

ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)	
)	
WATER QUALITY STANDARDS AND)	R08-09
EFFLUENT LIMITATIONS FOR THE)	(Rulemaking-
CHICAGO AREA WATERWAY SYSTEM)	Water)
AND THE LOWER DES PLAINES)	
RIVER: PROPOSED AMENDMENTS)	
TO 35 Ill. Adm. Code Parts)	
301, 302, 303 and 304)	

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 STATE OF ILLINOIS
 Pollution Control Board

REPORT OF PROCEEDINGS held in the
 above-entitled cause before Hearing Officer Marie
 Tipsord, called by the Illinois Pollution Control
 Board, taken before Laura Mukahirn, CSR, a notary
 public within and for the County of Cook and State
 of Illinois, at the Michael A. Bilandic Building,
 160 North LaSalle St., Chicago, Illinois, on the
 29th day of July, 2009, commencing at the hour of
 9:00 a.m.

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A P P E A R A N C E S

MS. MARIE TIPSORD, Hearing Officer
MR. TANNER GIRARD, Acting Chairman
MR. THOMAS JOHNSON, Member
MR. ANAND RAO, Member
MR. GARY BLANKENSHIP, Member
MS. ALISA LIU, Member
MR. SHUNDAR LIN, Member
 appearing on behalf of the Illinois
 Pollution Control Board

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BY: MS. DEBORAH WILLIAMS
 MS. STEPHANIE DIERS
 MR. ROBERT SULSKI
 MR. SCOTT TWAIT
 MR. ROY SMOGOR

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1 HEARING OFFICER TIPSORD: Good
2 morning, everyone. Again, my name is Marie
3 Tipsord, and I've been appointed by the board
4 to serve as the hearing officer in this
5 proceeding entitled Water Quality Standards
6 and Effluent Limitations for the Chicago Area
7 Waterway System and Lower Des Plaines River,
8 proposed amendments to 35 Ill. Admin. Code
9 301, 303, and 304. The docket number is
10 R08-9. With me today to my immediate left is
11 the acting chairman G. Tanner Girard who is
12 the presiding board member today. To his
13 immediate left is board member Gary
14 Blankenship, and to his left board member
15 Shundar Lin, and board member Andrea Moore.
16 To my far right is board member Tom Johnson,
17 to my immediate right is Anand Rao, and to
18 his right Alisa Liu from our technical unit.

19 We are continuing today with
20 questions for Corn Products' witnesses. Alan
21 Jirik, James Huff and Joseph Idaszak. The
22 IEPA is doing the questioning. I remind the
23 witnesses that they are still under oath.
24 Anyone may ask a follow-up question and you

1 need not wait until your turn to ask
2 questions to do so. I ask you raise your
3 hand, wait for me to acknowledge you. After
4 I have acknowledged you, please state your
5 name and whom you represent before you begin
6 your questions. Please speak one at a time.
7 If you're speaking over each other, the court
8 reporter will not be able to get your
9 questions on the record. Please note that
10 any questions asked by the board or staff are
11 intended to make a complete record for the
12 Board's decision and to not to express any
13 conceived notion or bias. And just so
14 everybody knows, today is a special day.
15 It's Day 30. With that, Dr. Girard?

16 CHAIRMAN GIRARD: Good morning.
17 Congratulations on making it to 30 days of
18 hearing. You don't need to hear the rest of
19 the speech this morning. Let's just get on
20 with the questions and testimony. Thank you.

21 HEARING OFFICER TIPSORD: Thank you
22 very much. Did you have a question, Dr. Fin?
23 Did you have a question before we get into
24 testimony.

1 MR. LIN: I asked him, last time we
2 talked about intake temperature, how about do
3 you need a record to show the discharge
4 temperature in your pipe or at the edge of
5 omission zone?

6 MR. JIRIK: We do have that in the
7 exhibit that Mr. Idaszak presented. We have
8 a graph. We have provided my testimony, we
9 were talking about the blue and the pink
10 line. That was the inlet relative to the
11 proposed rule. We do have, and I don't
12 believe we entered this yet, so the rest of
13 the data is submitted as part of
14 Mr. Idaszak's exhibits.

15 MR. LIN: It is important. Okay.
16 Thank you.

17 HEARING OFFICER TIPSORD: Okay. We'll
18 go to the Agency.

19 MS. DIERS: Good morning, Mr. Huff. I
20 think we left off on Question 12 in the
21 prefiled questions. On Figure 1 of your
22 thermal report, which I believe is Exhibit
23 Exhibit 285, you graph the average
24 temperature for July and August for six

1 stations. Are you aware that the average
2 temperature at Cicero Avenue, the hottest
3 station reported for July and August, is
4 below the proposed water quality standard by
5 IEPA?

6 MR. HUFF: I believe you're referring
7 to Figure 3.1. I don't believe this is
8 relevant since compliance with water quality
9 standards does not determine using a six-year
10 period average. The whole point of Figure
11 3.1 was to show where on the Chicago Sanitary
12 Ship Canal the warmest locations are. It has
13 nothing do with comparison to the proposed
14 thermal limits. Instead, individual period
15 average data are appropriate for determining
16 named compliance, not six years average
17 through July and August.

18 MS. DIERS: So did you answer the
19 question I asked, though? I know you were
20 talking about compliance. I asked you are
21 you aware that the average temperature at
22 Cicero Avenue, the hottest station recorded
23 for July and August, is below the proposed
24 water quality standard?

1 MR. HUFF: I believe I answered that.
2 I don't believe the proposed water quality
3 standard is a comparison to a six-year
4 average. I think you're trying to really
5 misuse what that graph intended to show.

6 MS. HODGE: If I may, however,
7 Mr. Huff did answer yes in his explanation.

8 MR. JIRIK: If I can -- may I? As I
9 understand the graph pertinent to the rule,
10 you would look at the readings as recorded
11 during a particular period. The data
12 Mr. Huff presented is an average of six
13 years, so it does not represent an individual
14 period, but it's six years of averages for
15 the period. So you really cannot do a
16 comparison -- the data just won't allow a
17 comparison.

18 MS. DIERS: You state on Page 8 of
19 your testimony with regard to the Chicago
20 sanitary and ship canal and the Cal-Sag
21 Channel that there are differences in
22 historical temperatures between these two
23 deep draft waterways. Does this mean that
24 the temperatures in the Cal-Sag Channel are

1 lower at all stations than the temperatures
2 in the Chicago sanitary and ship canal?

3 MR. HUFF: If you refer again to
4 Figures 3.1 and 3.2 in our report, that
5 addresses that question directly. The
6 Cal-Sag has consistently lower temperatures
7 throughout when compared to the temperatures
8 on the Chicago Sanitary and Ship Canal.

9 MS. DIERS: Question 14 on Page 8.
10 You stated both the Chicago Sanitary and Ship
11 Canal and the Cal-Sag Channel have limited
12 shallow area along banks and a high volume of
13 commercial traffic. You further state that
14 because of these similarities, a comparison
15 of a fisheries' quality between these two
16 water bodies would be expected to identify
17 thermal stress.

18 Question A: Is it true that Ed
19 Rankin's report, which is Attachment R,
20 indicated that the Cal-Sag Channel has fair
21 habitat quality primarily due to gross
22 material in the littoral areas?

23 MR. HUFF: Yes. And if correct, one
24 would expect a higher fish quality on the

1 Cal-Sag Channel. I understand that the
2 MWRDGC has an ongoing habitat evaluation and
3 improvement study that will better the
4 finding of overall habitat.

5 HEARING OFFICER TIPSORD: Just for the
6 record, that's Attachment R to the proposal.

7 MS. DIERS: B, did Mr. Rankin also
8 state that this littoral habitat is not
9 isolated but is present along much of the
10 shore line?

11 MR. HUFF: Yes. The habitat for the
12 most part extends only a few feet from the
13 shore line and is subject to extreme
14 detwatering as wave action as part of its
15 pass.

