ORIGINAL

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAY SYSTEM)
AND THE LOWER DES PLAINES RIVER;)
PROPOSED AMENDMENTS TO 35 ILL.)
ADM. CODE PARTS 301, 302, 303)
AND 304.)

TRANSCRIPT OF PROCEEDINGS held in the above-entitled cause before Hearing Officer Marie Tipsord, taken before Sharon L. Berkery, CSR, at 160 North LaSalle Street, Room N-502, Chicago, Illinois, on the 28th day of July, A.D., 2009 commencing at 12:45 p.m.

APPEARANCES:

ILLINOIS POLLUTION CONTROL BOARD
Ms. Marie Tipsord, Hearing Officer
Mr. G. Tanner Girard, Acting Chairman
Ms. Andrea S. Moore, Board Member
Mr. Thomas E. Johnson, Board Member
Mr. Shundar Lin, Board Member
Mr. Gary L. Blankenship, Board Member
Ms. Alisa Liu, Environmental Scientist

HODGE, DWYER & DRIVER,
3150 Roland Avenue
P.O. Box 5776
Springfield, Illinois 62705-5776
217-523-4900
MS. KATHERINE D. HODGE,
MR. MATTHEW C. READ,
appeared on behalf of Corn Products International.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Ms. Stefanie Diers
Ms. Deborah Williams

APPEARANCES: (Cont'd.):

ENVIRONMENTAL LAW AND POLICY CENTER,
33 East Wacker Drive
Suite 1300
Chicago, Illinois 60601
312-795-3707
MS. JESSICA DEXTER,
appeared on behalf of ELPC, Prairie Rivers Network, and Sierra Club;

BARNES & THORNBERG, LLP,
One North Wacker Drive
Suite 4400
Chicago, Illinois 60606
312-357-1313
MR. FREDRIC ANDES,
appeared on behalf of the Metropolitan Water Reclamation District of Greater Chicago;

MR. ANDREW ARMSTRONG,
appearing on behalf of the People of the State of Illinois;

APPEARANCES (cont'd.):

FRANZETTI LAW FIRM, PC,
Ten South LaSalle Street
Suite 3600
Chicago, Illinois 60603
312-251-5590
MS. SUSAN FRANZETTI,
appeared on behalf of Midwest Generation, LLC;

MS. CANDACE BOWER,
appeared on behalf of USEPA Region 5.

ALSO PRESENT:
Mark K. Bosse, Tom A. Siil, Chai H. Rhee.

REPORTED BY: SHARON BERKERY, C.S.R.
CERTIFICATE NO. 84-4327.

MS. TIPSORD: We are back on the record. Welcome, everybody, back. Thank you for promptly getting back after lunch.

And at this point in time, I think we are ready to move on to the prefiled testimony of Corn Products from James Huff. There you are. And do I pronounce it, Mr. Jirik and Mr. Idaszak?

Thank you very much. Ms. Hodge, Mr. Read?

MS. HODGE: Hearing Officer Tipsord and Board Members, thank you very much for the opportunity today to allow Corn Products to present testimony. My name is Katherine Hodge with the law firm Hodge, Dwyer & Driver. I'm here on behalf of Corn Products International, Inc.

My witnesses today are Mr. Alan Jirik, vice president of regulatory affairs for Corn Products; Mr. James Huff, vice president of Huff & Huff, Inc., a consultant for Corn Products; and Mr. Joseph Idaszak, general manager of Ambitech Engineering Corporation, another consultant of Corn

Products. As you may recall, Mr. Huff previously testified on behalf of Citgo in this proceeding, but he is here today to present testimony solely for Corn Products.

Also present are Mr. Mark Bosse, who is the safety and engineering manager at Corn Products, Mr. Tom Siil, staff engineer Corn Products, and Mr. Chai Rhee, of Ambitech. All are available to assist in answering questions today, if needed.

Matt Read, an associate from my firm, is here also. Mr. Jirik, Mr. Huff, and Mr. Idaszak are appearing as a panel today and for questions other than prefiled by Illinois EPA. They will answer questions collectively as appropriate.

Today's testimony will focus on the Agency's proposed use designation. And Corn Products reserves the right to provide testimony as to the Agency's proposed water quality standards at a later time.

Mr. Jirik, Mr. Huff, and Mr. Idaszak have brief summaries of their prefiled testimony that they would like to

offer for the record today. And then they would be happy to answer any questions.

We have copies of the prefiled testimony that we'd like to offer.

MS. TIPSORD: Could we swear in the witnessess first?

MS. HODGE: Certainly. And I would also like these gentlemen (indicating) to be sworn.

MS. TIPSORD: Swear if all witnesses, please.

(WHEREUPON, the witnesses were duly sworn.)

MR. READ: This is prefiled testimony --

MS. TIPSORD: Okay.

MR. READ: -- of Alan Jirik.

(WHEREUPON, the document was tendered to the Board.)

MS. TIPSORD: If there's no objection, we will mark that as Exhibit 303.

Seeing none, it is Exhibit 303.

(WHEREUPON, a certain document was marked Exhibit No. 303 for identification, as of 7/28/09.)

(WHEREUPON, the document was tendered to the Board.)

MR. READ: James Huff prefiled testimony.

MS. TIPSORD: No objections? If there's no objection, we'll mark that as Exhibit 304.

Seeing none, it is Exhibit 304.

(WHEREUPON, a certain document was marked Exhibit No. 304 for identification, as of 7/28/09.)

(WHEREUPON, the document was tendered to the Board.)

MR. READ: And Joseph Idaszak's prefiled testimony.

THE COURT: And if there is no objection, we will mark that as Exhibit 305.

Seeing none, it is Exhibit 305.

(WHEREUPON, a certain document was marked Exhibit No. 305 for identification, as of 7/28/09.)

MS. TIPSORD: And, actually, I noticed that some people did make it back in. So before we get into your summaries, we do have another exhibit that the people wanted to submit.

And you can identify yourself, again, for the record today.

MR. ARMSTRONG: Andrew Armstrong, for the People of the State of Illinois. And I have more papers prepared in connection with the prefiled testimony of Kevin K. Boyle, Ph.D., on behalf of the People of the State of Illinois.

MS. TIPSORD: If there's no objection? I know you're all just getting this book of material. If I am correct, Mr. Armstrong, this is material that was asked for during his testimony -- oral testimony?

MR. ARMSTRONG: Yes, it was discussed, and it is including data that was used.

MS. TIPSORD: If there's no objection, we will mark this as Exhibit 306.

Seeing none, it is Exhibit 306.

(WHEREUPON, a certain document was marked Exhibit No. 306 for identification, as of 7/28/09.)

MS. TIPSORD: Thank you, Mr. Armstrong.

MR. READ: Madam Hearing Officer, we also have two more exhibits that we'd like to put in before we start.

MS. TIPSORD: Let me catch up. Thanks.

Okay. Go ahead, Mr. Read.

(WHEREUPON, the document was tendered to the Board.)

MR. READ: We have the resume of Joseph Idaszak.

MS. TIPSORD: All right. If there's no objection, we will mark the resume of Ambitech Engineering Corporation's, Joseph B. Idaszak as Exhibit No. 307.

Seeing none, it's Exhibit 307.

(WHEREUPON, a certain document was marked Exhibit No. 307 for identification, as of 7/28/09.)

(WHEREUPON, the document was tendered to the Board.)

MR. READ: And we also have the resume of Chai Rhee, of Ambitech.

MS. TIPSORD: If there's no objection, we will mark the resume of Ambitech Engineering Corporation's Chai H. Rhee as Exhibit 308.

Seeing no objection, we will mark that as Exhibit 308.

(WHEREUPON, a certain document was marked Exhibit No. 308 for identification, as of 7/28/09.)

MS. TIPSORD: Go ahead, gentlemen -- or Ms. Hodge?

MS. HODGE: I have one more thing, too, please, Ms. Tipsord.

And this is just for clarification, that, as I mentioned before, Mr. Huff has testified previously in this proceeding for Citgo. And his report that's entitled Thermal Evaluation of the Chicago Sanitary and Ship Canal and the Calumet-Sag Channel, as it pertains to fishery quality.

It has been admitted previously as Exhibit 285. And that's the same report that we'll be relying on today.

MS. TIPSORD: Thank you.

MS. HODGE: And, with that, Mr. Jirik?

MR. JIRIK: Good afternoon. I'm Alan Jirik, and I'm the vice president of regulatory affairs at Corn Products International, Inc.

I'm here today on behalf of Corn Products to discuss the aquatic life use designation proposed by the agents of the Chicago Sanitary and Ship Canal and it's potential impact on Corn Products' operations. Corn Products' Argo Plant is located on Archer Avenue in Bedford Park, and it has operated continuously at that location for almost 100 years.

The facility processes corn and produces a variety of food products and ingredients. And the plant is directly and indirectly responsible for providing approximately 3,000 jobs. As a part of its operations, the facility is capable of

withdrawing up to 65 million gallons of water per day from the Sanitary and Ship Canal for noncontact cooling, and returns the warmed noncontact cooling water back to the canal pursuant to the conditions of the facility's NPDES permit.

The Sanitary and Ship Canal is a unique waterway. It is a manmade channel that was constructed primarily for the purpose of reversing the flow of the Chicago River to transport waste and diseases away from Lake Michigan.

The canal receives discharges from several facilities, including two Midwest Generation facilities upstream of Corn Products and the MWRDGC Stickney waste water treatment plant. In fact, according to Page 18 of the Agency's statement of reasons, the waste water treatment plants contribute 70 percent of the total annual flow of the canal at the Lockport Powerhouse and Lock.

As you were aware, the Agency's proposal to designate a portion of the Sanitary and Ship Canal into which Corn

Products discharges, as incidental contact recreation waters and CAWS and Brandon Pool Aquatic Life Use B Waters. The proposal to characterize the canal as a Use B Water is inappropriate, because it fails to distinguish the unique characteristics of the canal from the characteristics of the other waters designated as Use B.

Significantly, as Mr. Huff will explain, the fisheries in the canal are impacted by habitat limitations and other nonthermal stressors, and thus designating the canal as a Use B waterway will provide no meaningful improvement to the fishery relative to current conditions. Further, the record does not support a Use B designation for the canal.

In addition, designating the Sanitary and Ship Canal as a Use B water, will jeopardize Corn Products' current use of canal water for noncontact cooling purposes. The canal does not meet the proposed Use B water quality standard for temperature. That is, the water at Corn Products' intake often

exceeds the proposed thermal water quality standard for Use B waters.

Accordingly, as I understand it, a no mixing zone would then be allowed. Even if the Sanitary and Ship Canal were to marginally meet the Use B thermal standard, the result would be that the canal water at or near the thermal standard, would not provide sufficient capacity to assimilate additional heat. Consequently, the proposed designation would eliminate Corn Products' current use of the canal for noncontact cooling water.

The Agency has testified that thermal water quality standards are technically feasible and economically reasonable because they can be met by using cooling towers, which have been employed at other facilities in Illinois. Corn Products consultant, Ambitech, has evaluated several options for compliance with the Agency's proposed rule and determined that the installation of cooling towers for Corn Products will cost approximately $24 million.

In another option, not only would a cooling tower be necessary to comply with the proposed rule, but Corn Products would also have to install a mechanical cooling system. The combined cost and installation of the cooling tower and a mechanical cooling system is approximately 44 to $46 million and does not reflect additional operating costs as necessary to run the equipment to meet the thermal standards.

The Canal serves an important social and industrial purpose in its receipt of treated wastewater and dissipation of thermal energy from industrial processes and electrical generation. The Agency's proposed Use B does not have a basis in the record and would serve to deprive Corn Products of its current use of the canal.

In particular, the Agency provided no fish data or other technical justification for the setting of nonsummer thermal limits. The Agency has not fully considered the economical reasonableness or technical feasibility of Corn Products' compliance with

the proposed aquatic use designation for the Sanitary and Ship Canal. Corn Products is quite interested in continuing to work with the Agency to develop a use and designation that recognizes the unique features and uses of the Sanitary and Ship Canal.

I thank you for the opportunity to testify, and look forward to your questions on these issues.

MR. HODGE: Thank you, Mr. Jirik.

Mr. Huff?

MR. HUFF: Good afternoon.

I am James Huff of Huff & Huff, Inc., an environmental consulting firm. I am here today on behalf of Corn Products to discuss the Use B designation proposed by the Agency for the Chicago Sanitary and Ship Canal.

The Sanitary and Ship Canal is a manmade channel carved from limestone, resulting in steep walls and a harsh aquatic environment with limited habitat. The physical habitat in the canal is core and limits the diversity of the aquatic life.

Because of assessed limitation, the balance of an indigenous population of fish cannot be attained, as acknowledged by the Agency at the hearing on January 28, 2008, the testimony of Scott Twait. In addition, the Canal has an electric field barrier to prevent nuisance species from migrating into Lake Michigan and from Lake Michigan into the Mississippi River basin. It also prevents movement of all species through the Canal.

Special consideration should be given to the thermal issues of the Sanitary and Ship Canal because of the heat added to the Canal by the discharges of industrial users upstream of Corn Products, including MWRDGC and Midwest Generation facilities. However, the proposed Use B designation was based largely in part on the data analysis of the Agency's consultant, which was based on a literature search of laboratory temperature studies. The Use B designation was then proposed based on what the Agency believes is necessary to protect eight fish species and

then was discounted to incorporate what the Agency perceives as, quote, "background" temperature. In practice, the incorporation of background temperatures sets nonsummer temperature high enough so the NWRDGC would not need to install cooling towers.

The Agency's decision to discount its consultant's analysis implies that the cost of installing cooling towers at MWRDGC would not be justified -- to their question regarding whether the Agency considered other existing uses of the Canal. In addition, the Agency provided no fish data or other technical justification for setting nonsummer limits. Had the Agency factored in the thermal loading on the canal instead of arbitrarily setting the spring, fall months at MWRDGC effluent temperatures, the different regulatory proposal would have resulted.

