ILLINOIS POLLUTION CONTROL BOARD

In The Matter of:	)	
	)	
Proposed New 35 Ill. Adm. Code 225	)	**No. R06-25**
Control of Emissions from	)	**(Rulemaking – Air)**
Large Combustion Sources	)	

NOTICE OF FILING

TO: See attached Service List

PLEASE TAKE NOTICE that on July 28, 2006, I filed with the Office of the Clerk of the Pollution Control Board, Participant KINCAID GENERATION, L.L.C.'s PREPARED TESTIMONY OF C.J. SALADINO and PREPARED TESTIMONY OF ANDY YAROS, copies of which are herewith served upon you.

By: _____
Bill S. Forcade

Bill S. Forcade
JENNER & BLOCK LLP
Attorneys for Kincaid Generation, LLC
One IBM Plaza
Chicago, IL 60611
(312) 222-9350

SERVICE LIST

Gina Roccaforte, Assistant Counsel
Charles Matoesian, Assistant Counsel
John J. Kim, Managing Attorney
Air Regulatory Unit
Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Dorothy Gunn, Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 W. Randolph St., Suite 11-500
Chicago, IL 60601-3218

Bruce Nilles
Sierra Club
122 W. Washington Ave., Suite 830
Madison, WI 53703

Matthew Dunn, Chief
Division of Environmental Enforcement
Office of the Attorney General
188 West Randolph St., 20th Floor
Chicago, IL 60601

William A. Murray
Special Assistant Corporation Counsel
Office of Public Utilities
800 East Monroe
Springfield, Illinois 62757

Christopher W. Newcomb
Karaganis, White & Mage., Ltd.
414 North Orleans Street, Suite 810
Chicago, Illinois 60610

David Rieser
James T. Harrington
Jeremy R. Hojnicki
McGuire Woods LLP
77 West Wacker, Suite 4100
Chicago, Illinois 60601

Faith E. Bugel
Howard A. Learner
Meleah Geertsma
Environmental Law and Policy Center
35 East Wacker Drive, Suite 1300
Chicago, Illinois 60601

James W. Ingram
Dynegy Midwest Generation, Inc.
1000 Louisiana, Suite 5800
Houston, TX 77002

N. LaDonna Driver
Katherine D. Hodge
Hodge Dwyer Zeman
3150 Roland Avenue, P.O. Box 5776
Springfield, Illinois 62705-5776

Keith I. Harley
Chicago Legal Clinic
205 West Monroe Street, 4th Floor
Chicago, Illinois 60606

S. David Farris
Manager, Environmental, Health and Safety
Office of Public Utilities, City of Springfield
201 East Lake Shore Drive
Springfield, Illinois 62757

Marie Tipsord
Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center
100 W. Randolph, Suite 11-500
Chicago, Illinois 60601

SERVICE LIST cont.d

Kathleen C. Bassi
Sheldon A. Zabel
Stephen J. Bonebrake
Joshua R. More
Glenna L. Gilbert
SCHIFF HARDIN LLP
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606

Dianna Tickner
Prairie State Generating Company, LLC
701 Market Street, Suite 781
St. Louis, MO 63101

CERTIFICATE OF SERVICE

I, Bill S. Forcade, an attorney, hereby certify that I served a copy of the foregoing KINCAID GENERATION, L.L.C.'s PREPARED TESTIMONY OF C.J. SALADINO and PREPARED TESTIMONY OF ANDY YAROS, via first-class mail, postage fully prepaid, upon the parties on the attached Service List this 28th day of July, 2006:

By: _____
Bill S. Forcade

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In The Matter of:	)	
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Proposed New 35 Ill. Adm. Code Part 225	)	**R06-25**
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KINCAID GENERATION LLC'S PREPARED TESTIMONY OF C.J. SALADINO

1. INTRODUCTION

My name is C.J. Saladino, and I am the Station Director of the Kincaid Generation L.L.C. power plant in Kincaid, Illinois in Christian County. I have been an employee at Kincaid for 24 years and a life-long resident of Springfield, Illinois. During my career, I have held various positions at the Kincaid facility, including technical staff engineer, water department supervisor, operations supervisor, operations manager and now Director. I am a 1982 graduate of the University of Illinois with a bachelor's degree in mechanical engineering. In 2005, I also completed the Advanced Management Program at Duke University.

