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ILLINOIS POLLUTION CONTROL BOARD
NOVEMBER 9, 2009

STATE OF ILLINOIS
Pollution Control Board

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE) R08-9
CHICAGO AREA WATERWAY SYSTEM AND) (Rulemaking -
THE LOWER DES PLAINES RIVER:) Water)
PROPOSED AMENDMENTS TO 35 Ill.)
Adm. Code Parts 301, 302, 303)
and 304)

REPORT OF PROCEEDINGS at the hearing of the above-entitled cause before Hearing Officer Marie Tipsord, taken before Rebecca A. Graziano, Certified Shorthand Reporter within and for the County of Cook and State of Illinois, at the Bilandic Building, Room N-502, Chicago, Illinois, commencing at the hour of 9:00 a.m. on the 9th day of November, A.D., 2009.

A P P E A R A N C E S

ILLINOIS POLLUTION CONTROL BOARD:

Ms. Marie Tipsord, Hearing Officer
Ms. Alisa Liu, P.E., Environmental Scientist
Mr. Anand Rao, Senior Environmental Scientist
Mr. G. Tanner Girard, Acting Chairman
Mr. Shundar Lin
Mr. Thomas Johnson
Ms. Andrea Moore

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

Ms. Stefanie Diers
Ms. Deborah Williams

ENVIRONMENTAL LAW AND POLICY CENTER,
33 East Wacker Drive
Suite 1300
Chicago, Illinois 60601
(312) 795-3707
BY: MR. ALBERT ETTINGER
MS. JESSICA DEXTER

Appeared on behalf of ELPC, Prairie Rivers
Network, and Sierra Club,

FRANZETTI LAW FIRM P.C.
10 South LaSalle Street
Suite 3600
Chicago, IL 60603
(312) 251-5590
BY: MS. SUSAN FRANZETTI

Appeared on behalf of the Midwest Generation,
L.L.C.,

A P P E A R A N C E S

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MAYER BROWN LLP
71 South Wacker Drive
Chicago, IL 60606
(312) 782-0600
BY: MR. TOM DIAMOND

Appeared on behalf of Stepan and Company.

1 MS. TIPSORD: Good morning, everyone.
2 My name is Marie Tipsord, and I've been appointed by
3 the Board to serve as a hearing officer in the
4 proceeding entitled Water Quality Standards and
5 Effluent Limitations for the Chicago Area Waterway
6 System and Lower Des Plaines River, proposed
7 amendments to 35 IL Admin Code 301, 302, 303, and
8 304. This is docket number R08-9.

9 With me today to my immediate left
10 is the acting chairman, G. Tanner Girard. To his
11 far left is Board Member Shundar Lin, and Board
12 Member Andrea Moore will be joining us shortly. To
13 my far right is Board Member Thomas Johnson. To my
14 immediate right is Anand Rao, and to his right,
15 Alisa Liu from our technical unit. I don't think
16 Clair is here today. One of our interns may be
17 joining us later.

18 This is the 34th day of hearings.
19 We are continuing to hear testimony from members of
20 the public, and today the purpose of the hearing is
21 to hear the testimony from Midwest Generation,
22 starting with Julia Wozniak and Greg Seegert.

23 The testimony will be marked as an
24 exhibit and entered as if read. After marking the

1 pre-filed testimony as an exhibit, we will then
2 proceed to questions for the testifiers, and we'll
3 start with the IEPA, followed by the Environmental
4 Law and Policy Center, and then Stepan.

5 Anyone may ask a follow-up
6 question, and you need not wait until your turn to
7 ask questions. I do ask that you raise your hand,
8 wait for me to acknowledge you, and after I have
9 acknowledged you, please state your name and whom
10 you represent before you begin your questions.

11 Please speak one at a time. If
12 you're speaking over each other, the court reporter
13 will not be able to get your questions on the
14 record. Please note that any questions asked by the
15 Board members or staff are intended to help build a
16 complete record for the Board and not to express any
17 preconceived notion or bias.

18 I had indicated at the last
19 hearing that we would look at dates in December or
20 January to complete Midwest Generation's testimony.
21 I did receive an e-mail from Susan Franzetti about
22 December 9th through the 11th to be potential
23 availability dates. I responded to her at that time
24 that I didn't know if the Board would be available,

1 and unfortunately we are not.

2 The Board received a Clean Air Act
3 rulemaking, which is required under Section 28.5, as
4 recently readopted in a public act -- and I don't
5 know the public act number off the top of my head --
6 but we are required to have hearings within a set
7 amount of days from the date of set of that
8 proposal, and we have to continue the first hearing
9 day to day until completion.

10 That being the case, we have to go
11 to hearing on that on December 9th and continue day
12 to day. So although it may only take one day, it
13 could potentially and possibly take the week, so the
14 Board is not available that week in December. So
15 we'll need to look at dates in January to finish up
16 your witnesses.

17 With that, Dr. Girard.

18 DR. GIRARD: Good morning. Thank you
19 all for coming. I know you've heard it over 30
20 times, but the Board is extremely grateful for all
21 the time and effort that everyone is putting into
22 this hearing to help us create a very extensive and
23 hopefully complete record in this rulemaking. So
24 thank you all. We look forward to your questions

1 and testimony today.

2 MS. TIPSORD: Thank you. Anything
3 else from anybody before we start with the
4 witnesses? Okay. Ms. Franzetti?

5 MS. FRANZETTI: Thank you. We are
6 ready for the questions. We're not doing any
7 opening statements.

8 MS. TIPSORD: All right. Then let's
9 go ahead and have the witness sworn in and we'll
10 admit her pre-filed testimony as an exhibit.

11 (Witness sworn.)

12 MS. TIPSORD: And do you have a copy
13 of her testimony for us?

14 MS. FRANZETTI: Yes, but not
15 purposefully.

16 MS. TIPSORD: You can give me a copy
17 later. We'll just reserve the exhibit number.

18 MS. FRANZETTI: That's fine.

19 MS. TIPSORD: If there's no objection,
20 we'll admit the pre-filed testimony of Julia Wozniak
21 as Exhibit 364. Seeing none, it's Exhibit 364.

22 MS. FRANZETTI: Actually, Madam
23 Hearing Officer, do you need all of the exhibits
24 attached to it for your copy?

1 MS. TIPSORD: Yeah.

2 MS. FRANZETTI: Okay. Yeah, we'll
3 bring it later.

4 MS. TIPSORD: And with that, I believe
5 we're going to start with the IEPA.

6 MS. DIERS: Good morning. My name is
7 Stephanie Diers, and I'll be asking questions on
8 behalf of the Illinois EPA today, and I'll just
9 begin with our pre-filed question one.

10 In your pre-filed testimony, you
11 state that part of the responsibilities of your
12 position at Midwest Generation include modeling the
13 complex thermal hydrodynamics of power plant and
14 waterway interactions and overseeing thermal
15 compliance monitoring and developing, and running
16 complex models that are used to optimize station
17 loads during critical generation periods, while
18 maintaining environmental compliance.

19 Please explain your role in these
20 activities, and what training have you received
21 related to modeling of thermal hydrodynamics.

22 MS. WOZNIAK: I'm the codeveloper of
23 the site-specific thermal hydrodynamic model called
24 Jolder -- it's J-o-l-d-e-r -- that was created in

1 the late '80s by the Iowa Institute of Hydraulic
2 Research at the University of Iowa in collaboration
3 with Commonwealth Edison.

4 I continued to run this model on a
5 regular basis as a means of maintaining compliance
6 in the alternate thermal limitations that are
7 effective at the I-55 bridge under the adjusted
8 standard granted in AS 96-10.

9 There's also another model that's
10 used for general compliance, greeting purposes, that
11 was developed by the Iowa Institute of Hydraulic
12 Research in the late '90s, and that's known as CS2.
13 This model was customized for Midwest Generation's
14 application in 2002. It is now also regularly used
15 throughout the year to get a snapshot of predicted
16 I-55 thermal compliance status, and it's also useful
17 for running various scenarios to determine potential
18 effects on compliance.

19 Both models use many of the same
20 input parameters, but the CS 2 is a less refined
21 model that doesn't -- isn't accurate enough to be
22 used for cooling tower operation or degrading
23 decisions. But both of the models are used to
24 adjust Joliet's station operations in order to

1 maintain compliance with the applicable thermal
2 standards.

3 MS. DIERS: I'm not sure if you
4 answered this in the answer you just gave, but what
5 training have you received with respect to the
6 modeling?

7 MS. WOZNIAK: Much of my training has
8 been just in the experience of doing it. And I've
9 been, you know, working with this model since 1988.

10 MS. DIERS: Question two, you refer to
11 the Joliet stations on the study area as Joliet 6,
12 7, and 8. Please explain the numbering system for
13 the Joliet facilities.

14 MS. WOZNIAK: Okay. The term Joliet 6
15 means the operating unit at that location, which is
16 -- Unit 6 is at the Joliet station. And when I
17 referred to Joliet 7 and 8, those are the two
18 operating units on the opposite side of the Lower
19 Des Plaines River. So it's also called Joliet
20 Station 29 sometimes.

21 MR. ETTINGER: Excuse me. Seven and
22 eight equals 29?

23 MS. WOZNIAK: Yes.

24 MS. TIPSORD: Albert, don't forget to

1 identify yourself for the record.

2 MR. ETTINGER: I'm Albert Ettinger.

3 MS. TIPSORD: Thank you.

4 MR. ETTINGER: As long as we're -- is
5 there a nine that's referred to?

6 MS. WOZNIAK: Nine is the same as
7 Joliet Unit 6.

8 MS. FRANZETTI: Doesn't that make
9 complete sense to you?

10 MS. WOZNIAK: The numbers are from
11 Commonwealth Edison, and I'm not sure where the 9
12 and 29 -- you know, what the purpose is.

13 MR. ETTINGER: Sometimes -- we see a
14 lot of documents, and I just want to be clear here.
15 Six sometimes means nine, or nine sometimes means
16 six, and seven and eight is sometimes equal to 29?

17 MS. WOZNIAK: Correct.

18 MS. DIERS: Question three, which
19 regions of the CAWS do the Fisk, Crawford and Will
20 County stations discharge to?

21 MS. WOZNIAK: Fisk discharges into the
22 south branch of the Chicago River just upstream of
23 Bubbly Creek, and both Crawford and Will County
24 discharge in the Chicago Sanitary and Ship Canal.

1 Crawford discharges at Pulaski
2 Road, and Will County discharges, I think,
3 Romeoville just downstream of the location of the
4 Corps of Engineers aquatic species electric barrier.

5 MS. DIERS: Question four, please
6 identify the other two Midwest Generation generating
7 stations in Illinois, and what type of cooling is
8 utilized at these two stations and the Western
9 Pennsylvania station.

10 MS. WOZNIAK: The two other Midwest
11 Gen plants in Illinois are Waukegan and Powerton.
12 Waukegan utilizes open cycle cooling on Lake
13 Michigan, and Powerton has a cooling pond. The
14 Homer City plant in Pennsylvania has three natural
15 draft cooling towers.

16 MS. DIERS: Question five, why were
17 cooling towers installed in 1999 at the Joliet 7 and
18 8 facilities?

19 MS. WOZNIAK: Helper cooling towers
20 were installed at Joliet 7 and 8 in 1990 in order to
21 lessen the amount of unit D ratings that were
22 necessary during critical electrical demand periods
23 to meet the alternate I-55 thermal standards granted
24 in AS 96-10.

1 MS. DIERS: Question six, explain how
2 the towers are used to meet near field thermal
3 standards during critical low flow periods that
4 occur in the Dresden Pool -- see Pages 4 and 5 of
5 the testimony. What happens at the other facilities
6 during these periods?

7 MS. WOZNIAK: Based on my experience
8 and knowledge of the available data, the Joliet
9 station is subjected to the most critical and
10 adverse flow fluctuations in the waterways because
11 it's directly downstream of the Brandon Road Lock
12 and Dam.

13 Flow changes at this location
14 occur by orders of magnitude over the course of one
15 or more hours, often resulting in zero flow for
16 extended periods of time. Prolonged low flow
17 requires immediate response by the station in order
18 to maintain compliance with the existing thermal
19 standards, and this is accomplished by turning on
20 cooling towers to improve heat dissipation and
21 mixing of the effluence.

22 For Will County, Fisk and
23 Crawford, we monitor and record end of pipe
24 discharge temperature in discharge monitoring

1 reports. And giving the allowance of the mixing
2 zones, along with other midstream reference data,
3 we've been able to maintain compliance.

4 MR. ETTINGER: Excuse me. What do you
5 mean by zero flow for long periods of time?

6 MS. WOZNIAK: The measured flow -- the
7 reported flow from the lock and dam is reported as
8 zero for several hour periods. That doesn't mean
9 there's no water, it just means it's not moving.

10 MR. ETTINGER: And by long periods of
11 time you mean several hours?

12 MS. WOZNIAK: Yes, at times.

13 MR. ETTINGER: So basically the water
14 below the lock and dam is just sitting there?

15 MS. WOZNIAK: Pretty much. We've been
16 reporting our discharge temperature data for years,
17 and never had the Agency advise us that the
18 discharge temperatures violated thermal water
19 quality standards for any of our discharges.

20 MS. DIERS: Question seven, who
21 developed the thermal models used, what are the
22 inputs of the model, and where is the data obtained
23 from, and how are the results of these models tested
24 against real world conditions?

1 MS. WOZNIAK: As I stated earlier, I'm
2 the primary collaborator with the Iowa Institute of
3 Hydraulic Research personnel in developing the
4 thermal models, which are currently used by Midwest
5 Gen. The calculational basis and coding was done
6 exclusively by the Institute of Hydraulic Research,
7 with the local data input, geographic location
8 information, and validation provided by either
9 Com Ed or Midwest Gen, depending on which model
10 we're talking about.

