

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAY SYSTEM)
AND THE LOWER DES PLAINES RIVER:)
PROPOSED AMENDMENTS TO 35 Ill.)
Adm. Code Parts 301, 302, 303 and 304)

R08-09
(Rulemaking – Water)
Subdocket C

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STATE OF ILLINOIS
Pollution Control Board

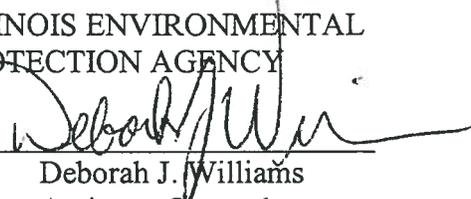
NOTICE OF FILING

To: John Therriault, Clerk
Marie Tipsord, Hearing Officer
James R. Thompson Center
Illinois Pollution Control Board
100 West Randolph Street, Suite 11-500
Chicago, Illinois 60601

SEE ATTACHED SERVICE LIST

PLEASE TAKE NOTICE that I have filed today with the Illinois Pollution Control Board ILLINOIS EPA'S PRE-FILED QUESTIONS FOR RAY E. HENRY a copy of which is herewith served upon you.

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: 
Deborah J. Williams
Assistant Counsel

Dated: February 22, 2011
1021 North Grand Avenue East
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THIS FILING IS SUBMITTED ON RECYCLED PAPER

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Illinois EPA's Pre-Filed Questions for Midwest Generation Witness Ray E. Henry

The Illinois Environmental Protection Agency ("Illinois EPA"), by and through its attorneys, hereby submits its Pre-Filed Questions for the Midwest Generation witness Ray E. Henry for the March 9 and 10, 2011 hearings in the above-captioned matter. Illinois EPA reserves the right to ask additional follow-up questions as necessary.

1. Which of the five Midwest Generation facilities on the Chicago Area Waterway System ("CAWS") and Lower Des Plaines River were designed by Sargent & Lundy?

- a. Did you work on the design of any of these facilities?
- b. When was each facility built?
- c. What is the expected life of the five Midwest Generation facilities you studied?

- d. Did you design the existing cooling towers at the Joliet 29 facility?
- e. When were those cooling towers built?

2. On page 5 of your pre-filed testimony you state: "At the request of the supervising authorities, Will County Station also altered normal plant operations during

the rotenone application period to help facilitate the effective application and dispersal of rotenone in the waterway.” How was this accomplished? Why was it done?

3. Why were Will County Units 1 and 2 retired effective December 31, 2010?

Are there any other Midwest Generation facilities or units that will be retired in the future?

4. Your report says on Page 1-1 that “None of the MWGen generating stations are capable of achieving and consistently maintaining compliance with the proposed thermal standards at existing operating levels.” Is it possible to maintain compliance by de-rating the facilities?

5. On Page 3-1 you state that “when this study was originally prepared in 2005, the design considerations were based on General Use thermal standards. Under the General Use thermal water quality standards, the probability of being able to operate in open-cycle mode during parts of the year is greater than under the stricter Proposed UAA rules.”

a. Explain how you reached this conclusion. What aspect or aspects of the proposed standards did you rely on?

b. Explain why you believe the proposed thermal standards for the CAWS and Brandon Pool Use B waters are “stricter” than the General Use standards?

6. Explain any differences in the design basis between the 2005 study you performed for Midwest Generation and the current study which began in 2008.

