.

VIII. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that the application for the proposed boilers meets applicable state and federal air pollution control requirements, subject to the conditions in the draft permit. The Illinois EPA is therefore proposing to issue a construction permit for the boilers.

Comments are requested on this proposed action by the Illinois EPA and the conditions of the draft permit.

ATTACHMENT 1

BACT Discussion for Greenhouse Gases (GHG)

Introduction

The University of Illinois Urbana-Champaign (UIUC) has proposed to construct two boilers to maintain the energy supply for its main campus. The boilers would be institutional-scale boilers with a nominal rated capacity of 242 million Btu per hour for natural gas and 228 million Btu per hour for oil. Natural gas would be the primary fuel. Low sulfur distillate oil would be a back-up fuel. UIUC needs a back-up fuel for these boilers to be able to continue to provide steam to the campus in the event of interruptions or curtailments in its natural gas supply. Steam is critical for the campus to maintain normal operation of the various educational and research facilities at the campus and, in winter months, to prevent damage due to freezing. UIUC has proposed to restrict use of distillate oil by the boilers on an annual basis to no more than 200,000 gallons.[6] In the event of an interruption in the natural gas supply to the boilers, this would accommodate operation of one of the boilers on oil for about five days.

As a general matter, the new boilers are needed to maintain a reliable supply of steam to the campus. The new boilers will replace three boilers that are at the end of their useful life. The capacity of the new boilers is less than the capacity of the boilers that they will replace. The combined capacity of the new boilers is about 486 mmBtu/hour (243 mmBtu/hour each). The combined capacity of the three existing boilers that are being replaced is about ???? mmBtu/hour. UIUC currently implements an energy conservation program that has achieved a significant reduction in utility costs for a large number of campus buildings.

The steam from the new boilers will be able to be used for cogeneration of electricity in the existing steam turbine generators at the Abbott Power Plant.[7] The boilers would make high pressure steam at 850 pounds per square inch (psig). This is compatible with the existing steam turbine generators at the Abbott Power Plant so that the steam can be used for generation of electricity before being sent to the various low pressure steam systems that supply the campus.[8]

---

[6] Distillate oil for the new boilers would be stored in the existing fuel oil storage tanks that serve the Abbott Power Plant.

[7] From an energy perspective, cogeneration or "combined heat and power" is more efficient that using separate units to generate electricity and heat. This is because the low quality thermal energy that remains after generation of electricity is used productively for heating. As a consequence, less fuel needs to be used to produce the same amounts of useful energy.

The potential application of cogeneration at a source is constrained by the nature of the heating and the electrical loads of the source. The heating loads determine the amounts of thermal energy that would potentially be available for generation of electricity. The electric loads determine how much of that electricity could actually be used by the source.

[8] Steam from the new boilers could be sent directly to the existing high pressure, 850 psig steam turbine generators at the Abbott Power Plant or, after going through a reduction valve, to the existing low pressure, 325 psig steam turbine generators.

From the turbine generators at the plant, low-pressure steam is sent to the campus. It returns to the plant as condensate, liquid water, for reuse in the boilers.

The emissions of greenhouse gases (GHG) of the boilers are due to the combustion of fuel. Over 99 percent of these emissions will be carbon dioxide (CO_2), due to the carbon contained in the natural gas and oil that is burned in the boilers. The boilers will also emit small amounts of nitrous oxide (N_2O) and methane (CH_4).[9]

The Illinois EPA is proposing that the BACT technology for GHG emissions from the boilers for GHG be a combination of design and operational practices that enhance the thermal efficiency of the boilers reducing the amount of fuel that is used for each pound of steam that is produced, thereby lowering GHG emissions. Implementation of good combustion practices would be required. Distillate oil would be restricted to use as a backup fuel.

The BACT limit for GHG is proposed to be set at <u>either</u> 0.203 pounds of CO_2e per pound of steam or ??? pounds of CO_2 per pound of steam. The Illinois EPA is seeking comments on whether the limit should be set to address all GHG, in terms of CO_2e, or whether CO_2 can be used as a surrogate for GHG emissions, as it constitute the bulk of the GHG. In either case, the limit would apply on an annual average, rolled monthly. This is appropriate to account for the normal variability in the operational efficiency of a boiler. In addition, considerations of air quality impacts do not support a limit that would apply on a shorter averaging time.