11 The inputs of the model were
12 detailed in my testimony, but I can go over each of
13 them again. River flow is one. It's obtained from
14 the U.S. Army Corps of Engineers real time versus
15 their website, and also historical data is FTP'ed
16 directly to our server.

17 River temperature data is used,
18 intake discharge and I-55, which are real time
19 monitoring data points that Midwest Gen takes care
20 of. Meteorological data, including wind speed,
21 relative humidity, dew point, wind direction, are
22 from several difference sources, including the
23 National Weather Service.

24 We have a local met station at our

1 Joliet facility. We ascribe to a weather
2 service -- a forecasting service, and there's also
3 other -- you know, we look at various other
4 meteorological data inputs just to make sure that
5 our predictions are accurate.

6 Stationed by Gotlow (phonetic) is
7 another data input and we, you know, monitor that
8 continually and maintain historical records of all
9 of our operating data, and we also look at cooling
10 tower operation, which has real time operational
11 parameters, including the inlet and discharge to the
12 cooling towers to gauge their efficiency.

13 As far as how the results of the
14 models are gauged against real world conditions, the
15 model is constantly validated by comparing model
16 temperature predictions to the temperatures that are
17 monitored by Midwest Gen at the I-55 bridge.

18 Midwest Gen is required to
19 maintain a calibrated temperature monitor at the
20 site year-round for MPDS permit conditions. Real
21 time temperature data from I-55 is also incorporated
22 into the model, which allows for ease of comparison.
23 Any deviations between predicted versus actual I-55
24 water temperature are corrected by adjusting cooling

1 tower modules or station loads. This is an
2 iterative process that's done almost continually
3 whenever the thermal model is used. So in essence,
4 real world conditions continuously calibrate the
5 model.

6 MS. DIERS: Do you know how river flow
7 is measured by the U.S. Army Corps of Engineers?

8 MS. WOZNIAK: I believe it's based on
9 the number of gates they have at the lock and dam
10 and how far they are opened or closed.

11 MS. DIERS: Okay. Question eight,
12 where is the 26-acre mixing zone applicable to the
13 Midwest Generation's CAWS and Lower Des Plains River
14 facilities found, and then how is compliance with a
15 secondary contact temperature limits measured?

16 MS. WOZNIAK: The 26-acre boundary is
17 not a stagnant or in a fixed location that's always
18 in the same place in the waterway. Its location
19 varies depending on the relative flows of the
20 station versus the receiving stream. And not only
21 its location, but also its size varies based on
22 those same parameters. A full 26-acre mixing zone
23 is also sometimes not even necessary in order to
24 meet the existing standards.

1 As far as how secondary
2 temperature limits are measured, in our prior
3 discussions with Illinois EPA water division staff
4 responsible for issuing MPDS permits to our station,
5 IEPA has always recognized difficulty in
6 continuously monitoring the mixing zones in these
7 artificially controlled waterways, because the edge
8 of the thermal is constantly moving.

9 Hence, the installation of an
10 in-stream monitoring location at the edge of the
11 mixing zone really isn't feasible, effective, or
12 practical, because the edge of the mixing zone
13 changes depending on effluent temperature, ambient
14 weather conditions, and there's also barge traffic
15 that's going through the barge channel. So you
16 can't have a monitor out in the middle of the river.
17 It wouldn't stay there very long. Therefore, MPDS
18 permits require we monitor and report to the station
19 the discharge temperature.

20 In addition, at various times in
21 the past, we have sent some field crews out to do
22 in-stream thermal monitoring in order to confirm
23 compliance with thermal standards at the edge of the
24 mixing zone under various conditions. And this

1 field data has been continued to be used as
2 reference data to set thermal compliances for these
3 stations under conditions that exist at any given
4 time.

5 MS. DIERS: Question nine, Page 4,
6 Paragraph 2 of your pre-field testimony states
7 Unit 6, the design maximum temperature rise in the
8 circulating water is approximately 10.7 degrees
9 Farenheit. Units 7 and 8, the design maximum
10 temperature rise in the circulating cooling water is
11 approximately 12.4 degrees Farenheit.

12 Does this take into account the
13 cooling towers, and why are these numbers different
14 from the Board's opinion, adjusted standard 9610,
15 page 3, last paragraph, which states, "The station
16 has two thermal discharges to the Des Plaines River.
17 The maximum design temperature rise in the
18 circulating cooling tower is approximately
19 9.4 degrees Farenheit."

20 MS. WOZNIAK: Okay. To answer the
21 first part of the question, no. The circulating
22 water temperature rise represents temperature
23 differences caused in a condensed area only. So
24 it's delta from discharge to intake, and, therefore,

1 does not include anything associated with the
2 cooling towers.

3 To answer the second, the value in
4 my testimony was obtained from Joliet station
5 personnel during the preparation of my testimony,
6 and I believe that the difference may be in the fact
7 that design delta T really is a calculated value
8 that's based on certain assumptions regarding, you
9 know, how many cooling pumps are on, what their
10 efficiency is, how much following there is.

11 So, you know, it's not one number
12 that anyone can look up and they just calculate it.
13 So it could have been calculated slightly
14 differently. But, you know, they're all within that
15 ballpark. One thing I do know is that there's
16 nothing that's physically changed at the station
17 which would result in the different values.

18 MS. DIERS: Question ten, Page 4,
19 Paragraph 3 of your pre-filed testimony, you state
20 the cooling towers for Unit 7 and 8 were voluntarily
21 installed in 1999 at a cost of -- I should say
22 approximately -- \$23 million. In the adjusted
23 standard 9610, Com Ed determined the cost of the
24 cooling towers to be \$68 million.

1 Why the discrepancy in the cost,
2 and why the change of position in installing cooling
3 towers after the Board was told it was not
4 economical?

5 MS. WOZNIAK: Okay. To answer the
6 first part, there is not a discrepancy in the cost.
7 It's, sort of, an apples to oranges cost comparison.
8 The Com Ed cost estimate of \$68 million back in the
9 mid '90s was for something much different than the
10 help of cooling towers, which were stalled in 1999.

11 As I recall, the Com Ed
12 \$68 million cost estimate was instead for closed
13 cycle cooling towers. The helper towers installed
14 in 1999 and cost abruptly \$23 million, are
15 one-through modules, not closed-cycle cooling
16 towers. They are not recirculating. They do not
17 allow the station to operate in closed-cycle mode.

18 Also, the Joliet cooling towers
19 that are out there now are only large enough to cool
20 approximately one-third to one half of Joliet Unit 7
21 and 8 discharge, and there are no cooling towers at
22 Joliet Unit 6.

23 For the second part of your
24 question, there really was no change in position.

1 As I said earlier, the closed-cycle cooling towers
2 that would have been necessary to meet the general
3 use thermal standards at I-55 without granting of an
4 adjusted standard were and remain economically
5 unreasonable, and also have technical difficulties
6 associated with them.

7 The installation of the more
8 limited helper cooling towers was a decision
9 subsequently made by Com Ed in order to reduce the
10 number of unit degrades that were occurring in order
11 to maintain compliance with the AS 96-10 adjusted
12 thermal standards during critical demand periods
13 when electricity was needed to meet customer
14 demands. The use or help of towers lessens the
15 amount of units to be necessary to meet the
16 applicable I-55 thermal limits.

17 MS. DIERS: Question 11, Adjusted
18 Standard 96-10, March 16th, 2000, Page 4, the last
19 paragraph states, based upon the assurance of Com Ed
20 and Midwest that the management and operation of the
21 generating stations will continue unchanged, does
22 deregulation change the operating of the generating
23 station?

24 MS. WOZNIAK: No. The stations

1 continue to be operated in response to power demand.

2 MS. DIERS: Has power demand gone up
3 over time?

4 MS. WOZNIAK: I'm not sure. I would
5 say it's pretty much the same.

6 MS. FRANZETTI: Maybe, Counsel, just
7 for clarification, when you say over time,
8 what's -- the last ten years?

9 MS. DIERS: That's fine.

10 MS. FRANZETTI: Is that what you were
11 assuming?

12 THE COURT: And also for
13 clarification, I assume you're asking about power
14 demand from --

15 MS. WOZNIAK: From this station is
16 what I understand that to be.

17 MS. DIERS: That's correct. Question
18 12, you state on Page 6 of your pre-filed testimony,
19 "In 1996, IEPA did not view the thermal discharges
20 as limiting aquatic diversity in the receiving
21 waters." Which receiving waters are you referring
22 to in this statement?

23 MS. WOZNIAK: The Lower Des Plaines
24 River.

1 MS. DIERS: Is it upstream or
2 downstream of I-55?

3 MS. WOZNIAK: Actually, that quote was
4 taken directly from the AS 96-10 in reference, so I
5 believe they were referring to below the I-55
6 bridge.

7 MS. DIERS: I'm going to strike
8 Question 13. Question 14, is there anything in the
9 Agency's proposal to the Board that would impact the
10 language of Midwest Generation's regulatory relief
11 at the I-55 bridge?

12 MS. FRANZETTI: Just a point of
13 clarification, Counsel. What are you including in
14 the word impact? Can you clarify that question just
15 a bit for us?

16 Well, maybe I can help. You want
17 us to assume that the AS 96-10 standards will
18 continue to apply or not with what the Board does
19 here superseding? Is that what you want -- which
20 way do you want us to assume it?

21 MS. DIERS: Yes.

22 MS. FRANZETTI: The latter?

23 MS. DIERS: Yes.

24 MS. FRANZETTI: That we would have to

1 comply with what your proposed standards are?

2 MS. DIERS: Yes. Thank you, sorry.

3 MS. WOZNIAK: Okay. Given that the
4 Agency's proposal would change the current secondary
5 contact thermal standards that apply to Joliet
6 station's discharges prior to I-55 and make those
7 stricter, I believe the Agency's proposal would
8 significantly change what the Joliet station now
9 needs to do in order to achieve thermal standard
10 compliance.

11 The existing regulatory relief in
12 AS 96-10 does not apply to near field temperature
13 limits, which is what the Agency is proposing to
14 make more stringent. So, in essence, the I-55
15 thermal standards become moot if we need to comply
16 with the proposed IEPA thermal limits near field.

17 MS. DIERS: Thank you. Thanks, Susan,
18 for the clarification.

19 Question 15, on Page 9 of your
20 pre-filed testimony, you state through subsequent
21 studies and modeling efforts, Midwest Gen determined
22 that the Joliet facilities (and not the three CAWS
23 stations) had the greatest influence on water
24 temperatures at the I-55 bridge. Therefore, efforts

1 by Midwest Gen to maintain thermal compliance at the
2 I-55 bridge remove mostly around the operations at
3 the Joliet facilities.

4 Are there any activities of the
5 CAWS facilities that are used to regulate
6 temperature at the I-55 bridge, or is this
7 exclusively done by the Joliet station?

8 MS. WOZNIAK: Maintenance and
9 compliance of the I-55 thermal limits is controlled
10 by the operations of the Joliet station.

11 MS. DIERS: Question 16, you testify
12 on Page 12 of your pre-filed testimony that the
13 model has been filled, verified, and has been shown
14 to be accurate within two degrees Farenheit,
15 assuming the model input parameters are also
16 accurate. What happens to the accuracy when model
17 inputs are not accurate?

18 MS. WOZNIAK: As I mentioned before,
19 if the model projections of the I-55 temperature
20 don't match where the actually measured adjustments
21 are at I-55, adjustments are made to the input
22 parameters of the model to obtained better
23 concurrence between their projections and the actual
24 temperatures monitored at the bridge.

1 This is, sort of, part in parcel
2 of the modeling effort that's taken on a continuing
3 basis during critical weather flow or low demand
4 conditions. Experience of implementing the model
5 over the years may impact the various changes in the
6 values if the input hasn't proved the accuracy of
7 the models predictions. It's iterative process that
8 occurs, you know, sometimes 48 hours a day with
9 constant adjustments being made.

10 MS. DIERS: Do you know which
11 parameters are changed most often due to real world
12 conditions?

13 MS. WOZNIAK: I would say the number
14 of cooling towers and the number of unit derates
15 that may need to be adjusted in order to match up
16 model projections to actual temperatures being
17 measured at that bridge. We're projecting out three
18 days in advance, so there's a lot of things that are
19 changing that need to be adjusted for so we maintain
20 compliance.

21 MS. DIERS: I'm going to strike 17 and
22 go to 18.

23 What values are used in the model
24 for intake and ambient water temperatures?

1 MS. WOZNIAK: Joliet 6 and Joliet 7
2 and 8 intake temperatures are used in the model for
3 both intake and ambient water temperatures.

4 MS. DIERS: I'm going to strike
5 Question 19, I'm going to strike Question 20, and
6 I'm going to strike question 21.

7 MS. FRANZETTI: Keep going.

8 MS. DIERS: Question 22, in your
9 opinion, do you believe the heat from Midwest
10 Generation's facility is having an impact on aquatic
11 life in the CAWS and Lower Des Plaines River?

12 MS. WOZNIAK: I don't believe that
13 there's any adverse impact on aquatic life in this
14 CAWS or the Lower Des Plaines River related to
15 thermal discharges.

16 MS. DIERS: 23, what experience and
17 firsthand observations through the UIW studies
18 helped to formulate your conclusion that the
19 adjusted standards provide an adequate level of
20 protection for the aquatic community below I-55 and
21 provide a more representative, normal, seasonal
22 fluctuation in either the secondary contact or the
23 general use numeric standard?