16 MS. DIERS: C, as you indicated on
17 Page 4 of the testimony, Mr. Rankin rated the
18 habitat in the Chicago Sanitary and Ship
19 Canal as poor to very poor. Why did you not
20 include Mr. Rankin's fair habitat ratings of
21 the Cal-Sag Channel?

22 MR. HUFF: The Cal-Sag Channel was
23 used for comparison of fish between the two
24 manmade canals under the simplifying

1 assumption that the primary difference
2 between the two canals is the temperature.
3 You may recall that Scudder Mackey noted in
4 his testimony that Rankin's results were
5 based on the very far spaced sample points.
6 The CAWSO 7 study notes that Rankin had only
7 two stations on the Cal-Sag Channel: One
8 ranked fair and one ranked poor. The ongoing
9 MWRDGC habitat and evaluation study will
10 better address the habitat quality.

11 MS. DIERS: D, did Mr. Rankin indicate
12 that the Chicago Sanitary and Ship Canal at
13 Lockport, Romeoville, and Willow Springs Road
14 were canal-like in nature with steep sides
15 and little functional cover or substraits?

16 MR. HUFF: Yes. In the CSSE section
17 of his report he makes those statements.

18 MS. DIERS: E, did Mr. Rankin also
19 indicate that the side at Lockport was wider
20 and had some littoral habitat but that these
21 were very limited in scope and were extremely
22 imbedded with silty mucks and sand that were
23 of poor quality?

24 MR. HUFF: Yes. At the CSSE section

1 of his report he makes this statement.

2 MS. DIERS: F, did Mr. Rankin also
3 state that the Chicago Sanitary and Ship
4 Canal widened out between Harlem and Cicero
5 and gained some shore line shallows that
6 provide a bit more habitat likely to support
7 a slightly better assemblage than in the
8 narrow more canal-like reaches?

9 MR. HUFF: Yes. I believe the key
10 word in Mr. Rankin's report is likely as
11 opposed to actual data on official
12 assemblage.

13 MS. DIERS: Question 15: On Page 8 of
14 your testimony you've indicated that the
15 Chicago Sanitary and Ship Canal and the
16 Cal-Sag Channel have similar fisheries'
17 quality. You also indicated that within the
18 Chicago Sanitary and Ship Canal the warmest
19 site had a higher than average species
20 diversity. Is it true that all of the
21 sampling sites and data presented in
22 Attachment 6, that only two sites on the
23 Chicago Sanitary and Ship Canal which would
24 be Cicero Avenue and Lockport and the one

1 site on the Cal-Sag Channel, Cicero Avenue,
2 had both fish and continuous monitoring
3 temperature data for the entire 2001 through
4 2005 period?

5 MR. HUFF: I believe that's correct.

6 HEARING OFFICER TIPSORD: Again, for
7 the record, that's Attachment 6 to --

8 MS. DIERS: Would be Mr. Huff's
9 testimony.

10 Are you aware that if you --
11 if your analysis was limited to these three
12 sites, that the Cal-Sag Channel at Cicero
13 Avenue consistently had higher IBI values by
14 as much as six to eight points than the
15 Chicago Sanitary and Ship Canal at Cicero
16 Avenue and at Lockport during four of the
17 five years?

18 MR. HUFF: Not sure why the Agency
19 would suggest not using all the data and only
20 selectively using the three data points. Is
21 the Agency suggesting that the other data is
22 flawed?

23 MS. DIERS: Are you -- You can't ask
24 me a question. I'm sorry. I'm asking you a

1 question.

2 MR. HUFF: Well, I'm not sure why you
3 would not use all the data is my response.

4 MS. DIERS: B, could the difference in
5 species diversity within the Chicago Sanitary
6 and Ship Canal be due in part to habitat
7 differences at Cicero and Lockport as
8 reported by Mr. Rankin?

9 MR. HUFF: Sure. Which simply
10 reinforces the belief that habitat, not
11 temperature, is limiting the fish quality
12 along the Chicago Sanitary and Ship Canal.

13 MS. DIERS: C, are you aware that
14 although Cicero Avenue tended to have higher
15 number of species compared to Lockport, IBI
16 scores were generally the same, being
17 slightly higher at Lockport by no more than
18 two points?

19 MR. HUFF: As Cicero has the highest
20 temperature, this would suggest that habitat
21 is the controlling factor, not the thermal
22 regime.

23 MS. DIERS: Sixteen: The average IBI
24 values presented in Table 41 of your thermal

1 report, Exhibit 285, based on those from
2 MWRDGC?

3 MR. HUFF: Yes.

4 MS. DIERS: Do you know what IBI was
5 used by MWRD?

6 MR. HUFF: I have requested this
7 information from the MWRDGC, but have not
8 received it yet. However, based on the
9 reference in the method section of MWRDGC
10 Report 08-33 entitled Ambient Water Quality
11 Monitoring in the Chicago Calumet and Des
12 Plaines River Systems, a Summary of
13 Biological Habitat and Sediment Quality
14 During 2005, the IBI used was the Illinois
15 IBI.

16 MS. DIERS: I'm going to skip over B.
17 I'm going to strike Question 17. I'm going
18 to go to 18. Explain why you believe the
19 Chicago Sanitary and Ship Canal is officially
20 distinct to support a unique use
21 classification for aquatic life uses.

22 MR. HUFF: I think that's covered in
23 my testimony. It's a manmade channel that
24 has very high barge traffic relative to the

1 others, but I think that the key component is
2 it has a unique thermal regime that is not
3 present on any of the other waterways.

4 MS. DIERS: So if the current is
5 thermal, the key issue to making the Chicago
6 Sanitary and Ship Canal separate from the
7 other water bodies that we're discussing?

8 MR. HUFF: I think it's a key
9 component, absolutely.

10 MS. HODGE: Miss Tipsord, I'd like to
11 go ahead and ask Mr. Huff to answer the
12 Agency's prefiled question 16B. And the
13 question is what is the meaningful difference
14 in IBI scores?

15 MR. HUFF: Depends on the sample size
16 and variance. In a data set with relatively
17 moderate variance, a difference of
18 approximately 8 to 10 points between scores
19 would be meaningful in my opinion. As the
20 number of IBI scores over time are collected
21 at different sites, then a meaningful
22 difference would be reduced by the square
23 root of N where N is the sample size. So if
24 there are two sets of IBI scores, a

1 meaningful difference in IBI scores would be
2 six to seven. And if three sets of IBI
3 scores were available, then a meaningful
4 difference would be five to six. That being
5 said, if there were more variants in the
6 data, only a larger difference between IBI
7 scores would be meaningful. In extremely
8 variable data an IBI score of 15 may not be
9 meaningful. If a variance is low a
10 difference of four may be significant.

11 MS. HODGE: Thank you, Mr. Huff.

12 MS. DIERS: I think we're on 18A. You
13 state on Page 9 that such a use category
14 should recognize the existing uses and
15 limitations of the Sanitary and Ship Canal.
16 Is it required to adopt the attainable uses
17 of these waters?

18 MR. HUFF: The question calls for a
19 legal conclusion. My point in that statement
20 was that the Board should weigh the economic
21 costs versus the benefits that will be
22 realistically achieved from any changes.

23 MS. WILLIAMS: Can I ask a follow-up?
24 I think yesterday, Mr. Huff, you had

1 specifically cited to a section of the
2 Environmental Protection Act when you made
3 the statement that the Board needs to
4 consider that economic cost; is that correct?

5 MR. HUFF: That was referring to the
6 economic benefit analysis, yes, ma'am.

7 MS. WILLIAMS: Would you agree that
8 the Clean Water Act prohibits such an
9 economic analysis in studying designated
10 uses?

11 MS. HODGE: I'm going to object to
12 that question. I think that certainly calls
13 for a legal conclusion.

14 MS. WILLIAMS: I understand your
15 objection. But I think several times
16 yesterday Mr. Huff quoted from federal
17 regulations. He cited to Section 27 of the
18 act. I think it's a reasonable question to
19 ask him if he thinks this type of analysis is
20 allowed under the act.