A discussion of the Illinois EPA's evaluation of BACT for GHG emissions for the new boilers, using the USEPA's Top-Down BACT Process,[10] follows.

Top-Down BACT Process - Step 1:
Identify Available Control Technologies

The available control technologies for GHG emissions that have been identified for the new boilers are as follows.[11]

1. Improved Energy Efficiency.

2. Good Combustion Practices.

9

	Emissions of the First Boiler				Emissions of Two Boilers			
Pollutant	Tons/year		Tons/year, as CO_2e		Tons/year		Tons/year, as CO_2e	
	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil
CO_2	124,897	2,230	124,897	2,230	??	2,230	??	2,230
N_2O	0.67	0.03	206.5	8.06	??	0.03	??	8.06
CH_4	2.39	0.02	50.3	0.45	??	0.02	??	0.45
Subtotals			125,153.8	2,238.5				2,238.5
Totals			127,392.3					

[10] Refer to Chapter B, Best Available Control Technology, in the USEPA's draft *New Source Review Workshop Manual*, USEPA, Office of Air Quality Planning and Standards, October 1990 (NSR Manual).

[11] Cogeneration or combined heat and power was not addressed as an available control technology for the proposed boilers. This is because it is part of the project as proposed by UIUC. In addition, while cogeneration improves energy efficiency on an overall basis, it does not act to reduce the emissions of a source when compared to operation to only generate steam for heating and cooling.

3. Alternative "Low Carbon" Back-Up Fuel.[13]
4. Carbon Capture and Sequestration (CCS).

Top-Down BACT Process - Step 2:
Elimination of Technically Infeasible Options

1. Improved Energy Efficiency

The CO_2 emissions of the boilers can be reduced by proper design, operation and maintenance of the boilers for improved fuel and energy efficiency. Energy efficient design considerations include air inlet operational controls, heat recovery, condensate recovery, and blowdown heat recovery.

Improved fuel efficiency will also reduce emissions of N_2O and CH_4 as they are associated with combustion of fuel.

Energy efficient design and operation are technically feasible.

2. Good Combustion Practices

"Good combustion practices" is a term to generally describe the practices that are used for a boiler or other combustion device to reduce emissions of pollutants that are products of incomplete combustion, i.e., organic compounds and carbon monoxide (CO). It is relevant for GHG as it serves to improve the combustion efficiency of a boiler as it reduces emissions of CO and as it directly serves to reduce emissions of methane. Good combustion practices are feasible for any boiler. In this regard, USEPA has relied on good combustion practices as the technology to address emissions of organic hazardous air pollutants for boilers in 40 CFR 63 Subparts DDDDD and JJJJJJ, the National Emission Standards for Hazardous Air Pollutants (NESHAP) for boilers and certain other fuel combustion units.

3. Alternative "Low Carbon" Fuel

A back-up fuel containing less carbon than distillate oil is not technically feasible. Distillate oil is the existing back-up fuel used for the natural gas-fired boilers in the Abbott Power Plant. Adequate quantities of distillate oil can be safely stored for long periods of time pending need for its use. Liquefied petroleum gas (LPG) would be the only alternative fuel.[13] It cannot be used because of the risks that would be present with storage of LPG.

UIUC has proposed to restrict the role of distillate oil to a backup fuel in the event of interruption or curtailment of the supply of natural gas. UIUC has not requested authorization to use a set amount of distillate oil in the new boilers irrespective of the reason or circumstances. Accordingly, the analysis of BACT need not consider further restricting the circumstances in

---

[11] UIUC selected natural gas as the primary fuel for the boilers. Natural gas has the lowest-carbon content of any commercially available fuel. As such, the selection of natural gas for use in boilers is not further addressed.
[13] The carbon content of LPG is lower than that of distillate oil. On a heat input basis, the CO_2 emissions of LPG are about 147 lbs/mmBtu compared to 159 lbs/mmBtu for distillate oil.