24 MS. WOZNIAK: I've personally worked

1 on this waterway since about 1984. And in that
2 time, having done field work and reviewed other
3 people's reports, I've personally not observed any
4 adverse impacts on aquatic life, which would be
5 expected if heat were having an adverse impact. No
6 fish kills or anything of that nature, nor of any of
7 the fisheries monitoring reports I've reviewed now
8 for many years found any impacts from heat. The
9 assemblage of fish appears to be representative of a
10 somewhat degraded habitat-limited waterway, but is
11 not indicated of any limitations that would be
12 caused by heat alone.

13 The AS 96-10 standards are more
14 representative of normal seasonal fluctuations in
15 the Lower Des Plaines River than either of the
16 current secondary contact or general use limits that
17 provide for a more gradual transition period both
18 the spring and fall, rather than either a constant
19 temperature year round, rather or a drastic
20 instantaneous change in the case of general use when
21 the limit goes from 60 degrees Farenheit on
22 March 31st to 90 degrees Farenheit on April 1st, and
23 then from to 90 degrees Farenheit on November 30th
24 to 60 degrees on December 1st.

1 MS. DIERS: In your opinion, has a
2 waterway improved in terms of diversity and number
3 of fish in your time looking and working with the
4 Joliet stations?

5 MS. WOZNIAK: I'd say there have been
6 improvements over time in the fish community since
7 I've been looking at the data.

8 MS. DIERS: And question 24, which UIW
9 studies are you referring to in your pre-filed
10 testimony?

11 MS. WOZNIAK: Okay. These are the
12 compilation of the physical, chemical, and
13 biological studies, which were conducted in the
14 Upper Illinois Waterways to support the AS 96-10
15 standards.

16 MS. DIERS: Question 25, please
17 explain why it's more often than not that the
18 adjusted standards compliant means that dictate Unit
19 D ratings and the use of cooling towers. I think
20 this is reference in Page 10 of your testimony.

21 MS. WOZNIAK: Okay. The far field
22 adjusted standards are more stringent than the
23 existing near failed type of secondary contact
24 thermal limits. Therefore, station operations must

1 be adjusted to meet the far field limits, even when
2 the near field thermal compliance is maintained.

3 MS. DIERS: I'm going to strike 26.
4 And that's all we have at this time.

5 MS. TIPSORD: All right. Then next we
6 have the Environmental Law and Policy Center. You
7 know what, why don't we go ahead and take a couple
8 minutes while everything is rearranged.

9 (Whereupon, a break was taken,
10 after which the following
11 proceedings were had.)

12 MS. TIPSORD: We're back on the
13 record, and we're ready to start with the
14 Environmental Law and Policy Center.

15 MR. ETTINGER: Okay. I'll start with
16 question number one. In Page 2 of your testimony,
17 you mention that the Midwest Generation stations use
18 large volumes of surface water. What is the intake
19 volume used by each of the Fisk, Crawford, Will
20 County, and Joliet stations relative to the low flow
21 of the water body from which the water is taken?

22 MS. WOZNIAK: The average flow rates
23 for these plants from the most recent MPDS permit
24 renewal information are as follows: Fisk is about

1 239 million gallons per day, Crawford is 466 million
2 gallons per day, Will County is 741 million gallons
3 per day, Joliet 6 is 315 million gallons per day,
4 and Joliet Unit 7 and 8 are 173 million gallons per
5 day.

6 From the South Branch and the Ship
7 Canal, there really isn't any official flow gauging
8 station upstream of Romeoville or Lemont. So the
9 upper flow of the upper regions of the canal is
10 largely unknown. And from my understanding, this is
11 due to the inherent complexities of the system and
12 the erratic level changes, which make remote
13 monitoring of flow in the waterways very difficult.

14 The only known upstream flow
15 that's published is from the MWRDGC's North Side
16 Treatment Plant, which provides the majority of the
17 flow into the upper canal system, along with the
18 Lake Michigan Diversion.

19 In any case, the flow in the canal
20 system cannot be likened to flow in a pipe. Because
21 of the impounded nature of the waterway, the
22 navigational pools are much more like a bathtub or a
23 lake than a true flowing river system. And, as
24 such, trying to relate the amount of water used for

1 condenser cooling to the amount of flow available in
2 the waterway is not an accurate representation of
3 what's occurring in the waterway at times.

4 There's always a large volume of
5 water available in the navigational pool to dilute
6 effluent, including heating ones. In the quantity,
7 water may not be moving, but it's there nonetheless.

8 MR. ETTINGER: When we're looking at
9 the upstream plants -- first of all, Fisk and
10 Crawford -- if there's no flow at times, aren't you,
11 in effect, taking the same water out that you -- in
12 that you just put out? Regarding heat temperature,
13 you're taking water out of the same bathtub and
14 putting it back in.

15 MS. WOZNIAK: If the flow remains low
16 for long periods of time, that can happen on
17 occasion. The flow is changing constantly out
18 there. Not that we know what it is, but we know
19 it's changing.

20 MR. ETTINGER: And does it provide --
21 does it cause problems for you if the water coming
22 in is hot?

23 MS. FRANZETTI: Counsel,
24 clarification. What do you mean by problems?

1 MR. ETTINGER: Problems.

2 MS. FRANZETTI: What's the problem?
3 Operationally?

4 MR. ETTINGER: Yes.

5 MS. WOZNIAK: Operationally, if the
6 water is too warm the unit will not be able to
7 operate efficiently in their need to drop load on
8 it.

9 MR. ETTINGER: Thank you. Now,
10 looking at Joliet, we heard that the low sometimes
11 there was zero. Is that correct?

12 MS. WOZNIAK: From the information
13 from the Corps of Engineers, it says it goes to
14 zero, yes.

15 MR. ETTINGER: Okay. What is the
16 flow -- or intake at Joliet relative to the average
17 flow at the Lower Des Plaines?

18 MS. WOZNIAK: I'm not sure I know what
19 the average flow is offhand.

20 MR. ETTINGER: Now, as I understand
21 it, your -- you don't know what the flow is at the
22 Joliet plant or at -- I'm sorry. As I understand
23 your testimony, the intake at Joliet total is about
24 14 hundred million gallons per day?

1 MS. WOZNIAK: Approximately.

2 MR. ETTINGER: And I saw another
3 number somewhere here for 7 and 8 of 1325. Yeah,
4 this is on Page 4. It says Units 7 and 8 are
5 capable of producing approximately 1,000, a designed
6 circulated water flow rate of approximately 1325
7 million gallons per day.

8 MS. WOZNIAK: That number in my
9 testimony was the maximum. What I gave you just now
10 was the average.

11 MR. ETTINGER: Oh, okay. That
12 explains the difference. So if we are -- I've done
13 my math right, we've got a maximum flow based on
14 that number and the other number you gave me of
15 about 17 million gallons per day. Is that correct?

16 MS. FRANZETTI: Are you adding the 315
17 million gallons a day for Joliet 6?

18 MR. ETTINGER: I'm adding 1325 to 376,
19 which is the other number that she gave me.

20 MS. FRANZETTI: In her testimony?

21 MR. ETTINGER: Written testimony.

22 MS. FRANZETTI: Written testimony?

23 MR. ETTINGER: Correct. And that
24 gives me -- I went to law school, so math was

1 hard -- but I think I got 1,700. Is that correct?

2 MS. WOZNIAK: 1,400, isn't it?

3 MR. ETTINGER: I'm doing the max.

4 MS. WOZNIAK: Okay, yes. 1,700

5 MR. ETTINGER: So the max would be
6 about 1,700, and that's about 2,600 CFS?

7 MS. FRANZETTI: We need a calculator,
8 Counsel.

9 MR. ETTINGER: 1.55 times --

10 MS. WOZNIAK: Oh, I know what the
11 conversion is, I just can't do it in my head.

12 MR. ETTINGER: Very well. Have you
13 ever done the conversion?

14 MS. WOZNIAK: Yes.

15 MR. ETTINGER: Have you ever looked at
16 what the flow is -- the intakes of those plants
17 compared to the low flow CFS?

18 MS. WOZNIAK: What low flow are you
19 referring to?

20 MR. ETTINGER: Well, you told us zero
21 at one point.

22 MS. WOZNIAK: Well, that's an easy
23 comparison.

24 MR. ETTINGER: So for substantial

1 periods you may be running the same water into
2 Joliet that you're putting out?

3 MS. FRANZETTI: Object to form,
4 Counsel. I don't know what you mean by substantial
5 periods.

6 MR. ETTINGER: Well, if it goes to
7 zero for several hours at a time, that would be
8 several hours in which you were clearly doing that.

9 MS. WOZNIAK: It's not necessarily the
10 same water. Because as I said, it is more like a
11 pool or a bathtub. It's not moving. It's just a
12 large volume of water in that whole pool, compared
13 to what we're taking in for the condenser cooling.

14 MR. ETTINGER: Are the intake to the
15 Joliet plants sometimes larger than the Lower Des
16 Plaines River flow?

17 MS. WOZNIAK: As I said before, it's
18 not really appropriate to relate flow velocity,
19 which is what the flow is reported in by the Corps
20 of Engineers, to the overrule volume contained in
21 the navigational pool. They say it's more
22 like -- there's more water out there than there is
23 being circulated through the plant. The river never
24 runs dry.

1 MR. ETTINGER: That's true. Are you
2 ever actually causing a backflow in the Des Plaines
3 River?

4 MS. WOZNIAK: I've not seen the whole
5 river move backwards.

6 MR. ETTINGER: Does Midwest
7 Generation -- I think you did say Midwest Generation
8 kept records of its power production at those
9 plants.

10 MS. WOZNIAK: Correct.

11 MR. ETTINGER: Have you ever compared
12 what the power production was of those plants under
13 Midwest Generation compared to Commonwealth Edison
14 production?

15 MS. FRANZETTI: So over the entire
16 time Com Ed ran it versus ours?

17 MR. ETTINGER: Well, let's go back.
18 Good clarification. When did Midwest Generation
19 take over this place?

20 MS. WOZNIAK: December of 1999.

21 MR. ETTINGER: December of 1999. If
22 you compare the period of, say, the '90s to the
23 comparison since December of 1999, was Midwest
24 Generation running the plants more or less than

1 Commonwealth Edison?

2 MS. WOZNIAK: I would say it varies on
3 a year-to-year or even seasonal basis. But overall,
4 I think the operational levels are pretty
5 consistent.

6 MR. ETTINGER: You participated in the
7 heat demonstration proceedings in the late '80s, did
8 you not?

9 MS. WOZNIAK: Yes.

10 MR. ETTINGER: Do you recall the
11 representations that were made by Commonwealth
12 Edison as the capacity factor at which those plants
13 would be run?

14 MS. WOZNIAK: I don't remember.

15 MR. ETTINGER: Do you recall whether
16 Commonwealth Edison said those plants were going to
17 be run at an increasingly lower capacity factor over
18 the coming years?

19 MS. WOZNIAK: I don't recall that.

20 MR. ETTINGER: Does Midwest Generation
21 have plans to close this, Crawford, Will County, or
22 Joliet plants or units in the foreseeable future?

23 MS. FRANZETTI: Do we have
24 pre-filed --

1 MS. TIPSORD: Yeah, that's question
2 seven.

3 MS. FRANZETTI: Oh, sorry. I was
4 still back at four.

5 MS. WOZNIAK: Will County Units 1 and
6 2 are scheduled to be closed at the end of 2010, and
7 to my knowledge there are no plans for other unit
8 closures.

9 MR. ETTINGER: Okay. Number eight,
10 should we assume in this proceeding that any capital
11 cost of putting supplemental cooling equipment on
12 those plants can be fully amortized over the life of
13 the plants?

14 MS. WOZNIAK: I don't know the answer
15 to that question.

16 MR. ETTINGER: Number nine, does
17 Midwest Generation claim as to any station or unit
18 that the pollution control equipment is not
19 justifiable because the plant will soon close?

20 MS. WOZNIAK: Yes.

21 MR. ETTINGER: And which ones is that?

22 MS. WOZNIAK: Will County 1 and 2.

23 MR. ETTINGER: But other than Will
24 County 1 or 2, we don't know whether it would be --

1 MS. WOZNIAK: I don't know.

2 MR. ETTINGER: I'll skip ten. That's
3 become a matter of public record.

4 Are you aware of any power plants
5 anywhere that have been retrofitted to add cooling
6 capacity, other than the cooling towers built for
7 Joliet Unit 7 and 8?

8 MS. FRANZETTI: And Albert, can we
9 just ask clarification on that? By retrofit, do you
10 mean go to closed-cycle cooling? Is that what we're
11 supposed to assume?

12 MR. ETTINGER: No. Actually, I meant
13 it more broadly than that.

14 MS. FRANZETTI: Oh, okay. So included
15 in things like helper cooling towers in Joliet?

16 MR. ETTINGER: Any sort of retrofitted
17 cooling equipment, I'm asking her for her knowledge.

18 MS. FRANZETTI: Okay. Give me just a
19 second, because I think we interpreted it you meant
20 going to closed site.

21 MR. ETTINGER: I don't know why you
22 would do that, since I said other than 7 and 8.

23 MS. FRANZETTI: Not a problem. Go
24 ahead.

1 MS. WOZNIAK: I'm aware that Exelon's
2 Dresden nuclear station has a cooling pond, but also
3 installed supplemental cooling towers. But as far
4 as that, I don't know of any others.

5 MR. ETTINGER: Has Dresden over the
6 years had trouble meeting its heat discharge limits?

7 MS. FRANZETTI: I would note that
8 Dresden's not owned by Midwest Gen for the last ten
9 years. So I believe that question goes beyond her
10 knowledge.

11 MR. ETTINGER: I believe you're wrong.
12 Let's inquire about Ms. Wozniak's knowledge from the
13 time in which she worked at Commonwealth Edison,
14 which I believe was 1984 to 1999.