The report compiled by my firm compares the temperature levels of fish found in the Sanitary and Ship Canal and the Calumet-Sag Channel. Both the Sanitary and

Ship Canal and the Calumet-Sag Channel are deep-draft man-made waterways with different thermal characteristics. The report assumes that the aquatic habitat in the Sanitary and Ship Canal and the Calumet-Sag Channel are similar and that temperature is the primary variable between the two waterways, so a comparison of the fisheries quality between the two waterways would be expected to identify limitations as caused by thermal stress. Likewise, within the Sanitary and Ship Canal, by comparing fish data for sampling points for different thermal characteristics, we would expect to identify limitations caused by thermal stress.

Our study concludes that the Sanitary and Ship Canal, Calumet-Sag Channel have similar fisheries quality. Thus, it appears that existing thermal inputs into the Canal are not a controlling or limiting factor in fisheries qualities.

Based on the Agency's proposed aquatic use designation and the associated proposed thermal standard, the Sanitary and

Ship Canal is thermally impaired and will necessitate that all dischargers whose temperatures exceed the proposed water quality standards reduce their thermal loading. A separate use category for the Canal is needed to address the uniqueness of the Canal and recognize existing uses and limitations of the Canal itself.

I would be happy to answer questions regarding my prefiled testimony.

MS. HODGE: Thank you, Mr. Huff.

Mr. Idaszak?

MR. IDASZAK: Good afternoon. My name is Joe Idaszak, and I am the general manager of Indiana operations for Ambitech Engineering Corporation, a company specializing in process industry retrofits for revamp projects.

Ambitech was obtained by Corn Products to evaluate the available options and maintain its current use of noncontact cooling water from the Chicago Sanitary and Ship Canal. In order for Corn Products to comply with the proposed thermal standard, it

would need to achieve end of pipe compliance since no mixing zone would be available.

Ambitech considers four options to determine the feasibility of continued use of the Sanitary and Ship Canal water for noncontact cooling. In Option 1, the current use case, Corn Products could not continue use of the Canal water for process cooling because the discharge would exceed the Agency's proposed water quality standards.

In Option 2, we evaluated the use of a cooling tower, which would require a suitable location for a tower that could handle 45,000 gallons per minute. To power the tower foundation structural supports and associated pumps, piping, and electrical service, Option 3 considered the use of a closed loop cooling system, which would consist of approximately 12 cooling towers, smaller in size than the cooling tower considered in Option 2, to service approximately 36 process units.

Option 4 considered the addition of a mechanical cooling system to the cooling

tower considered in Option 2. This would consist of a refrigerant compressor and evaporator system. Approximately 12,000 375,000 tons of mechanical cooling would be required to meet period average temperature standards, and a building would also need to be constructed to provide shelter for the equipment from the weather.

To focus of Ambitech's evaluation was Option 2, because Corn Products needs to reduce canal water discharge temperature to maintain its current use, thereby eliminating Option 1, the installation, operation, and maintenance of multiple cooling towers and associated equipment required by Option 3 would reasonably be expected to be higher than the costs associated with Option 2. So Option 3 was eliminated.

For Option 2, we completed an analysis to determine the capital cost to purchase and install a new cooling tower system. We based our conceptual engineering on the most likely area at the Argo site for a cooling tower for noncontact water from the

Canal. We provided rough design parameters to a cooling tower vendor and a candidate cooling tower was selected.

We also selected pumps based on hydraulic calculations and estimated the amount of electrical power and the quantity of concrete and steel needed, based on various factors. Ambitech concluded that the estimated cost of the installation of the cooling tower is approximately $24 million dollars. The estimate does not account for the equipment outages, shutdown maintenance, or malfunction. An additional $2 million would be needed for redundancy measures to ensure maximum system availability. Even if the approximately $26 million was deemed economically reasonable and Corn Products installed the cooling tower, the engineering analysis indicated that there will be times of the year when the period average temperatures will still be exceeded.

Finally, as I stated in the prefiled testimony regarding Option 4, a mechanical cooling system would be installed

in addition to the cooling tower. The installation of the mechanical cooling system is estimated to cost an additional $20 million dollars.

It may be possible to maintain the current use of the Canal by combining Options 2 and 4 and providing necessary redundancy to provide secure plant operation at a probable cost of approximately $46 million. However, in my opinion, such a high cost is not reasonable, considering that the requirements for this system is intermittent on an unpredictable basis.

I'm happy to answer questions on my prefiled testimony. Thank you.

MS. HODGE: Thank you, Mr. Idaszak.

We are now ready to answer the Agency's prefiled questions, and we suggest that we go in the same order as our summaries of testimony, Mr. Jirik, Mr. Huff, and Mr. Idaszak.

MS. TIPSORD: That's fine.

MS. WILLIAMS: Good afternoon, Alan.

MR. JIRIK: Good afternoon.

MS. WILLIAMS: I'm going to start with our prefiled questions, so I'll start with No. 1.

Your testimony indicates that Corn Products uses the waters of the Chicago Sanitary and Ship Canal at its Argo plant for noncontact cooling proposes. Does Corn Products take intake temperature measurements of these waters? And if you want to answer the whole subpart, we also ask, does Corn Products take effluent temperature measurements? How frequently and at what sampling location?

MR. JIRIK: Regarding the intake temperature measurements, yes, we do take those. Regarding effluent, yes, we take those, as well.

The frequency is the monitoring device census temperature continues. And the sampling device location, the monitoring devices referred to are mounted inside the pipe, one on the intake pipe, the other on the discharge pipe located within the plant boundary about 1,000 lineal feet of pipe run

inland from the edge of the Sanitary and Ship Canal.

MS. WILLIAMS: Can you explain a little bit about the length of the pipe?

MR. JIRIK: Sure.

MS. WILLIAMS: Maybe just explain physically how that's set up for us.

MR. JIRIK: We have an intake structure on the bank, which contains the pump and the all the hardware necessary to take the water out, places it into a fairly large diameter pipe that then runs into the plant. The sensing devises, we -- it's somewhat circuitous, so we're trying to get the run of pipe as opposed -- so it wouldn't misrepresent so many feet in.

So it's -- from the point we would withdraw from the Canal, we're about a thousand feet of pipe inland. That would be the lineal feet. And our intake and out effluent are measured about the same point. And that's within our plant property.

So it's very accessible and easy for us to get to.

MS. WILLIAMS: How do you get to it, if you need to...

MR. JIRIK: Well, personally, either walk or take a vehicle. It's still kind of in the back remote parts of the plant. But it is within the plant perimeter within our security model.

MS. WILLIAMS: On Page 4, Paragraph 1 of your testimony, you state, quote, "The cooling tower enabled Argo to avoid adding additional thermal loads of existing NPDES discharge and allows Corn Products to remain in compliance with the thermal limits in its NPDES permit. Thus, it is Corn Products' opinion that Argo is near the approximate limit of it's allowable thermal discharge to the Sanitary and Ship Canal water for cooling purposes at Argo."

What restrictions are placed in Corn Products' NPDES permit regarding intake and effluent temperatures?

MR. JIRIK: The NPDES permit requires, under special conditions on Page 3, the following regarding temperature. Quote,

"Temperature shall not exceed 93 degrees Farenheit, 34 degrees Celsius, more than five percent of the time, or 100 degrees Farenheit, 37.8 Celsius at any time at the edge of the mixing zone, which is defined by Rule 302.102 of the above regulations."

MS. WILLIAMS: So --

MS. HODGE: Excuse me. Ms. Williams, we do have copies of the facilities NPDES permit we can make available for the record.

(WHEREUPON, the document was tendered to the Board.)

MS. TIPSORD: If there's no objection, we will mark Corn Products International NPDES permit cover letter from the IEPA, March 24th, 2005, signed by Alan Keller, PE, Division of Water to Corn Products -- we will mark that as Exhibit 309, if there's no objection.

Seeing none, it's Exhibit 309.

(WHEREUPON, a certain document was marked Exhibit No. 309 for identification, as of 7/28/09.)

MS. TIPSORD: Go ahead, Ms. Williams.

MS. WILLIAMS: I know that you didn't write this special condition, but can you explain for us today what you believe it requires?

MR. JIRIK: Understanding, again, that I did not write it, but I can tell you what I believe the intent is, is that it establishes two limitations applicable at the edge of the mixing zone. The first limitation is 93 degrees five percent of the time, the other limitation is 100 degrees at any time at the edge of the mixing zone.

MS. WILLIAMS: Would you agree to the statement that, essentially, the condition requires that Corn Products not cause a violation of the water quality standard in the stream? Is that, essentially, what you're saying? The special condition would prohibit Corn Products from causing that water quality violation, is that...

MR. JIRIK: I would believe that the permit draft of this was looking at the current standards and attempted to draft language commensurate with the current

standard to achieve a compliance with the limits that are on the books at the present time.

MS. WILLIAMS: How is compliance with this special condition determined?

MR. JIRIK: Using the data described in our response to your first question, Corn Products prepares a mixing zone calculation and compares the result of the limits that we -- to the limits of the NPDES that we previously discussed.

MS. WILLIAMS: Does Corn Products submit the results of those calculations to the Agency?

MR. JIRIK: Yes.

MS. WILLIAMS: Can you describe what format those are presented in?

MR. JIRIK: It is included in our Discharge Monitoring Report, our DMR.

MS. WILLIAMS: Does that take the form of just a single maximum value for the month, or do you provide more detailed calculations?

MR. JIRIK: We provide a weekly value in the DMR.

MS. WILLIAMS: And by "weekly," do you mean a weekly maximum or an average?

MR. JIRIK: The value reported is consistent with what the permit requires.

MS. HODGE: It's on Page 3.

MS. TIPSORD: It's the last sentence on the Special Condition No. 2.

MR. JIRIK: I would refer you to Page 2, the effluent limitations and monitoring.

MS. WILLIAMS: And this refers to -- for temperature purposes, you're required to take a single reading once a week; is that correct?

MR. JIRIK: Yes.

MS. WILLIAMS: But then, in Special Condition No. 2, it talks about reporting a monthly maximum value on the DMR form; is that correct?

MR. JIRIK: It contains the language, "The monthly maximum value shall be reported on the DMR," correct.

MS. WILLIAMS: And I'm not trying to get tedious with this. I think our

understanding was that the data that is submitted is monthly maximum data, and you have testified that you have -- you collect continuous data.

Would Corn Products be willing to provide, for the record, some reasonable period of continuous data as part of this proceeding?

MR. JIRIK: First of all, I would clarify that it senses continuously with any data recorder. It's not a strip chart, it's in the world of electronics, where --

MS. WILLIAMS: Mr. Smoger was telling me I should ask you how often, and I said no.

MR. JIRIK: Unless it's the old world you could; but in the modern electronic world, it's much more complicated. But I do believe that we have provided that information, it's part of Mr. Idaszak's -- one of the attachments.

So can we identify specifically --

MS. HODGE: We certainly can.

MR. JIRIK: Attachment B to Ambitech, that should already be in your possession.

MS. HODGE: It's the Ambitech report.

MR. READ: We have the report on CD.

MS. TIPSORD: Is that the same as what was prefiled?

MR. READ: Yes.

MS. HODGE: Yes.

MS. TIPSORD: Do we want to enter this as a separate exhibit, do you think, or -- the report itself is already a part of his -- although, you just gave me -- never mind. Let me stop and restate, just because I have it.

We will mark this as Exhibit 310 if there's no objection.

Seeing none, it's Exhibit 310.

(WHEREUPON, a certain document was marked Exhibit No. 310 for identification, as of 7/28/09.)

MS. TIPSORD: I'm just confusing what I got printed off with what I actually have in the hearing record.

MS. WILLIAMS: Maybe it would be helpful, just for the record, for either witness to help explain which columns we

looked at for which type of data. Does that make sense? Because it's very tiny print.

MR. IDASZAK: To be perfectly honest, I had to blow it up so I could see it.

MS. WILLIAMS: That makes me feel better.

MS. TIPSORD: Can you give us an idea of where Attachment B is in this (indicating)?

MR. IDASZAK: Exactly, no. But approximately.

MR. READ: It would be Page 79.

MR. IDASZAK: Thank you.

MS. TIPSORD: I'm still not finding it. I'm sorry, can I see what it looks like? Have you guys found it?

MS. WILLIAMS: Yeah.

MS. DIERS: Attachment B.

MS. HODGE: Show the cover page --

MR. JIRIK: To help us, can I --

MS. HODGE: -- so we can answer your question better, please --

MR. JIRIK: Are you looking from which column is the influent data that we monitored

and which column is the effluent data that we monitored, is that the question?

MS. WILLIAMS: Make sure we all understand that, yes.

MR. JIRIK: Joe?

MR. IDASZAK: The fifth column is the discharge or effluent temperature. And the sixth column -- I'm looking at Page 1 of Attachment B.

The sixth column is the inlet influent temperature. The third column is the GPM flow rate.

MS. WILLIAMS: And you have one -- one point per day or one line across in the table per day?

MR. JIRIK: Daily average.

MS. WILLIAMS: So that represents the daily average?

MR. IDASZAK: Column 5 and Column 6 represent the daily maximum.

MS. WILLIAMS: And how -- did we clarify how often recordings are taken, the maximum of how many values, if we know?

MR. JIRIK: My understanding is the

recordation of the stream of information, the stream of data, is not set on a fixed time sequence. But rather, the device will record data when it detects a change in temperature.

The system then is able to do a time-weighted average.

MS. TIPSORD: Can I ask a follow-up, Mr. Idaszak?

You were talking about what each of these columns represents. Just so I'm clear, I'm going to look at the very first line, 9/26/03.

MR. IDASZAK: Okay.

MS. TIPSORD: We have 32,045 gallons per minute; right?