21 HEARING OFFICER TIPSORD: I think that
22 that's reaching for -- So I'm going to
23 sustain it, but if you would like to rephrase
24 or attempt to rephrase it.

1 MS. WILLIAMS: I don't want to
2 rephrase it. I think we'll object if he
3 tries to tie his answers to the law. And I
4 mean if he's allowed to tie his answers to
5 the law and then not answer questions about
6 the law --

7 HEARING OFFICER TIPSORD: I think it's
8 one thing to cite to the law when you're
9 answering a question and say that under the
10 act it says this. But you're asking him to
11 specifically offer an opinion as to what the
12 law does or does not do, and I do think
13 that's a distinction. So I'm going to
14 sustain the objection.

15 MS. WILLIAMS: Okay. Do you think
16 that the Board should consider economics in
17 establishing designated uses, and in what
18 manner should they look at that information?
19 How should they use that information?

20 MR. HUFF: I think you have to look at
21 existing uses, and existing uses you have to
22 factor in what the ramifications of the
23 changes in water quality standards or use
24 designation would have on the existing uses.

1 MS. WILLIAMS: And when you use the
2 term existing uses, are you considering waste
3 transport or simulation as an existing use?

4 MR. HUFF: Yes.

5 MS. WILLIAMS: Okay. Thank you. I'm
6 done.

7 HEARING OFFICER TIPSORD: And that was
8 prefiled B that she just asked you.

9 MS. DIERS: C, how did the proposed
10 thermal standards impact existing uses as you
11 indicate on Page 9 of your testimony?

12 MR. HUFF: Existing users that
13 discharge a heated effluent will need to
14 expend moneys to reduce the temperature of
15 their discharge to the water quality
16 standards. As a result, the cost to these
17 companies to conduct their businesses which
18 rely on the use of cooling water will be
19 greater. Growth or expansion of existing
20 industries and the citing of new companies
21 that might use the water for cooling will
22 also be burdened by greater costs in order to
23 comply with more stringent limits.

24 MS. DIERS: Did you do an economic

1 analysis when you were preparing your
2 testimony in your thermal report?

3 MR. HUFF: I believe Mr. Idaszak is
4 going to talk about the economic aspects with
5 respect to Corn Products specifically.

6 MS. DIERS: But you didn't?

7 MR. HUFF: I did not.

8 MS. DIERS: Okay. Just a second,
9 please. I think we're done. Thank you.

10 HEARING OFFICER TIPSORD: Are there
11 any other questions for Mr. Huff at this
12 time?

13 Seeing none, let's move on to
14 Mr. Idaszak. Welcome back.

15 MS. WILLIAMS: Good morning,
16 Mr. Idaszak. Am I pronouncing it correctly?

17 MR. IDASZAK: Yes.

18 MS. WILLIAMS: I'll start with
19 prefiled Question No. 1. Your analysis of
20 options available for Corn Products to
21 maintain its current use of noncontact
22 cooling water obtained from the Chicago
23 Sanitary and Ship Canal was done with the
24 expectation that Corn Products Argo Plant

1 would need to meet water quality standards.
2 Why then does your analysis assume that other
3 upstream discharges would not need to meet
4 water quality standards in their receiving
5 stream?

6 MR. IDASZAK: My analysis evaluated
7 options for Corn Products that continue its
8 current use of the Sanitary and Ship Canal
9 waters for noncontact cooling. It does not
10 make any assumptions regarding compliance by
11 upstream discharges in the Chicago Sanitary
12 and Ship Canal. My analysis, however, is
13 based on available water temperature data for
14 the intake of Corn Products Argo Plant.

15 MS. WILLIAMS: I think this might tie
16 in a little bit to what we discussed with
17 Mr. Jirik yesterday. Your analysis assumed
18 that going forward, the intake temperatures
19 coming into the plant would remain the same
20 as they have been today or within recent
21 history?

22 MR. IDASZAK: We based our analysis on
23 the historical data presented in Attachment B
24 of our prefiled testimony, which, correct, it

1 is historical data.

2 MS. WILLIAMS: Would your analysis
3 change if the water quality standards being
4 proposed were met upstream of Corn Products
5 and Corn Products were granted a mixing zone?

6 MR. IDASZAK: This question calls for
7 speculation on my part, because it depends
8 whether the mixing zone has any assimilative
9 capacity. The historical data demonstrates
10 that noncompliance with the proposed standard
11 occurs during periods throughout the year.
12 If, however, the water at Corn Products'
13 intake met the proposed standard, let's
14 suppose by a tenth of a degree, then the
15 water quality standards would be attained and
16 a mixing zone would be provided. However,
17 the mixing zone would be no practical value
18 as it would have no assimilative capacity for
19 the added heat. In this situation,
20 compliance would be required at the end of
21 the pipe which is consistent with my original
22 analysis conclusion.

23 MS. WILLIAMS: Did you look at what
24 temperatures would need to be coming in at

1 the intake in order to allow Corn Products
2 not to have to install supplemental cooling?

3 MR. IDASZAK: No.

4 MS. WILLIAMS: Can you explain for us
5 with regard to the cost figures provided,
6 does the cost come down as intake
7 temperatures goes down? Do you understand
8 what I'm saying? So if there was somewhat
9 less cooling that needed to be provided,
10 would that have an incremental effect on the
11 cost?

12 MR. IDASZAK: I understand your
13 question. However, that question calls for
14 speculation on my part, which was beyond the
15 scope of --

16 MS. WILLIAMS: I'm not asking you to
17 speculate on a number or an amount. But as
18 far as the technology that you're using, is
19 part of the cost of that technology related
20 to how much cooling is going to need to be
21 provided? Is there a sort of -- is there a
22 graph where the cost is going down if you're
23 providing less cooling, or is it flat? I
24 don't think it's speculative to ask that.

1 MR. IDASZAK: I apologize. When you
2 start removing degrees of freedom or adding
3 degrees of freedom to engineers, that puts us
4 into a little bit of a -- So, anyway, I think
5 that, understanding your question, if you're
6 asking the intake temperature going down,
7 what impact that might have on the
8 investment. There's -- again, maybe it's a
9 two-part answer. All of the infrastructure
10 that we address in our analysis: The pumping
11 systems, the pipe, the concrete will remain
12 very close to the same. The intake
13 temperature reduction may reduce the cooling
14 tower sizing in Option 2. And that could
15 potentially reduce the investment, not -- in
16 a nonpredictable manner at this moment.

17 MS. WILLIAMS: Thank you. I'm going
18 to move on to Question 2. On Page 5 of your
19 testimony, Paragraph 1 states, quote, "More
20 importantly, the engineering analysis
21 indicates that there are times of the year
22 when the period average standard will be
23 exceeded. Subpart A, when are these times of
24 year?"

1 MR. IDASZAK: We'll hand out an
2 exhibit to make it a little bit easier to
3 follow. And while Matt is doing that, the
4 important thing, I think, to recognize is
5 that these times of the year that are
6 contained in this exhibit are predicated on
7 the installation of a new cooling tower
8 system of an approximate capital investment
9 of \$24 million. It's also important to
10 recognize that there are a number of
11 variables, including uncontrollable
12 variables, that impact these exceedances.
13 Variables such as weather conditions and
14 flow -- flow conditions may be controllable,
15 but will vary. But the weather conditions
16 are certainly, in cooling tower performance,
17 an uncontrollable variable.

18 So with that having --

19 HEARING OFFICER TIPSORD: Let's go
20 ahead and admit it as an exhibit. If there's
21 no objection, we'll mark this as Exhibit 315.
22 Seeing none, it's Exhibit 315.

23 MR. IDASZAK: In Exhibit 315, Column A
24 lists the times of the year that the period

1 average temperatures will be exceeded. There
2 are ten periods of the 17 proposed. That
3 being January, February, March, April 1-15,
4 April 16-30, May 1-15, May 16-31, June 1-15,
5 October 16-30, and November.