15 MS. FRANZETTI: So for that time --

16 MR. ETTINGER: During that period, did
17 the Dresden plant have any problem meeting its heat
18 discharge limits?

19 MS. WOZNIAK: They did have some
20 thermal exceedance during that time.

21 MR. ETTINGER: To your knowledge, did
22 they decide -- when did they put the supplemental
23 heating -- or cooling equipment on the Dresden
24 plant?

1 MS. WOZNIAK: When I was employed by
2 Com Ed, I know they had rental cooling towers for
3 one or two summers. And any subsequent cooling that
4 they put in afterwards, I mean, I think was
5 permanent, but that was after I stopped working
6 there.

7 MR. ETTINGER: Basically the cooling
8 pond is too small for the size plant they're
9 operating on?

10 MS. WOZNIAK: I don't know for sure.

11 MS. TIPSORD: Our voices are falling
12 off a little bit. Remember, we're talking to the
13 back of the room, both the witness and the
14 questioner. Thank you.

15 MR. ETTINGER: Okay. I have another
16 question here, and this one is easy. On Page 2, you
17 talked about Midwest Gen as an independent tower
18 producer --

19 MS. FRANZETTI: On Page 2 of her
20 testimony?

21 MR. ETTINGER: Of her pre-filed
22 testimony.

23 MS. FRANZETTI: Okay.

24 MR. ETTINGER: And so I guess I was

1 wondering independent of what?

2 MS. WOZNIAK: It's not considered a
3 utility, whereby it cannot pass its costs along to
4 its customers in the form of rate base. It's
5 strictly wholesale marketing of power.

6 MR. ETTINGER: It's a merchant
7 producer?

8 MS. WOZNIAK: Correct.

9 MR. ETTINGER: It is a subsidiary of a
10 California corporation, isn't it?

11 MS. WOZNIAK: It is, but they also
12 have a utility. We are the non-utility piece of
13 that.

14 MR. ETTINGER: Thank you. You mention
15 on Page 5 that the -- and now we're back to the
16 pre-field question 12 -- you mentioned on Page 5
17 that the allowed mixing zone is currently 26 acres.
18 Are you aware of any study that has determined
19 whether the heat discharge from the Joliet station
20 contains more than 26 percent of the cross sectional
21 area or volume of flow of the Des Plaines River?

22 MS. TIPSORD: And before you answer
23 that, Albert you read that 26 percent, but the
24 pre-filed question itself says 25 percent.

1 MR. ETTINGER: I stand corrected.

2 Please answer my question as though I said what the
3 pre-filed question asked.

4 MS. TIPSORD: That one percent could
5 make a difference.

6 MR. ETTINGER: It could make all the
7 difference in the world. In fact, it does.

8 MS. WOZNIAK: No, I'm not aware of any
9 study that determined that. We did in-stream
10 monitoring in 2002. The temperatures showed we were
11 not using more than 25 percent of the
12 cross-sectional area or volume of flow. And as I
13 recall, the UIW studies done in support of AS 96-10
14 showed similar results.

15 MR. ETTINGER: And how did you do that
16 study?

17 MS. WOZNIAK: It was a thermal
18 monitoring study that did cross-sectional,
19 top-to-bottom, side-to-side measurements.

20 MR. ETTINGER: And that's part of the
21 UIW study that was done in the '90s?

22 MS. WOZNIAK: Correct. And we did
23 one -- and we did in-stream monitoring in 2002 that
24 did similar work.

1 MR. ETTINGER: Now, you say that
2 26 acres, it fluctuates. What do you mean by that?

3 MS. WOZNIAK: Depending on the
4 relative flow of the plant and the flow of the
5 river, it could be wide, it could be long and
6 narrow. It's constantly moving, because the flows
7 are constantly changing. So it's a surface area, so
8 it's moving.

9 MR. ETTINGER: Okay.

10 MS. WOZNIAK: The edge is moving, so
11 you would have to go out and measure it.

12 MR. ETTINGER: Now, does six get a
13 26-acre and seven and eight get a 26-acre, or is it
14 a total 26-acre for the two plants?

15 MS. FRANZETTI: I'll just note I think
16 that question is probably best put to the Agency.
17 But what our understanding --

18 MR. ETTINGER: I can't -- I'll
19 have -- why not the second best? How's that.

20 MS. WOZNIAK: I think each station is
21 entitled to its own 26-acre mixing zone.

22 MR. ETTINGER: Its own 26 acres. Now,
23 if you reach the 26 acres across the river, there's
24 not enough river there, right?

1 MS. FRANZETTI: You're asking a
2 hypothetical?

3 MR. ETTINGER: Yeah.

4 MS. FRANZETTI: Assume --

5 MR. ETTINGER: How wide is the river
6 at Joliet, at the place where the Joliet plants are?

7 MS. WOZNIAK: I can't recall offhand.

8 MR. ETTINGER: Is it less than
9 400 feet?

10 MS. WOZNIAK: I seem to recall it's
11 something around 500, but I'd have to refer to the
12 Corps of Engineers river model maps to know for
13 sure.

14 MR. ETTINGER: Question 13, are you
15 aware of any study that is determined that the
16 mixing zone at the Joliet station maintains a zone
17 of passage where aquatic life at which the
18 temperature standard of 93 degrees Fahrenheit is met
19 95 percent of the time?

20 MS. WOZNIAK: Yes. The same 2002
21 in-stream monitoring data showed a zone passage for
22 aquatic life maintained under typical Joliet station
23 operating conditions, which includes conditions
24 during the summer months.

1 MR. ETTINGER: Do we have that study
2 in the record anywhere now?

3 MS. FRANZETTI: It's not a study.
4 It's in-stream monitoring data.

5 MR. ETTINGER: I'm sorry. Do we have
6 that -- whatever it is, do we have it?

7 MS. FRANZETTI: I don't think it's
8 part of the record. It's in the Agency's hands, but
9 I don't think they've -- I don't think they've
10 included that data in this proceeding. So the
11 answer is, Albert, I don't think so.

12 MR. ETTINGER: Well, why don't we find
13 out. Why don't we decide -- the record -- although
14 we're trying to set a record here, we've definitely
15 already done so, and it's probably unbeatable, sort
16 of like Ty Cobb's base stealing record. So why
17 don't we look at it and decide whether it belongs in
18 the record, before we burden the record with them.

19 MS. FRANZETTI: Works for me. Are you
20 going to look at it or am I?

21 MR. ETTINGER: Why don't we both look
22 at it.

23 MS. FRANZETTI: I'll look at it and
24 let you know.

1 MR. ETTINGER: Okay. It says -- in
2 number 14, it is suggested in your testimony at
3 Page 7 that the current rules applicable to the
4 temperatures of the I-55 bridge under AS 96-10 are
5 more stringent than the general use standards. What
6 was the purpose of Commonwealth Edison then in
7 seeking the variance in 1996?

8 MS. FRANZETTI: I'm just going to note
9 for for the record, Madam Hearing Officer, that
10 Ms. Wozniak is not a Commonwealth Edison employee,
11 hasn't been for ten years, and I don't think the
12 question is appropriate to ask her what the purpose
13 of Com Ed seeking the variance was in 1996, as if
14 she was a company representative.

15 But I recognize she worked for
16 them, and she'll answer, if you wish, as best she
17 can.

18 MR. ETTINGER: Well, I'm not seeking
19 to draw adverse inferences against Commonwealth
20 Edison here. I'm just trying to get information
21 from an employee who may know -- a formal
22 Commonwealth Edison employee who may well know the
23 answer to the question. So you've defended
24 Commonwealth Edison -- that's good -- and we can go

1 forward.

2 MS. FRANZETTI: I'm not in the
3 business of defending Commonwealth Edison, and I
4 didn't. I'm pointing out she is not a company
5 representative for Commonwealth Edison. I think
6 this is actually an appropriate question for me to
7 answer as much as it is Ms. Wozniak as to what was
8 the purpose of Com Ed seeking --

9 MS. TIPSORD: Let me try this: On
10 Page 8 of your pre-filed testimony, Ms. Wozniak, you
11 state that -- you were talking about the general use
12 numbers and comparing the general use numbers and
13 such, and you say for the remaining ten months of
14 the year, the thermal standards applicable to the
15 I-55 bridge are more stringent than the existing
16 general use thermal standards that apply to the UIW
17 waterway down stream of the I-55 bridge.

18 So I guess my question is: Can
19 you explain that in the context of -- assuming that
20 information was the same in '96, did that have an
21 impact on Commonwealth Edison seeking a variance?

22 MS. WOZNIAK: I guess in that regard,
23 you know, Com Ed sought a variance in '96 from the
24 general use thermal limits at the I-55 bridge for

1 several reasons, one of which is that there are
2 certain periods of the year when the discharges from
3 the Joliet station could not meet those general use
4 limits. And the second was there's also a provision
5 of the general use standards of the five degree
6 above natural limitation, which Com Ed never felt
7 was applicable to a far field standard, but there
8 were others that felt it was applicable.

9 And because there was no way to,
10 kind of, come to an agreement on what the
11 five-degree delta T should be and what ambient was
12 and what natural was and related to a far field
13 condition, that was also part of the reason we went
14 for a variance for an alternate standard to remove
15 that five-degree delta T from the adjusted standard,
16 because we felt -- Com Ed felt it was not
17 applicable.

18 MR. ETTINGER: And when you testified
19 earlier today about how the general use standard as
20 this jump step-wise function going from 60 to 90
21 right away, were you taking into account the
22 five-degree delta T restriction, which is also part
23 of a general use standard?

24 MS. WOZNIAK: I was not. Because as I

1 said, there was no way to figure out what you were
2 getting a five-degree delta T from. So that's why I
3 was comparing just the numeric standards and the
4 fact that the alternate standards provide that
5 stairstep without having to deal with the
6 five-degree delta T when you don't know where to
7 measure it.

8 MR. ETTINGER: Has Midwest Generation,
9 or to your knowledge Commonwealth Edison, determined
10 what the temperature of the Des Plaines River would
11 be at the I-55 bridge if the Joliet plant were not
12 operating?

13 MS. WOZNIAK: Midwest Gen has not.
14 And there was some modeling work done for Com Ed to
15 address such scenarios as part of the AS 96-10
16 proceeding. And from what I recall, the estimates
17 of river temperature with or without the plants are
18 based on a lot of very gross broad assumptions.

19 MR. ETTINGER: Now, those studies that
20 you've referred to that were done in the '90s and
21 that you rely on in your testimony, those were done
22 by Commonwealth Edison not Midwest Gen, correct?

23 MS. WOZNIAK: Correct.

24 THE COURT: And just for the record --

1 we've talked about those studies a lot, but those
2 studies are part of the record in the AS 96-10 in
3 prior proceedings as well, correct?

4 MS. WOZNIAK: Yes.

5 MR. ETTINGER: Seventeen, has Midwest
6 Generation or Commonwealth Edison or anyone else, to
7 your knowledge, determined whether temperatures of
8 the I-55 bridge are more than five degrees Farenheit
9 higher than temperatures in the Kankakee, the Upper
10 Des Plaines, or the DuPage Rivers, or other waters
11 in the area?

12 MS. WOZNIAK: Not to my knowledge. I
13 have not seen anything, no.

14 MR. ETTINGER: Eighteen, has Midwest
15 Generation or Commonwealth Edison or anyone else, to
16 your knowledge, studied how temperature affects the
17 toxicity of the pollutants that are present in the
18 Upper Dresden Pool?

19 MS. WOZNIAK: I don't recall any
20 specific studies for that particular area. But
21 based on my general understanding, water temperature
22 can either increase or decrease the toxicity of
23 pollutants depending on site-specific conditions.
24 And it's not a simple issue or a direct correlation

1 as far as I know.

2 MR. ETTINGER: As far as you know,
3 sometimes increased temperature will make some
4 pollutants more toxic?

5 MS. FRANZETTI: Counsel, you need to
6 add in it depends on site-specific conditions.

7 MS. WOZNIAK: Temperature can also
8 break down toxic things more quickly.

9 MR. ETTINGER: Thank you. Would that
10 depend on site-specific conditions?

11 MS. WOZNIAK: Yes.

12 MR. ETTINGER: So we've never studied,
13 to your knowledge, whether the site-specific
14 conditions in this watershed are such as to make
15 heat more toxic or less toxic?

16 MS. WOZNIAK: Midwest Gen hasn't.

17 MR. ETTINGER: To your knowledge, has
18 anyone?

19 MS. WOZNIAK: Not that I can remember
20 seeing.

21 MR. ETTINGER: Does Midwest Generation
22 intend to make any investments in any of the plants
23 on the CAWS or the Upper Dresden pool to reduce
24 impingement of aquatic life?

1 MS. FRANZETTI: I'm going to object to
2 the relevance of that question.

3 MR. ETTINGER: You know, I'm going to
4 drop back a second and ask whether you've ever
5 studied impingement at the Joliet plant.

6 MS. WOZNIAK: Yes, we have.

7 MR. ETTINGER: What have you found?

8 MS. WOZNIAK: That we impinge fish.

9 MR. ETTINGER: Have you ever studied
10 how impingement at those plants may be affecting the
11 aquatic life in the Lower Des Plaines River?

12 MS. WOZNIAK: No, we haven't.

13 MR. ETTINGER: Does the Joliet -- do
14 the Joliet units now have -- what, if anything, is
15 done at the Joliet plants now to reduce impingement?

16 MS. FRANZETTI: Same objection in
17 terms of relevancy.

18 MR. ETTINGER: I can explain the
19 relevance, if someone has a question. We're
20 studying the system and we're comparing various fish
21 life to one system and another. It gets quite clear
22 that we need to look at all of the things that may
23 be affecting the aquatic life before we go putting
24 in fish studies here and assuming that that habitat

1 or something is the cause of a problem when there
2 may be other issues.