MR. IDASZAK: Correct. Yes.

MS. TIPSORD: The first column with temperature, the 104 degrees, is that influent into Corn Products or effluent?

MR. IDASZAK: Effluent.

MS. TIPSORD: So they discharge at 104 degrees?

MR. IDASZAK: That was the maximum reading.

MS. TIPSORD: And what they bring in from the Canal is 74 degrees?

MR. IDASZAK: That was the maximum for that day.

MS. TIPSORD: Okay.

MR. IDASZAK: This is at the end of the pipe temperature -- at the device.

MS. TIPSORD: Okay. Thank you.

MS. WILLIAMS: And then, moving to the next column where it says "Delta." Would that be what we talked about as Delta D or the change in temperature as a result of the process?

MR. IDASZAK: No. There's a difference between those two readings.

MS. WILLIAMS: Okay.

MS. FRANZETTI: I'm sorry, Ms. Williams, just for clarification on that.

So, Mr. Idaszak, when you say the difference between those two readings, the delta that appears in that column is the difference between the intake temperature daily max value and the discharge temperature daily max volume for that day?

MR. IDASZAK: That's correct.

MS. TIPSORD: Ms. Franzetti, you need to identify yourself for the record, please.

MS. FRANZETTI: Oh, I'm sorry. Susan Franzetti, counsel for Midwest Generation.

MS. WILLIAMS: So let's explain that last column now. Where it says, "RMZ 2 degrees F."

MR. BOSSE: That's the temperature at the end of the mixing zone, using the core mix model, EPA's model, to determine that temperature. Using that method, that's what RMZ means.

MS. WILLIAMS: What do you plug in?

MR. BOSSE: You plug in the inlet temperature --

MS. TIPSORD: You need to face the court reporter and speak up.

MR. BOSSE: -- and the outlet temperature of the pipe and the discharge flow value of gallons per minute, and man an assumption for the Canal flow. You use a delusion ratio of core mix and come up with the temperature at the end of mixes.

MS. WILLIAMS: Can you just explain a little more how the delusion ratio is determined?

MR. BOSSE: The delusion ratio is based on -- the delusion ratio is from the core mix model -- are you familiar with that? Mr. -- got together and got a water model.

MS. WILLIAMS: We've heard of it.

MR. BOSSE: The delusion is provided by the model. So we don't go out and actually sit and measure it -- find out where it is and measure it.

MS. WILLIAMS: Can you tell us what the Canal --

MR. BOSSE: It tells you the delusion ratio. A bunch of parameters.

MS. WILLIAMS: I'm just trying to understand this.

The Canal flow is constant, or does the model assume various --

MR. BOSSE: We use seven Q10 values.

MS. WILLIAMS: Okay.

MS. FRANZETTI: If I may follow up again to make sure I understand?

So if I understand correctly, every time you run the model, you are using a constant flow value for the Sanitary and Ship Canal, which is the equivalent of its seven Q10 volume?

MR. BOSSE: That's essentially correct.

MS. FRANZETTI: Okay.

So would you agree, then, that your calculations tend to be a bit conservative?

MR. BOSSE: Yes. For compliance they have to be --

THE COURT REPORTER: I'm sorry, I can't hear you.

MR. BOSSE: Yes, for compliance they have to be somewhat conservative, and that's how we use it.

MS. FRANZETTI: Thank you.

MS. WILLIAMS: And so, the assumption would be that -- and would it be correct to say that any time the flow in the Canal is greater than the seven Q10, Corn Products could have additional mixing available to it

at the same time, that it does not rely on in it's analysis. Is that correct?

MR. BOSSE: Possibly.

MR. JIRIK: Can I try?

It's my understanding that if there was more volume in the Canal then the values you were seeing, there would likely be lower temperature. So you had used the term "more mixing." We're not calculating mixing, we were looking at the temperature at the edge of the mixing zone. The higher volume has a lower temperature, so the values you have are conservative.

MS. WILLIAMS: But the temperatures that you're reporting are not occurring at seven Q10 flows in your table; correct?

MS. FRANZETTI: Objection. Sometimes they are.

MS. WILLIAMS: I mean, they're not all occurring at seven Q10; correct? They are occurring at whatever the flow happens to be on the day the temperatures are taken.

MR. BOSSE: That's correct. We don't have access to flow data in the Canal, so we

don't know what it is every day.

MS. WILLIAMS: I am agreeing with you. I think I am agreeing with you, that the values are conservative.

MR. JIRIK: Right.

MS. WILLIAMS: Which is then why I asked the next question, doesn't that conservatism mean that when the flows are higher there could be more mixing available to Corn Products that you are not at this time trying to take advantage of in an effort to make sure you're in compliance?

MS. FRANZETTI: Just for the record, I'm going to object to the form of the question. Because I think you also have to take into account in answer to that question what the ambient temperature at that higher flow value in the receiving stream, as well as, potentially, some other factors that counsel isn't including in the hypothetical.

MS. WILLIAMS: We have the actual temperatures, but we don't have the actual flows. I'm not trying to --

MS. FRANZETTI: They don't have the

temperature on the receiving stream. You have your intake and their discharge.

You don't have the temperature at your hypothetical higher flow.

MS. WILLIAMS: I'm not trying to hypothesize the higher flow. I'm trying to suggest that -- well, I mean, I -- if Mr. Jirik doesn't understand, that's fine.

MR. JIRIK: One moment.

MS. FRANZETTI: Ms. Williams, I'm only trying to suggest that, at best, they can say their calculations are a bit conservative. And I don't know that you can get more precise than that, unless you go into a lot of detail. That's all I'm suggesting.

MR. JIRIK: So if I understand your question, again, I'm framing it so you understand the basis of my answer.

If -- all of the things being equal, if the flow volume in the Canal were greater than seven Q10, would we generate the same numbers you're seeing there? The answer is no. We believe the numbers would be lower.

MS. WILLIAMS: Does corn -- I mean, I think the answer has already been addressed, but Subpart H says that Corn Products collects temperature data. The answer to that is no?

MR. JIRIK: No, we calculate it.

MS. WILLIAMS: Let's go back up to Subpart D.

Have the effluent temperatures at Corn Products ever exceeded the proposed CAWS Aquatic Life Use B daily maximum temperature of 90.3 degrees Farenheit?

MR. JIRIK: As we measured at the sampling location I previously described, yes.

MS. WILLIAMS: If so, did the exceedances occur for more than two percent of the hours on the previous flow period?

MR. JIRIK: Yes.

MS. WILLIAMS: Does this incur in certain months of the year or throughout the year?

MR. JIRIK: I do not know. We established that it was greater than two

percent, that's as far as being irrigated, the data.

MS. WILLIAMS: That's fine.

MS. BOWER: Can I ask a question?

THE COURT REPORTER: Will you identify yourself, please?

MS. BOWER: Yes. Candace Bower, USEPA Region 5.

Are you talking about the temperature that is at the end of the pipe, or are you talking about the temperature that they're reporting at the edge of the mixing zone?

MS. TIPSORD: I believe the question is -- at the monitoring point.

MS. BOWER: Thank you.

MS. TIPSORD: Because that's the data we have at the monitoring point.

MS. BOWER: Thank you.

MR. JIRIK: No, we're not able to take it any further than that.

MS. WILLIAMS: Okay. Subpart E.

Does Corn Products effluent temperature ever exceed 93.9 degrees

Farenheit?

MR. JIRIK: As measured at the sampling location, as we previously described, yes.

MS. WILLIAMS: And Question F asks what the highest recorded effluent is in the last five years?

MR. JIRIK: To the best of our knowledge, the highest daily average was 111 degrees Farenheit. This was in July 2005.

Please note, this is the effluent sampling location, not the mixing zone.

MS. FRANZETTI: Susan Franzetti again.

I'm sorry, Mr. Jirik, did you say the highest daily average or daily max?

MR. JIRIK: Daily average.

MS. FRANZETTI: Daily average, okay.

MS. WILLIAMS: Do you know about the highest daily max?

MR. JIRIK: We did not determine that. I'm not prepared to answer that question.

MS. WILLIAMS: How far in the distance, on the Sanitary and Ship Canal, is the intake pipe from the effluent discharge

pipe, approximately?

MR. JIRIK: A couple of hundred feet, is that as much -- I'd say 100 maybe 200 hundred feet, they're quite close together.

MS. TIPSORD: Can I ask -- excuse me. Can I ask a follow-up question, it may be a silly question.

Is the influent upstream of the effluent?

MR. JIRIK: Yes.

MS. TIPSORD: Thank you.

MS. WILLIAMS: So have you done an analysis of whether the intake is impacted at all by the effluent? Do you know what I'm saying?

MR. JIRIK: Based on our visual observations, we do not believe that that phenomenon is occurring.

MS. WILLIAMS: Okay. And by "visual," does that mean, you know, the steam coming up? Do you see where it's headed, or what do you mean by visual?

MR. JIRIK: At the point of discharge, there's an energy diffuser, if you will, that

creates like a great splashing, if you will, in the water. So that gives you kind of a visual marker as the water is -- it's kind of a big splash, and you see it go out into the Canal.

MS. WILLIAMS: Thank you.

What is the design average flow of the Argo plant?

MR. JIRIK: If, by that question, you mean what is the design pumping capacity of the water withdrawal pumps taking water from the Sanitary and Ship Canal for noncontact cooling, our answer is, the peak design value is about 65 million gallons per day.

MS. WILLIAMS: So when you say the "peak design value," was this a maximum as opposed to an average?

MR. JIRIK: It's the summation of the rated capacity of each of the pumps.

MS. WILLIAMS: Part of this question asks do you know what the seven Q10 flow of the Chicago Sanitary and Ship Canal is at the Corn Products facility?

MR. JIRIK: We believe that it is

1,014, that's one zero one four, cubic feet per second. I personally have not verified this figure.

My understanding is this value came from a person called Jan Nelly at the IEPA and was provided to us in August of 2004.

MS. WILLIAMS: What portion of the Chicago Sanitary and Ship Canal does Corn Products use for cooling water?

MR. JIRIK: At a typical canal flow of approximately 2,100 CFS, and considering Corn Products average of 36 million gallons per day, it would yield a typical usage of 2.8 percent.

MS. WILLIAMS: And Subpart B of that question asks, what proportion of the Argo Plant effluent is discharged to the Chicago and Sanitary and Ship Canal, as opposed to being sent to MWRDGC for treatment?

MR. JIRIK: If the intent of the question is to determine or ask what portion of the water withdrawn from the Sanitary and Ship Canal is returned to the Canal, what

portion is evaporated, and what portion is discharged to the MWRD, then our answer is that approximately 99.4 percent is returned to the Sanitary and Ship Canal, approximately 2/10 of one percent is sent to the MWRD, and approximately 4/10 of one percent is evaporated.

MS. WILLIAMS: Could you please repeat the caveat of that? You said that's the percentage of water withdrawn for cooling purposes?

MR. JIRIK: The percentage of water that is withdrawn from the Sanitary and Ship Canal.

MS. WILLIAMS: Period, the total.

MR. JIRIK: So I'm giving you the -- per -- when we have our pumps, we take all that water out. What I'm giving you, then, is the distribution of what happens to the water we withdraw.

MS. WILLIAMS: So...

MR. JIRIK: So 99.4 goes back, 2/10 of one percent goes to the MWRD and 4/10 is lost to the atmosphere.

MS. WILLIAMS: And then the 2/10 of a percent are a particularized process stream that's sent to MWRD?

MR. JIRIK: Yeah, it's blow-down from a cooling tower.

MS. WILLIAMS: So am I incorrect that -- I think I was under the impression that Corn Products used water for other process systems than noncontact cooling. Is other water used for those purposes, not the Sanitary and Ship Canal water?

MR. JIRIK: Well, we have focused on the Sanitary and Ship Canal, because that is the focus of the rulemaking.

MS. WILLIAMS: Right.

MR. JIRIK: We do have water -- for example, it's Lake Michigan water supplied by the Village of Bedford Park. But those are separate springs, and they do not comingle.

So the reason for my decision was to answer the question relative to the Ship and San.

MS. WILLIAMS: Thank you.

And the -- I mean, just to finish

up the point.

The water that's used from Bedford Park is all sent to Metropolitan Water Reclamation; is that correct?

MR. JIRIK: It's not discharge. It doesn't go to the Ship Canal, but some of it would go out with our product, for example.

MS. WILLIAMS: Oh.

MR. JIRIK: Some may be lost in evaporation. So I can't say that all --

MS. WILLIAMS: But you can say that none of it goes to the Ship Canal?

MR. JIRIK: To give an absolute that none goes, we would need to check a particular process. We believe there may be some authority to do it, we're not aware that it does occur.

But, to be accurate, we can follow up with that after we do a proper investigation. And we'll provide that answer later.

MS. WILLIAMS: Thank you.

MS. TIPSORD: Ms. Williams, Ms. Moore has a follow-up.

MS. MOORE: I just had a question, because I think maybe I've gotten myself mixed up with my notes, so I need to clarify.

Did I understand you say under Question 2A what portion of the Chicago Sanitary and Ship Canal does Corn Products use for cooling? You put 36 million gallons a day?

MR. JIRIK: Using our average intake -- and this is an average, understand, of 36 million gallons per day, that -- if you look on a longer-term basis, in the last year or so, that was an average amount per day that we were pumping out of the Canal.

MS. MOORE: Okay.

MR. JIRIK: And then, for my other answer, 99.4 of that went back.

MS. MOORE: Right. But then up a little bit earlier I wrote 65 million gallons per day intake.

MR. JIRIK: That is our rated capacity. So we are capable -- we have equipment that is capable of pumping as much as 65.

MS. MOORE: Okay.

MR. JIRIK: But we have not -- as based on the average, we have not run at the capacity of those, we've been averaging -- again, around 36, that was the last year.