6 MS. DEXTER: Can I ask a question,
7 follow-up?

8 HEARING OFFICER TIPSORD: Miss Dexter?

9 MS. DEXTER: Jessica Dexter,
10 Environmental Law Policy Center. I'm
11 confused. You're saying that these are the
12 times when the period average would be
13 exceeded, but you're referencing dates in the
14 past. How is that --

15 MR. IDASZAK: Because the analysis is
16 based on --

17 HEARING OFFICER TIPSORD: Mr. Idaszak,
18 could --

19 MR. IDASZAK: Because the analysis --
20 because the dates are -- the analysis is
21 predicated on historical data. And what you
22 see reflected in the exhibit are the periods
23 to our analysis that were selected where
24 period average temperatures exceed the

1 proposed standard.

2 MS. WILLIAMS: Can you remind us for
3 the record the span of time that that data
4 covers that you use.

5 MR. IDASZAK: Four years -- December
6 2 --

7 HEARING OFFICER TIPSORD: He's been
8 sworn in, so he can answer. Go ahead. Speak
9 up.

10 MR. RHEE: My name is Chai Rhee,
11 principal engineer of Ambitech Engineering
12 Corporation. To answer your question, we
13 have 68 periods from December 2003 to
14 November 2007, 17 period each year which
15 create six to eight periods.

16 MS. WILLIAMS: Thank you.

17 MS. DEXTER: So under, just to
18 understand what your colleague was saying, if
19 there was ever an exceedance over those four
20 years, then that has been added as a -- as
21 something likely to exceed it?

22 MR. IDASZAK: No --

23 MS. DEXTER: Into the future.

24 MR. IDASZAK: What we did, and if I

1 may supplement my answer, but what we did is
2 we looked at those 68 periods of historical
3 data, selected 17 that -- to use in our
4 analysis of cooling tower performance based
5 on water flow rates, intake temperatures,
6 weather data, and then cooling tower
7 manufacture performance data. These were --
8 these were 10 of the 17 periods selected for
9 the final analysis.

10 MS. DEXTER: And those were selected
11 because they were representative or because
12 they were showing the highest temperatures?
13 What was their selection criteria? Was it a
14 random sample?

15 MR. IDASZAK: They were selected based
16 on -- They were selected based on the heat
17 loading period -- the heat loading for the
18 given periods that would be the duty for the
19 cooling tower.

20 MR. JIRIK: If I may, and this is to
21 try to provide more background. Joe is the
22 subject matter expert, but I have some
23 knowledge. And if I understand, provide some
24 information, what the analysis did is it

1 looked at four years of our data. And Joe's
2 firm put together information on a cooling
3 tower. Based on the performance of that
4 cooling tower, its ability to remove heat
5 energy from the water, looked at what the
6 predicted discharge temperature would be over
7 all of those periods as Chai had explained,
8 and attempted to find if the application of
9 the cooling tower would have been sufficient
10 to have reduced the temperature to at or
11 below the proposed period average. What it
12 found is for the list of periods he has
13 indicated, the point of discharge would still
14 be above the proposed period average. So in
15 that case if we did not have a mixing zone,
16 if those conditions prevailed, if we did have
17 the cooling tower and we didn't have the
18 mixing zone, it predicts that we would not
19 have complied. We would have been above at
20 the end of the part by -- I mean hopefully
21 that gives you the background.

22 MS. DEXTER: I think I understand now.

23 HEARING OFFICER TIPSORD: Go ahead,
24 Doctor.

1 MEMBER LIN: What is the reason you
2 exclude some of the months? There's no
3 summer.

4 MR. IDASZAK: We did not exclude any
5 periods. What the exhibit you have in front
6 of you depicts are the periods throughout the
7 course of a twelve-month -- twelve calendar
8 month period. Of the 17 periods for the
9 proposed standard, those ten periods would
10 have exceeded the period average temperature
11 limit using a cooling tower to remove heat
12 from canal water prior to discharging to the
13 Chicago Sanitary and Ship Canal. So we
14 looked at all twelve months. We looked at
15 all 17 periods. The ten periods of
16 Exhibit 315 just demonstrates the periods in
17 our analysis where a cooling tower by itself
18 would not be sufficient to meet the proposed
19 period average temperature.

20 MEMBER LIN: I thought summertime had
21 more need for cooling.

22 MR. IDASZAK: Dr. Lin, I think I
23 understand your question. And if I
24 understand it correctly, you're expressing

1 some surprise that we wouldn't have more
2 issues during the summer months, which from
3 an engineering perspective we absolutely
4 agree with. But it's a combination of the
5 weather data that we used because cooling
6 tower performances vary dependent on ambient
7 temperature, relative humidity, and the
8 proposed temperature standards themselves,
9 and coupled with the canal water temperature
10 for those periods. So it's all of the
11 variables. And we --

12 MR. JIRIK: Can I -- I am not an
13 engineer, but if -- and you may correct me,
14 but I think there's a critical fact, if I can
15 offer this after offering your counsel. The
16 ability to remove heat from water, the latent
17 heat of evaporation in terms of the caloric
18 removal of energy from water is very
19 significant. And so the relative humidity is
20 very important in terms of determining the
21 performance of a cooling tower as opposed to
22 the temperature of the air. So when you have
23 very humid periods, you get very little
24 evaporative cooling, which is a very critical

1 component to the performance of the cooling
2 tower. So it may seem a bit
3 counter-intuitive that you would think
4 summer, it's hot, how do you remove the heat.
5 But I'll use a very personal example we can
6 relate to. If you're swimming on a very warm
7 day, on a humid day when you exit the water,
8 you're not chilled very much, even if it's
9 very windy. On a hot day, but when it's very
10 dry, when you exit water, you experience a
11 significant chilling because of the
12 evaporative cooling and the ability of that
13 to transfer the heat away from you. Cooling
14 towers are a very similar principal. And if
15 I've misspoken --

16 MR. IDASZAK: That's the essence of
17 it.

18 MR. JIRIK: Does that help?

19 MEMBER LIN: Thank you.

20 HEARING OFFICER TIPSORD: Miss
21 Williams?

22 MS. WILLIAMS: I think we kind of left
23 off going through the exhibit, because the
24 exhibit responds to several questions. I

1 know we talked about Subpart A, but I'm not
2 sure we walked through how much will the
3 period average temperature be exceeded by --

4 MR. IDASZAK: And that should be
5 addressed in Column D of the exhibit. Which
6 in January is 1.9 degrees Farenheit, February
7 is 6.3 degrees, March, 5.4 degrees; April
8 1-15 is 4.1 degrees; April 16-30, nine
9 degrees; May 1-15, 1.9 degrees; May 16-31,
10 2.9 degrees; June 1-15, 2.8 degrees; October
11 16 through 30.9 degrees; and November, 0.2
12 degrees.

13 MS. WILLIAMS: Now, if, for example,
14 let's take January, the period of January.
15 The table will say January 2006. Does that
16 mean that that was the only January that
17 there was an exceedance -- If you had had
18 January 2004 and January 2006 where there was
19 an exceedance, would they have been listed
20 twice on that table? Would January have been
21 listed twice?

22 MR. IDASZAK: We would not have listed
23 multiple exceedances for a period. That does
24 not mean that multiple exceedances did not

1 occur. The scope of our study are the 17
2 periods -- on Page No. 5 of our prefiled
3 report.

4 MR. JIRIK: If I can, again, this is
5 Joe's, but we're consulting here as a panel.
6 My understanding, and I'll ask Joe to
7 confirm, is the initial screening to select
8 the 17 periods of the greatest need to
9 dissipate energy identified the greatest
10 amount of exceedance. There may have been
11 other periods, other Januaries, if you will,
12 that would have exceeded. We did not
13 analyze, but they would have exceeded by a
14 lesser amount. So the values you have here
15 are the greatest. Now, I think we can say --
16 no. So these would be the greatest because
17 it's based on the preselection of the 17
18 events where the greatest energy dissipation
19 were needed. We felt, again, if we were fine
20 there, then a cooling tower would most likely
21 be suitable. We did not find that to be the
22 case. So, Joe, is that correct?