3 MS. FRANZETTI: But you haven't
4 established that impingement has any sort of
5 significant effect on the aquatic life out there.

6 MR. ETTINGER: I don't have to
7 establish that. I just asked a question of the
8 witness whether she knows.

9 MS. FRANZETTI: And she said that that
10 has not been determined.

11 MR. ETTINGER: Is that what you said?

12 MS. WOZNIAK: Yes, we've not studied
13 that.

14 MR. ETTINGER: Thank you. That's all
15 I wanted.

16 MS. FRANZETTI: I thought she had said
17 that --

18 MR. ETTINGER: We established it. I'm
19 sorry. What was my last question before that?

20 (Whereupon, the record was read as
21 requested.)

22 MR. ETTINGER: To your knowledge, has
23 Midwest Generation made any study of the capital
24 investments that would be needed to meet federal

1 requirements regarding intake?

2 MS. FRANZETTI: Objection to form in
3 terms of what federal requirements are you basing
4 that question on? What federal requirements to you
5 intend are currently applicable for that question?

6 MR. ETTINGER: 316-B of the Clean
7 Water Act.

8 MS. FRANZETTI: Just that section of
9 the act, or are you pointing to regulations?

10 MR. ETTINGER: I think my question is
11 broad. I asked the question broadly precisely to
12 get around that set of problems.

13 MS. FRANZETTI: But --

14 MR. ETTINGER: Your witness is a very
15 smart person. I believe she's probably heard of
16 controversies regarding impingement regulations.
17 And I am just asking whether they've made any study
18 of the capital cost regarding compliance with those
19 regulations.

20 MS. FRANZETTI: But there aren't any
21 regulations currently effective, Albert. That's why
22 I'm asking you to be clear about what your question
23 is asking. Because the answer right now is there
24 aren't any regulations, so we're not doing anything

1 to --

2 MR. ETTINGER: In the broadest
3 possible sense, has your company ever made any study
4 of what might be necessary to meet possible federal
5 regulations regarding impingement at the Joliet
6 plant?

7 MS. WOZNIAK: We have monitored
8 impingement, and we are getting ready to do some
9 additional study. But because the 316-B was being
10 suspended and is in limbo until the Agency comes up
11 with the new rule and we don't know what's going to
12 be in the new rule, we have not done anything
13 further than that.

14 MR. ETTINGER: Thank you very much.
15 To your knowledge, does heat discharge by the Joliet
16 plant attract fish to come up from below the I-55
17 bridge during the winter?

18 MS. WOZNIAK: I'm not aware of any
19 data that would support that theory.

20 MR. ETTINGER: Have you ever looked?

21 MS. WOZNIAK: We do annual fish
22 monitoring during the summer period, but we do not
23 do winter monitoring.

24 MR. ETTINGER: Are you aware of any

1 testimony in the heat demonstration proceeding
2 regarding fish attraction?

3 MS. FRANZETTI: Counsel, the heat
4 demonstration proceeding?

5 MR. ETTINGER: We've already discussed
6 that, Counsel. That was the 1988/89 demonstration
7 that your witness refers to in her testimony.

8 MS. FRANZETTI: Just clarification for
9 the record. Just want to make sure we're talking
10 about the same thing.

11 MS. WOZNIAK: I don't recall that
12 being discussed.

13 MR. ETTINGER: Thank you. Question
14 23, has Midwest Generation or Commonwealth Edison
15 measured the effect of heat generated by the Fisk,
16 Crawford, Will County, and Joliet plants on
17 dissolved oxygen levels at the I-55 bridge?

18 MS. WOZNIAK: Yes. Midwest Gen
19 monitors DO and temperature at the I-55 bridge from
20 May to September on a continuous basis. This began
21 in '97 and continues through present. These reports
22 are submitted on a generally annual basis to
23 Illinois EPA.

24 The data has shown that there's

1 little correlation between DO and temperature. It
2 shows when there are higher temperatures when
3 they're not consistent, and low DOs, which suggest
4 that there's other factors apart from temperature
5 that would be impacting DO in that system.

6 MR. ETTINGER: Has any study been done
7 of the effect of the Fisk, Crawford, Will County, or
8 Joliet plants on dissolved oxygen levels on the I-55
9 bridge since that of Dr. John F. Kennedy for the
10 Joliet heat demonstration proceeding, PCB 87-93?

11 MS. WOZNIAK: From what I recall,
12 Dr. Kennedy's study only involved modeling of
13 thermal. That's what I remember.

14 MR. ETTINGER: Okay.

15 MS. WOZNIAK: As I said in my prior
16 answer, since '97 we've been monitoring -- or
17 there's been water temperature and dissolved oxygen
18 continually monitored at I-55 in May through
19 September.

20 MR. ETTINGER: I guess what I'm
21 getting at -- and we'll hold out Dr. Kennedy's
22 study -- but what I'm looking at is you've looked at
23 those numbers and didn't see any correlation. Has
24 there been any formal analysis done by somebody who

1 looked at those numbers and tried to sort out the
2 factors, or is it just a matter of eyeballing it and
3 seeing that you don't see any relation?

4 MS. WOZNIAK: The studies -- the
5 company reviewed this data, as has the consultant
6 that's prepared it and formed an evaluation. But
7 we've not sent it out to anyone else to look at.

8 MR. ETTINGER: So IEPA is not seeing
9 any such analysis?

10 MS. WOZNIAK: IEPA has the annual
11 reports.

12 MR. ETTINGER: Okay. 29 we can skip.
13 Question 30, has Commonwealth Edison or Exelon
14 violated its MPDS permit with excessive heat
15 discharges from the Dresden nuclear plant?

16 MS. FRANZETTI: Counsel, is your
17 question with regard to the time period Ms. Wozniak
18 worked for Commonwealth Edison and not since then?

19 MR. ETTINGER: Well, my question was
20 open. If she happens to know from hearing from her
21 old buddies at Commonwealth Edison or something, I'd
22 like to know that too. But if she only knows about
23 it from the period in which she worked at
24 Commonwealth Edison, then she can only say what she

1 knows.

2 MS. FRANZETTI: Just for the record,
3 both object in terms of relevancy, and I think it's
4 a vague question. I think it's a question that
5 should be posed to Commonwealth Edison or Exelon, or
6 perhaps the Agency, to whom they submit their DMRs
7 with respect to the Dresden plant.

8 MR. ETTINGER: Well, I --

9 MS. FRANZETTI: Ms. Wozniak has
10 not -- Counsel, let me just finish making my point
11 for the record. Ms. Wozniak hasn't worked for
12 Com Ed or Exelon since 1999. As I've said already,
13 she can't speak for those companies.

14 Further, the Dresden plant is
15 located below the five-mile stretch downstream of
16 the I-55 bridge in the confluence of the Kankakee
17 River with the Des Plaines River. So I don't see
18 how that is relevant here. But if you would like
19 her to answer, she'll answer as best she can.

20 MR. ETTINGER: Well, as much as I
21 would love to respond to that speech, I've given
22 your final statement that she should answer the best
23 that she can and it would be best if we just went on
24 and let her do that.

1 MS. TIPSORD: Actually, for the
2 record, I'd like you to respond, because I'm
3 inclined to grant the objection. I don't really see
4 the relevance. I mean, you've already asked some
5 questions about Dresden that weren't objected to.
6 But I'm not sure I see the relevance. So can you
7 explain why you think they're relevant?

8 MR. ETTINGER: As far as the first
9 point, I'm not asking her to speak for Commonwealth
10 Edison. I think we all understand that. And
11 furthermore, Midwest Generation has not been at all
12 bashful here about relying on Commonwealth Edison
13 studies done in the '90s, or Commonwealth Edison
14 heat demonstrations done in the '80s when they felt
15 that those benefitted them. So I'm simply asking
16 that we use the same information source that we can
17 here to further develop the record.

18 As for the relevance of this, I
19 think we're going to find in Mr. Siegert's testimony
20 and Dr. Otto's testimony various comparisons made of
21 the fisheries above and below the I-55 bridge with
22 the suggestion made that the area where there is the
23 most heat impact above the I-55 bridge in some cases
24 doesn't look a lot different from the area below the

1 I-55 bridge.

2 My point here and the reason we're
3 developing these facts regarding temperatures below
4 the I-55 bridge is to show and explain that there is
5 nothing like a natural temperature regime there
6 either.

7 And so comparisons made that draw
8 a simple analysis on -- based on those -- on the
9 comparison above and below the I-55 bridge are not
10 valid and should take into account the unnatural
11 temperature regime that is also present above the
12 Dresden Lock and Dam but below the I-55 bridge.

13 MS. TIPSORD: All right. With that,
14 given whatever personal knowledge you have from your
15 time with Commonwealth Edison, I think you should
16 answer the question.

17 MS. FRANZETTI: And Madam Hearing
18 Officer, I'd just point out that if any of what
19 counsel says is true, which is not established in
20 the record, at the least, I think if it's going to
21 be relevant to what we're talking about, we should
22 be talking about at least the last ten years, which
23 this witness can't speak to, and not something back
24 into the '90s where there may have been exceedance

1 if there were a permit limit. But with that, go
2 ahead.

3 MS. TIPSORD: Go ahead and answer to
4 the best of your recollection.

5 MS. WOZNIAK: Okay. I'm not aware of
6 anything within the past ten years. I don't have
7 any friends left at Com Ed or Exelon who would fill
8 me in on those things. But for the timeframe when I
9 did work for the company, Dresden did have some
10 exceedance of the thermal limits, which were
11 reported to the Agency and subsequently corrected.

12 The exceedances would occur during
13 extremely hot summers, or in some instances they had
14 problems with some of their equipment that required
15 them to divert from their cooling pond directly into
16 the river.

17 But I would note that their
18 discharge is actually into the Illinois River. It's
19 not into the Lower Des Plaines, so they're really
20 downstream of what's referred to as the five-mile
21 stretch, so they're actually, you know, well
22 downstream of the Lower Des Plaines River. They're
23 already into the Illinois.

24 MR. ETTINGER: Okay. Question

1 31 -- now you'll be happy this is limited to Midwest
2 Generation -- 31, has Midwest Generation
3 investigated the amount of fish habitat in
4 tributaries of the Upper Dresden Pool or other
5 waters connected to the Upper Dresden Pool,
6 including the DuPage River, Hickory Creek, Jackson
7 Creek, and the Kankakee River?

8 MS. WOZNIAK: Okay. Just let me
9 clarify, because I believe there's a question --
10 this question has some inaccuracies in it. The
11 DuPage River and the Kankakee River are not
12 tributaries of the Upper Dresden Pool, which is the
13 area of the I-55 up to Brandon. Those two rivers
14 are in the lower Dresden Pool, and Midwest Gen has
15 not assessed habitat in the DuPage River.

16 For the Kankakee River, there are
17 some QHEI scores from the 1993/94 studies for
18 Com Ed. Midwest Gen has not investigated the amount
19 of fish habitat at Hickory Creek, and we have
20 assessed habitat, and what we've referred to is the
21 amount of Jackson Creek adjacent to Exxon Mobile.

22 MR. ETTINGER: I stand corrected on
23 the DuPage River. Is there anything, to your
24 knowledge, keeping the fish from swimming from the

1 DuPage delta north of the I-55 bridge?

2 MS. WOZNIAK: From what I recall, that
3 area is very shallow, the connection between the
4 DuPage and the Lower Des Plaines. So I don't know
5 what kind of fish would be able to go back and
6 forth. I would defer to the experts on that.

7 MR. ETTINGER: Okay. Are you aware of
8 any fish kills caused by heat discharges from the
9 Dresden, Fisk, Crawford, Will County, or Joliet
10 plants?

11 MS. FRANZETTI: Just for the record,
12 same objection with respect to including the Dresden
13 plant in that. But the witness can answer.

14 MS. WOZNIAK: I don't know any. I've
15 not heard of any fish kills from any of those. I
16 can't speak for Dresden within the past ten years.
17 But other than that, no.

18 MR. ETTINGER: Are you --
19 specifically, are you aware of any fish kills at the
20 Joliet plant at any time?

21 MS. WOZNIAK: I don't recall anything
22 specifically related to Joliet's operations in fish
23 kills.

24 MR. ETTINGER: What was Thomas

1 Heninger (phonetic) position in 1988?

2 MS. FRANZETTI: Objection. Relevancy.

3 MR. ETTINGER: Thank you. I have no
4 further questions, but I do have an exhibit to offer
5 at this time. This is from the heat demonstration
6 proceeding on August 5, 1988. It's a document
7 from -- a letter from Thomas Heninger to Mr. Kenneth
8 Rogers regarding a fish kill at the Joliet plant of
9 gizzard shad.

10 MS. TIPSORD: If there's no objection,
11 we'll admit the August 5th, 1988, letter to
12 Mr. Kenneth Rogers from Thomas Heminger. There is
13 no letterhead. We'll admit this as Exhibit 365.
14 Seeing no objection, it's Exhibit 365.

15 And with that, if you have no
16 further questions, the next set of questions is with
17 Stepan.

18 MR. DIAMOND: There weren't any
19 questions asked about it, right? I object to it's
20 admission, at least for the truth of the matters
21 asserted therein. No one has given any foundation
22 for this letter. It's -- you know, it's just being
23 thrown into the record. There's no foundation
24 that's been laid for it. I see no basis for

1 admitting it to the record.