MS. MOORE: Okay. So you just, generally, mix a small amount of cooling water from Bedford -- or from the municipality?

MR. JIRIK: The municipality is separate and is not discharged. There's one small source we need to verify, because I can't say with absolute certainty.

So, by and large, the lake water in Bedford, being a pure water, is used more where you have -- than for a food plant. And so, we're using that water more in the direct content of the manufacture of food and ingredients.

MS. MOORE: So it's not necessarily used for cooling as much?

MR. JIRIK: Not necessarily. I'm not saying there aren't places where we may use it for that. But the sanitary water is used

primarily for food.

MS. MOORE: Thank you.

MS. TIPSORD: Go ahead, Ms. Williams.

MS. WILLIAMS: I'm going to skip Question 3.

In Question 4 on Page 8 of your testimony you say that the Chicago Sanitary and Ship Canal is more like an aqueduct than a natural stream or river. Can you explain what you mean by "natural" in this context?

MR. JIRIK: According to the American Heritage Dictionary of the English Language, a river is, quote, "A large natural stream of water emptying into an ocean, lake, or other body of water, and is usually fed along its course by converging tributaries," end quote.

Natural streams result from geomorphology of the land circuit and develop over thousands of years. Such geomorphology often results in tinuosity and gradual flow.

MS. WILLIAMS: Does natural, in this context, as being used in that definition or in your definition, allow room for man -- the influence of man, such as channelization?

MR. JIRIK: A natural river can experience changes or modifications due to the activities of man. The water in this case preceded man, and the water body was not created by man. But the naturally created body of water, man may experience some influences, yes.

MS. WILLIAMS: Can you explain in this regard how the Sanitary and Ship Canal would be different from -- and I have listed a variety of water bodies here, the Chicago River, the North Branch below the North Avenue Turning Basin, South Branch Chicago River, South Fork of South Branch, Brandon Pool, Lake Calumet connecting channel?

MR. JIRIK: I believe that the majority of the segments you have listed resulted from natural geomorphological processes and evolved and matured over thousands of years. Thus, these are natural rivers or streams.

They may have experienced some changes due the influence of people, but their origin is natural.

MS. WILLIAMS: Would you agree that many of these branches have very steep side channels that have been -- vertical walls and steep -- deep vertical walls, deep draft segments? You'd agree with that statement; correct?

MR. JIRIK: I don't have knowledge that enables me to answer that question.

MS. WILLIAMS: So you don't know if these water bodies have vertical-sided walls, but you know they're of natural origin?

MR. JIRIK: If you're asking me do I know that the list of segments that you read previously are constructed in the way you explain, I do not have personal knowledge relative to a design and structure of these water bodies. I do not.

MS. WILLIAMS: Can you point to something in the use designation proposed for the Sanitary and Ship Canal by the Agency that attempts to consider that body of water a natural river or capable of attaining the status of a natural river?

MS. FRANZETTI: Object to form. I

don't understand the question.

MS. WILLIAMS: Isn't it Subpart D, Mr. Jirik?

MR. JIRIK: So the question, where in the proposed use designation is the Chicago Sanitary and Ship Canal considered a natural river?

MS. WILLIAMS: That's the question I was trying to ask.

MR. JIRIK: My reply is the use designation seeks to characterize similar bodies of water. And having characterized them, then proceed to group them for the purposes of establishing water quality standards consistent with and appropriate for the group.

The Chicago Sanitary and Ship Canal was dry land 110 years ago. Most of the segments listed in the prior question are waters that arose from natural geomorphological processes.

While these natural waters have been modified, they are natural in origin and do maintain vestiges of a natural river. The

Chicago Sanitary and Ship Canal is a hand and machine carved stone wall lined conduit through which water flows as a result of the works of people. We believe the segment is of sufficient difference to merit a separate classification -- and I would note Mr. Huff's testimony provided more specific and further detail regarding this.

MS. WILLIAMS: What vestiges of a natural river do these other segments retain that you're referring to in that?

MS. HODGE: I'm going to object. I think Mr. Jirik has already testified he doesn't have personal knowledge --

MS. WILLIAMS: And then he went on to say those other water bodies, unlike this one, retain these vestiges of a natural river.

MR. JIRIK: Off the top of my head, their physical location was derived by natural geomorphological processes. So they're not naturally dry land or naturally a place where water moves.

MS. WILLIAMS: Wasn't the Cal-Sag

Channel also once dry land?

MR. JIRIK: I am not familiar with the Cal-Sag.

MS. WILLIAMS: Do you know whether the Des Plaines River at one time flowed through portions of the area currently covered by Chicago Sanitary and Ship Canal?

MR. JIRIK: I know that the Chicago Sanitary and Ship Canal was dug. And, by inference, it was dry.

If you go back to the place to -- the whole area was under water. I don't know how to answer the question beyond that.

MS. WILLIAMS: I think -- I think I'm just trying to get at the core of what you're seeing as the uniqueness of the Sanitary and Ship Canal. So if I am understanding your testimony, the full -- you know, the focus of the significance is that it was dug from land; is that correct?

MR. JIRIK: That would not be the sole -- and our expert, Mr. Huff, I believe --

MS. HODGE: Mr. Huff has testified to

this in his prefiled testimony.

MR. JIRIK: And I'm deferring to his expertise. But I believe that he said it contains limited shallow areas along the shoreline, it contains a lack of suitable physical habitat for a more diverse aquatic community, experiences frequent disturbances caused by a high degree of the barge traffic, contains poor substrate -- contains poor substrate material, provides little in-stream coverage, is channelized, exhibits no sinuosity, contains no backwater areas at the tributary mouth, requires routine dredging to maintain channel depth, contains normal slope and low flow velocity, is bordered by predominantly commercial and industrial shoreline, is manmade, contains pollution loads from combined overflows, carries treated wastewater effluent that represents 70 percent of the flow on an annual basis, contains thermal discharges from multiple coal-fired power plants, contains electric fish barrier, and is important to the economic wellbeing of the Chicago area. And

taken in total, when one considers all of those, as a collective, we feel those were unique and distinguishing features.

MS. TIPSORD: I would like to note for the record that Mr. Huff's prefiled testimony for Citgo was admitted as Exhibit 285.

MS. WILLIAMS: And I'll just say also, for the record, you said that they would be available at the panel for other questioners. And that's fine. If you're uncomfortable at some point, if you want Mr. Huff to answer, that would be fine.

MS. HODGE: Thank you.

MR. GIRARD: So, in summary, Mr. Jirik, what you're proposing is that there be an Aquatic Life Use C for the Chicago Sanitary and Ship Canal. Is that what you're proposing?

MR. JIRIK: We believe that would be merited and we would be quite interested to work with the Agency in creating that possibility -- you know, if we're able to accomplish that, yes.

MR. GIRARD: So my second question is,

at some time in the future, are you going to present proposed language for that kind of a regulation?

MR. JIRIK: We would want to -- we would -- a preferred path would be to spend some time working with the Agency in that regard to see what may be able to be developed and brought forward. If that is the optimum way to do this, that would be quite positive.

If one looks further into the biological justification for the nonsummer thermal limits, and looks through all of the stream segments, you know, maybe there are some things to look at there. What we are looking for at the end of the day, is a technically, biologically-justified standard to address thermal on the Sanitary and Ship Canal, recognizing it's very peculiar -- because that strikes me as peculiar -- a collection of attributes that it demonstrates.

So that's our ultimate desire with regards to this proceeding.

MR. GIRARD: Thank you.

MS. WILLIAMS: To follow up on that, would you still feel a UC designation was needed if Corn Products was more comfortable with the thermal standard under consideration by the Board or as proposed by the Agency?

MR. JIRIK: If the proposal moving forward contained differing thermal limits than those contained in the role as to presently, we would carefully and appropriately re-evaluate our position.

MS. WILLIAMS: With regard to the description of the Sanitary and Ship Canal as being more like an aqueduct, in your experience, Mr. Jirik, are you aware of other water bodies in the state that also would resemble what you consider an aqueduct, or are more like an aqua duct, that may actually be characterized as a general use water body?

MR. JIRIK: I --

MS. WILLIAMS: You don't know one way or the other?

MR. JIRIK: I'm not aware of any. I don't know.

MS. WILLIAMS: Question 5.

Your testimony states on Page 8 that the Chicago Sanitary and Ship Canal provides a commercially important navigation function. Is this different from Upper Dresden Island Pool, Brandon Pool, South Branch Chicago River, Cal-Sag Channel?

MR. JIRIK: My testimony sites to Page 32 of the CDMUAA report Attachment B to Illinois EPA's initial filing, which explains the primary purposes for constructing the Sanitary and Ship Canal for transport waste downstream of Chicago and to provide a commercial navigation conduit between the Great Lakes and the Mississippi River. Furthermore, the CDMUAA report clarifies that the Chicago Sanitary and Ship Canal serves as a primary passage with the transport of sand, gravel, coal, cement, fuel oils, and other industrial materials.

While other water use rulemakings -- other waters waste use rulemakings are addressed in the CDMUAA report, we believe that the Sanitary and Ship

Canal is extreme with regards to these purposes and uses.

MS. WILLIAMS: Does that mean you think there's more barge traffic?

MR. JIRIK: Yes.

MS. WILLIAMS: More than the Illinois River or the Mississippi River?

MR. JIRIK: I don't know how much barge traffic occurs on either of those.

MS. WILLIAMS: Question 6.

In the first full paragraph on Page 8, you state that MWRDGC leases land along the Chicago Sanitary and Ship Canal to industrial users who do not support or encourage public or pedestrian activities along the Chicago Sanitary and Ship Canal. Are you aware that there are public boat ramps at Archer Avenue, River mile 320.6?

MR. JIRIK: I am not aware of any industrial users that encourage or support public or pedestrian activities on lands owned or leased along the Sanitary and Ship Canal. I am, likewise, not aware that any industrial users are operating boat ramps.

MS. WILLIAMS: Are you aware MWRDGC leases boat ramps along the Sanitary and Ship Canal?

MR. JIRIK: I am aware of one facility, it's near our plant, I'm guessing, around Summit. You had referenced the second, and that I am not aware of.

MS. WILLIAMS: So would that be the one at River mile 313 in the question?

MR. JIRIK: That's near Archer Avenue, so I believe it would be 313. I don't know precisely what mile.

MS. WILLIAMS: I think we have your first -- Summit boat launch previously?

MR. JIRIK: Yes.

MS. WILLIAMS: Question 7.

In your updated testimony, there is no reference to your position on the Agency's recreational use designation for the Chicago and Sanitary Ship Canal.

Has Corn Products withdrawn its objection to the Agency's recreational use designations for the Chicago Sanitary and Ship Canal?

MR. JIRIK: Our testimony on file represents our position. However, in preparation for this hearing, I recently arranged for a visit on the Sanitary and Ship Canal in a small watercraft.

During the trip, we encountered barge traffic. At the moment of this encounter, it struck me that the Canal was quite narrow, that the barges are quite wide, and that the cut walls of the Canal didn't afford me any opportunity to escape, should I enter the water.

And I will actually tell you that my initial thought was, "I'm going to die."

MS. WILLIAMS: Mr. Sulski wasn't driving your boat; was he?

MR. JIRIK: He was not. And fortunately -- well, I am not a seasoned water person, okay? But, fortunately, my watercraft operator was quite experienced and we successfully navigated around the barge and continued our journey.

And it gave me great insight into the Sanitary and Ship Canal. I do have a few

pictures of my close encounter with the barge, just for the purview of the Board.

(WHEREUPON, the documents were tendered to the Board.)

MS. BOWER: And where did that happen on Sanitary and Ship Canal?

MR. JIRIK: I do not know the --

MS. TIPSORD: I'm sorry. I did not hear her question.

MS. BOWER: I was asking where you were on the system.

MR JIRIK: I can tell you that at that moment that was not what I was thinking about. I was concentrating on other things.

I can tell you we were downstream of Corn Products, you know, upstream of the confluence where it joins the Cal-Sag. How far downstream Corn Products, I don't know, and it's not what I was focusing on at that moment.

MS. TIPSORD: If there's no objection, we will mark these pictures as Exhibit 311. They're captioned Response to IEPA prefiled Question 7A Equipment for Corn Products

International, Inc.

Seeing no objection, it's Exhibit 311.

(WHEREUPON, a certain document was marked Exhibit No. 311 for identification, as of 7/28/09.)

MS. WILLIAMS: Could you answer my question?

MR. JIRIK: Sure.

MS. WILLIAMS: Could you answer my question?

MS. TIPSORD: About -- as far as?

MR. JIRIK: Oh, the question was -- our testimony on file represents our position.

MS. WILLIAMS: So your position is that you're silent on that issue?

MR. JIRIK: Our testimony does not reference it, that is correct.

MS. WILLIAMS: Thank you. Question 8.

The last paragraph on Page 10 states -- of your testimony, states that Corn Products testimony supports supplying a Use B designation to the Sanitary and Ship Canal as

both inappropriate and unwarranted.

And I have -- there's a typo in this question, I don't site properly to the section in the proposal. But what I'm trying to ask is if you look at Section 303.325 of the proposal, could you explain to us which portions of that definition are unwarranted? And if you want me to read it, I can.

MR. JIRIK: It's not the definition, it's the grouping of the Sanitary and Ship Canal with the other segments that is the concern. I previously referenced Mr. Huff's testimony -- I'm not going to repeat those -- but would come back to the long list of things that I read that collectively, considering all of those together, we believe, distinguishes as a unique segment.

MS. WILLIAMS: So if you were to define the uniqueness of the segment for the purposes of Use C, can you -- and I know you've already said that you were not presenting language at this time, but can you provide any light onto how you would go about defining the uniqueness of this water body

for purposes of a regulatory definition?

MR. JIRIK: Actually, I would want to very dutifully consider and have an appropriate time to develop that. I don't -- I really don't feel that I could do it justice to do it quickly at this time.