which oil may be used in the boilers and the potential reduction in the usage of oil and GHG emissions that would result.[14]

4. Carbon Capture and Sequestration (CCS)

Carbon Capture and Sequestration (CCS) could theoretically be used to control the CO_2 emissions of the boilers. CCS consists of the capture or collection of the CO_2 from a source, processing of the collected CO_2 for transport, the actual transport of the CO_2, and finally the sequestration or geological disposal of the CO_2. These technologies are generally in their infancy and still in the process of being developed.[15] There are significant technical and logistical hurdles that would have to be overcome for CCS to be used for the proposed boilers. Technology for the capture of CO_2 emissions from gas-fired institutional boilers has not been developed much less demonstrated. To then sequester CO_2, a suitable geological reservoir for sequestration would have to be identified. Appropriate property would have to be acquired above this reservoir, along with the legal rights to sequester CO_2 under that property and the surrounding area far enough out to accommodate the CO_2 captured from the plant over its lifetime. Appropriate permits would have to be obtained to develop the sequestration facility and then sequester CO_2. Lastly, a right-of-way would have to be acquired to construct the pipeline to connect the plant to the sequestration facility. These factors suggest that CCS is generally not a feasible control technology for the proposed kilns.[16]

With regard to technical feasibility of CCS for a proposed project, USEPA indicates in its *PSD and Title V Permitting Guidance for Greenhouse Gases* (GHG Permitting Guidance) that:

> …CCS may be eliminated from a BACT analysis in Step 2 if the three components working together are deemed technically infeasible for the proposed source, taking into account the integration of the CCS components with the base facility and site-specific considerations (e.g., ….access to suitable geologic reservoirs for sequestration, or other storage options).
> USEPA, GHG Permitting Guidance, p. 35

UIUC examined the use of pre-combustion systems, post-combustion systems and oxy-combustion as means to produce a more purified CO_2 stream that could

---

[14] If UIUC had requested authorization to use a fixed amount of oil annually irrespective of the circumstances, it would have been appropriate to further consider whether the amount of oil that would be permitted or the circumstances in which it would be allowed be used should be addressed as an element of BACT for GHG.

[15] In actual practice, commercial applications of CCS have involved sources that normally produce very pure streams of CO_2, such as from the initial processing of raw natural gas or coal gasification. In addition, they are situated in or near places where the CO_2 can be beneficially used for enhanced oil recovery in the petroleum industry. Otherwise, CCS is being pursued as part of demonstration projects that are supported by government funding.

[16] When considering if a control technology is technically feasible, it must be applicable. A control technology is applicable if it can reasonably be installed and operated on the type of source under consideration. If a given technology has not been used on the emission unit, thought should be given on transferring technology from similar gas streams with the same physical and chemical properties.

potentially be captured, transported and sequestered. Since the low-carbon fuel for the boilers is natural gas, there is no need to utilize a pre-combustion system, such as that which is used to convert gasified coal into a synthesis gas. Post-combustion systems that extract the CO_2 from the boilers' flue gases are still in their development. Likewise, oxy-combustion, whereby a higher concentration of oxygen rather than air is combusted with the natural gas fuel to produce a CO_2 stream is also in its early stages of development.

In addition, for CCS technology to be considered feasible, consideration should also be given to:

(1) Land acquisition;

(2) The need for funding as a demonstration project;

(3) Transportation infrastructure; and

(4) Developing a site for long term storage.

CCS as a control technology is not feasible. The requirements above are potentially valid for a purified CO_2 stream. In the case of a contaminated flue gas stream, i.e., made up of many pollutants, the transport of such a stream would not meet pipeline delivery specifications. In order to do so, the gas stream would have to be "cleansed" of those non-CO_2 contaminants but such technologies are still under development.

The Illinois EPA concurs that CCS is not a technically feasible control technology for the new boilers.

Top-Down BACT Process - Step 3:[17]
Rank the Remaining Control Technologies by Control Effectiveness

All feasible control technologies would be required in combination. Accordingly, a ranking of these technologies is not necessary.

Top-Down BACT Process - Step 4:[18]
Evaluate the Most Effective Controls

All feasible control technologies would be required so an evaluation of the impacts of the different technologies is not necessary.