2 If Mr. Ettinger wants to call a
3 witness to provide foundation for it and tie it up
4 to how it's somehow related to this proceeding, I
5 can see it being brought in. But without any
6 foundation, how is the Board supposed to assess any
7 credibility for this document, and what -- even if
8 it was being -- even if it was being marked as an
9 exhibit for purposes of asking the witness a
10 question, that would be one thing. But here we've
11 just got a letter being thrown into the record that
12 has no foundation attached to it.

13 MS. TIPSORD: I understand your
14 objection, and were this a contested case, it would
15 be a little different situation. This is a
16 rulemaking proceeding. It's arguably relevant,
17 because he did ask her if she had any idea about
18 fish kills. This is a letter that seems to claim
19 there was a fish kill in Joliet in 1988.

20 Certainly, the Board -- it's not
21 testimony. It is an exhibit to the proceeding, and
22 the Board can take it for -- and, you know, I think
23 admitting it as an exhibit is acceptable.

24 MR. ETTINGER: And I would be

1 delighted to give the testimony from the '88/'89
2 proceeding regarding this document, as well as a
3 further explanation of its relevance in a file that
4 I'll make next week.

5 MS. TIPSORD: Thank you.

6 MS. FRANZETTI: Can we take a
7 five-minute break for Stepan?

8 MS. TIPSORD: He was going to stay
9 back there, but that's fine. If you need five,
10 that's fine.

11 MS. FRANZETTI: Can we take five?

12 MS. TIPSORD: Sure.

13 MS. FRANZETTI: Thank you.

14 (Whereupon, a break was taken,
15 after which the following
16 proceedings were had.)

17 MS. TIPSORD: Albert, you had a few
18 more questions?

19 MR. ETTINGER: Yeah. Sorry,
20 Ms. Wozniak. These will be real easy ones though.

21 You were sent a bunch of pre-filed
22 documents along with the testimony. I just want you
23 to identify a few of these documents. Looking now
24 at the last four pages of the pre-filed documents

1 you were given in Exhibit 1, there are a series of
2 forms, and I'm just --

3 MS. FRANZETTI: Albert, why don't you
4 give the title of the document just so it's clear
5 what we're talking about.

6 MR. ETTINGER: Okay. Well, one of
7 them is National Pollutant Discharge Elimination
8 System document, permit number Illinois 0002208, and
9 it's for the monitoring period of 2003, July 1, to
10 2003 of July 31.

11 MS. FRANZETTI: Okay. Wait, Albert.
12 We're in the wrong spot then. We're in the last
13 four pages but in 1999.

14 MR. ETTINGER: Mine is double sided.
15 Maybe it's the 8th page. There's one after that,
16 which is '99.

17 MS. FRANZETTI: Okay, wait.

18 MS. TIPSORD: For the record, we're
19 talking about the exhibit to the pre-filed
20 questions.

21 MR. ETTINGER: Yes, these are exhibits
22 to the pre-filed questions.

23 MS. FRANZETTI: Albert, I'm sorry.
24 Did you say July 2003?

1 MR. ETTINGER: I'm sorry. I meant
2 August. No, it's '03 July.

3 MS. FRANZETTI: We're here.

4 MR. ETTINGER: Okay. Is this a
5 document that's filed by -- the type of document
6 that's filed by the Midwest Generation Company?

7 MS. WOZNIAK: Yes. It's a Will County
8 station discharge monitoring report.

9 MR. ETTINGER: And it shows that --
10 does it show the intake temperatures at Will County
11 anywhere?

12 MS. WOZNIAK: Yeah. I don't think
13 intakes are required to be reported on these.

14 MR. ETTINGER: Okay. Going now to the
15 next document, which is Midwest Generation Will
16 County station, this is a July 24, 2000, document.
17 This is -- I'm sorry.

18 MS. FRANZETTI: Albert, I don't think
19 we're with you.

20 MR. ETTINGER: I'm sorry. You're
21 right. It was received -- it's stamped on the top,
22 received January 24th, 2000. But it's actually from
23 December 1 to December 31, 1999.

24 MS. FRANZETTI: We're on the same page

1 as you are.

2 MR. ETTINGER: Right. Is this the
3 sort of document that was filed by Midwest
4 Generation?

5 MS. WOZNIAK: It's also a discharge
6 monitoring report, yes.

7 MR. ETTINGER: Yes. Okay. This is
8 for Will County?

9 MS. WOZNIAK: That's what it says,
10 yes.

11 MR. ETTINGER: Right. We have the
12 intake temperature here. You have a minimum, an
13 average, and a maximum. Would those -- for the
14 intake temperature, was there an effort made for
15 that intake temperature to avoid any heat influences
16 of the discharge?

17 MS. WOZNIAK: I don't --

18 MS. FRANZETTI: I'm just going to
19 object to the form on the record. I'm not sure it's
20 clear.

21 MR. ETTINGER: Well, let me just drop
22 that then. To the best of your knowledge, is that
23 the temperature of the ambient water above Will
24 County at that time?

1 MS. WOZNIAK: If it's intake
2 temperature, it's the measurement of the waters
3 that's going into the plant, not upstream of the
4 plant.

5 MR. ETTINGER: Okay. So that would be
6 right at the plant?

7 MS. WOZNIAK: Correct.

8 MR. ETTINGER: At the intake. So that
9 would be the temperature of the water?

10 MS. WOZNIAK: Yes.

11 MR. ETTINGER: And presumably, the
12 discharge temperature is these numbers below?

13 MS. FRANZETTI: On the line that
14 says -- in the row that district charge temperature,
15 correct, Counsel?

16 MR. ETTINGER: Discharge temperatures,
17 right.

18 MS. WOZNIAK: Yes.

19 MR. ETTINGER: Okay. Now, are you
20 involved in the preparation of these documents?

21 MS. WOZNIAK: No, I'm not.

22 MR. ETTINGER: Who would be?

23 MS. WOZNIAK: People at the station.

24 MR. ETTINGER: People at the station.

1 Okay. That's good enough. Now I am done.

2 MS. TIPSORD: All right. Mr. Diamond,
3 we'll go with you then.

4 MR. DIAMOND: Thank you, Madam Hearing
5 Officer. I'll start with my first pre-filed
6 question. Explain what is meant by the term
7 derating, as referenced in your testimony concerning
8 how Midwest Gen maintains compliance with the
9 thermal water quality standards.

10 MS. WOZNIAK: Derating is a term used
11 by the industry, which means that essentially the
12 electrical unit load is deliberately reduced in
13 order to meet regulatory requirements and criteria.
14 When the electrical generated station derates, it
15 means that it reduces the amount of electricity that
16 can be produced.

17 MR. DIAMOND: Second question, for the
18 recent past, provide additional information
19 concerning the frequency with which Midwest
20 Generation has employed the rating to maintain
21 compliance with the thermal water quality standards,
22 including to what extent these deratings have
23 occurred during periods where the ambient
24 atmospheric temperature was above 90 degrees

1 Farenheit, and provide estimates concerning the
2 estimated number of households that equate to the
3 amount of derating taken by Midwest Generation.

4 MS. WOZNIAK: Midwest Gen derates the
5 Joliet stations in response to the need to comply,
6 and usually that's when you have hot, dry, humid
7 weather, and there's a high demand for electricity.
8 So any summer like that, you're going to have
9 deratings.

10 As an example, this past summer we
11 haven't had any because it was so cool. But within
12 the past few years, the highest frequency of derates
13 occurred in 2005 when, for example, total derates
14 for the Joliet stations to maintain compliance with
15 thermal water quality standards was over 200,000
16 megawatt hours, covering a period of over 80 days
17 that year. And since the average U.S. household
18 uses approximately 27 kilowatt hours per day, the
19 derate equates to a loss of power to approximately
20 92,500.

21 The frequency of derates is tied
22 to ambient weather conditions as well as water
23 temporaries. In 2006 and 2007, there were years of
24 cooler temperatures for the number of derates were

1 lower in the range of 20 to 40 days per year, with
2 total derates of 500,000 to 100,000 -- 50,000 to
3 100,000 megawatt hours for the Joliet station.

4 It's also important to note that
5 during the time these derates are taken, available
6 power to the grid system is also often limited so
7 this power may not be easily or economically
8 replaced. Since the Joliet station is in the
9 closest proximity of the I-55 bridge, it's the
10 station that necessarily bears the brunt of any
11 derates necessary to maintain compliance with the
12 AS 96-10 standard.

13 The other upstream stations, as
14 well as Joliet stations, have not historically
15 needed to derate to meet the existing thermal
16 standards, and this will change dramatically if the
17 existing near field thermal standards change.

18 MR. DIAMOND: My third question, why
19 hasn't Midwest Generation installed cooling towers
20 at the other Midwest Generation plants, namely Fisk,
21 Crawford, and Will County, in addition to the
22 cooling towers installed at the Joliet plant?

23 MS. WOZNIAK: Installation of cooling
24 towers at these plants has been considered by

1 Midwest Gen management. But based on the
2 engineering studies done, there are considerable
3 constraints, including lack of space, existing
4 infrastructure, overhead power line proximity to
5 residential areas, highways, and airports, that
6 would make such installation extremely difficult or
7 impossible.

8 MR. DIAMOND: Question number four,
9 explain what is meant by the phrase the, quote,
10 "Design maximum temperature rise in the cooling
11 water," end quote, in your description of the Joliet
12 facilities.

13 MS. WOZNIAK: Okay. This is the
14 design change in temperature of water as it passes
15 through the stations condensers from intake to
16 discharge. It generally identifies how much warmer
17 the water is going to get from the point of intake
18 to the discharge to the waterway. There are many
19 factors that affect the actual delta T, including
20 bio following, inlet temperature, and other things.

21 MR. DIAMOND: And my fifth question,
22 in your description of the Joliet cooling towers,
23 you state that, quote, "They are helper cooling
24 towers which are not designed for long-term,

1 continuous runs," end quote. Why weren't the
2 cooling towers designed for long-term, continuous
3 runs?

4 MS. WOZNIAK: When the towers were
5 installed in 1999 by Com Ed, the original intent was
6 to use them to maintain compliance with the existing
7 thermal limitations only during critical periods,
8 which would be the hot, dry summer or potentially
9 abnormally warm spring or fall periods.

10 This was -- the reason the cooling
11 towers were put in was to preserve as much low
12 capability unused as possible at this time to serve
13 the increased power demands during these periods.

14 As such, they wouldn't be
15 necessary at all times of the year, so they weren't
16 built with the intention of long-term continuous
17 use. They're equipped with smaller pumps, manual
18 controls, no freeze protection, and they were not
19 built to withstand such use, particularly extended
20 use into the winter months.

21 If stricter thermal water quality
22 standards were adopted for the winter months,
23 Midwest Gen could not rely on the availability of
24 the helper towers to further cool its discharges.

1 MS. WILLIAMS: Can I ask a quick
2 follow-up?

3 MR. DIAMOND: Sure.

4 MS. WILLIAMS: What's the earliest
5 month in the spring and the latest month in the fall
6 that the towers have been used?

7 MS. WOZNIAK: Well, historically, as I
8 said, it depends on the weather every year. But we
9 have used them as late as December and as early as
10 January. But only when the weather conditions, you
11 know, are over 60 degrees, which is very abnormal.
12 Because if you've got close to freezing, the
13 equipment, you know, would cool the water such that
14 it would freeze in the cooling tower.

15 MS. WILLIAMS: So they have been used
16 all year, depending on the weather?

17 MS. WOZNIAK: Very -- no. I mean,
18 they're used on an as-needed basis, so you turn them
19 off and turn them on only form certain periods of
20 time in order to meet the temperature limits.

21 So I would say, you know, maybe
22 once in the past ten years they were used for one or
23 two days in January. The same is true for December
24 if it was abnormally warm.

1 MS. WILLIAMS: Okay. Thank you.

2 MR. DIAMOND: My question number six,
3 what do you mean when you state that the Joliet
4 cooling towers, quote, "Are capable of cooling
5 approximately one-third of Units 7 and 8 total
6 designed discharge," end quote. Why can't the
7 Joliet cooling towers cool more than this portion of
8 the discharge?

9 MS. WOZNIAK: Okay. The total design
10 flow of the Units 7 and 8 plants is on the order of
11 1325 MGD, while the maximum design flow of the
12 cooling towers is about 515 MGD. So that equates to
13 approximately one-third when all of the circulating
14 water pumps are operating.

15 When Joliet 7 and 8 aren't
16 operating with all four of their pumps, they usually
17 run with only three. The ability of the cooling
18 towers to cool a larger percentage of the discharge
19 is possible, and that reaches approximately
20 50 percent of the discharge flow with three pump
21 operations.

22 And this also assumes that the
23 towers are running at good efficiency. If the dew
24 point is too high, the towers will do little to cool

1 the station's discharge, no matter how many
2 circulating pumps are in operation.

3 MR. DIAMOND: My question number
4 seven, why doesn't Midwest Gen have to use cooling
5 towers in the winter months?

6 MS. WOZNIAK: As I've mentioned
7 before, the primary purpose of the towers is to
8 ensure compliance with the I-55 temperature limits
9 during the summer period and at times in the spring
10 and fall when there's abnormally warm weather
11 conditions.

12 Compliance with the existing
13 thermal elements during the winter months has not
14 historically needed the help for cooling towers,
15 which is why they're not designed for year-round
16 operation.

17 MR. DIAMOND: Question number eight,
18 you state in your pre-filed testimony that, quote,
19 "Generally the towers are used when the circulating
20 water discharge temperature exceeds 93 degrees
21 Farenheit for an extended period of time. The
22 towers do not work efficiently when the temperature
23 of the station condenser discharge flow is less than
24 90 degrees Farenheit, or when the dew point

1 temperature (i.e. temperature to which the air must
2 be cooled at constant pressure for it to become
3 saturated) approaches 78 to 80 degrees Farenheit,"
4 close quote.