2. FACILITY BACKGROUND

The Kincaid facility comprises two 625-megawatt coal-fired boilers. These units have burned Powder River Basin (PRB) sub-bituminous coal since 1999, when the facility switched to the lower sulfur western coal in order to meet the federal Acid Rain program sulfur dioxide emissions limitations. Although the PRB coal has a much lower sulfur and ash content, it also has a lower heating value and higher moisture levels. Its relatively low density and high water content makes this coal susceptible to spontaneous combustion if not packed densely during

storage in order to limit free air flow. As a result, the Station has implemented coal handling techniques that include a concerted effort to minimize coal dust through careful housekeeping.

Kincaid's conversion to and handling of this lower emissions sub-bituminous coal has been so successful that the Kincaid plant twice has been chosen by the national Powder River Basin Coal Users group as the Coal Plant of the Year, in 2001 and 2004. Kincaid Station was selected from among hundreds of plants that burn low sulfur PRB coal. Kincaid was honored for going to "extraordinary lengths to keep a clean, safe environment" in order to minimize dust from accumulating to explosive levels. Power stations nominated for the award are judged on safety, housekeeping and use of best practices. Other criteria for the award are availability, heat rate, the amount of electricity generated, and the amount of coal burned.

In 2001, Kincaid began construction of two SCRs, or selective catalytic reduction facilities. These massive controls, which together cost more than $85 million, began operation in 2002 and have been very effective, removing up to 90% of the nitrogen oxide (NOx) emissions from the flue gas. Kincaid currently spends over $1,000,000 annually on anhydrous ammonia for the SCR's, which are operational only during the 5 ozone season months.. When we commence year round use of them the annual ammonia costs will be in the $2.5 - $3.0 million range.

3. KINCAID'S ENVIRONMENTAL ACCOMPLISHMENTS

The result of all these activities is much lower emissions both from the stack and from the material handling operations at Kincaid. Accordingly, Kincaid has compiled an exemplary environmental compliance record. Since Dominion purchased the plant in 1998, the plant has received no environmental violations, cut sulfur dioxide and nitrogen oxide emissions drastically

from pre-1998 levels, and taken steps to minimize opacity and particulate levels. Kincaid Station was nominated by the IEPA in 2004 as one of four finalists out of over 1100 facilities for Best Operated Wastewater Treatment Plant.

4. KINCAID'S COMMUNITY ACCOMPLISHMENTS

The Kincaid Power Station supports the community in which our employees live. Nearly all the 147 Kincaid employees live in Christian or Sangamon Counties. The Station supports many charitable activities in the area, including the Shadow House Women's Shelter, Central Illinois Foodbank, Friend-In-Deed Program, and Mary Bryant Home for the Blind. We at Kincaid are extremely proud of our Station and its excellent operations– an achievement we accomplished while generating more power, more efficiently, more safely and, at the same time, with substantially lower emissions than ever before in the plant's history.