Top-Down BACT Process - Step 5:
Select BACT

The Illinois EPA reviewed BACT determinations for a number of new gas-fired boilers, like the proposed boilers, as listed in the table at the end of this attachment. Only two determinations, a BACT determination for a new boiler at

[17] In Step 3 of the Top-Down BACT Process, a ranking of the feasible control technologies is prepared in order of their ability to reduce emissions of the target pollutant.
[18] In Step 4 of the Top-Down BACT Process, the energy, environmental and economic impacts of feasible control technologies may be evaluated to determine whether particular technologies should be rejected as BACT because of the energy, environmental and economic impacts that would accompany use of those technologies.

an industrial facility proposed by Indiana Gasification, directly addressed the energy efficiency of the boiler.[19,20] This determination required that the boiler achieve a thermal efficiency of 81 percent.

The proposed GHG BACT for the new boilers is:

1. Boiler design for energy efficiency, including the following: feedwater economizer, forced draft fans, oxygen firing controls, and the following energy efficient design features: air inlet controls, heat recovery, condensate recovery, and blowdown heat recovery.

2. Good combustion practices.

3. Use of oil being restricted to a back-up fuel.[21]

CO_2 emissions from each boiler would be limited to 0.203 pounds of CO_2e per pound of steam.

(Thermal efficiency: 80% (HHV). ~~HOW DOES COGEN FIT IN?~~

This analysis focuses on the emissions of CO_2. While methane and nitrous oxide are present, there are not add-on control technologies that target the emissions of these pollutants from natural gas fired boilers. As measures would be required that would reduce fuel usage, emissions of these GHGs other than CO_2 would also be reduced. CO_2 can serve as an appropriate surrogate for other GHGs.

---

[19] The other BACT determinations were not informative. They simply reflect use of natural gas. The BACT limits are simply emission rate(s) or emission factor(s) that applies to combustion of natural gas, typically in pounds per million Btu per heat input or in other similar terms. As such, these BACT limits do not directly address energy efficiency of the boilers.

[20] Incidentally, none of the determinations of BACT for other new boilers specified use of control technologies for GHG that are different than proposed for UIUC's new boilers. GHG emissions are controlled by good combustion practices.

[21] While the draft permit would limit the annual usage of oil to 200,000 gallons, this is not proposed to be part of the BACT determination.

BACT Determinations for Greenhouse Gases (GHG) for Gas-fired Boilers
(from USEPA's *RACT/BACT/LAER Clearinghouse* and copies of certain permits available at the websites of State permitting authorities.

RBLC ID	Facility	Date	Type and Number of Boilers	Rated Heat Input (mmBtu/hr, each) and Fuel	BACT	
					Limit	Identified BACT Technology
-	UIUC	-	Institutional Boilers (2)	242/218 (gas/oil)	??	Energy Efficient Design Good Combustion Practices
T147-32322-0062	Ohio Valley Resources	09/25/13	Auxiliary Boiler	218 Natural gas	CO_2: 59.61 ton/mmcf, 3-hr ave. Thermal Efficiency: 80%, HHV basis**	Good Combustion Practices Limit on Fuel Usage
IA-0106	CF Industries Nitrogen	7/12/13	Industrial Boilers (2)	456 Natural gas*	CO_2: 117 lb/mmBtu	Proper Operation Use of Natural Gas
IA-0105	Iowa Fertilizer	10/26/12	Auxiliary Boiler	472 Natural gas*	CO_2: 117 lb/mmBtu CH_4: 0.0023 lb/mmBtu N_2O: 0.0006 lb/mmBtu CO_2e: 638 tpy	Good Combustion Practices
TX-0628	BASF Total Petro-chemicals	8/24/12	Industrial Boilers (2)	425 Natural gas or fuel gas	CO_2: 420,095 tpy 12-mo rolling	-
T147-30464-00060	Indiana Gasification	06/27/12	Auxiliary Boilers (2)	408 Natural gas	Thermal Efficiency: 81%, HHV basis**	Use of Gas Energy Efficient Design***
FL-0330	Port Dolphin Energy	12/01/11	Industrial Boilers (4)	278 Natural gas*	CO_2: 117 lb/mmBtu, 8-hr. rolling ave.	Tuning, Optimization, Instrumentation & Controls, Insulation, Turbulent Flow
LA-0254	Entergy Louisiana	08/06/11	Industrial Boiler	338 Natural gas*	CO_2: 117 lb/mmBtu CH_4: 0.0022 lb/mmBtu N_2O: 0.0022 lb/mmBtu	Proper Operation Good Combustion Practices