23 MR. IDASZAK: That's correct.

24 MR. JIRIK: This is explained in

1 greater testimony in the prefiled testimony.

2 MS. WILLIAMS: It is?

3 MS. HODGE: It's Page 5 of the report,
4 the Ambitech report that was attached to
5 Mr. Idaszak's prefiled testimony.

6 HEARING OFFICER TIPSORD: Exhibit 310.

7 MS. HODGE: Thank you.

8 MS. WILLIAMS: So explain how we can
9 use this chart on Page 5?

10 MR. IDASZAK: The chart on Page 5
11 shows that by historical data period, the
12 heat dissipation that would be required for
13 each month in BTUs in terms of million BTUs.
14 What we did in selecting the 17 periods, 10
15 of which are represented on Exhibit 315, is
16 we looked at the periods of our four-year
17 historical data available for maximum heat
18 load dissipation by the cooling tower. And
19 so that what Mr. Jirik explained in terms of
20 January of 2006, that would be the maximum
21 exceedance for any of the January periods
22 evaluated. =

23 MS. WILLIAMS: So let me ask if I
24 understand. For all the data we looked at

1 each period and chose the worst -- I don't
2 know if worst case scenario is the right
3 word, but the highest, and then you analyzed
4 it against the standard.

5 MR. JIRIK: If I may, and I'll ask,
6 again, Mr. Idaszak to confirm if I'm saying
7 this correctly. If you'll look at January,
8 and I'm on the table on Page 5. You'll see
9 2004, 2005, 2006, 2007. The greatest amount
10 of heat energy that needs to be dissipated is
11 January of 2006, and that cell is
12 highlighted. So if you apply the performance
13 of the cooling tower and if you are able to
14 dissipate that heat, then as you need to
15 dissipate less heat in the other months, you
16 would feel fairly comfortable the cooling
17 tower can perform in a way that will be
18 satisfactory to meet the thermal for that
19 period. If it does not, it does not mean
20 that the other periods apply. It just means
21 that the tower was insufficient to provide
22 enough heat dissipation to resolve in a value
23 that met the EPA period average for that
24 period. So we look at the peak. And if you

1 look down to the cells that are highlighted,
2 we picked those as a way to quickly assess
3 will the cooling tower be sufficient or do we
4 need more. Given Mr. Idaszak's testimony
5 that not all periods showed sufficiency, we
6 then went to option four to provide
7 additional heat dissipation for about
8 \$20 million which was the mechanical cooling.
9 So we didn't see the need to identify every
10 period. Once you get a couple periods over,
11 it's telling you the cooling tower is not
12 enough, you need more.

13 MS. WILLIAMS: Go ahead.

14 MR. JIRIK: We have nothing more to
15 offer.

16 MS. WILLIAMS: My engineers would like
17 me to follow up now and ask Mr. Idaszak, once
18 you did the analysis and concluded that the
19 cooling tower would not be sufficient, why
20 were you not able to evaluate the cost of
21 building a bigger cooling tower?

22 MR. IDASZAK: Again, it's limited by
23 the weather data. I mean there's only so
24 much heat that you can remove based on the

1 temperature and humidity in the air, and
2 that's why you go to mechanical cooling after
3 that.

4 MS. WILLIAMS: Okay. Now, among the
5 factors that go into this analysis are things
6 like wet bulbs and mature ambient
7 temperature, flow rate. One factor that I'm
8 realizing from looking at your table that I
9 hadn't considered is production levels; is
10 that correct? That affects how much heat
11 needs to be dissipated?

12 MR. JIRIK: I would answer that the
13 amount of heat that is transferred to the
14 water is related to the operation of the
15 plant. That is correct.

16 MS. WILLIAMS: So when we look at
17 Column A on Exhibit 315 and we see that the
18 majority of the highest differences here that
19 we're looking at occurred in 2004, as we're
20 sitting here today, can you tell us what was
21 unique about 2004? Were production levels
22 higher in 2004 than the other years?

23 MR. JIRIK: We did not specifically
24 analyze or determine production over the

1 four-year period, but to provide further
2 background, you would have over four years
3 some range in variability of production, but
4 you actually raised a good point. It is
5 conceivable that even higher production
6 capacity, permit capacity is in place, which
7 causes me to think that even greater thermal
8 dissipation needs beyond what Mr. Idaszak
9 analyzed is actually a possibility.

10 MS. WILLIAMS: But you -- Do you know
11 if there was something different about 2004,
12 be it weather --

13 MR. JIRIK: No, I do not.

14 MS. WILLIAMS: So you don't have any
15 reason to think 2004 was a warm winter or
16 that there was something unique about
17 production?

18 MR. JIRIK: Using all of the resources
19 here today, no one can state that we're aware
20 of anything unique about 2004 relative to
21 plant operations.

22 MS. WILLIAMS: What about weather?

23 MR. IDASZAK: We used recognized data
24 source, NOAA, for weather data and analyzed a

1 ten-year period of that weather data in order
2 to determine likely weather conditions --

3 MS. WILLIAMS: I mean we've talked a
4 lot about weather here, because, you know --
5 and I have a sense, I don't always remember
6 them, but certain summers have been cooler,
7 certain summers have been warmer. We haven't
8 ever really looked at winter. So I guess I'm
9 trying to find out if anyone knows was 2004
10 just a really off winter for weather or --

11 MR. JIRIK: I don't know if it was
12 statistically aberrant or not. But the fact
13 would be it did actually occur, which would
14 mean there is some statistical probability
15 that it will recur in the future.

16 MS. WILLIAMS: If it was weather.

17 MR. JIRIK: We'd be obligated --

18 MS. WILLIAMS: I mean I don't know.
19 That's why I'm asking you. Should I be
20 looking at weather or should I be looking at
21 production to figure out what was different
22 about that? And you don't know?

23 MR. JIRIK: I don't know, but I would
24 point out that it is real data that actually

1 occurred. It's not hypothetical or
2 theoretical. So this was a real situation.
3 And its frequency of occurrence, its
4 probability I cannot state.

5 MS. WILLIAMS: And when you say likely
6 to occur again, though, you don't mean that's
7 necessarily likely to occur again if there
8 are changes in the upstream heat loads that
9 are coming into Corn Products because you
10 haven't looked at that?

11 MR. JIRIK: We've testified to that,
12 correct? Yes.

13 MS. WILLIAMS: So I think that gets us
14 through A, B, C for sure. Let's see,
15 Question D asks what frequency of monitoring
16 did you consider would be used to calculate
17 the period average.

18 MR. IDASZAK: The period average
19 discharge water temperature was calculated
20 using the following daily flow rates and
21 temperature logs for the effluent and the
22 hourly and daily weather data. The Corn
23 Products system operation logs from December
24 2001 to November 30, 2007 --

1 MS. HODGE: Excuse me.

2 MR. IDASZAK: I'm sorry. December
3 1st, 2003, to November 30, 2007, were
4 analyzed to verify the maximum heat rejection
5 to the canal water system during the 17
6 periods in a 12-month span. The system
7 operation logs include the data average water
8 flow rates in gallons per minute and the
9 24-hour maximum discharge temperatures. The
10 hourly and daily average wet bulb
11 temperatures for a ten-year period from 1998
12 through 2007 for Midway Airport were
13 furnished by Corn Products, and that was
14 National Oceanic Atmospheric Administration
15 data.

16 MS. WILLIAMS: Were you finished?

17 MR. IDASZAK: Yes.

18 MS. WILLIAMS: So this analysis used
19 what we talked about yesterday, the weighted
20 daily average process that your continuous
21 monitor records, correct?