5. KINCAID'S CONCERNS WITH IEPA PROPOSAL

I am here today to register our concern with the Illinois EPA's (IEPA) proposed mercury rulemaking. We believe that 90% mercury reduction is an achievable goal, although not always cost effectively, but such reductions cannot be accomplished in the short time frame before July 1, 2009, contemplated by the IEPA proposed rule. The IEPA's primary testimony was that activated carbon injection (ACI) or halogenated activated carbon injection (HACI) would be able to achieve the required reductions under the proposed rule. As testified by several witnesses (see prepared testimony of Mr. DePriest, and J. E. Cichanowicz), and articulated by both the United States Environmental Protection Agency (USEPA) and the United States Department of Energy (USDOE), the ACI or HACI processes have not been sufficiently demonstrated to be

considered "commercially available"[1] or to be relied upon to achieve regulatory requirements with the stringent 90% control requirements at this time. Kincaid cannot presume that it will achieve compliance for several reasons, as discussed by others (see prepared testimony of Mr. DePriest, and J. E. Cichanowicz), including but not limited to:

Coal Mercury Content Variability
Mercury Analytical Testing Errors
Strong Indications that Mercury Removal is dependant upon ESP size and other factors

Until these technologies have been more fully explored, Kincaid cannot reasonably assume that ACI or HACI will achieve the required reductions.

The only other potential control technology, the TOXECON system would require Kincaid to install fabric filters at an estimated cost of $130 Million . The TOXECON costs are unreasonable.

6. THE IEPA PROPOSAL UNIQUELY DISADVANTAGES KINCAID

We believe the proposal unjustifiably disadvantages our Kincaid plant, especially in comparison to other plants in Illinois. We believe the proposal threatens the continued economic well-being of the Kincaid plant and, as a result, could, under certain scenarios, lead to the shut down of the Kincaid station. We especially take note of IEPA's testimony (June 12 testimony of Mr. Jim Ross, page 18) of June 12. The agency's witness said IEPA would never "impose unreasonable standards that will create undue hardships on the power sector," but IEPA is proposing the most

[1] See Feeley, T., "Clarification of the U.S. Department of Energy's Perspective on the Status of Mercury Control Technologies For Coal-Fired Power Plants", April, 2006 stating that "...there remain a number of critical technical and cost issues that need to be resolved through additional research before these technologies can be considered commercially available for all U.S. coals and the different coal-fired power plant configurations in operation in the United States".

stringent mercury standards in the nation. For Kincaid, this proposal is especially unfair as it places the plant at a competitive disadvantage for several reasons. First, Section 225.232 of the proposed rule provides affected sources with a means for combining emissions from multiple units to average a 90% overall reduction in mercury emissions for the first few years of the program. However, the rule allows this averaging only among existing sources under common ownership, or among a very short list of single-facility companies. For the larger Illinois utility companies affected by this rule, this "Averaging Demonstration" could include as many as 19 different units. Kincaid, on the other hand, is given the opportunity to average among many fewer units, owned by other companies. Kincaid also is effectively forced into a "sellers' market," trying to strike a deal with companies that likely will have no incentive to enter into an agreement to average emissions other than to generate revenue. Because Kincaid would have to enter into some financial agreement with another company and because the pool of units that would be eligible for inclusion in an "Averaging Demonstration" is so much smaller than the pool available to the larger companies, this provision creates an unequal, unfair playing field for Kincaid.

Second, the IEPA testimony at the June 22 Board hearing confirms that the proposal specifically excludes Kincaid from one of the very few compliance options and thus places Kincaid at a severe competitive disadvantage (June 22 testimony of Dr. Staudt, page 159). The so-called TTBS, or Temporary Technology Based Standards, limits the availability of its use to no more than 25% of the total capacity of all the EGUs in that category. Since Dominion's coal-fired capacity in Illinois consists solely of the Kincaid plant with its two 625-megawatt units, seeking the TTBS for one of these units would exceed the 25% capacity restriction and therefore preclude

its eligibility. The IEPA testimony before the Board on June 22 shows that the IEPA proceeded to propose limited access to this TTBS against the advice of its technology expert. The agency has described the TTBS as a measure of "flexibility" but has limited availability of this flexibility to only the large utility companies in Illinois, which is unfair.

When combined, the TTBS and intra-company averaging demonstrations provide larger companies several options to avoid violations if installing ACI or HACI does not achieve the 90% reductions. If ACI or HACI were not to work at Kincaid, then Kincaid will be in violation absent any workable flexibility options that are otherwise provided to the larger companies in the current proposal.