5 Please explain further what you
6 mean by these statements.

7 MS. WOZNIAK: Since the existing near
8 field thermal water quality standard for the Joliet
9 station is the secondary contact standard, there's
10 generally been no compliance concerns when the
11 discharge temperature of the plant is 93 degrees or
12 less.

13 However, with extended discharge
14 temps over 93 degrees, especially during erratic and
15 unpredictable flow conditions of the Lower Des
16 Plaines River, the towers are turned on to ensure
17 continuing compliance.

18 Also, since the towers perform
19 best when the water temperature coming into them is
20 higher, they do not perform well when the intake
21 primary to them is less than 93 degrees. The total
22 amount of cooling is less.

23 When there's a greater difference
24 in temperature of the water and the wet temperature

1 of the air, more evaporative cooling can take place.
2 That's why when the dew point is high, which is
3 usually about over 78 degrees Farenheit, which is
4 what you would experience on a hot, muggy day, there
5 isn't much evaporative cooling possible so tower
6 performance drops off.

7 MR. DIAMOND: Question number nine,
8 your pre-filed testimony states that, quote, "Based
9 on my experience and firsthand observations through
10 the UIW studies, the adjusted standards provide an
11 adequate level of protection for the aquatic
12 community below I-55 and provide a more
13 representative, normal, seasonal fluctuation that
14 needed a secondary contact for the general use
15 numeric standards," close quote.

16 What is the experience and
17 firsthand observations you are referring to?

18 MS. WOZNIAK: Okay. I've been
19 involved with the Ship Canal and the Lower Des
20 Plaines River since 1980 when I was a summer intern
21 at Com Ed. I spent a considerable amount of time
22 out on the waterway taking temperature measurements,
23 performing sediment studies, and accompanying
24 biological contractors and routine fisheries

1 monitoring trips.

2 This involvement has been ongoing
3 ever since I accepted a full-time position with
4 Com Ed's environmental affairs department in 1984.
5 My primary area of responsibility for Com Ed, as
6 well as Midwest Gen, has been to ensure continuing
7 thermal compliance for all of our stations, as well
8 as to perform monitoring studies to make sure the
9 current level of heat in the waterway is not having
10 an adverse impact on the aquatic communities which
11 reside in them.

12 As such, I have over 25 years of
13 direct experience with these waterways, and
14 therefore feel I'm sufficiently qualified to provide
15 an informed opinion on this subject.

16 MR. DIAMOND: My tenth question, you
17 state in your pre-filed testimony that, quote,
18 "Ambient stream temperature is largely associated
19 with the volume of flow in the river. Midwest Gen's
20 compliance efforts are, therefore, largely dictated
21 by the upstream flow manipulations and perturbations
22 in the CAWS that, in turn, affect the volume of flow
23 to the Upper Dresden Pool," close quote.

24 Please explain the basis for your

1 statement that the volume of flow is largely
2 associated with ambient stream temperature, and what
3 you mean by your reference to, quote, "Upstream flow
4 manipulations and perturbations in the CAWS," close
5 quote, including how these actions affect the volume
6 of flow to the Upper Dresden Pool.

7 MS. WOZNIAK: Temperature in the
8 waterway is largely influenced by upstream flow
9 manipulations, especially during the summer months.
10 This includes dominant POTW flow from Stickney, as
11 well as the effects of storm events.

12 When the flow in the waterway is
13 low and the ambient air temperature is high, the
14 waterway picks up heat from the atmosphere more
15 quickly as it moves downstream. There's also less
16 ambient cooling taking place during these
17 conditions, which adds to the overall water
18 temperature.

19 Conversely, when there are large
20 flushing events caused by flood control activity in
21 the upper waterway -- and by this I mean the drastic
22 level manipulations of the canal system to
23 accommodate runoff from the city of Chicago and
24 surrounding areas -- there's a huge glut of water

1 released to the waterway in a short period of time,
2 which effectively dilutes the effects of any heat
3 inputs into the system, including those from POTW
4 effluent, industrial discharges, and solar
5 radiation.

6 Large localized rainfall events
7 also serve to decrease local water temperatures
8 while increasing river flows, and all of these flow
9 events also dictate how the Joliet station is able
10 to comply with the temperature limitations because
11 we have to respond to those different flows because
12 of changes to travel time in the system.

13 So we need to constantly be
14 adjusting our station operations in order to ensure
15 that we're meeting our downstream temperature
16 standards.

17 MS. WILLIAMS: Can I ask a follow-up
18 here? Ms. Wozniak, do you have any reason to
19 question whether the flow information that you're
20 being provided by the Corps of Engineers is
21 accurate?

22 MS. WOZNIAK: I would say it's
23 accurate to the extent that when we put it into our
24 model and it comes out with the projections of what

1 the temperature is going to be seven miles
2 downstream, based on that it flows in two-hour
3 increments, that the projections are pretty good.
4 So I would say it's as accurate as you're going to
5 get.

6 MS. WILLIAMS: Have you seen any
7 information to make you question whether it is
8 accurate though?

9 MS. WOZNIAK: No. I mean, the only
10 thing is -- I mean, when you get significant flow
11 fluctuations up and down, the model needs to take
12 those into account to try and assimilate them.

13 Corps data, I've seen nothing that
14 would lead me to believe it's not accurate.

15 MS. WILLIAMS: Thank you.

16 MS. WOZNIAK: There isn't anything
17 else to compare it to, anyway.

18 MS. WILLIAMS: We can move on. Thank
19 you.

20 MS. TIPSORD: Mr. Diamond?

21 MR. DIAMOND: Thank you. Question 11,
22 with regard to the thermal -- let me start over.

23 With regard to the thermodynamic
24 model that Midwest Gen runs to monitor compliance

1 with thermal water quality standards, how often does
2 the model run during the summer months?

3 MS. WOZNIAK: Models run on an almost
4 continuous 24-hour per day basis during high-drive
5 periods during the summer months. The model is not
6 automated, except for certain data streams that are
7 captured, so it must be manually run by an
8 experienced individual every time one or more of the
9 input parameters change, including weather
10 conditions, river flows, intake temperatures,
11 cooling towers operations, and megawatt load.

12 MR. DIAMOND: Question 12, with regard
13 to Attachment 4 to your pre-filed testimony, the
14 water flow graphs, please explain in greater detail
15 what these graphs show and why they are
16 representative of the flows in the Upper Dresden
17 Pool. As to the flow graphs showing flow changes in
18 July of 2008, have such significant flow changes
19 been seen at other times?

20 MS. FRANZETTI: Tom, can you just give
21 us a second to get out Attachment 4?

22 MR. DIAMOND: Sure.

23 MS. TIPSORD: You can take a whole
24 minute.

1 MS. WOZNIAK: Okay. These graphs show
2 typical flow fluctuations in the Brandon Road Lock
3 and Dam, which is located directly upstream of your
4 Joliet stations. While these graphs, you know, only
5 show several weeks during the course of the last
6 four years, they're very representative of what goes
7 on a year-round basis.

8 The graphs show there are no
9 gradual flow changes, and there's no indication of
10 what you would expect as a normal seasonality
11 associated with flows in the waterway. The flows
12 change every two hours, or sometimes more frequently
13 based on field experience, and are often changed by
14 orders of magnitude.

15 It's not unusual for changes of
16 thousands of CFS within a two-hour period, either up
17 or down. And this doesn't necessarily correspond to
18 rainfall events, so these type of changes can be
19 seen, you know, any week of the year.

20 Flow in the Lower Des Plaines
21 River, as well as the rest of the CAWS, is
22 artificially manipulated between correlation of the
23 U.S. Army Corps of Engineers and the MWRD, who
24 regulate flow and level for both commercial

1 navigation and flood control purposes, which is the
2 two primary functions of the Lower Des Plaines as
3 well as the upstream CAWS.

4 MR. DIAMOND: You're finished?

5 MS. WOZNIAK: Yes.

6 MR. DIAMOND: Okay. Question 13, with
7 regard to your testimony that, quote, "Flow
8 conditions at any given time cannot be predicted
9 with great precision, and flow does not follow any
10 type of normal trend," close quote, explain why flow
11 conditions, quote, "Cannot be predicted with great
12 precision," end quote, and why this is relevant to
13 the thermal water quality standards for the CAWS
14 and/or LDP.

15 Also, please explain what is meant
16 by the statement that, quote, "Flow does not follow
17 any type of normal trend," close quote.

18 MS. WOZNIAK: Flows in the waterway
19 can't be predicted because they're artificially
20 controlled by a series of upstream locks and dams.

21 In a typical waterway, during wet
22 weather conditions, usually in the spring, flows are
23 generally higher. In dry weather, fall and winter,
24 generally lower. This is sometimes true for the

1 Chicago area waterways or Lower Des Plaines River in
2 a broad sense, but the extreme daily and hourly flow
3 fluctuations are unnatural, unpredictable, and
4 extremely problematic in trying to maintain
5 compliance with thermal water quality limitations,
6 especially the I-55 limits.

7 I've provided examples in
8 Attachment 4 of my testimony to show that flows in
9 the Lower Des Plaines fluctuate continually,
10 especially downstream of the Brandon Lock and Dam,
11 regardless of weather conditions. There are hourly
12 flow changes, sometimes thousands of CFS at a time,
13 and they follow no discernible trend, and often have
14 no readily identifiable explanation. These are not
15 step-wide changes, but extreme highs and lows, which
16 are not predictable.

17 These large scale flow
18 fluctuations must be responded to immediately by
19 Midwest Gen in order to ensure continuing compliance
20 with downstream I-55 temperature limits. The reason
21 for this is that sudden changes in flow can result
22 in local changes in water temperature, as well as
23 changes in downstream travel time.

24 We must coordinate our Joliet

1 station operations to real time flow conditions in
2 the waterways so that compliance with the I-55
3 temperature limitations are continually maintained,
4 requiring that the thermal model be run any time
5 there's a flow change, especially one of a larger
6 magnitude, either up or down.

7 During critical conditions, these
8 abrupt, unpredictable flow changes can dictate
9 cooling tower use, as well as the need to unit
10 deratings, which must be taken in a timely manner to
11 be effective in maintaining compliance with the far
12 field temperature limits.

13 With the current secondary contact
14 standards in the place, we've generally been able to
15 comply with near field thermal water quality
16 standards at each of our stations. This is due to
17 the fact that although local flow may go to zero at
18 times, there's still a significant amount of water
19 in the system, and it never runs dry, as what might
20 hatch to a natural stream's flow when it goes to
21 zero.

22 MR. DIAMOND: My 14th question, with
23 regard to the Lower Des Plaines River use
24 attainability analysis stakeholder process, your

1 testimony states that Midwest Gen provided extensive
2 comments that general use thermal standards were not
3 justified based on the lack of adequate habitat to
4 support an aquatic community that justified such
5 stringent thermal standards.

6 Was there a discussion during the
7 Lower Des Plaines River use attainability analysis
8 stakeholder process concerning the habitat issue,
9 and if so, what was the outcome of that or those
10 discussions?

11 MS. WOZNIAK: I recall the habitat was
12 extensively discussed, and there was a general
13 understanding that habitat was one of the limiting
14 factors preventing the establishment of a higher
15 quality of aquatic life, along with contaminated
16 sediments, which would contribute to less than full
17 Clean Water Act goal support.

18 There wasn't any demonstration in
19 those Lower Des Plaines UAA discussions that show
20 that habitat in the Upper Dresden Island Pool was
21 capable aquatic life use goal.

22 MS. WILLIAMS: Excuse me. Can I
23 follow up here? So it's your testimony that the
24 contract for for the Lower Des Plaines UAA

1 recommended that Clean Water Act goals could not be
2 met in the Upper Dresden Island Pool?

3 MS. FRANZETTI: Counselor, I'm just
4 clarifying. You're talking about the contractor's
5 UAA report and what he recommended --

6 MS. WILLIAMS: Yes.

7 MS. FRANZETTI: -- versus the
8 discussions that were held. It's fine, I just --

9 MS. WILLIAMS: Go ahead.

10 MS. WOZNIAK: My comments were related
11 to the discussion with the biological subcommittee.

12 MS. WILLIAMS: Okay. Maybe we should
13 be more specific. So you're saying not the whole
14 stakeholder group, but within the subcommittee of
15 the stakeholder group that was discussed?

16 MS. WOZNIAK: It was discussed, but
17 there was never any demonstration made at that time
18 that the Upper Dresden Pool would meet aquatic life
19 use goals.

20 MS. WILLIAMS: And ultimately what
21 does the UAA contractor conclude?

22 MS. WOZNIAK: I believe the report
23 said that it could with a general use.

24 MS. WILLIAMS: Okay. Thank you.

1 MR. ETTINGER: Just to clarify again,
2 when you say there wasn't any discussion during the
3 UAA process, you're just focusing on that biological
4 committee and what you heard at those meetings?

5 MS. FRANZETTI: I think you
6 misunderstood her.

7 MR. ETTINGER: I did, that's why I'm
8 clarifying.

9 MS. FRANZETTI: Because she's talking
10 about there was discussion about habitat. Why don't
11 you go ahead and elaborate a little bit more.

12 MS. WOZNIAK: Yeah. There was a lot
13 of discussion about habitat and limiting factors,
14 but there was no demonstration or conclusion reached
15 that the Upper Dresden Pool would be able to meet
16 the Clean Water Act goals.

17 MR. ETTINGER: Within that committee?

18 MS. WOZNIAK: Yeah. The results of
19 the committee discussion were supposed to -- my
20 understanding were supposed to inform the rest of
21 the process.

22 MR. ETTINGER: Okay. There were other
23 discussions and other more public meetings, and
24 you're not trying to recall what everybody said in

1 those public discussions to summarize their
2 conclusions?