22 MR. IDASZAK: Correct.

23 MS. WILLIAMS: As opposed to the
24 information relied on in Mr. Jirik's

1 testimony which is more this weekly
2 information that he reports?

3 MR. IDASZAK: Correct.

4 MS. WILLIAMS: Correct? I think we
5 answered E, but I'll, for the record, ask:
6 Does this analysis presume that the water
7 quality standards are met when the water is
8 withdrawn from the Chicago Sanitary and Ship
9 Canal?

10 MR. IDASZAK: No.

11 MS. WILLIAMS: Go ahead. It assumes,
12 and I think what we discussed earlier, is it
13 assumes going forward temperatures will be
14 similar to what they are today, correct?

15 MR. IDASZAK: Yes.

16 MS. WILLIAMS: And then F, does it
17 factor in any mixing zone in the receiving
18 stream and effluent? The answer is no?

19 MR. IDASZAK: No, it does not.

20 MS. WILLIAMS: Okay. Subpart G, how
21 would reductions in the intake temperature of
22 the Corn Products intake point impact your
23 analysis of whether mechanical cooling is
24 necessary?

1 MR. IDASZAK: Well, again, this
2 question calls for speculation on my part.
3 We've been over the various factors that
4 influence equipment selection, including the
5 uncontrollable factors of weather, air
6 temperature, and relative humidity. In
7 addition, to have a meaningful impact in
8 most cases, intake water would have to drop
9 significantly to give the Sanitary and Ship
10 Canal meaningful assimilative capacity. I
11 would like to emphasize that it is also
12 important to consider weather data as
13 uncontrollable in this calculation.

14 MS. WILLIAMS: Let's talk about this
15 meaningful assimilative capacity concept. I
16 think you've already discussed that as
17 being -- well, why don't you explain again
18 what you mean by meaningful assimilative
19 capacity.

20 MR. JIRIK: When the receiving waters
21 are at the period average, then there is no
22 ability or assimilative capacity for that
23 water to receive any additional heat which,
24 to use numbers, you know, the limit is 80.

1 If the water is 80, then you can't take water
2 warmer than 80 and expect it to comply with
3 80. So as the temperature of the receiving
4 water drops to levels below period average,
5 there then becomes a capacity for it to
6 sustain additional thermal load, and yet
7 remain in compliance with the period average.
8 The greater that difference, the greater the
9 assimilative capacity. So the closer you are
10 to the period average you have less or maybe
11 no assimilative capacity, the greater the
12 Delta or difference, the greater the
13 assimilative capacity.

14 MS. WILLIAMS: And I believe the
15 testimony yesterday was that, or maybe even
16 this morning also, if you're using 80, as you
17 have, if you are very close to 80, say 79,
18 explain the impact.

19 MR. JIRIK: I will continue with that.
20 So if, you know, if the limit were 80, the
21 receiving were 79, it takes very little heat
22 energy to go back to 80 or 81 and then be
23 above. You just cannot put very many BTUs or
24 therms or whatever your unit of energy is

1 into that water without raising it to a level
2 above the period average. And it was my
3 understanding that, and I believe some of my
4 testimony, that if you have the situation
5 again, now we're making up numbers, but if
6 the limit period average were 80 and the
7 waters were 79, then it's my understanding it
8 would be compliant with the mixing zone that
9 would be provided. But the practical use of
10 that is virtually of nothing because --

11 MS. WILLIAMS: Why?

12 MR. JIRIK: Well, because you could
13 put so very little amount of thermal into the
14 water that effectively you would still have
15 to comply at the end of the pipe because
16 there's no assimilative capacity for the
17 water body to take any meaningful additional
18 thermal load without a violation.

19 MS. WILLIAMS: Wouldn't that be
20 dependent upon the amount of dilution
21 available with regard to having a mixing
22 zone?

23 MR. JIRIK: Dilution would be another
24 factor. But, again, if you're talking one

1 degree, it --

2 HEARING OFFICER TIPSORD: So what
3 you're saying, in effect, Mr. Jirik, is let's
4 say, again, using 80, but the temp in the
5 canal would be 79, but 80 is the water
6 quality standard. If you discharged 81,
7 which mathematically should then give you 80
8 at the discharge point, it would and could,
9 in fact, even at the discharge point, raise
10 it above the 80 degree water quality standard
11 and be a violation?

12 MR. JIRIK: Because I don't get the
13 whole canal to mix it. There are limitations
14 to that. And I'm a little warmer than 81,
15 so.

16 MS. WILLIAMS: And you're allowed, in
17 your permit, possibly to be significantly
18 warmer than 81 if the proper mixing zone
19 allows dilution and --

20 MR. JIRIK: Correct. Yes.

21 HEARING OFFICER TIPSORD: Excuse me.
22 I think we just lost the point that I was
23 trying to make, and I thought it was the
24 point that we were all trying to get to, at

1 least with Mr. Jirik's testimony. And that
2 is your meaningful assimilative capacity,
3 meaningful assimilative capacity, is
4 basically saying that if the discharge body
5 is at 79 and the water quality standard is
6 80, there is a possibility that you would
7 have an at-the-pipe 80 degree permit
8 discharge level because there is no
9 meaningful assimilative capacity at that 79
10 degrees?

11 MR. JIRIK: And to maintain compliance
12 I would need to put in Mr. Idaszak's cooling
13 tower.

14 MS. WILLIAMS: How -- Doesn't Madam
15 Hearing Officer's question, though, she's
16 suggesting you would have an end of pipe
17 limit of 80. Do you agree with that?

18 MR. JIRIK: In terms of my NPDES
19 permit, no; but in terms of practical
20 compliance, yes.

21 MS. WILLIAMS: I just wanted to be
22 clear on that point. I understand what you
23 were trying to get at, but I think it was --

24 MR. JIRIK: From a matter of all

1 practicality, I would -- if that situation
2 occurred, to assure my compliance, which we
3 take very seriously, I would need a cooling
4 tower to --

5 MS. WILLIAMS: Why don't you explain
6 for us then in practical terms today, how
7 much higher than a water quality standard can
8 your discharge be with the mixing zone that
9 you have today?

10 HEARING OFFICER TIPSORD: Excuse me,
11 gentlemen. This might be helpful, but didn't
12 one of you testify to the fact that you
13 recently went through a process and have --
14 are only discharging at certain levels so you
15 wouldn't have to put in a cooling tower? Do
16 you recall that testimony? That might be
17 helpful to you coming up with your answer. I
18 know that that was -- I believe it was your
19 testimony, Mr. Jirik.

20 MR. JIRIK: It was my testimony,
21 and --

22 HEARING OFFICER TIPSORD: I mean I
23 think it might be quite difficult without a
24 lot of information at your fingertips for you

1 to answer that question much more
2 specifically.

3 MR. JIRIK: I am not aware that we
4 have conducted a theoretical maximum
5 analysis. It would entail multiple variables
6 of the weather. If we were doing it
7 pertinent to this proposed rulemaking, you
8 would have period averages, you would have
9 plant production, you would have flow. It
10 would be --

11 MS. WILLIAMS: I didn't ask about the
12 proposal. So currently today, 100 degrees
13 may not be exceeded in the receiving stream
14 at any time outside the mixing zone, correct?

15 MR. JIRIK: Correct.

16 MS. WILLIAMS: I believe there was
17 testimony yesterday of temperatures in the
18 discharge pipe around, what, 111? Is that
19 what someone said? 114?

20 MR. JIRIK: 111 was the --

21 MS. WILLIAMS: We're talking about 11
22 degrees above the standard today?

23 MR. JIRIK: Right.

24 MS. WILLIAMS: Okay. I just wanted to

1 make that clear.

2 MR. JIRIK: At the end of -- the 111
3 was measured at the end of the pipe.

4 MS. WILLIAMS: Correct. Let's go to
5 No. 3 of the prefiled questions. In your
6 testimony you state, quote, "Four options
7 were evaluated relative to the feasibility of
8 the continued cooling water from the Sanitary
9 and Ship Canal water for processed cooling in
10 the case where Illinois EPA's proposal is
11 adopted by the Illinois Pollution Control
12 Board," unquote.

