ORIGINAL

ILLINOIS POLLUTION CONTROL BOARD

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

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

A P P E A R A N C E S

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

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MS. STEPHANIE DIERS
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MR. SCOTT TWAIT
MR. ROY SMOGOR

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

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

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

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

HEARING OFFICER TIPSORD: Thank you very much. Did you have a question, Dr. Lin? Did you have a question before we get into testimony.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. HUFF: Yes. At the CSSE section

of his report he makes this statement.

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

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

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

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

MR. HUFF: I believe that's correct.

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

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

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

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

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

question.

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

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

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

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

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

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

report, Exhibit 285, based on those from MWRDGC?

MR. HUFF: Yes.

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

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

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

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

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

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

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

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

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

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

MS. HODGE: Thank you, Mr. Huff.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. HUFF: Yes.

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

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

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

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

MS. DIERS: Did you do an economic

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

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

MS. DIERS: But you didn't?

MR. HUFF: I did not.

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

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

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

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

MR. IDASZAK: Yes.

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

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

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

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

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

is historical data.

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

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

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

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

MR. IDASZAK: No.

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

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

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

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

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

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

So with that having --

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

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

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

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

HEARING OFFICER TIPSORD: Miss Dexter?

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

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

HEARING OFFICER TIPSORD: Mr. Idaszak, could --

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

proposed standard.

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

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

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

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

MS. WILLIAMS: Thank you.

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

MR. IDASZAK: No --

MS. DEXTER: Into the future.

MR. IDASZAK: What we did, and if I

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

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

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

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

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

MS. DEXTER: I think I understand now.

HEARING OFFICER TIPSORD: Go ahead, Doctor.

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

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

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

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

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

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

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

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

MR. JIRIK: Does that help?

MEMBER LIN: Thank you.

HEARING OFFICER TIPSORD: Miss Williams?

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

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

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

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

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

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

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

MR. IDASZAK: That's correct.

MR. JIRIK: This is explained in

greater testimony in the prefiled testimony.

MS. WILLIAMS: It is?

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

HEARING OFFICER TIPSORD: Exhibit 310.

MS. HODGE: Thank you.

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

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

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

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

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

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

MS. WILLIAMS: Go ahead.

MR. JIRIK: We have nothing more to offer.

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

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

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

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

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

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

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

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

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

MR. JIRIK: No, I do not.

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

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

MS. WILLIAMS: What about weather?

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

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

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

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

MS. WILLIAMS: If it was weather.

MR. JIRIK: We'd be obligated --

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

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

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

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

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

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

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

MS. HODGE: Excuse me.

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

MS. WILLIAMS: Were you finished?

MR. IDASZAK: Yes.

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

MR. IDASZAK: Correct.

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

testimony which is more this weekly information that he reports?

MR. IDASZAK: Correct.

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

MR. IDASZAK: No.

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

MR. IDASZAK: Yes.

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

MR. IDASZAK: No, it does not.

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

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

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

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

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

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

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

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

MS. WILLIAMS: Why?

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

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

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

degree, it --

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

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

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

MR. JIRIK: Correct. Yes.

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

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

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

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

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

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

MR. JIRIK: From a matter of all

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

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

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

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

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

to answer that question much more specifically.

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

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

MR. JIRIK: Correct.

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

MR. JIRIK: 111 was the --

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

MR. JIRIK: Right.

MS. WILLIAMS: Okay. I just wanted to

make that clear.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Please explain this statement.

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

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

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

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

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

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

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

MS. WILLIAMS: I think so.

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

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

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

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

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

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

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

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

conclusion that this dollar amount is not reasonable?

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

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

MR. IDASZAK: For reasonableness.

MS. WILLIAMS: To compare to the annual budget?

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

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

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

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

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

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

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

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

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

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

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

MR. IDASZAK: Sure. Page 2, Baxter

Health Care. The third bullet item, designed for reconfiguration of a primary chilled water system to a primary secondary chilled water system. Pharmacia, again, design installation, start-up for conversion of primary chilled water system to a primary secondary chilled water system, both in Illinois.

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

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

MR. IDASZAK: Sure.

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

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

Seeing no objections, it's Exhibit 316.

MS. WILLIAMS: I think that addresses

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

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

MR. IDASZAK: We have.

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

MR. IDASZAK: It's Attachment B.

MS. WILLIAMS: Go ahead.

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

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

MR. IDASZAK: Attachment B is everything.

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

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

Ship Canal water temperatures are used. Could you just explain this? I think I was just confused by that.

MR. IDASZAK: Sure. The daily maximum temperatures are very near the daily average temperatures for the canal water. Consequently, this data was judged to be suitable for use in the calculation. I think it's important to note that of the 17 periods that were selected, five of these periods were from this time frame of February 24, 2005, to November 30, 2007. Of these five periods, only one period exceeded period average proposed. Of the 17 periods selected, twelve were outside the time frame of February 24, 2005, to November 30, 2007. Of these twelve periods, nine exceeded the period average proposed standard.

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

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

Thank you very much, Mr. Huff, Mr. Jirik, and Mr. Idaszak. Thank you very much. Let's go off record for just one second.

(Off the record.)

HEARING OFFICER TIPSORD: Let's go ahead on the record. Mr. Fort?

MR. FORT: We just need Mr. Huff for a minute. Jeff Ford on behalf of Citgo. At the May 6 hearing, the Agency and I think others asked Mr. Huff for various kinds of information, and we have those documents here in a --

HEARING OFFICER TIPSORD: Can you identify yourself for the record.

MR. FORT: Jeffrey Fort on behalf of Citgo and Ariel Tesher.

HEARING OFFICER TIPSORD: All right. If there's no objection, I've been handed documents from James Huff in response to questions and requests made at the May 6, 2009 hearing. If there's no objection, we will mark this as Exhibit 317.

Seeing none, it's Exhibit 317.

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

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

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

MR. HUFF: Yes, sir.

MR. FORT: And did you prepare this document?

MR. HUFF: Yes, I did.

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

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

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

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

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

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

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

(Short break taken.)

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

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

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

MR. HUFF: Yes.

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

MR. HUFF: Yes.

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

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

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

I-55 --

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

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

MR. HUFF: Yeah.

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

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

(Which were all the proceedings had.)

* * * * * *

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

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

Laura Mukahirn

LAURA MUKAHIRN, CSR

CSR NO. 084-003592