BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

AMEREN ENERGY RESOURCES	)	
Petitioner,	)	PCB 12-126 (Variance - Air)
v.	)	
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent	)	

PC#1919

NOTICE OF FILING

To: Attached Service List

PLEASE TAKE NOTICE that on August 1, 2012, I filed with the Clerk of the Pollution Control Board of the State of Illinois **COMMENTS OF SAMUEL DOREVITCH**, a copy of which is attached hereto and herewith served upon you.

Respectfully submitted,

Faith E. Bugel

Faith Bugel
Andrew Armstrong
Jenny Cassel
Environmental Law and Policy Center
35 East Wacker Drive, Suite 1600
Chicago, Illinois 60601

CERTIFICATE OF SERVICE

I, Faith Bugel, hereby certify that I have served the attached **COMMENTS OF SAMUEL DOREVITCH** upon the attached service list by hand delivery at the August 1, 2012 public hearing of the above-captioned cause.

Respectfully submitted,

Faith C. Bugel

Faith Bugel
Senior Attorney
Environmental Law and Policy Center
35 East Wacker Drive, Suite 1600
Chicago, Illinois 60601
312-795-3708

SERVICE LIST
August 1, 2012

Amy Antoniolli
Renee Cipriano
Schiff Hardin, LLP
6600 Willis Tower
233 South Wacker Dr
Chicago, IL 60606

John Therriault, Assistant Clerk
Carol Webb, Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street, Suite 11-500
Chicago, Illinois 60601
therriaj@ipcb.state.il.us

Gina Roccaforte
Assistant Counsel
Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9276

COMMENTS OF SAMUEL DOREVITCH

My name is Samuel Dorevitch and I am a medical doctor and an associate professor at the University of Illinois at Chicago School of Public Health, where I teach masters and PhD students in Toxicology and also in Occupational and Environmental Diseases. I graduated from the University of Chicago Pritzker School of Medicine in 1989 and completed emergency medicine residency training at Cook County Hospital in 1993.

My comments concern Ameren Energy Resources' petition for a variance from the Multi-Pollutant Standard. Ameren would like the permission of the Illinois Pollution Control Board to go back on its commitment to reduce sulfur dioxide emissions according to an agreed upon timeline. In light of the health impacts of even moderate levels of SO_2 pollution, and the long-term health risks of $PM_{2.5}$ pollution, failure to lower them on the agreed upon schedule would be expected to keep rates of asthma attacks and other health problems higher than they would be at the agreed upon, lower levels.

Throughout my clinical practice, I have treated hundreds of children and adults suffering from asthma attacks. Asthma is a chronic life-threatening lung disease punctuated by episodes of severe bronchospasm. Bronchospasm causes the bronchial tubes to narrow. If any of us were to try to breathe through a tube the thickness of a finger, it would be easy. But if that tube were replaced with a very narrow one, say, a plastic coffee stirrer, breathing would be difficult. Breathing through a narrow tube is even more difficult still if one is trying to perform physically demanding work or to participate in gym class at the time. It is that difficulty moving air in and

out of the lungs that sends people with bronchospasm to emergency departments for costly treatment, and in some cases, for even more costly treatment in the hospital.

Although there are still gains to be made in our understanding of such a complex disease, two things about asthma are clear:

First, asthma is an unpredictable condition that disrupts the lives of both suffers and their families. Parents of asthmatic children must constantly work with doctors for ongoing care, draw upon family economic resources to purchase medication, and at times, spend hours in hospitals and emergency departments hoping for life-saving treatment. Among children with asthma, episodes of bronchospasm can result in lost school.

Second, the management of asthma and related types of lung disease is vitally linked to minimizing exposure to hazards that worsen the disease. One of the recognized triggers of asthma is sulfur dioxide. Sulfur dioxide or SO_2 is an irritant gas, and a dominant source of SO_2 in the Midwest is coal-fired electricity generation. SO_2 irritates the respiratory tract and can lead to symptoms such as cough, chest tightness, wheezing, and irritation of the throat. A major hazard of SO_2 is that it causes bronchospasm – the contraction of the airways seen in asthma attacks.

Research has shown that even moderate levels of SO_2 pollution are linked to these harmful health effects. Although literally hundreds of research studies have been conducted that show hazards of sulfur dioxide pollution, the United States Environmental Protection Agency's "Integrated Science Assessment for Sulfur Oxides - Health Criteria" is an excellent summary, critique, and

synthesis of hundreds of scientific publications about sulfur dioxide pollution. It was reviewed by the Clean Air Science Advisory Council, an independent panel of experts, and it incorporates testimony received in two rounds of public comment. The Integrated Science Assessment for Sulfur Oxides was finalized in 2008. After reviewing updates in the scientific literature regarding health effects of sulfur dioxide, the Integrated Science Assessment notes in section 5.2, "Health Effects of SO_2", that epidemiologic studies observed respiratory effects in areas where the SO_2 concentration was below the regulatory level in place at that time.

The Integrated Science Assessment notes on page 5-10 that "There is substantial evidence from epidemiologic and human clinical studies indicating that asthmatics are more susceptible to respiratory health effects from SO_2 exposures than the general public. Limited epidemiologic evidence further indicates that children and older adults ($\geq$ 65 years) are more susceptible to the adverse respiratory effects associated with ambient SO_2 concentrations when compared to the general population." On the same page, the Integrated Science Assessment states: "Human clinical studies have clearly shown that exercising asthmatics are at greatest risk of experiencing adverse respiratory effects related to SO_2 exposure."

Another important aspect of the Multi-Pollutant Standard that Ameren and the Illinois EPA agreed to was that, by reducing SO_2 emissions, the power plants also would reduce the contribution of SO_2 to the formation of fine particle pollution. Particulate matter air pollution with a diameter less than 2.5 microns, or $PM_{2.5}$, is formed in the atmosphere by a variety of products of combustion, including SO_2 and acid mists. These particles can be formed and transported over long distances, impacting populations miles away from the SO_2 emitting plant.

$PM_{2.5}$ has been causally linked to a number of health problems. Unlike SO_2, for which the main concern is short-term respiratory effects, $PM_{2.5}$ has been associated with premature death, life-threatening heart rhythms, heart failure, and lung cancer. Delaying the attainment of SO_2 emission targets will also delay reducing the formation of $PM_{2.5}$, and therefore, putting the population at risk for a variety of serious health concerns for longer than necessary.

The Board must balance possible hardships that Ameren might sustain if it were to keep its earlier commitment against injuries that would be sustained by the environment and the public if Ameren fails to keep its commitment. I would ask the Board to help protect the health of the public, particularly children with asthma, by requiring Ameren Energy Resources to keep the commitment it made to the timeline of SO_2 pollution reduction.

Thank you very much for considering these comments.