13 Can you explain how you went
14 about narrowing the available options down to
15 these four?

16 MR. IDASZAK: The options chosen are
17 commonly used means for process cooling
18 throughout a broad range of industries. An
19 important basis for alternative selection is,
20 in this case, this is a retrofit, which
21 limits viability of options. There may be a
22 wider range of viable options for process
23 cooling in the design stage of a green field
24 site, a brand new construction.

1 MS. WILLIAMS: Okay. If Option 2 --
2 this is Question 4. If Option 2 would result
3 in compliance, would Corn Products MPDES
4 limits under a revised permit following the
5 adoption of the proposed thermal limits,
6 would you consider that option technically
7 feasible?

8 MR. IDASZAK: Well, I would be
9 concerned about the effectiveness of an
10 investment of approximately \$24 million.

11 MS. WILLIAMS: I didn't ask whether
12 you considered it economically reasonable.
13 Was that what you were answering?

14 MR. IDASZAK: I thought I was
15 answering your question.

16 MS. HODGE: I think you were asking
17 him to speculate upon that hypothetical.

18 MS. WILLIAMS: Okay. Let me -- Was
19 the basis for your conclusion that option two
20 was not technically feasible, the fact that
21 you thought there would be a problem
22 complying with permit limits?

23 MR. IDASZAK: Well, based on the
24 historical data that we used for our analysis

1 of Option 2, it did not meet the proposed
2 standard. Therefore, I believe it is not a
3 feasible option for compliance under the
4 Agency's proposal.

5 MS. WILLIAMS: So if that changed, the
6 permit were issued that outlined mixing zone
7 at limits that Corn Products could meet,
8 would that option become technically
9 feasible? I think that's what the question
10 was.

11 MS. HODGE: I think we're still a
12 little confused by the question. We're not
13 sure what you mean in your hypothetical. Are
14 you suggesting -- It seems to us that you're
15 suggesting that the Agency would issue a
16 permit that would allow us to violate the
17 water quality standard? And we're not sure
18 how to answer.

19 MS. WILLIAMS: Well, we've already
20 documented that, all the analysis was
21 assuming no change from today anyway. I mean
22 certainly could be possible that the Agency
23 could issue a permit with a mixing zone that
24 could be met in the future. We don't know

1 what the upstream sources are going to be
2 doing. But that's fine. I think he answered
3 the question.

4 You state on Page 5 with
5 regard to option 3, quote, "Since the capital
6 operating and maintenance costs are
7 reasonably expected to be higher than
8 Option 2, along with unstudied potential
9 processing impacts, this option was
10 eliminated."

11 Please explain this statement.

12 MR. IDASZAK: Sure. This actually is
13 a two-part answer. And the first is that
14 there is an economy of scale to installing
15 one large cooling tower as opposed to twelve
16 smaller point of use cooling towers making
17 Option 3 inherently more costly than
18 Option 2.

19 And then, secondly, the
20 reworking of the cooling tower inlet
21 temperatures to be approximately 33 process
22 users for a closed loop system would likely
23 have changed the approach temperature to the
24 heat exchange equipment. The impact of this

1 change on product quality and process
2 equipment performance requires input from
3 Corn Products' research and development as
4 well as the process equipment vendors in
5 order to determine actual impacts which was
6 beyond the scope of Ambitech's study.

7 MS. WILLIAMS: Okay. So would that
8 answer Subpart A, do you believe below cycle
9 cooling is technically feasible at the Corn
10 Products Argo facility? Did you study that?

11 MR. IDASZAK: We did not study that.
12 But of course, you know, we know Corn
13 Products has installed a closed loop cooling
14 tower system at their Argo facility.
15 However, this closed loop system was for new
16 construction at that time, and the process
17 was specifically designed to utilize closed
18 loop cooling tower water for cooling. And in
19 this case, the closed loop cooling may not be
20 technically feasible due to the original
21 equipment design basis.

22 MS. WILLIAMS: And can you remind me
23 what year that new closed cycle cooling
24 process was installed?

1 MR. JIRIK: If I may answer, it's --
2 It was the mid 1990s. Is that precise
3 enough?

4 MS. WILLIAMS: I think so.

5 Question 6, explain why
6 construction of a building to shelter the
7 mechanical cooling system is required in
8 Option 4.

9 MR. IDASZAK: Because ambient
10 temperatures in Chicago drop below freezing.

11 MS. WILLIAMS: So would that always be
12 the case that anywhere that you're using
13 mechanical cooling in the ambient
14 temperatures can go below freezing and
15 require shelter, is that industry standard?

16 MR. IDASZAK: Yes. That is industry
17 standard practice.

18 MS. WILLIAMS: Question 7, what method
19 did you use to determine that the probable
20 cost of Option 4 is not reasonable? And then
21 what experience are you relying on to
22 estimate the cost of \$20 million?

23 MR. IDASZAK: First of all, it's
24 important to be aware that the \$20 million of

1 investment reference in this question is in
2 addition to the approximately \$24 million
3 required to install the cooling tower
4 addressed in Option 2. The \$20 million for
5 mechanical cooling is derived by developing
6 equipment cost or was derived, in this case,
7 by developing equipment cost using Icarus
8 estimating software database, which is an
9 accepted industry standard software used for
10 estimating equipment cost of population to a
11 database in the software on a set subscriber
12 frequency. So they are updated on a regular
13 basis. The equipment cost in an approximate
14 building size of 40 feet by 120 feet were
15 developed using this Icarus database. And
16 the \$20 million was factored based on the
17 equipment and building costs, which is,
18 again, an accepted estimating practice for --
19 factored in. The sensitivity of this
20 estimate is \$18 million on the low end and
21 \$30 million on the high end.

22 MS. WILLIAMS: And I'm not sure,
23 though, that you answered the first part of
24 the question which is how did you come to the

1 conclusion that this dollar amount is not
2 reasonable?

3 MR. IDASZAK: Well, based on
4 Ambitech's experience in working through a
5 broad range of industries, a number of
6 different client sites throughout North
7 America, we have the opportunity to work in a
8 number of facilities. And the investment
9 that we're talking about here, really we're
10 talking about approximately \$44 million would
11 exceed a significant number of our clients'
12 facility annual capital budget.

13 MS. WILLIAMS: Is that the method that
14 you use to --

15 MR. IDASZAK: For reasonableness.

16 MS. WILLIAMS: To compare to the
17 annual budget?

18 MR. IDASZAK: Based on our experience
19 with -- throughout the work that we do that
20 we have not experienced an investment of this
21 amount of money for this particular type of
22 application.

23 MS. WILLIAMS: And this proceeding
24 we've talked about a lot of different cost

1 numbers. And I would assume that for an
2 industry like Corn Products, a reasonable
3 cost of compliance would be different than,
4 say, a facility like MWRD that's a very, very
5 huge discharger or even maybe the utilities.
6 So I would like to know could you, in your
7 experience for a facility the size of Corn
8 Products, give us an idea about what figure
9 you would consider reasonable?

10 MR. IDASZAK: All that build-up for
11 I'm sorry, I can't answer that question.

12 MS. WILLIAMS: Don't you think it
13 would help the Board to have some idea?
14 Obviously you've come to the conclusion it's
15 unreasonable. Is any investment unreasonable
16 for this purpose?

17 MS. HODGE: Miss Williams, we'll be
18 happy to go back and consider this question,
19 but we are just not prepared to answer that
20 here today.

21 MS. WILLIAMS: Okay. That's fine. If
22 you would go back and consider that, that
23 would be fine, and get back to us with your
24 thoughts.

1 Question 8, what other open or
2 closed cycle cooling systems have you worked
3 on, Mr. Idaszak, and where are they located?