- a. Have the recommended compliance alternatives changed?
 - b. What factors resulted in the increased capital costs and operating and maintenance ("O & M") costs between the two studies?
 - c. Why did you use a 75 percent capacity factor in evaluating O & M costs?
 - d. Did the 2005 study also include the following assumption from your 2008 analysis that "As part of the design basis, the proposed cooling systems were designed with the goal of allowing the stations to run at full capacity under the most demanding conditions" (See Exhibit B at page 1-2)?
 - e. Explain the term "approach temperature". Did both studies rely on a 7°F approach temperature? (Exhibit B, Page 3-2, item #7).
 - f. Explain what is meant when you state that "all of the stations were designed for an 85°F cold water temperature..." (Exhibit B, Page 3-2, item #7).
 - g. Did you use a 78° F wet bulb temperature in the design of the cooling towers in the 2005 study? Does that temperature represent the 99th percentile wet bulb temperature in the summer months in the Chicago area?
7. Are you aware of other existing facilities that have installed a closed-cycle cooling retrofits?
- a. Have you or your company worked on any of these?
 - b. What were the dates and locations of those retrofit projects?
 - c. What did they cost?
8. Why didn't your analysis factor in mixing with the receiving stream?

9. Would it have been less expensive to add smaller cooling towers and rely on some mixing in the receiving stream?
10. Are once-through cooling power plants currently being built?
11. How much will the cost of electricity increase with the installation of closed-cycle cooling?
12. What would be the interest rate if Midwest Generation were to get a loan for the construction of these proposed upgrades?
13. On Page 1-6 of your report, you discuss the construction time line and conclude that at least 72 months should be allocated. Are you recommending that Midwest Generation begin construction of cooling towers at the upstream facilities first and proceed downstream? Is so, why?
14. Explain the following statement on page 2-8 of your report "Low-clog film fill was selected by SPX/Marley as suitable for the MWGen applications, based on the Total Suspended Solids levels in the make-up water."
15. Were all the cooling towers equipped with drift eliminators or just those that were projected to exceed New Source Review thresholds?
16. You mention at least two "constructability issues" in your report: moving high voltage power lines and performance problems related to locating cooling towers too close together. Are there any others?
17. On Page 3-4 of your report, you discuss your calculation of the "MW output gain or loss". Explain how this was calculated? Why was it calculated? What were the results of this calculation used to determine?

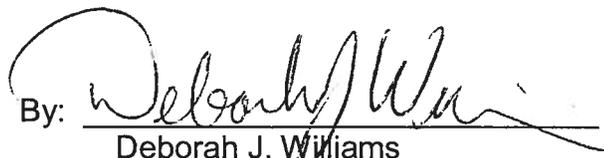
18. What will the cooling tower blowdown water temperatures be? Will the cooling tower blowdown be a continuous discharge or periodic?

19. In your O & M estimates, how is "Power Cost" calculated for Midwest Generation? Does Midwest Generation purchase electricity off the grid?

20. On page 5 of your testimony you state that "the Joliet 7 & 8 towers are used primarily to maintain compliance with the I-55 Bridge Adjusted Standards." In your analysis, how did you differentiate between the technology (and cost of that technology) necessary to achieve compliance with the proposed rules and those necessary to allow Midwest Generation the flexibility of never having to de-rate?

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: 
Deborah J. Williams
Assistant Counsel

Dated: February 22, 2011

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STATE OF ILLINOIS
COUNTY OF SANGAMON

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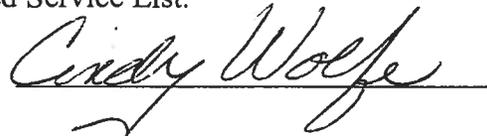
SS

PROOF OF SERVICE

I, the undersigned, on oath state that I have served the attached ILLINOIS EPA'S PRE-FILED QUESTIONS FOR RAY E. HENRY upon the person to whom it is directed by placing it an envelope addressed to:

John Therriault, Clerk
Marie Tipsord, Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street, Suite 11-500
Chicago, Illinois 60601

and mailing it by Overnight Mail from Springfield, Illinois on February 22, 2011, with sufficient postage affixed and by mailing it by First Class Mail from Springfield, Illinois on February 22, 2011, with sufficient postage affixed to the Attached Service List.



SUBSCRIBED AND SWORN TO BEFORE ME

This 22nd day of February 2011

Brenda Boehner
Notary Public



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