* Natural gas is identified as the primary fuel.
** Compliance verified by operational testing.
*** Economizer, condensate recovery, inlet air controls and blowdown heat recovery.

University of Illinois at Urbana-Champaign
Boiler Replacement Project
Urbana Champaign, Illinois

1) Emissions Increases

Project Emissions Increases

	CO (TPY)	NOX (TPY)	PM (TPY)	PM10 (TPY)	PM2.5 (TPY)	SO2 (TPY)	VOM (TPY)	Pb (TPY)	GHG (TPY)
Boilers 3 & 1 NG	81.376	81.376	15.158	15.158	15.158	1.197	10.172	0.0010	239832
Boilers 3 & 1 FO	1.120	0.980	0.330	0.238	0.213	4.260	0.070	0.0001	2239

Total Emissions Increases

CO (TPY)	NOX (TPY)	PM (TPY)	PM10 (TPY)	PM2.5 (TPY)	SO2 (TPY)	VOM (TPY)	Pb (TPY)	GHG (TPY)
82.496	82.356	15.488	15.396	15.371	5.457	10.242	0.0011	242071

2) Emissions Decreases

Facility Emissions Decreases (Contemporaneous)

	CO (TPY)	NOX (TPY)	PM (TPY)	PM10 (TPY)	PM2.5 (TPY)	SO2 (TPY)	VOM (TPY)	Pb (TPY)	GHG (TPY)
Boilers 2, 3, & 4	76.095	61.486	5.709	5.601	5.572	18.829	3.875	0.0154	87164

3) Net Emissions Increase

Net Emissions Increase

CO (TPY)	NOX (TPY)	PM (TPY)	PM10 (TPY)	PM2.5 (TPY)	SO2 (TPY)	VOM (TPY)	Pb (TPY)	GHG (TPY)
6.400	20.869	9.779	9.795	9.799	-13.372	6.367	-0.0143	154906

Ogulei, David

From: Skvarla, Melvyn [mskvarla@illinois.edu]
Sent: Saturday, April 12, 2014 5:41 PM
To: Ogulei, David
Cc: 'Haaker, Anne'; Malvestuto, Tracy Michelle; Christy, Ted
Subject: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements - Prevention of Significant Deterioration (PSD) for greenhouse gases only
Attachments: Concurrence ltr on letterhead = 04-11-2014 = DOC_20140411184754.pdf; Historical Impact one mile and half mile from Abbott Power Plant = 04-11-2014.pdf

Dear Mr. Ogulei;

Attached herewith is my letter, dated April 11, 2014, on the above subject: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements - Prevention of Significant Deterioration (PSD) for greenhouse gases only stating no adverse effect as to the CO^2 on our officially listed National Register properties and "eligible" properties that are within a one mile radius of our Abbott Power Plant (see attached map) and requesting expedited concurrence of same from Anne Haaker, the Deputy Illinois State Historic Preservation Officer.

Should you have any questions or concerns, please do not hesitate to contact me.

Melvyn A. Skvarla
Campus Historic Preservation Officer
Architect and Capital Planner
Capital Programs at Urbana
University of Illinois at Urbana-Champaign
Facilities and Services, Planning Division
115i, Physical Plant Services Building, (PPSB)
1501 South Oak Street, M/C 800
Champaign, Illinois 61820-6905

Telephone: (217) 265-6133

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Facilities & Services
Physical Plant Services Building
1501 South Oak Street
Champaign, IL 61820

April 11, 2014

Mr. David Ogulei
U.S. Environmental Protection Agency
Region 5 | Air & Radiation Division | AR-18J
77 West Jackson Boulevard
Chicago, Illinois 60604