MS. WILLIAMS: Do you have -- do you know what types of aquatic organisms the Use C would need to protect? That's Subpart A of No. 10.

MR. JIRIK: Well, I would defer to my expert in that, Jim, working as a panel.

MR. HUFF: Jim Huff.

It would be the existing aquatic uses.

MS. WILLIAMS: Would that include the bluntnose minnow?

MR. HUFF: Yes.

MS. WILLIAMS: I think you've already answered Subpart B. In my mind the answer is yes.

So maybe I will ask it, if you disagree -- would you agree that it is not the proposed designated use that you disagree

with, but rather the proposed water quality standards for that proposed designated use?

MR. JIRIK: We disagree with the characterization of the Sanitary and Ship Canal as a Use B water, believing that it is sufficiently unique from the other water bodies included in Use B to the point of meriting its own designation. The water quality standards should be specific and address the characteristics of this water body.

Now, for logistical reasons, water standards are going to come later, so I don't want to stray off into that at this point.

MS. WILLIAMS: Did you want to add something?

MR. JIRIK: I'm good.

MS. WILLIAMS: Let's move on to Question 13.

MS. TIPSORD: You know what, Ms. Williams, we've been at it for quite awhile, actually. Let's take a ten-minute break.

(WHEREUPON, a recess was had.)

MS. TIPSORD: We are ready to go back on the record. Is everyone ready?

Ms. Williams?

MS. WILLIAMS: Question 13.

In the last paragraph on Page 4 you state that categorizing the Chicago Sanitary and Ship Canal as a Use B water will provide no meaningful improvement of fisheries relative to current conditions. What types of fish, such as intolerant, tolerant, et cetera, are currently present in the Chicago Sanitary and Ship Canal?

MR. JIRIK: I'll defer that to our expert.

Jim?

MR. HUFF: I think they're outlined in Table 32 of our report that was Exhibit 285.

MS. WILLIAMS: I just want to make sure I remember, because I know we talked previously about various tables in your report. Is this table within the text of your report, or is it an attachment?

MR. HUFF: Page 16.

MS. WILLIAMS: What page?

MR. HUFF: Sixteen of the report.

MS. WILLIAMS: Sorry.

MS. HODGE: Within the text of the report.

MS. FRANZETTI: Can I ask a follow-up while you look at it?

Mr. Huff, the question posed was, what types of fish are currently present? Am I correct that in answering that question you're using that data collected over approximately a five-year period of any fish that had been collected at any time in that five-year period?

MR. HUFF: That's correct. And more specifically, the Metropolitan Water Reclamation District data.

MS. FRANZETTI: Would you agree it might be more accurate to say that this table lists the types of fish that are either currently present or -- and some that occur occasionally?

MR. HUFF: Yes.

MS. FRANZETTI: Okay.

MS. WILLIAMS: What types of aquatic

life is considered to be predominating in Aquatic Life Use C waters?

MR. HUFF: In the Use C waters?

MS. WILLIAMS: Well, why don't you -- if the answer is different for the Sanitary and Ship Canal than the other Use B waters, then explain for both. The question asked about the Use B waters as they've been proposed, so let's answer that first.

MR. HUFF: Well, primarily tolerant.

MS. WILLIAMS: And what would your answer be for the Sanitary and Ship Canal?

MR. HUFF: Primarily tolerant.

MS. WILLIAMS: Mr. Jirik, I think I'll be going back to you for Question 14 -- maybe not.

In reference to the end of Paragraph 1 on Page 5, can you explain what you mean by fishery, quote, "above average quality" and "below average quality"?

MR. JIRIK: And again, that was covered in our expert's testimony, so I'll go back to Jim.

MS. WILLIAMS: Okay.

MR. HUFF: I'm sorry, could you repeat the question?

MS. WILLIAMS: I'll just quote from that paragraph in Mr. Jirik's testimony. It says, "Additionally, Mr. Huff will show that within the Sanitary and Ship Canal, temperature is not limiting the quality of the fisheries, since the fisheries at the warmest point are above average in quality, while fisheries that use cooler but otherwise similar conditions in the Sanitary and Ship Canal are below average in quality."

So I'm asking what does above average in quality and below in average mean in this sentence?

MR. HUFF: I believe Mr. Jirik was referring to the average number of species collected.

MS. WILLIAMS: So above average would mean there's more than the average number of species found, and below would mean below the average?

MR. HUFF: Compared to the average in the entire Ship Canal, yes.

MS. WILLIAMS: Do you know offhand what the average in the entire Ship Canal is?

MR. HUFF: Per station or across the entire Ship Canal?

MS. WILLIAMS: However you are determining what the average --

MR. HUFF: Well, I think that refers to Table 41 from Exhibit 285.

MS. WILLIAMS: Do you have a page number on that?

MS. HODGE: Page 26.

MR. HUFF: Twenty-six.

MS. WILLIAMS: So how do I find the average on this table?

MR. HUFF: Well, you add up 5.6 plus 5.0 plus 9.2 and divide by three and you get approximately seven.

MS. WILLIAMS: So seven.

MR. HUFF: Yes.

MS. WILLIAMS: More than seven above average, less than seven, below.

Did you look at other measures of quality or is this statement purely referring to number of species?

MR. HUFF: I'm sorry, to whom is that question directed?

MS. WILLIAMS: I think Mr. Huff, at this point.

MR. HUFF: Well, we certainly looked at other measures, including the IBI scores.

MS. WILLIAMS: Let's move on to Question 15.

On Page 10, Paragraph 2, you state, Mr. Jirik, "As our expert will testify, Sanitary and Ship Canal fisheries are not limited by the current thermal environment."

Would the presence of only thermally tolerant species indicate an impact to aquatic life, Mr. Jirik?

MR. JIRIK: The dominant fish species on the Chicago Sanitary and Ship Canal are similar to those present in the Cal-Sag Channel, as testified to by our expert, Mr. Huff, which, I believe, suggests that habitat, not thermal, is limiting the fish community.

MS. WILLIAMS: Do you know, Mr. Jirik,

if there are differences in the dissolved oxygen conditions between Cal-Sag Channel and the Chicago Sanitary and Ship Canal?

MR. JIRIK: I do not know.

MS. WILLIAMS: Do you know if they have the same dissolved oxygen standards today?

MR. JIRIK: I believe the fish would be more responsive to actual conditions, as opposed to a regulatory limit. And, again, I don't have knowledge of environmental conditions.

MS. WILLIAMS: Do you have knowledge of the regulatory limits?

MR. JIRIK: I could look them up. I was aware of them, but I cannot quote them with authority.

MS. WILLIAMS: If the actual dissolved oxygen conditions were different, could that be an explanation for why the -- would the presence of different stressors also be a distinguishing factor between these two water bodies?

MR. JIRIK: I would have to defer to

my expert regarding that question.

MS. WILLIAMS: I think I've already asked your expert, a couple moments ago.

MR. JIRIK: Well, I'd have to defer to him. I don't have the knowledge in that area.

MS. WILLIAMS: So you're relying on Mr. Huff's position for your conclusion that the Cal-Sag channel and the Sanitary and Ship have similar fish communities; is that correct?

MR. JIRIK: I do believe my testimony so stated --

MS. WILLIAMS: Okay.

MR. JIRIK: -- as Mr. Huff's feelings --

MS. WILLIAMS: So --

MR. JIRIK: -- that is correct.

THE COURT REPORTER: Please try not to talk on top of each other. Thank you.

MS. WILLIAMS: You quote from the Board opinion in AS, for Adjusted Standard, 9610, to conclude that the Board has recognized the unique character of the

Chicago Sanitary and Ship Canal.

Did this opinion distinguish the Chicago Sanitary and Ship Canal from the Lower Des Plaines River or the South Branch Chicago River?

MR. JIRIK: The Board's opinion states that, quote, "The upstream reaches of the South Branch of the Chicago River, Chicago Sanitary and Ship Canal, and the Des Plaines River, is greatly modified by use as a shipping channel with habitat limited to deep pools without shallows, structures, ripples, or suitable substrates. The area affected by the proposed adjusted standard is heavily developed with industries, including a refinery, a chemical plant, and a boat yard," end quote.

MS. WILLIAMS: Is that a no?

It's a yes or no question, and the answer I heard sounded like a no, but I would just like to be clear that the Board opinion does not distinguish between these three water bodies.

MR. JIRIK: The quote that I read, I

believe, discusses all three water bodies.

MS. WILLIAMS: Together, correct.

MR. JIRIK: And characterizes them in a particular fashion. It does not specifically call out one particular water body.

MS. WILLIAMS: Thank you.

Question 17 asks whether AS 9610 applies to Corn Products and why or why not?

MS. HODGE: And I'm going to object to that question. I believe that it calls for a legal conclusion.

MS. TIPSORD: I'm going to sustain that objection. I think the AS can speak for itself.

MS. WILLIAMS: Does the thermal discharge from Corn Products Argo facility impact compliance with general use thermal standards below the I-55 bridge?

MR. JIRIK: I have not been made aware of any such issues regarding our discharge.

MS. WILLIAMS: Does that mean you think the answer is no or that no one has ever said to you, "Hey, Alan, I think you

impacted the I-55 bridge standards"? Is it your belief that the answer is no?

MR. JIRIK: I am not aware of any difficulty, any impact of any issue. I have no personal knowledge that I've gained from anything in my professional experience to indicate that there is a problem.

So I have no awareness of an issue or problem.

MS. WILLIAMS: Thank you.

MS. FRANZETTI: Just to follow up, Mr. Jirik.

Has Corn Products studied whether or not there are any impacts regarding thermal standards below the I-55 bridge? Is that something your company or you has ever even studied?

MR. JIRIK: I have not studied that issue. No, I have not.

MS. FRANZETTI: Okay, thank you.

MS. WILLIAMS: On Page 5, Paragraph 2, you state, quote, "There is ample evidence in the record that demonstrates that the Sanitary and Ship Canal does not meet the

proposed Use B thermal water quality standards."

And the question is, which station are you referring to?

MR. JIRIK: Corn Products intake data shows that the Agency's proposed standards are exceeded. Please refer to my exhibit containing Revised Attachment 1 and corresponding data.

MS. HODGE: Which we have right here.

(WHEREUPON, the document was tendered to the Board.)

MS. TIPSORD: I've been handed Revised Attachment 1 to the prefiled testimony of A. Jirik, witness for Corn Products International, Inc., water analysis proposal limits.

If there's no objection, we will mark this as Exhibit 312.

Seeing none, it is Exhibit 312.

(WHEREUPON, a certain document was marked Exhibit No. 312 for identification, as of 7/28/09.)

MS. MOORE: Would you ask them to add

to the numbers, because the last few times --

MR. JIRIK: I apologize.

I'll continue my answer. The chart illustrates that exceedances are not only occurring in summer months but also nonsummer months. It's my understanding the Agency set the nonsummer temperatures to affect growth amniogenesis and spawning, but chose to protect only growth and amniogenesis -- I need some water, that's a word I stumble over -- in Use B waterways, such as the Sanitary and Ship Canal. The hearing transcript from March 12th, 2008 CAWS rulemaking at 13.

Since there is only extremely limited fish data, the Agency chose to use what they believe were background temperatures in the waterways. However, as illustrated by the chart, the Agency's choice of background is much lower than the current temperature and is resulting in our measuring exceedances currently at our plant.

MS. WILLIAMS: Can you explain what's been revised in Attachment 1 for us?

MR. JIRIK: What if I do the current one, explain the colors. We attempted to use the same colors for consistency -- and then I'll follow up with what changes, if that is okay.

The bright blue is the -- our graphing of the proposed thermal limitations. The thinner darker blue are the inlet, as measured in our weekly sampling.

And the -- I'm going to say pink, that's the only other color on there. My wife accuses me of being colorblind. I'm going to call it pink for lack of a better -- if you average the data as the Rule allows, and for the period of time beginning in January of '04, running through November of '07, and --

MS. DEXTER: Before you move on, these are maximum intake temperatures that you've taken --

MR. JIRIK: The pink is the average --

MS. DEXTER: -- of them?

MR. JIRIK: Right.

MS. DEXTER: And the thin blue one is

the --

MR. JIRIK: The individual data points.

MS. DEXTER: Of what? Is it a maximum number?

MR. JIRIK: It's the -- no, it's not these.

The inlet is data we collected as part of our weekly monitoring as part of our DMR, pursuant to our NPDES. So that's what the graphs are.

Again, looking at this shows that the inlet -- I'll give you a bit of an interpretation, if that's all right. That if you look at the current chart, the inlet closely approximates or exceeds the proposed limits, in some cases in excess, some cases very close, some cases under.

There's a bit more margin during peak of summer. But throughout much of the rest of the year, we're at or above the proposed limitation.

What's changed --

MS. WILLIAMS: Wait, let me ask a

follow-up --

MR. JIRIK: Sure.

MS. WILLIAMS: Before we talk about what changes, because I may lose this.

MR. JIRIK: Sure.

MS. WILLIAMS: So there was data in Attachment B, that we discussed earlier, that was daily values, and I know we also discussed that the permit talks about weekly sampling. But I'm still a little bit unclear how we got to weekly values and this table from the daily numbers that were discussed earlier.

MS. TIPSORD: And, Mr. Jirik, before you answer that, let's be clear, because we've again talking about attachment to Mr. Huff's testimony and an attachment -- and Attachment B that you're referring to is to Mr. Idaszak. It's his attachment to his prefiled testimony that has been admitted as Exhibit 310.

Go ahead. Sorry.

MR. JIRIK: As we conduct our weekly data gathering, pursuant to the reporting

under the -- as the NPDES requires, and as we report in our DMR, we do get the weekly sample as explained -- as required on Page 2 of our NPDES permit. For the purposes of constructing the chart, I took the weekly values for each period to prepare this graph.