7. CONCLUSION

Because Dominion's Kincaid facility is uniquely disadvantaged by the IEPA proposed mercury rule, we urge the Board not to adopt the Agency proposal as applicable to Kincaid.

Respectfully submitted,

KINCAID GENERATION LLC

By: _____
One of Its Attorneys

Dated: July 28, 2006

Bill S. Forcade
Jenner & Block LLP
One IBM Plaza
Chicago, IL 60611
(312) 222-9350

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KINCAID GENERATION LLC'S PREPARED TESTIMONY OF ANDY YAROS

1. INTRODUCTION

My name is Andy Yaros and I am Manager Fossil and Hydro Operations for Dominion's Fuel and Environmental Excellence unit. I have been with Dominion for thirty years and have held various management positions with Dominion. Much of my early career was involved in all aspects of utility fuel procurement – coal, oil, and natural gas. I was Station Manager at the 900-megawatt coal-fired Clover Power Station in Clover, Virginia during the 1990s and most recently have headed up the primary environmental strategy development unit for Dominion since 2002. I hold an MBA from the University of Richmond (1982), an MS in Nuclear Engineering from the, University of Cincinnati (1977) and a BS from Centre College of Kentucky (1975).

2. PARALLELS DRAWN FROM CLOVER MERCURY EXPERIENCE (ICR STACK TESTING, USEPA MONITORING DEMONSTRATION.

It was during my tenure at the Clover Power Station that I first became familiar with mercury emissions characterization from utility boilers. The Clover plant conducted mercury stack testing as part of the USEPA 1999 Information Collection Request under Section 114 of the Clean Air Act. The Clover plant, which burns eastern bituminous coal, began operation in 1995 and the two units were designed with wet scrubbers and fabric filters. The mercury stack tests revealed excellent removal of mercury from the flue gas – approximately 94%.

Dominion's Clover plant also participated during 2003 in an EPA-sponsored mercury continuous emissions monitoring (CEMs) evaluation. The evaluation included three different CEMs and was conducted over a three-month period. Many problems were identified during the evaluation, and while much progress has been made since 2003, this early evaluation highlights a continuing problem with the current state of the mercury CEMs technology – the capability of the technology to measure very low concentrations of mercury. As we have heard from earlier witnesses, the precision and accuracy of the mercury measurements required for the proposed Illinois mercury rule – on the order of 1.0 ug/m^3 - are just not achievable at this point.

3. PROBLEMS WITH HALOGENATED ACTIVATED CARBON INJECTION AT KINCAID

The IEPA has presented technical documentation that defends the agency's position that 90% mercury control technology is currently available for the coal-fired power plants in Illinois. The IEPA Technical Support Document references a number of enhanced sorbent injection field demonstrations that are either on-going or have been completed. Several demonstrations are worth comparing to the situation at Dominion's Kincaid plant, i.e., use of western sub-bituminous coal, with a cold-side ESP for particulate control. These include the field demonstrations at Pleasant Prairie, Meramac, Monroe and St. Clair power plants.

Pleasant Prairie: This demonstration was first conducted over three five-day tests with untreated PAC (powdered activated carbon) injection, with mercury capture rates of between 46-66%. These longer-term tests were followed by a pilot-scale test using halogenated PAC. The pilot-scale tests showed mercury collection of about 90%. Pilot-scale tests are used to determine if

larger-scale tests should proceed. Pilot-scale results should not be included in the IEPA technology document unless the agency is making the case that more testing of this technology is needed before it can be truly claimed to be "commercially available". It should be noted that the ESP for the Pleasant Prairie unit is larger than most and the PAC-laden flyash was not marketable following collection. From the Department of Energy/National Energy Technology Laboratory (DOE/NETL) report:

> "Although ACI did not deteriorate ESP performance, the ESP was relatively large (468 f^2/1000 acfm specific collection area, SCA) and additional testing needs to be conducted on units with smaller ESPs. However, the PAC in the fly ash rendered the ash unsuitable for sale as a supplement for Portland cement in concrete."