3 MS. WOZNIAK: I believe the charge of
4 the biological subcommittee was to have the experts
5 gather in one room to discuss the issues, and then
6 discuss what their findings were and what their
7 conclusions were to the rest of the UAA stakeholder
8 group.

9 MR. ETTINGER: Okay.

10 MS. FRANZETTI: If I can -- go ahead.

11 MR. ETTINGER: All I'm saying is there
12 were other meetings of the stakeholder group in
13 which a wide variety of uses were proposed,
14 including that of Pehow (phonetic) and others, and
15 you're not purporting to say that those discussions
16 are included in your statement that -- or the
17 suggestion that nobody concluded that he was an
18 actor or that their water was capable of meeting
19 fishable swimable standards?

20 MS. FRANZETTI: Counsel, give me a
21 second. She's confused in terms of what you're
22 saying.

23 MS. WOZNIAK: Others may have had
24 different views, but my experience is the biological

1 subcommittee.

2 MR. ETTINGER: That's all I wanted to
3 clarify. Thank you.

4 MS. FRANZETTI: And just so I can
5 clarify now, going back to the original question --
6 and I'll limit it for the moment to the biological
7 subcommittee -- is what you're saying that the
8 biological subcommittee discussed habitat conditions
9 in the Upper Dresden Island Pool? Let me first just
10 take that part.

11 MS. WOZNIAK: Yes.

12 MS. FRANZETTI: And with respect to
13 those discussions, was it, based on your
14 understanding, a consensus among the members of the
15 biological subcommittee that there were limitations
16 on habitat that would prevent the Upper Dresden
17 Island Pool from maintaining the Clean Water Act
18 aquatic life goals?

19 MS. WOZNIAK: That's my understanding.

20 MS. TIPSORD: I think we're ready for
21 you again, Mr. Diamond.

22 MR. DIAMOND: Thank you, Madam Hearing
23 Officer.

24 My 15th and final question, with

1 regard to the draft use attainability analysis
2 report on the Lower Des Plaines River, you testified
3 that Midwest Gen's comments regarding the draft
4 report raised substantive issues that were ignored
5 as part of the revised use attainability analysis
6 report. What are the substantive issues that you
7 are referring to?

8 MS. WOZNIAK: Okay. A few -- just a
9 few examples of comments that Midwest Gen had
10 submitted but were not addressed in the final Lower
11 Des Plaines UAA report. They relate to
12 misinterpretation and mischaracterization of Midwest
13 Gen discharge temperature and I-55 temperature data,
14 misrepresentation of providing Corps of Engineers
15 river flow data, bias regarding existing secondary
16 contact thermal limits, lack of reliance on actual
17 field collector fisheries data provided by Midwest
18 Gen when making statements regarding legality of
19 existing thermal limits.

20 For example, on the filing UAA
21 report, Page 2-70, last paragraph, I didn't
22 correctly state that the maximum temperature in the
23 Upper part of the Dresden Island Pool in during the
24 summer reaches 100 degrees Farenheit. Midwest Gen

1 provided extensive documentation to show this
2 statement was not accurate.

3 Based on that data, the statement
4 was eliminated in one place of the temperature
5 section of Chapter 2 of the final UAA report, but is
6 still there in several other places, in both
7 Chapter 2 and the rest of the UAA report.

8 MR. ETTINGER: Excuse me.

9 MS. WOZNIAK: There's more.

10 MS. FRANZETTI: Go ahead.

11 MR. ETTINGER: Were you done with that
12 answer?

13 MS. FRANZETTI: Do you want to keep
14 going?

15 MS. WOZNIAK: Yeah.

16 MR. ETTINGER: Sorry.

17 MS. FRANZETTI: All right. Hold,
18 Albert.

19 MS. WOZNIAK: Okay. On Page 2-89,
20 Figure 2.42, we indicated in our original comments
21 that the graph of U.S. Army Corps of Engineers flow
22 data, we depicted 6:00 a.m. values only, and is not
23 representative of continuous flow data for the
24 entire period and only represents a snapshot of the

1 day. The consultant improperly implied that the
2 graph depicts a continuous flow record.

3 The U.S. Corps of Engineers
4 data -- the Corps of Engineers measures flow on a
5 two-hour basis -- and this data is available real
6 time and upon request for historical data -- shows
7 that the river fluctuates by orders of magnitude on
8 any given day, regardless of precipitation events or
9 not.

10 Midwest Gen relies on this
11 two-hour data to make unit derating decisions to
12 remain in compliance with applicable thermal limits,
13 but the contractor just assumed the 6:00 a.m. value
14 persisted for an entire day.

15 In addition, it was acknowledged
16 that the flow is supplemented by diversion flow
17 during the summer period. Both of these factors
18 would indicate there is in constant low flow which
19 would be necessary to create adverse conditions that
20 the consultant presumes to incur in the Lower Des
21 Plaines.

22 This is one example of where it
23 could result in this manipulated data to infer that
24 thermal conditions are negatively impacting the

1 biological integrity of the waterway, rather than
2 objectively evaluating the data showing that other
3 factors are causing negative impacts, and if such an
4 evaluation were done, it would contradict the
5 consultant's ultimate conclusion that none of the
6 five UAA criteria evaluated or satisfied.

7 One other example is on Page 2-94
8 regarding the critique of the current secondary
9 contact of indigenous aquatic life standards. In
10 this section, as well as throughout the final UAA
11 report, the consultant refers to the secondary
12 contact temperature standards as being above the
13 legal limit for fish. This bias against the
14 secondary contact thermal limits is not supported by
15 the fisheries monitoring data that Midwest Gen has
16 been collecting for over 20 years.

17 Midwest Gen provided actual
18 long-term field monitoring data, which clearly
19 demonstrates that the very fish species the
20 consultant claims cannot survive in the Lower Des
21 Plaines because of the lethal secondary contact
22 thermal standard are, in fact, found in abundance
23 and doing well. This is based on scientifically
24 defensible field data, rather than reliance on

1 outdated laboratory derived lethal endpoints that
2 have no relation to actual waterway conditions.

3 We believe the reason why the
4 consultant did not rely on actual biological data is
5 that would directly refute the related
6 references -- repeated references to the theoretical
7 basis for the conclusion that the secondary contact
8 thermal limits are lethal. It appears that the
9 consultant has no more than a theory to explain to
10 the Board why there's not been dead fish repeatedly
11 showing up in these lethal thermal conditions of the
12 UAA reach of the river.

13 One last example is on Page 2-98,
14 third paragraph, beginning with figures 2.44 and
15 2.45. The first sentence states that the secondary
16 contact indigenous aquatic life standard is above
17 the lethal temperature of several warm water fish
18 species.

19 The consultant goes on to say that
20 adult fish would vacate the river during hotter
21 periods of the year to escape the lethal
22 temperatures allowed in the waterway. If this were
23 truly the case, Midwest Gen's routine fisheries
24 monitoring program, as well as programs run by the

1 Department of Natural Resources, would pick up such
2 a drastic change.

3 In reality, there has been, and
4 continues to be, a healthy assembly to the resident
5 warm water fish species in the waterway, despite the
6 continued operations of the Joliet units. Avoidance
7 of the immediate discharge canal has been documented
8 during the hottest times of the year. The fish
9 continue to be found both upstream and downstream of
10 these areas at this time, and thankfully they are
11 alive and not dead.

12 There's no data to suggest a mass
13 migration of fish to the Kankakee River during the
14 summer period, nor is there any evidence to support
15 the consultant's position that younger fish are
16 killed by higher temperatures. To the contrary, the
17 Midwest Generation fisheries monitoring program
18 continues to collect both adult and young fish
19 throughout the expanse of the Dresden Pool.

20 And one last example that the
21 consultant misinterpreted Midwest Gen's data is on
22 Page 3-5, Footnote 2. Although we've spent
23 considerable time to explain to the consultant how
24 to properly interpret data provided by Midwest Gen

1 as part of the UAA, the consultant persists in the
2 incorrect assumption that the condenser discharge
3 temperature from the Joliet plants is equivalent to
4 the temperature of the entire Dresden Pool.

5 Quote -- and this is from the
6 report -- see Figure 2.46 that indicates that, "The
7 temperature of 37.8 degrees C, or 100 degrees
8 Fahrenheit, may have been obtained or exceeded in
9 1999 in the Upper Dresden Island Pool for a period
10 of two months," end quote.

11 MS. WILLIAMS: Can you clarify exactly
12 where you're reading from there?

13 MS. WOZNIAK: This is actually
14 Page 3-5, Footnote 2, of the final UAA report. The
15 quote from the report is what the consultant was
16 using with station discharge temperature, but he was
17 applying that to the entire Dresden Pool.

18 MS. WILLIAMS: Ms. Wozniak, do you
19 recall if this footnote was edited by the Agency as
20 part of exhibits to this proceeding?

21 MS. WOZNIAK: I understand -- it was
22 discussed that it was edited in certain portions of
23 the report, but it's still in other pieces of that
24 document.

1 MR. ETTINGER: As long as we're
2 interrupting here, you don't deny that part of the
3 Upper Dresden Pool hit 100 degrees sometimes?

4 MS. WOZNIAK: In our discharge canal.

5 MR. ETTINGER: Your testimony is that
6 it never exceeds 100 degrees at any time in the
7 Upper Dresden Pool.

8 MS. WOZNIAK: In the main body of the
9 waterway, I've not seen any data that shows that.

10 MR. ETTINGER: But in the discharge
11 canal, it does reach levels over 100 degrees
12 sometimes?

13 MS. WOZNIAK: It can go above
14 100 degrees at times.

15 MS. TIPSORD: And for the record, your
16 references are to the UAA, which is Attachment A to
17 the Agency's proposal. Are there any other
18 questions for Ms. Wozniak?

19 MR. ETTINGER: I have two.

20 MS. DIERS: I have one. Albert can go
21 first.

22 MR. ETTINGER: One, are there any
23 significant heat inputs in the Upper Dresden Pool
24 below the Joliet plant?

1 MS. FRANZETTI: Albert, what do you --

2 MS. TIPSORD: Just a second. Tom
3 could not hear you at all.

4 MR. DIAMOND: Could the court reporter
5 just read it back? I just could not hear the
6 question.

7 (Whereupon, the record was read as
8 requested.)

9 MS. FRANZETTI: And, Counsel, I was
10 just asking what -- how do you define significant
11 for purposes of that question? Anybody -- any
12 industrial --

13 MR. ETTINGER: Well, let me drop that
14 question. Is there anything -- when you do your
15 modeling of making sure you reach compliance with
16 the I-55 bridge, is there any temperature input
17 below the Joliet plant that you have to take into
18 account?

19 MS. WOZNIAK: No.

20 MR. ETTINGER: And why is that?

21 MS. WOZNIAK: I don't believe there
22 are any heat inputs between the Joliet station and
23 the I-55 bridge.

24 MR. ETTINGER: Thank you. To your

1 knowledge, did the Commonwealth Edison company or
2 Midwest Generation consider building cooling ponds
3 at any of these plants?

4 MS. WOZNIAK: I would say that would
5 be impossible because there's no room for them.

6 MR. ETTINGER: There's no room around
7 the Joliet plant for any size?

8 MS. WOZNIAK: Not anything that would
9 do you any good.

10 MR. ETTINGER: Thank you.

11 MS. TIPSORD: Miss Diers?

12 MS. DIERS: Ms. Wozniak, which model
13 determines near field mixing and the size of the
14 mixing zone?

15 MS. WOZNIAK: We have a compliance
16 matrix that we use to comply -- to determine
17 compliance or gauge compliance with near field.
18 There isn't a model, per se.

19 MS. DIERS: Can you explain how the
20 matrix works?

21 MS. WOZNIAK: It was -- we had a
22 meeting with Illinois EPA back in 2001 to discuss
23 that matrix, and it uses river flows, intake
24 temperature, station operations, cooling tower

1 operations, and it calculates where the temperature
2 would be in the middle of the river.

3 MS. DIERS: Thank you.

4 MS. TIPSORD: Mr. Diamond, did you
5 have another follow-up?

6 MR. DIAMOND: Yes. Ms. Wozniak, why
7 do you believe there are no heat inputs to the river
8 downstream of the Joliet 6 and Joliet 7 and 8
9 plants?

10 MS. WOZNIAK: I guess I should
11 rephrase that. There are no major heat inputs that
12 would impact our model. Studies were done when that
13 model was put together, and we did some infrared
14 studies to show what the heat inputs were out there,
15 and there was nothing of the magnitude that we would
16 need to incorporate it into our model.

17 MR. DIAMOND: Thank you.

18 MS. TIPSORD: Any questions for
19 Ms. Wozniak? Let's go off the record for just a
20 second.

21 (Whereupon, a discussion was had
22 off the record.)

23 MS. TIPSORD: Let's take an hour for
24 lunch. We'll be back in about an hour. Thank you,

1 everyone.

2 (Whereupon, a lunch break was
3 taken.)

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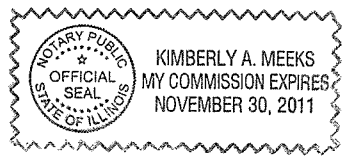
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REBECCA A. GRAZIANO, being first
duly sworn on oath says that she is a court reporter
doing business in the City of Chicago; that she
reported in shorthand the proceedings given at the
taking of said hearing and that the foregoing is a
true and correct transcript of her shorthand notes
so taken as aforesaid and contains all the
proceedings given at said hearing.

Rebecca Graziano
REBECCA A. GRAZIANO, CSR
29 South LaSalle Street, Suite 850
Chicago, Illinois 60603
License No.: 084-004659

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before me this 17th day
of November, A.D., 2009.

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Notary Public



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