MS. WILLIAMS: But how do we get to the weekly values that you report from the near continuance and daily recordings that you're doing?

MR. JIRIK: Pursuant to the NPDES, we are to do flow and MGB once per week, measured flow monitoring. Temperature is one per week, single reading.

And so we get that reading, we do our mixing calculation, we prepare a DMR. So that it's -- I was drafting the DMR data collected pursuant to our NPDES.

MS. WILLIAMS: And who collects that data?

MR. JIRIK: Who collects the weekly data?

We have one of the chemists in the plant. I don't know the person's name.

MS. WILLIAMS: So -- I mean, what we're just trying to understand, we're not trying to -- obviously, you monitor much more than you're required. So we're just trying to understand how Corn Products decides which sample.

MR. JIRIK: Whatever person is assigned. I'll tell you, to the best of my knowledge, and please advise that this is sufficient.

We have a person who is -- part of his assigned job duties, you know, is to go out and get data. And so, along with the other things -- but this is part of the duties to gather, collect, prepare, file, you know, do all of the things necessary to satisfy our --

MS. FRANZETTI: Can I ask a couple follow-ups? Mr. Jirik, your permit simply says take one sample a week to record -- to sample for temperature of your discharge; correct?

MR. JIRIK: Correct.

MS. FRANZETTI: So you -- I take it

Corn Products has set up some sort of internal procedure, whereby, once a week they record a representative sample from their monitoring of their discharge; correct?

MR. JIRIK: Per the permit, the measurements are while monitoring. So we have a couple of parameters we need to monitor. We collect all of that at that point, as the permit requires.

MS. FRANZETTI: But my point being, you've got an internal procedure for doing the once-a-week sampling that your permit calls for. You just, as you sit here, don't exactly know the details of whether that's done on a certain day of the week, whether you're taking the average -- as you talked about, your time-weighted average of the daily temperature readings or something else; right?

MR. JIRIK: I do not know the specifics of that procedure, correct.

MS. FRANZETTI: That's what I thought you were saying.

MS. WILLIAMS: And when you look at

the pink line, that would be an average of the number of weeks in the period that you're looking at? Is that how you determine the average intake?

MR. JIRIK: It's an average of the data points, yes.

MS. WILLIAMS: Average of the weekly data points.

MS. DEXTER: What, on average? Over what time period? That's what I can't understand.

MR. LIN: How many days?

MR. JIRIK: Understand that we take a weekly date point.

MS. DEXTER: Right.

MR. JIRIK: And depending on, you know, how the weeks are relative to the period average, some of these period averages are 15 days, some of them are 30, 31 days. So you could have, you know, two data points, four data points. I mean, some number of them.

These were inlet temperatures, understand. And so we would take these --

not because we're doing them pursuant to a guess, but if we need to do a mixing zone, we need to record them. So there's not a regulatory obligation to collect this data, except where we need to rely upon it to a mixing zone calculation.

MR. GIRARD: I think what we're trying to understand is what's different between the skinny spikey line, which I can't tell what color it is, and the pink line. So let me just see if I understand.

The skinny spikey line is one data point per week plotted on this graph; is that correct?

MR. JIRIK: Correct.

MR. GIRARD: So what we're trying to understand now is the pink line. And if that's an average, it must be a moving average or a running average of some sort.

I mean, that -- is it that kind of an average -- is it -- you know, you're doing a running average over ten data points, over 20 data points, how is that an average?

MR. JIRIK: It would be the average of

a number of data points that fell into a particular period average pursuant to the proposed rule. So if it were a month -- there would be four weeks in the month -- there would be four data points.

So the pink line would be the average of those four readings. If it were one of those 15-day, shorter, then there most likely would be two data points, it would be the average of the two.

So it represents a smoothing of the data and averaging it commensurate with the proposed period average.

MS. DEXTER: So it's the proposed temperature period average that it was supposed to be --

MR. JIRIK: No, it's the average of the data with the data points grouped to match the proposed period average.

MS. DEXTER: If that was what was occurring, I don't understand why it wouldn't be the same shape as -- be the same level.

MR. JIRIK: No. If I may explain.

The dark blue line --

MS. DEXTER: I'm talking about the --

MR. JIRIK: The skinny blue, spikey line are individual data points.

MS. DEXTER: That we got.

MR. JIRIK: The pink averages those, blocking them into the calendar dates pursuant to the proposed rules. So it's real data averaged by calendar date, so it mirrors the time periods.

MS. DEXTER: Which makes sense when I look at this in some parts of the graph, but the sort of tall parts in the summer, that doesn't look like that's the same time period.

MR. JIRIK: The blue line.

MS. TIPSORD: Okay, everyone.

MR. JIRIK: Oh, I'm sorry.

MS. TIPSORD: No, go ahead. I was trying to get them so we could hear your answer.

MR. JIRIK: The blue line graphs the IEPA proposal. The heavy -- the lighter, heavy, powdery blue. The pink line graphs the average of measured intake data over the

same time periods.

See, if you compare the pink and the blue, the blue shows what the proposed rule requires. The pink shows what we are measuring at our intake.

Comparing those two, allows one insight into a comparison of what difference exist between what we are monitoring today and what would be required under the Rule. And we believe that it shows over much of the year -- not peak of summer, but outside the peak summer -- that the water body presently is at or exceeds what EPA is proposing.

MS. DEXTER: I don't want to belabor this, but I am trying to understand what we are looking at here.

If this pink line is graphed over the same period as the light blue line, which is what you're saying -- and it looks like that's true for most of it -- but over the summer months, if it was averaged over what seems to be June through August, it should be a straight line, like the blue line averaged over the same period. Do you understand what

I'm saying? They don't seem to be over the same period of time.

MR. JIRIK: The flat top, though, of this, if you will --

MS. DEXTER: Right.

MR. JIRIK: -- consists of several periods with the same limit. So they have the appearance of being the same period, when, in actuality, they are multiple periods with the same numerical meaning.

MS. DEXTER: Thank you.

MS. WILLIAMS: Before we go further, let's go back to talking about why the new attachment is different than the old one.

MR. JIRIK: And I have the answer.

IEPA had asked the question -- 25, I'm guessing, if that's where we are. And in response to Question 25, we reviewed the information, it's on the reference of the spreadsheet, the CAWS in error for the period of February 2004. The correct value should have been 52.8.

This was the only period we could identify where the period average intake was

erroneously shown as being higher than the individual samples. We updated the chart to reflect this.

We also, even though you haven't asked for it, we provided the individual data, as well. I believe that was handed in -- that was part of the attachment.

MS. WILLIAMS: Let's -- so if you look at the old attachment, in February of 2004, there's a spike where the pink line goes way up above the dark blue spikey line.

MR. JIRIK: Correct. We corrected that.

MS. WILLIAMS: It seems like if you look at other parts of the -- there seem to be other places in the chart where the pink line is higher than the blue spikey line. Can you explain what the cause of that is?

MR. JIRIK: My only possible explanation would be just in the width of the line and the tightness of the graph may give that impression.

When you look at the raw data that Excel plotted, I did not find such

occurrences. So it may just be more of a visual effect, if you will.

In some cases, there are very few data points. And the change, particularly in the spring and the fall, is moving a fair number of degrees per period.

Again, with a limited number of samples and the thickness versus the thinness, there may be an appearance. But looking at the raw data, I could not see that those were occurring, so I couldn't identify any other areas.

MS. WILLIAMS: And the raw data is provided in Exhibit 312; correct?

MS. HODGE: Correct.

MR. JIRIK: Yes.

MS. HODGE: The second page.

MR. JIRIK: Yes.

MS. WILLIAMS: And that's the only place -- I mean, you're not going to correct another portion of your testimony with just raw data; right? That's only provided here in this exhibit.

MR. JIRIK: Yeah, this is the first

time we are providing the raw data.

MS. WILLIAMS: So let's go back. This all sort of started at Question 19.

And, in that question, I was looking at your testimony where you had said there is ample evidence in the record that demonstrates that the Sanitary and Ship Canal does not meet the proposed Use B. And when I asked what the ample evidence in the record was, you referred me to Exhibit 312 and Corn Products data; is that correct?

MR. JIRIK: That is one example, correct.

MS. WILLIAMS: Were you referring to other types of evidence in the record when you made that statement?

MR. JIRIK: I believe Mr. Huff's report also contained exhibits demonstrating the same.

MS. TIPSORD: Could you close the door?

MR. JIRIK: Exhibit 285.

MS. WILLIAMS: And that -- Mr. Huff's report contained water quality station data

from MWRD; is that correct?

MR. HUFF: Among other, yes.

MS. WILLIAMS: What others would it have?

MR. HUFF: Well, there's some Midwest Generation data in the appendices and then also there's some information from the use attainability analysis done by CBF.

MS. WILLIAMS: Subpart A of that question asks, have you looked at data from Romeoville Road or River mile 302.6?

MR. JIRIK: We had our consultant look at that data in the vicinity of the Argo Plant and the belief that the Agency would use data in close proximity to characterize this stretch of the Sanitary and Ship Canal. We did this as opposed to ignoring nearby data and using more distant data for such characterization.

In looking at a map, it appears to me that everything beyond 303.5 is past the confluence of the Sanitary and Ship Canal and the Cal-Sag Channel. Thus, we do not believe that the locations raised in your question

would be representative of the Sanitary and Ship Canal at our location.

MS. WILLIAMS: And wouldn't any ambient data that is representative of the Sanitary and Ship Canal at your location be impacted by thermal discharges from the Midwest Generation Plant?

MS. FRANZETTI: Objection. Lack of foundation for this witness to answer that question.

MS. WILLIAMS: I don't think there's a lack of foundation.

MS. TIPSORD: I think we are going to allow him to answer it, if he can.

MS. FRANZETTI: Well, can I first ask him some foundational questions?

MS. TIPSORD: Sure. Go ahead.

MS. FRANZETTI: Mr. Jirik, have you studied the thermal discharges from the Midwest Generation Plant upstream from Corn Products and the extent of any thermal impacts from those plants?

MR. JIRIK: My understanding is that there are two Midwest Generation Plants

upstream and that both of those plants utilize the Canal water for the purposes of cooling. I do not know the details of how they handle such water.

My understanding is that they do transfer some heat energy to the water and return it to the Canal. I'm not in a position to state if that is an impact or not.

MS. FRANZETTI: All right. Have you studied the thermal plumes from the discharges at the Midwest Generation stations upstream of Corn Products facility?

MR. JIRIK: I would understand that the discharge would enter the water body, but I have not studied their thermal plumes.

MS. FRANZETTI: Okay. No further questions.

Again, I renew my objection. Lack of foundation for the witness to answer the question.

MS. WILLIAMS: I'll rephrase.

MS. TIPSORD: Go ahead and rephrase, Ms. Williams.

MS. WILLIAMS: Does your testimony assume that there will be no decrease in intake temperatures should the Agency's proposal be adopted by the Board?

MR. JIRIK: Can I have the question read back?

(WHEREUPON, the record was read by the reporter.)

MS. WILLIAMS: I had intended to say that there would be -- would there be no decrease in intake temperatures. I'm not sure if I misspoke or if there was a transcription error.

MS. FRANZETTI: I'm sorry, Ms. Williams, I am having trouble -- are you trying to ask him would the intake temperatures stay the same as they are now if your proposed standards were adopted?

MS. WILLIAMS: I believe that was my question.

MS. FRANZETTI: Okay.

MS. WILLIAMS: But I phrased it would they decrease.

Would they stay the same? What

are you assuming about the future?

MR. JIRIK: We pondered that question. And, as we have testified to earlier, a goodly portion of the water in the Canal is wastewater. The Stickney plant puts out a considerable amount of water. And in the cooler seasons, it has certain thermal characteristics. Likewise, there are to power plants upstream.

We did not feel comfortable that we could speculate with regards to what any of those entities would do, nor could we, for the purposes of assessing what it meant to Corn Products, make an assumption in that regard. I'm not aware that they've made any public pronouncements about what they will or will not do.

So to determine what it meant for Corn Products, we looked at the water coming in now, and as our experts have testified, Mr. Idaszak will testify later, conducted an analysis using the real actual data that we had available to us today. So I guess the shorter answer is, no, we did not presume

that the water would be changing in the future.

MS. WILLIAMS: Question 21 says, what impact would the possible shuttering of the Crawford and/or Fisk Generating Stations have from the thermal assimilative capacity at the point of the Corn Products' intake from the Chicago Sanitary and Ship Canal?

MR. JIRIK: If these plants shut down, it is reasonable to assume that the water at our intakes would become cooler. However, how much cooler is not known.

So I cannot answer to what degree it would provide additional assimilative capacity. On the contrary, if both plants stayed open and the Board granted them a variance from the Rule, then the water would likely remain unchanged from current conditions.

Note further that wastewater treatment plant discharge dominates the flow in the Sanitary and Ship Canal. That's noted at the Agency Statement of Reasons on Page 18.

By setting the thermal limits equal to the MWRD discharge temperature, it's my belief that you may have deprived nearby downstream users of the use of water for cooling, as water at the regulatory limit has no assimilative capacity.

MS. WILLIAMS: To follow up on that answer, one of them is -- isn't it true that the Agency used data from Route 83 on the Sanitary and Ship Canal in addition to the MWRD effluent data in setting winter limits?

MR. JIRIK: I believe the answer is yes.

MS. WILLIAMS: So, then, I would like to clarify back to our quote that I referenced in Question 19. And when you're saying there is ample evidence in the record that the Sanitary and Ship Canal does not meet the proposed Use B thermal standards, you're referring to current conditions?

MR. JIRIK: Correct.

MS. WILLIAMS: Is it possible that if Midwest Generation came into compliance with the Agency's proposed thermal limits, that

there would not be an issue with the Sanitary and Ship Canal complying with the Use B proposal?