Re: Prevention of Significant Deterioration (PSD) for greenhouse gases only
Construction Permit Application
Facility Identification No.: 019010ADA
Application No.: 13120041
Proj. #U12145 - Abbott Power Plant (#0120) Two (2) Gas Boilers Replacement
University of Illinois at Urbana-Champaign
1117 South Oak Street
Champaign, Illinois 61820-6625

Dear Mr. Ogulei:

By copy of this letter to Ms. Anne Haaker, Deputy State Historic Preservation Officer, of the Illinois Historic Preservation Agency (IHPA) I am requesting expedited review and concurrence of the University's findings of no adverse effects upon the University's nine (9) officially listed buildings that are on the National Register of Historic Places (NRHP) and an additional sixty-seven (67) "eligible" buildings that are all located within a one mile radius of the above subject project. (See attached annotated map)

This boiler replacement project is internal to this existing building that was originally constructed in 1941 with a major south addition added in 1955 and then in 2001 the entire interior received an extensive upgrade renovation. According to the IEPA this PSD is a new process required in Illinois of the US-EPA to receive IHPA sign-off on PSD's (Prevention of Significance Deterioration) only for greenhouse gases. This is in regards to Gas Boiler Replacements where we are replacing three existing old boilers with two new more efficient gas boilers that can be converted to other burning medium, in an emergency, or in a shortage of natural gas. But, as I am told, these two new boilers will sometimes emit a sufficient number of pollutants (just above the maximum threshold to trigger a US-EPA review) that requires a Section 106 review submittal and sign-off by the IHPA office.

Our consultants for this project, Stanley Consultants, have informed the University of the proposed carbon dioxide (CO^2) dispersion that leaves the boiler stack at a very high temperature, approximately 300 degree Fahrenheit. Based on the difference between high CO^2 temperatures and the ambient air temperature, the CO^2 will continue to rise. As

Facility Identification No.: 019010ADA
Application No.: 13120041
Proj. #U12145 - Abbott Power Plant (#0120) Two (2) Gas Boilers Replacement

dispersion occurs into the atmosphere, the concentration of CO^2 will continue to decrease over time. CO^2 does not cause any particulate deposition to occur. Therefore, CO^2 emissions from the 115 foot stacks will not come into contact with any surrounding buildings nor will it impact the buildings in any way.