Since a full-scale test of the halogenated PAC injection technology at Pleasant Prairie has not been scheduled, DOE/NETL does not include this test in subsequent test report updates.

Meramec: Several full-scale test demonstrations of enhanced activated carbon injection, such as brominated activated carbon, have shown high mercury capture over 30-day tests in boilers burning western sub-bituminous coals with moderately sized ESPs. The Meramac test included injection of "DARCO Hg-LH" activated (brominated) carbon into a 140-megawatt sub-bituminous coal-fired boiler. The ESP SCA was about 320 ft^2/ 1000 acfm. The results were impressive, as average mercury reduction over the 30-day test was about 93%. However, several problems arose during the test. First, the high mercury removal rates may have been influenced by site-specific characteristics. During the test, very high particulate-phase mercury levels were observed at the ESP inlet; a very unusual situation for western sub-bituminous coals. This apparently was caused by higher LOI (loss on ignition) carbon in the ash, caused by coal mill problems. Other problems made it difficult to adequately evaluate the impact of carbon injection

on ESP operation. Further, the activated carbon in the fly ash rendered the ash unmarketable for cement applications.

Monroe: DTE's 785-megawatt Monroe Station Unit 4 burns a 60/40 blend of sub-bituminous/bituminous coal with a 258 ft^2/ 1000 acfm cold side-ESP. Preliminary results of standard vs. brominated activated carbon injection testing at Monroe were presented by Sharon Sjostrom of ADA-ES at the January 2006 Electric Utilities Environmental Conference in Tucson, Arizona. The results indicate higher mercury reductions were achieved with the untreated carbon. More importantly, none of the tests showed a 90% mercury reduction. Once again, the presence of activated carbon in ash will most likely prevent sale of the ash for use in concrete.

St. Clair: DTE's St. Clair Power Plant in Michigan burns an 85/15 blend of sub-bituminous/bituminous coal. The 30-day demonstration of brominated PAC on the wall-fired 158-megawatt St. Clair Unit 1 produced very high mercury capture results – averaging 93% over the first 25 days. As it has been noted previously at these hearings, it is important to note that the ESP at St. Clair Unit 1 is quite large at an SCA of 700 ft^2/ 1000 acfm and this could have influenced the high mercury capture rates during the test. Further, it should be noted that the tests revealed a considerably higher (>50%) "native" mercury removal when firing 85% sub-bituminous coal than with 100% sub-bituminous coal. This may indicate the larger ESP had a greater impact on reducing mercury for bituminous coals than sub-bituminous coals, at least part of which may be attributable to the higher chlorine in the bituminous share.

Dominion agrees the halogenated sorbent injection technologies may present the most effective, lowest cost alternative for mercury control from sub-bituminous coals. Dominion also agrees with recent reports that this technology, though rapidly advancing, is not yet truly commercially available on a wide scale. According to USEPA: "While it is more difficult to remove mercury from the flue gas of boilers firing low-rank coals with standard PAC (powdered activated carbon) injection, new halogenated sorbents appear to offer a very effective and less expensive alternative that can deliver higher removals than possible with standard PAC alone. However, longer-term demonstrations will be beneficial in that they will provide additional experience and data, which will build confidence in use of these new sorbents...it is believed that PAC injection and enhanced multipollutant controls will be available after 2010 for commercial application on most, if not all, key combinations of coal type and control technology to provide mercury removal levels between 60 and 90%."

Several of these full-scale demonstrations, particularly Meramec and St. Clair, have yielded some very promising results. The demonstrations have also revealed some serious concerns. Dominion believes the relative success of this first round of testing is justification for additional longer-term testing and further evaluation.