MS. FRANZETTI: Same objection, in terms of lack of foundation, Madam Hearing Officer. He's never studied the thermal discharge.

MS. TIPSORD: I understand that, Ms. Franzetti, but he also did testify about the impact of -- in his testimony -- of the other dischargers along the Canal. Again, with the understanding that he has not studied it, if he can answer it based on his knowledge, we are going to go ahead and let him.

MS. FRANZETTI: Well, again, that's my point. I don't think he has any knowledge of what the affect of shuttering the Crawford or Fisk Station Plants.

MS. TIPSORD: Then he can say that.

MS. FRANZETTI: Okay. All right.

MS. WILLIAMS: And that wasn't this question. This question was, is it possible that if those stations come into

compliance --

MS. FRANZETTI: I'm sorry, I was looking down at your prefiled question. You're right. But -- same issue, I don't think he's studied that either.

MS. WILLIAMS: Is it possible, that's all I'm asking.

MR. JIRIK: Is it possible that -- can I have the question read?

(WHEREUPON, the record was read by the reporter.)

MS. WILLIAMS: I think I can repeat it.

MR. JIRIK: Okay.

MS. WILLIAMS: If the Crawford and Fisk Station were to come into compliance with the Agency's proposed thermal limit, is it possible that the Use B waters will meet those limits?

MR. JIRIK: It is possible, under this hypothesis, that the water at our intakes would comply with the period average limits. However, if compliance is marginal, it has the same affect as being noncompliant,

because of, essentially, no or very little thermal assimilated capacity.

MS. WILLIAMS: Okay. How far upstream from Corn Products are the dischargers of Midwest Generation Fisk and Crawford Plants? This is 21A.

MR. JIRIK: Using Google Earth toolbars, we estimated that the MWRDGC Stickney Plant is about 4.1 miles of canal distance measuring along the length of the Canal upstream. Crawford is about 6.8 miles and Fisk is about 10.6 miles.

MS. WILLIAMS: What was Crawford again?

MS. FRANZETTI: Ten point six.

MR. JIRIK: Crawford was 6.8, Fisk was 10.6, Stickney is 4.1.

We do have a graphic, it only goes as far as MWRD, but, again, to show you the proximity of how far four miles is.

(WHEREUPON, the document was tendered to the Board.)

MS. TIPSORD: We have an aerial view of Corn Products International, Inc., Argo

facility on the Chicago Sanitary and Ship Canal, which we'll mark as Exhibit 313, if there's no objection.

Seeing none, it's Exhibit 313.

(WHEREUPON, a certain document was marked Exhibit No. 313 for identification, as of 7/28/09.)

MS. WILLIAMS: Mr. Jirik, do you work at the Argo facility? Is that where your office is located? This is Question 22.

MR. JIRIK: Most of the time I work at our offices in Westchester, Illinois. However, I do work at the Argo plant on many occasions.

MS. WILLIAMS: And for how many years have you worked at the Argo plant?

MR. JIRIK: I've worked for Corn Products International for 16 and one half years. Prior to that, I worked for a consulting firm that did considerable work for Argo. My first project at Argo was in 1978.

MS. WILLIAMS: I think I may be done. But I want to take a second to review.

Okay. I think we're done with the questions for Mr. Jirik. I don't know if you want to move on to other people?

MS. TIPSORD: Does anyone else have any questions for Mr. Jirik?

All right. Let's move on then.

MS. DIERS: Stefanie Diers for Illinois EPA. I am going to begin with Prefiled Question No. 1.

Beginning in the final paragraph, Page 2 of your testimony, you say, "Illinois EPA is proposing to classify the Sanitary and Ship Canal as an Aquatic Life Use B water, a group that also includes the North Branch Chicago River, the Chicago River, the South Branch Chicago River, the Calumet River to Torrence Avenue, the Lake Calumet Connecting Channel, and the Lower Des Plaines River from the Sanitary and Ship Canal to the Brandon Road Lock and Dam."

You go on to state that with the exception of Lake Calumet Connecting Channel and the Sanitary and Ship Canal, all the waterways in this group are natural

waterways. A proper consideration of the uniqueness of the artificially created and physically constrained Sanitary and Ship Canal, all the waterways in this group are natural waterways.

Question A. Do the following waterways resemble their natural conditions, the North Branch Chicago River, the Chicago River, the South Branch Chicago River, the Calumet River to Torrance Avenue and the Lower Des Plaines River from the Sanitary and Ship Canal to the Brandon Road Lock and Dam?

MR. HUFF: I believe that all the segments listed in Question 1A are natural water bodies and they still exhibit certain natural characteristics. However, all of those segments have experienced the affects of your urbanization over time, and, therefore, they may exhibit certain differences, as compared to fully natural conditions, i.e., conditions prior to human habitation of the region.

MS. DIERS: How are you using the term "natural condition"?

MR. HUFF: Well, it is natural, meaning that it wasn't manmade, that it was made through the natural geologic processes that resulted over a period of time.

MS. DIERS: Is there a difference between the list of segments above and the segments you describe as artificially created?

MR. HUFF: Yes, there is a significant difference between the water bodies listed above and the Sanitary and Ship Canal. The segments listed in 1A were created by natural geologic processes that resulted in a mature and well-developed ecosystem that evolved over thousands of years.

Less than 110 years ago, the Ship Canal was completed in 1900. The area where the Ship and Sanitary Canal now occupies was dry land with no aquatic habitat. The manmade origin of the Sanitary and Ship Canal marks it as a significantly different waterway than any of the others in the region, say, the Cal-Sag Channel, which was also manmade.

From a biological prospective, significant differences are that the Sanitary and Ship Canal has very poor habitats, including the vertical channel walls. It was designed to move ships and human waste.

It was built as a straight, deep, and narrow channel canal lacking in ripples, meandering shallows, and other aquatic habitat features. Due to the canal's other primary function, flood control is a subject too abrupt and often enormous changes in level, flow, and velocity, a situation which is unfavorable for most forms of aquatic life.

MS. DIERS: Is there a difference between what you just described as compared to the Brandon Pool?

MR. HUFF: The Brandon Pool, I believe, that's the area downstream of the Lockport Lock and Dam. That was more of a natural waterway.

MS. DIERS: Moving on to Question No. 2 on Page 3 of your testimony.

The last paragraph states, "If the

lower Des Plaines River was deemed hopeless due to the contributions from the Sanitary and Ship Canal, what does that imply about the potential of the Sanitary and Ship Canal itself? Have the aquatic communities in the Lower Des Plaines River improved since this comment was made in the 1970s?"

MR. HUFF: My understanding is yes.

MS. DIERS: How about in the Chicago Sanitary and Ship Canal?

MR. HUFF: Yes.

MS. DIERS: Question Three.

Do you believe that no improvement in the aquatic community in these waters is attainable?

MR. HUFF: There's no evidence that an option of these standards will improve the aquatic communities. The habitat quality is a significant limiting factor.

If one accepts that there are limited financial resources for water quality improvements in urban areas, we could be expending these resources on the higher quality streams rather than manmade channels

where the result may be no improvement in the aquatic community.

MS. DIERS: You state on Page 4 that, "Taken from a biological perspective, the Sanitary and Ship Canal, essentially, terminates at the fish barrier."

Please explain what is meant by this statement.

MR. HUFF: The electric barrier was designed to prevent fish passage, which limits the functional ability of the upstream segments and also impacts the continuity of the Canal as a biological conduit in the downstream direction.

MS. DIERS: Can fish swim in the Cal-Sag Channel?

MR. HUFF: From where?

MS. DIERS: From the Sanitary and Ship Canal.

Can they go from the Sanitary and Ship Canal into the Cal-Sag Channel?

MR. HUFF: Yes.

MS. DIERS: Question 5.

You also indicate on Page 4 that,

due to habitat limitations in the Chicago Sanitary and Ship Canal, a balanced indigenous population of fish cannot be obtained. What do you mean by a "balanced indigenous population"?

MR. HUFF: I use the term "balanced indigenous population" as it is defined in Federal Environmental Regulation 40 CFR 125.71C. The term "balanced indigenous population" means, quote, "A biotic community, typically characterized by an adversity, the capacity to sustain itself through cyclical seasonal changes, present themself a necessary food chain species, and by a lack of domination by pollution-tolerant species.

"Such a community may include historically nonnative species introduced in connection with a program of wildlife management and species whose presence or abundance results from substantial irreversible environmental modifications. Normally, however, such a community will not include species whose presence or abundance

is attributable to the introduction of pollutants that will be eliminated by compliances by all sources with Section 301B2 of the Act, and may not include species whose presence or abundance is attributable to alternative effluent limitations and posed pursuant to Section 316(a)," end quote.

A fish population that has made it to the region, able to sustain itself in the presence of necessary food change species and is not overrepresented by very tolerant species, would be considered a balanced and indigenous population. The poor habitat of the Sanitary and Ship Canal precludes the attainment of such a population in this water body.

MS. DIERS: Question 6. And this is going to refer back to Exhibit 285, which is your report.

With regard to Tables 3-2 and 3-3 of the federal report for each year and river mile, what were the numbers of fish collections?

MR. HUFF: We don't have that

information. We have requested that from the MWRDGC.

MS. DIERS: And A, do you know the temperatures present during the fish collection?

MR. HUFF: No, I don't.

No, we do not know the temperatures present during a fish collection. But again, we have requested that information from the MWRDGC.

MS. DIERS: And once you get that information, you'll then submit it to the Board?

MR. HUFF: Yes.

MS. DIERS: Question B.

Was the water temperature warmer or cooler than the proposed water quality standards at the time of the fish collection?

MR. HUFF: Same answer.

MS. DIERS: Would it be the same answer for Question C, as well?

MR. HUFF: Well, I -- the older data that the MWRDGC collected to the '90s was predominantly summer, but there was also some

spring and fall. For the 2001 through 2005 data, again, I have requested that information, yes.

MS DIERS: Question 7.

You state on Page 6 of your testimony that, in essence, Illinois EPA discounted Mr. Yoder's analysis and set the nonsummer temperatures so that MWRDGC would not have to install cooling towers. Implicit in this decision was the cost of such cooling towers could not be justified.

What evidence do you have that Illinois EPA considered the cost of installing cooling towers by MWRDGC?

MR. HUFF: According to the Illinois EPA, the background temperature was set according to MWRDGC's discharge. So I believe that it is implicit in this decision that cost of installing cooling towers by MWRDGC was too great to justify setting background temperatures otherwise.

I am here representing Corn Products, and as such, feel that the second question should be referred to the District.

And then, I would also refer you to Mr. Twait's testimony, where he indicates that directly on Pages 13 and 14.

And I'll read from Mr. Twait's testimony. "The effluent data used was submitted by the Agency to the MWRDGC on May 22, 2007, and is included in Attachment W to the AC statement of reason.

"Had the Agency not made this alteration to the recommendations, Chris Yoder's temperature report and developing our water quality standards, the water quality standards for the Pre-aquatic Life Use Designations proposed for the CAWS in the Lower Des Plaines River would have been lower than the MWRDGC effluence and would have required installation and cooling towers or other treatment technologies to reduce the temperature of these effluence."

MS. TIPSORD: Mr. Twait's testimony is Exhibit 2, for the record.

MR. HUFF: Two?

MS. DIERS: And -- go ahead.

MR. ANDES: So, Mr. Huff, the

statement that you just read didn't say anything about the cost of installing cooling towers; did it?

MR. HUFF: No, sir.

MR. ANDES: Basically, it's a statement of fact that if they had made their alterations and recommendations, it could have acquired installing cooling towers by the District?

MR. HUFF: Yes, sir.

MR. ANDES: Thank you.

MS. DIERS: Let's go to B.

In your opinion, should the Agency have relied on the Route 83 Chicago Sanitary and Ship Canal station data alone in setting background temperatures rather than also using MWRDGC data?

MR. HUFF: I believe the Agency should have used all the temperature data available on the CSSC to establish the existing thermal regime of the waterway. The entire stretch has temperatures which are heavily influenced by anthropogenic activities, arbitrarily setting thermal loads at some, quote unquote,

"background temperature" has no basis for protecting the biological community.

MS. DEXTER: So are you saying, just to be clear, that you want the temperature standards to be based on biological data? What the fish need as opposed to setting them based on something else?

MR. HUFF: Could you repeat that question?

(WHEREUPON, the record was read by the reporter.)

MR. HUFF: Well, there has to be a biological component in the establishment of the standards. And my recommendation would be that that's based on full scale, if you will, real stream data as an opposed to laboratory tests.

MS. DEXTER: And when you say "real stream data," are you saying real fish stream data or real...

MR. HUFF: Fish stream data.

MS. DEXTER: We were talking before -- I don't know if you were here -- rather than looking at the thermal standards developed in

the laboratory, you want field data about what the thermal requirements are for fish?

MR. HUFF: Yes.

MS. DIERS: Shouldn't the field data be absent of all stressors when you're doing your analysis?

MR. HUFF: I don't know how you could do the analysis if there were no stressors.

MS. DIERS: Should the Agency have excluded Route 83 and the Chicago Sanitary and Ship Canal, where allowed, for higher background temperature values than the MWRDGC effluent data?

MR. HUFF: No. MWRDGC discharges must be considered when assessing the temperatures in the CSSC. However recalling Route 83 at CSSC, quote unquote, "background" is not accurate.

Arbitrarily setting thermal limits as some background temperature has no basis for protecting the biological community.

MS. DIERS: So you disagree with Mr. Yoder's use of looking at backgrounds to establish the standards we're discussing for

the nonsummer months?

MR. HUFF: Yes.

MS. DIERS: Can you explain why?

MR. HUFF: Well, I think that there's got to be some biological basis behind those temperatures that you're establishing in those off-summer months. If you established them at Route 83, then are you saying that at areas where you have temperatures warmer than Route 83 that the fish aren't going to be able to grow or reproduce if you're over those temperatures?