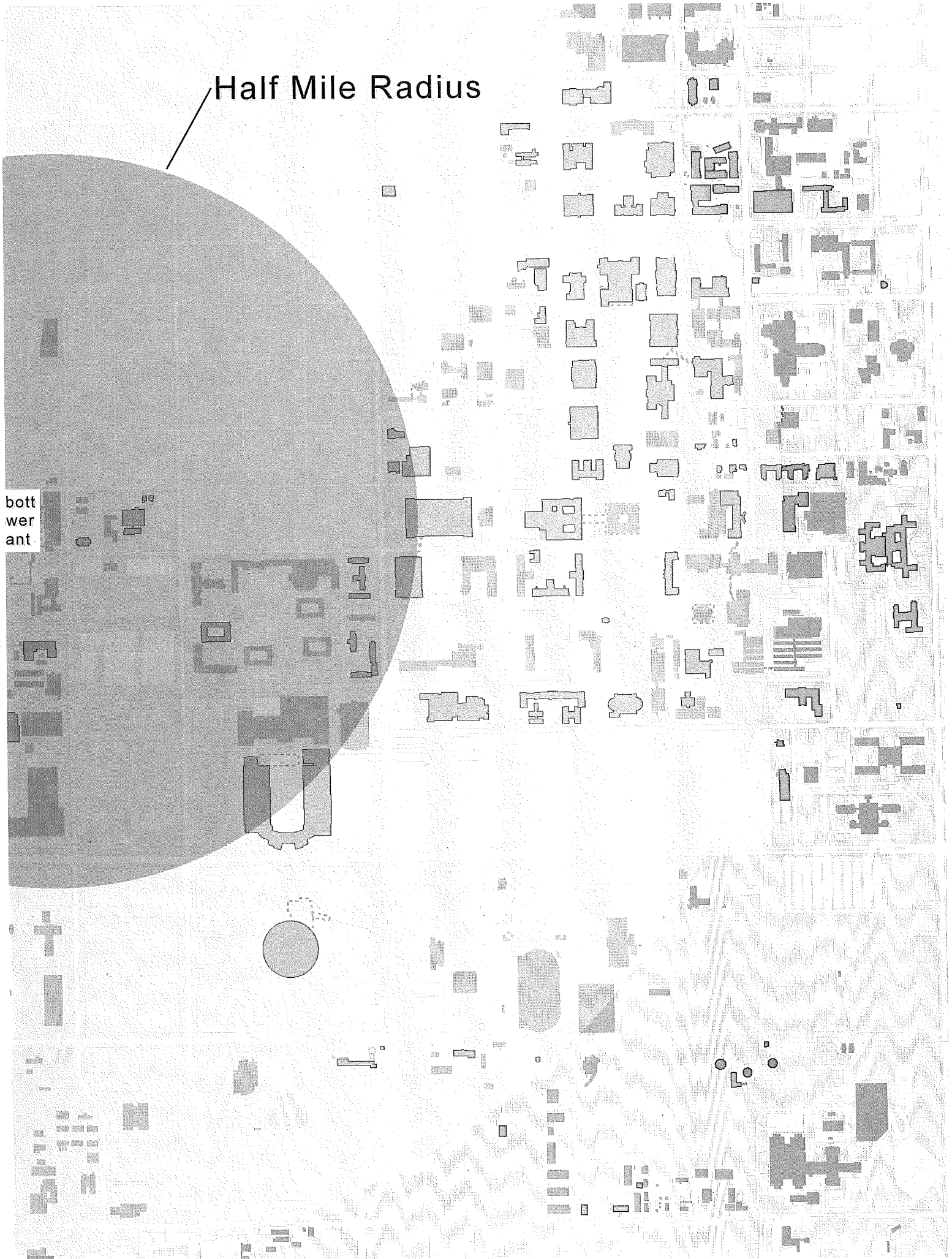
Based on these findings the University finds no adverse effects will ocurr and hereby seeks IHPA concurrence. This documentation is submitted for IHPA review and comment in accordance with Illinois State Agency Historic Resources Preservation Act (20 ILCS 3420).

If you have any questions, do not hesitate to contact me at 217/265-6133.

Sincerely,

Melvyn A. Skvarla
Campus Historic Preservation Officer

MAS:
Encl: One mile radius map of campus buildings
cc: Ms. Anne Haaker
Mr. Ted Christy
Ms. Tracy Malvestuto


Half Mile Radius
bott
wer
ant

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Applicant:	University of Illinois at Urbana-Champaign	*IDNR Project Number:*	1407753
Contact:	Melvyn A. Skvarla	*Date:*	01/22/2014
Address:	Facilities and Services, Planning Division 1501 South Oak Street, M/c 800 Champaign, IL 61820	*Alternate Number:*	U12145

Project: Abbott Power Plant (#0120) - Gas Boiler Replacement
Address: 1117 South Oak Street, Champaign

Description: TO MAINTAIN CONTINUED RELIABLE STEAM PRODUCTION AT ABBOTT POWER PLANT, REPLACEMENT OF THE EXISTING GAS BOILERS WILL BE PHASED. THIS, PHASE ONE, PROJECT WILL REMOVE GAS BOILER #4 AND POTENTIALLY GAS BOILER #3 AND ASSOCIATED SYSTEMS. THE REMOVED GAS BOILER(S) AND SYSTEMS WILL BE REPLACED WITH A NEW GAS BOILER AND ASSOCIATED SYSTEMS. THIS PHASE ONE BOILER REPLACEMENT PROJECT WILL PREPARE ABBOTT POWER PLANT FOR SUBSEQUENT BOILER REPLACEMENT PROJECTS WHICH WOULD REMOVE AND REPLACE THE REMAINING EXISTING GAS BOILERS.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database contains no record of State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location. **Therefore, consultation under part 1075 is terminated.**

Wetland Review (Part 1090)

The National Wetlands Inventory does not show wetlands within 250 feet of the project location. **Therefore, the wetland review under Part 1090 is terminated.**