4 MR. IDASZAK: Well, again, as I stated
5 earlier, Ambitech has worked on a broad range
6 of commercially available heat transfer
7 technology throughout North America and even
8 off shores in Europe and the Pacific Rim.
9 And this includes thousands of different
10 projects that our company has executed over
11 the course of its 27-year history. I
12 personally have worked on hundreds of
13 projects with a variety of heat transfer
14 technology over my 27-year career, so.

15 HEARING OFFICER TIPSORD: And I would
16 note that Exhibit 307, your resume, has a
17 list of projects you've worked on personally
18 and your experience.

19 MS. WILLIAMS: I didn't -- Could you
20 point me to some of these on here that are
21 open or closed cycle cooling systems in
22 Illinois, just a couple of examples. You
23 don't have to be exhaustive.

24 MR. IDASZAK: Sure. Page 2, Baxter

1 Health Care. The third bullet item, designed
2 for reconfiguration of a primary chilled
3 water system to a primary secondary chilled
4 water system. Pharmacia, again, design
5 installation, start-up for conversion of
6 primary chilled water system to a primary
7 secondary chilled water system, both in
8 Illinois.

9 MS. WILLIAMS: Okay. I think that is
10 what I was looking for.

11 Question 9 asks primarily just for
12 information about who prepared Attachment 1,
13 who prepared attachments A-F, and who from
14 Corn Products prepared Attachment B.

15 MR. IDASZAK: Sure.

16 MS. HODGE: We have an exhibit to help
17 clarify.

18 HEARING OFFICER TIPSORD: If there's no
19 objection, we will mark this as Exhibit 316.
20 It's answers to IEPA Prefiled Question 9B for
21 J. Idaszak.

22 Seeing no objections, it's
23 Exhibit 316.

24 MS. WILLIAMS: I think that addresses

1 Question 9. And we've already answered
2 Questions 10 and 11.

3 Question 12 asks -- I don't know
4 if we've addressed this yet or not.

5 MR. IDASZAK: We have.

6 MS. WILLIAMS: Well have you provided
7 the system log you referred to on Page 4?

8 MR. IDASZAK: It's Attachment B.

9 MS. WILLIAMS: Go ahead.

10 MR. IDASZAK: It's Attachment B,
11 summarized in Attachment B.

12 MS. WILLIAMS: But those are not the
13 actual system operation logs?

14 MR. IDASZAK: Attachment B is
15 everything.

16 MS. WILLIAMS: Is everything, okay.
17 I'm trying to see if the last question has
18 been asked, so just give me a second.

19 Question 13 on Pages 4 to 5 you
20 state since the average discharge water
21 temperatures are available from February 24,
22 '05, to November 30, '07, and average
23 Sanitary Ship Canal water temperatures are
24 not available, daily maximum and Sanitary and

1 Ship Canal water temperatures are used.

2 Could you just explain this? I think I was
3 just confused by that.

4 MR. IDASZAK: Sure. The daily maximum
5 temperatures are very near the daily average
6 temperatures for the canal water.

7 Consequently, this data was judged to be
8 suitable for use in the calculation. I think
9 it's important to note that of the 17 periods
10 that were selected, five of these periods
11 were from this time frame of February 24,
12 2005, to November 30, 2007. Of these five
13 periods, only one period exceeded period
14 average proposed. Of the 17 periods
15 selected, twelve were outside the time frame
16 of February 24, 2005, to November 30, 2007.
17 Of these twelve periods, nine exceeded the
18 period average proposed standard.

19 MS. WILLIAMS: I don't think we have
20 anything further for the Corn Products
21 witnesses.

22 HEARING OFFICER TIPSORD: Anyone else
23 have anything for the Corn Products
24 witnesses? Going once, going twice?

1 MS. WILLIAMS: Mr. Fort, do you have
2 an extra copy?

3 HEARING OFFICER TIPSORD: Yes, we do.
4 Go ahead, Mr. Fort.

5 MR. FORT: Mr. Huff, we've marked
6 Exhibit 317 as a document. You've seen that
7 before?

8 MR. HUFF: Yes, sir.

9 MR. FORT: And did you prepare this
10 document?

11 MR. HUFF: Yes, I did.

12 MR. FORT: Could you describe briefly
13 for the record what it is.

14 MR. HUFF: There were four items that
15 was asked during my testimony on behalf of
16 Citgo that I promised to get back to. One
17 was a bibliography of urbanization watershed
18 references that we're referring to as the
19 urbanization goes up, what effect that has on
20 water quality.

21 The second, the Agency noted there
22 was some problems on my Table 3.1, so I have
23 a corrected Table 3.1 to our report.

24 And then, No. 3 and 4, there was a

1 question regarding the mixing zone on behalf
2 of Citgo Lemont. Section 3 is the
3 temperatures at the edge of the mixing zone
4 over a period of time, and then
5 Section 4 is a graphical depiction of the
6 actual mixing zone on behalf of Citgo.

7 And I believe those were the four
8 things we had promised.

9 HEARING OFFICER TIPSORD: Okay. Thank
10 you. Let's take a short break so the Agency
11 can look at this material and see if they
12 have any other questions. We'll come back in
13 about ten minutes.

14 (Short break taken.)

15 HEARING OFFICER TIPSORD: All right.
16 I think we might be ready to go back on the
17 record. And does the Agency have any
18 follow-up questions based on the new
19 material?

20 MS. WILLIAMS: Just two questions, I
21 hope. Mr. Huff, I'd like to ask just a
22 couple of questions about Item No. 2 in
23 Exhibit 317 called revised Table 3-1 from
24 Huff report 2009. So it appears to me that

1 the number of historical fish species listed
2 for the Sanitary and Ship Canal has gone from
3 79 in your earlier report to 46 in this
4 report; is that correct?

5 MR. HUFF: Yes.

6 MS. WILLIAMS: And the number for the
7 Cal-Sag Channel has gone up two species from
8 36 in your prior report to 38 in this report;
9 is that correct?

10 MR. HUFF: Yes.

11 MS. WILLIAMS: Can you just explain
12 for us briefly what errors you noticed that
13 caused you to make changes?

14 MR. HUFF: Yes. The primary error was
15 we had the fish data from EA and that was
16 included in Appendix A. And their columns
17 across the top were labeled lower Lockport
18 pool, Brandon pool, upstream I-55, downstream
19 I-55. We had misinterpreted the downstream
20 I-55 as where I-55 crosses approximately
21 Harlem Avenue as opposed to the outer column.
22 So that was the primary.

23 MS. WILLIAMS: So you thought that was
24 where, on the Sanitary and Ship Canal, where

1 I-55 --

2 MR. HUFF: That's correct. As opposed
3 to where on the I-55 bridge where it crosses
4 down there.

5 MS. WILLIAMS: Where it's general use;
6 is that correct?

7 MR. HUFF: Yeah.

8 MS. WILLIAMS: Thank you. I don't
9 have any other questions.

10 THE COURT: Thank you very much. We
11 appreciate it. Thank you all once again. I
12 want to compliment you on your
13 professionalism, your courtesy. We will have
14 official hearing dates October 5 or 6 and
15 November 9 and 10. Once I have rooms, I'll
16 put out an official hearing order setting out
17 all of that. Thank you very much. Have a
18 wonderful afternoon.

19 (Which were all the
20 proceedings had.)

21 * * * * *

22

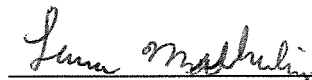
23

24

1 STATE OF ILLINOIS)
2) SS.
3 COUNTY OF COOK)
4

5 I, LAURA MUKAHIRN, being a Certified
6 Shorthand Reporter doing business in the City of Des
7 Plaines, Illinois, County of Cook, certify that I
8 reported in shorthand the proceedings had at the
9 foregoing hearing of the above-entitled cause. And
10 I certify that the foregoing is a true and correct
11 transcript of all my shorthand notes so taken as
12 aforesaid and contains all the proceedings had at
13 the said meeting of the above-entitled cause.

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LAURA MUKAHIRN, CSR

CSR NO. 084-003592

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