And there's no biological evidence that I see that would suggest that those background temperatures are necessary for the fish population that's currently there.

MS. FRANZETTI: If I can just -- Mr. Huff, did I also correctly understand what was one of your prior answers to Ms. Dire's questions, that you also think it's relevant here that there really isn't truly a valid background temperature for the Sanitary and Ship Canal, given its entirely manmade nature and the fact that it's been

heavily influenced by anthropogenic activity?

MR. HUFF: I don't know necessarily about the manmade aspects with respect to temperature, but certainly the anthropogenic activities have to be considered in establishing the background temperatures.

MS. DIERS: Do you think that temperatures should be the same all year?

MR. HUFF: No, not necessarily.

MS. DIERS: How would you set it if you don't believe it should be the same all year?

MS. HODGE: I believe that that is getting into an area that's going to be more directly covered in the water quality standards. And I know that it's related, but I think we'd like to wait to answer on that.

MS. DIERS: Okay.

Do you know the needs of fish in the nonsummer months in this waterway?

MR. HUFF: Could you repeat the question?

(WHEREUPON, the record was read by the reporter.)

MS. DIERS: I'll clarify. Do you know the temperature needs of the fish in the nonsummer months?

MR. HUFF: Well, if you go back to Mr. Yoder's analysis, he's talking about that you want some cyclical temperatures -- seasonal temperature changes so that the -- from fish spawning, in the amneotosis perspective, as well as for growth.

MS. DIERS: So do you agree with Mr. Yoder that some cooler temperatures are needed by the fish in the nonsummer months?

MR. HUFF: I've just -- I'm not holding myself out as a fish expert, but that seems -- I don't have any disagreement with that.

MS. FRANZETTI: Just -- while you're talking, can I ask Mr. Huff?

Mr. Huff, do you know whether -- of the eight resident aquatic species that Mr. Yoder was basing his proposed thermal standards on, do you know whether any of those eight need the cooling-off period for purposes of spawning?

MS. WILLIAMS: Objection. She's characterizing that Mr. Yoder proposed thermal standards.

MS. FRANZETTI: I'm sorry, thermal values you then cut from the usual standards.

MS. WILLIAMS: But I'm objecting, because he never said that this water body should have these values, this segment should have these values. He also used his work to apply -- we applied his work to certain segments ourselves.

MS. FRANZETTI: Got it.

But the gist of my question still stands.

MS. WILLIAMS: Do you want to rephrase it?

MS. FRANZETTI: I'll try.

Mr. Huff, with respect to the eight resident aquatic species that Mr. Yoder used for his, I think it was limited use waters, I'm not sure what he called it. But do you know which category, for thermal value purposes I'm referring to, from Mr. Yoder, Mr. Huff?

MS. WILLIAMS: I would be willing to stipulate it was called the secondary contact.

MS. FRANZETTI: Thank you.

For those waters, did any of those eight resident species need a cooling-off period for purposes of comedogenic with their spawning?

MR. HUFF: I have no knowledge on it.

MS. FRANZETTI: Okay. Thank you.

MS. DIERS: Moving on to Question 8.

On Page 6 through 7 of your testimony you state, "No attempt was made to look at the Sanitary and Ship Canal temperatures at the edge of the mixing zones from these industrial dischargers."

Please provide any data you have that was selected at the edge of the mixing zone from any of the industrial discharges on the Chicago Sanitary Ship Canal and the map of the applicable mixing zone.

MR. HUFF: I'm going to let Mark Bosse answer that question with respect to Corn Products.

MR. BOSSE: Mark Bosse.

We don't have any data on any other dischargers. The data we have you have on Attachment B.

MS. TIPSORD: Clarification, Attachment B to...

MR. BOSSE: To the Ambitech -- and that's not measured as the mixing zone, that is calculated, as we discussed earlier. And since the size of the mixing zone varies with a lot of different factors, you know, our discharge into it is going to change, so there's not one map that we can provide.

MS. DIERS: Question 9.

You state on Page 7 that, "Had Illinois EPA factored in the thermal loadings on the Sanitary and Ship Canal instead of arbitrarily setting the spring/fall months at the MWRDGC effluent temperatures, a very different regulatory proposal would have resulted."

Please explain how to go about factoring in the thermal loading on the Chicago Sanitary and Ship Canal into a

regulatory proposal and define what such a proposal would look like?

MR. HUFF: First, you factor in the existing uses, which would include the thermal loadings that are on there. Then you'd have to establish what is limiting the fish community on the CSSC, is it habitat or water quality.

Assuming one concludes that thermal is the controlling factor based on field studies not laboratory studies, then a projection of the improvements in fish quality would need to be made followed by a cost in benefit analysis of attaining a necessary thermal regime to support these improvements. Our study was an attempt to compare two similar waterways that have those thermal regimes.

From the study, there was no evidence that with lower temperatures the fish quality will improve on the CSSC. Thus this evidence indicates the thermal is not the limiting factor to attaining an improved fish population.

This comparison again indicates, as the Agency itself has testified in the prefiled testimony of Scott Twait on Page 11, that the primary factor here in determining the appropriate use classification is quality of habitat. Further, with respect to any proposed lowering of temperature in the CSSC, the cost of attaining lower temperatures in the CSSC must be weighed against the benefits that would accrue in accordance with the requirements of the Illinois Environmental Protection Act Section 27.

We understand that this hearing is about use designation. And as Mr. Jirik has indicated, Corn Products is looking forward to working with the Agency on specific thermal limits for the Sanitary and Ship Canal.

MS. DIERS: Mr. Huff, you've said a couple times that -- it sounds like you have a preference for, I guess, the field data compared to lab -- using lab information. Can you explain why you have favoritism over the one compared to the other?

MR. HUFF: Well, if you go back to Mr. Yoder's work, he noted that very few of the thermal laboratory studies have had the slow heating process there. And if you look at his end points, we shouldn't see the -- the bluntnose minnow is a good example, that with the temperature regime we have, it shouldn't be present on that ship canal, and it is present.

So that says to me that the laboratory data is not accurately predicting what we're seeing out in the field.

MS. DIERS: Could you use the two in conjunction with each other to get a better understanding?

MR. HUFF: A better understanding than just using laboratory data? Positively yes.

MS. DIERS: Or just using the stream data. When you use the two, would you get a better analysis?

MR. HUFF: Possibly. It would depend on how you set that up.

MS. DIERS: Are the fish finding refugia in the Chicago Sanitary and Ship

Canal.

MR. HUFF: Define "refugia" for me?

MS. DIERS: A place where it's not as warm as some of the surrounding water.

MR. HUFF: Possibly, yes.

MS. DEXTER: Have you ever designed one of these field tests that you're saying you need?

MR. HUFF: No, I have not.

MS. DIERS: Question 10.

Please explain why you conclude on Page 7 that the Sanitary and Ship Canal will be determined to be thermally impaired throughout its entire length.

Question A. During what periods did you find the temperatures at Route 83 and the Chicago Sanitary and Ship Canal violates the proposed thermal standards?

MR. HUFF: Occasions during December through March. And that's on Page 4-73, Figure 4-29 in the Chicago Area Waterway Study Report from 2007.

MS. WILLIAMS: Would you repeat the citation for us?

MR. HUFF: Chicago Area Waterway Study Report of 2007.

MS. WILLIAMS: I'm sorry, the pages or tables that you cited?

MR. HUFF: Page 4-73, which should be Figure 4-29.

MS. DIERS: Why is the same color used on Attachment 1 for Route 83 on the Chicago Sanitary and Ship Canal and the Illinois EPA proposal?

MR. HUFF: That was an electronic transmission distortion. It wasn't like that -- I believe we have that same figure but with a color scheme that's clearer.

(WHEREUPON, the document was tendered to the Board.)

MS. DIERS: Thank you.

MS. TIPSORD: If there's no objection, we will go ahead and mark this as Exhibit 314.

Seeing none, it's Exhibit 314. And it's answers to IEPA prefiled Question 10B for James Huff, witness for Corn Products International, Inc.

(WHEREUPON, a certain document was marked Exhibit No. 314 for identification, as of 7/28/09.)

MS. DIERS: Question C.

Why does the figure in Attachment 1 only present temperature data from August 1998 through 2002, when data is available through June 2007?

MR. HUFF: We had data through 2007 for Route 83 and that was used. For Cicero and Lockport, we only had data from 1998 to 2002.

MS. DIERS: And was that data you obtained from MWRDGC?

MR. HUFF: Yes, ma'am.

MS. DIERS: Looking at Exhibit 314, why is the blue line set for Cicero so much higher than the others?

MR. HUFF: Because the temperature is warmer at that location.

MS. DIERS: Do you know why the temperature is warmer there?

MR. HUFF: Because of the upstream discharges.

MS. DIERS: Did you look at temperature data from River mile 302.6 on the Chicago Sanitary and Ship Canal for compliance with the proposed standards?

MR. HUFF: Yes. The standard was exceeded several times during the winter months for several years but not every year.

MS. DIERS: Do you know what years it was exceeded?

MR. HUFF: I don't have that.

MS. DIERS: How about the Romeo Road station?

MR. HUFF: Same answer.

MS. DIERS: It was exceeded, but you don't have the years?

MR. HUFF: Correct. Not handy.

MS. DIERS: Was it only in the winter months that there was an exceedance?

MR. HUFF: That's correct.

MS. DIERS: How would your conclusion about impairment in the entire Chicago and Sanitary Ship Canal for temperature change if Midwest Generation reduced its thermal loadings upstream of Corn Products to comply

with the proposed standards by IEPA?

MR. HUFF: During the seasons when the temperature standard is set based upon the MWRDGC Stickney Plant effluent temperature, there would still be no assimilative capacity for Corn Products' thermal input. Corn Products would end up with a water quality standard for effluence.

MS. TIPSORD: I want to ask a follow-up just so that -- and maybe I want to be clear on this point.

So your position is, Mr. Huff, that even if there were no other upstream dischargers, other than the MWRDGC, which without the District would probably be very little flow in the Sanitary and Ship Canal, even if they were the only discharger, that Corn Products would still have difficulty meeting proposed standards?

MR. HUFF: During the fall months and the spring months, the MWRDGC data is used for the period October 1st through 15th. I believe Mr. Jirik testified that the Stickney Plant is approximately 4.1 miles upstream.

We can certainly have a warm first two weeks if October.

You're not going to get any cooling in that water if we set the temperature at MWRDGC's discharge location. If we have an above average two-week period in temperature, there will be no cooling in that water, and therefore, there will be no assimilative capacity for product.

In the winter months that would be different where, presumably, you're going to get more cooling. So in the winter months -- well, and that would be probably December, in the case where they're using MWRDGC, as well as January and February there would be more assimilative capacity for Corn Products.

But my concern would be in that October period. And then you'd have the same thing if you are setting the temperatures at Route 83, you're likely to have similar temperatures at -- where the water goes by Corn Products, you'd have the same problem, there would be no assimilative capacity.

MS. TIPSORD: Thank you.

MS. DIERS: Question 11.

On Page 7, you state that the highest temperatures on the Sanitary and Ship Canal are downstream of the Crawford Power Plant. How did you arrive at this conclusion since Attachment 6 does not contain temperature data upstream of Cicero Avenue?

MR. HUFF: Cicero is approximately one mile downstream of Crawford. A major thermal loading guides the two power plants upstream, Crawford and Fisk.

I'm unaware of any temperature data upstream of Cicero Avenue.

MS. DIERS: Are fish and continuous monitoring data available on the South Branch Chicago River at Loomis Street about 0.6 miles downstream of the Fisk Power Plant?

MR. HUFF: I don't believe fish are consistently monitored at that location. There's -- 2002 MWRDGC collected fish at Damen Avenue and that was in Appendix A to the Huff & Huff Report, Exhibit 285.

MS. DIERS: Is there temperature data collected there, do you know?

MR. HUFF: I'm sorry?

MS. DIERS: Is there temperature data collected there? You said fish.

MR. HUFF: Not to my knowledge.

MS. DIERS: Okay. I'm going to go to C.

Why was your analysis limited only to the Chicago Sanitary and Ship Canal?

MR. HUFF: My analysis focused on the Sanitary and Ship Canal because that is where Corn Products discharges. Also the CSSC is unique due to all the factors discussed in my testimony and responses today, such that it is deserving a water body specific consideration with regard to establishing aquatic life uses and associated water quality standards.

MS. DIERS: Question 12.

MS. TIPSORD: Ms. Diers, you know what, it's almost 4:30. It's clear we're not going to get done with Corn Products today, which I sort of hoped we might.

But we're not. So let's go ahead and adjourn for the day.

And I know that the Agency wants to take a look at some of the information that Mr. Huff has given them. We are in N-505, which is next door, tomorrow, instead of this room. We'll start at 9:00 tomorrow morning. Thank you very much.

Have a good evening. For those of you visiting, have fun in Chicago.

STATE OF ILLINOIS)
) SS:
COUNTY OF COOK)

I, SHARON BERKERY, a Notary Public within and for the County of Cook, State of Illinois, and a Certified Shorthand Reporter of said state, do hereby certify:

That previous to the commencement of the examination of the witness herein, the witness was duly sworn to testify the whole truth concerning the matters herein;

That the foregoing deposition transcript was reported stenographically by me, was thereafter reduced to typewriting under my personal direction and constitutes a true record of the testimony given and the proceedings had;

That the said deposition was taken before me at the time and place specified;

That I am not a relative or employee of attorney or counsel, nor a relative or employee of such attorney or counsel for any of the parties hereto, nor interested directly or indirectly in the outcome of this action.

IN WITNESS WHEREOF, I do hereunto set

my hand and affix my seal of office at Chicago, Illinois, this 4th day of August, 2009.

Notary Public, Cook County, Illinois.

My commission expires 7/22/2010.

C.S.R. Certificate No. 84-4327

T