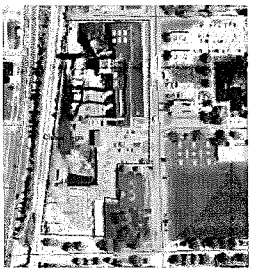
This review is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, Natural Areas, or wetlands are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary. Termination does not imply IDNR's authorization or endorsement.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Champaign

Township, Range, Section:
19N, 8E, 13



IL Department of Natural Resources Contact
Karen Miller
217-785-5500
Division of Ecosystems & Environment

Local or State Government Jurisdiction
IL Environmental Protection Agency
Ms. Terri LeMasters
P.O. Box 19286
Springfield, Illinois 62794 -9176

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

Security

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

Ogulei, David

From: Malvestuto, Tracy Michelle [malvestu@illinois.edu]
Sent: Thursday, April 10, 2014 1:26 PM
To: Ogulei, David
Subject: FW: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements = Endangered Species Act Investigation
Attachments: EcoCAT Submittal = 01-22-2014 _1407753[1].pdf

Importance: High

Good Afternoon David –

FYI...

-Tracy

tracy malvestuto
division of safety and compliance
university of illinois at urbana-champaign
phone: 217.244.5918 email: malvestu@illinois.edu

From: Skvarla, Melvyn
Sent: Wednesday, January 22, 2014 7:36 PM
To: Malvestuto, Tracy Michelle
Cc: Sims, James Kenneth; Wilcoxen, David B
Subject: RE: Proj. #U12145 - Abbott Power Plant (#0120) Gas Boiler Replacements = Endangered Species Act Investigation
Importance: High

Tracy:

Attached herewith is the termination of consultation IDNR EcoCAT filing for the above subject project: #U12145 – Abbott Power House Gas Boiler Replacement which means the IDNR has no records of any threatened and/or endangered species, either flora or fauna, on this property.

Actually since no new external excavation (sub-surface digging) is being performed on this project this filing is not required.

The Abbott Power Plant (#0120), 1117 South Oak Street, Champaign as designed in 1941 by the University Architect's, Ernest L. Stouffer, staff is no longer considered "eligible" for listing on the National Register of Historic Places (NRHP) having recently received a revised rating of 2.54 out of 5.00, with 2.75 being the lowest ranking of eligibility, by the CDAC's *Ad Hoc Faculty Historic Evaluation Sub-committee*; therefore, notification of the Illinois Historic Preservation Agency (IHPA) is also not required.

Further, since this work is all internal the project will not be disturbing the "view-shed" (cone of vision) of any adjacent "eligible" buildings – the Geological Survey Applied Research Laboratory (#0128) across the street at 1116 South Oak Street, Champaign – IHPA notification is not required.

Also, since this project and building is located in an already long ago disturbed area and no archaeological findings were ever reported, and the likelihood of finding any today would be extremely remote, is another reason as to why this project doesn't have to be reported to the IHPA.

Should you have any other questions or concerns, please do not hesitate to contact me.

Melvyn A. Skvarla
Campus Historic Preservation Officer
IDNR EcoCAT Submittal Coordinator

From: Malvestuto, Tracy Michelle
Sent: Wednesday, January 22, 2014 3:58 PM
To: Skvarla, Melvyn
Cc: Sims, James Kenneth; Wilcoxen, David B
Subject: Abbott Endangered Species Act Investigation

Good Afternoon Melvyn –

The University has submitted a construction/operating permit application to the IEPA for a Boiler Replacement Project at Abbott Power Plant. The IEPA has indicated that we are required to perform an Endangered Species Act Investigation.

The location information for Abbott is as follows:

Latitude: 40d06'17.32"N
Longitude: 88d14'30.79"W
Section: 13, Township: 19N, Range: 8E

Please let me know if you have any questions or require additional information. If you are not the appropriate contact for the Endangered Species Act investigations, if you could point me in the right direction, I would greatly appreciate it.

Thank you,
Tracy

tracy malvestuto
division of safety and compliance
university of illinois at urbana-champaign
phone: 217.244.5918 email: malvestu@illinois.edu