Dominion believes there are still too many questions to be answered before we could commit to halogenated ACI at Kincaid as a means of complying with the 90% reductions required by the Illinois mercury rule:

- First, as has been pointed out previously, the specific collection area (SCA) of the cold-side ESPs for the Kincaid units are about 320 (average) – less than half the St. Clair unit.
- The demonstrations that best mirror the Kincaid situation (St. Clair and Meramec) are much smaller units (158 megawatts and 140 megawatts, respectively) than the 625-megawatt units at Kincaid.
- The cyclone firing design of the Kincaid units may affect sorbent performance – we note that none of the demonstrations cited in the IEPA Technical Support Document that are comparable to the Kincaid situation (PRB coal with cold-side ESP) are for boilers with the cyclone firing design.
- The speciated data for the coal burned at Kincaid varies considerably from several of the tests. The speciated test results for the Kincaid sub-bituminous coal is higher in elemental mercury (55%) than the coal at Meramec (62% oxidized, 38% elemental)
- While these results are certainly cause for some optimism, they are all relatively short-term tests, reflecting merely a snapshot of what may be achievable.

As I stated previously, my primary role in Dominion's Fuel and Environmental Excellence group is to coordinate the "enterprise-wide" environmental compliance strategy for the entire Dominion fossil fuel-fired generation fleet. Risk tolerance is certainly a factor we consider in developing what is a constantly evolving plan for Dominion's 28,000+ megawatts of electric generation in 11 states. One risk we do not tolerate is non-compliance with environmental requirements.

The unavailability of fully demonstrated commercial technology to achieve 90% mercury reduction forces Dominion to assume, at this point, that the IEPA mercury proposal will require much higher control costs than IEPA has suggested.

IEPA representatives have stated several times during the February "outreach" meetings that capital costs for compliance with this 90% mercury proposal will cost "$2 million per unit". While the estimated costs for halogenated PAC appear to be relatively favorable, there are entirely too many questions associated with this technology at this point to consider it in any prudent compliance planning that seeks no risk of non-compliance.

Therefore, Dominion, and other Illinois utilities, must rely on fully demonstrated technologies for planning purposes. The IEPA technical support document references the "TOXECON" project currently underway at WE Energies' Presque Isle plant in Michigan. This project includes installation of an ACI system in addition to a fabric filter system. The IEPA document suggests capital costs for a TOXECON system would be "typically in the range of about $40-$60/KW." The document describes the Presque Isle project as "unusual" and fails to include the projected costs for the project, which, according to the recent design study conducted for WE Energies, are reported to be equivalent to a capital cost of $120/KW. If the WE Energies costs estimates are correct, it would project a $150 million capital cost for TOXECON installation at Kincaid.

Dominion has not yet made public any information concerning mercury compliance planning for the 1250-megawatt Kincaid station. Our current cost estimate for compliance at Kincaid approximately $130 Million simply for installation of the baghouse filters the TOXECON system would require, substantially higher than IEPA is expecting.

4. CONCLUSION

Dominion is committed to mercury reductions across our generation fleet and we are developing a comprehensive emissions reduction strategy to ensure full compliance with the federal Clean Air Mercury Rule (CAMR) provisions. As we have stated, good maintenance and optimization of our existing air pollution control equipment can contribute significantly to the overall reduction in mercury. We have a solid basis now to proceed with planning for compliance with the Phase 1 CAMR reductions at Kincaid and we are optimistic that the technology to achieve greater levels of mercury reduction from sub-bituminous coal will be fully available within the deadlines for compliance with Phase 2 of the CAMR rules. We urge the Illinois Pollution Control Board not to adopt the mercury control regulatory language proposed by the IEPA.

Respectfully submitted,

KINCAID GENERATION LLC

By: _____
One of Its Attorneys

Dated: July 28, 2006

Bill S. Forcade
Jenner & Block LLP
One IBM Plaza
Chicago, IL 60611
(312) 222-9350