ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF: PROPOSED SITE SPECIFIC RULE FOR CITY OF SPRINGFIELD, ILLINOIS, OFFICE OF PUBLIC UTILITIES) CITY WATER LIGHT and POWER) and SPRINGFIELD METRO SANITARY DISTRICT FROM 35 ILL. ADM. CODE 302.208(g): NEW 35 ILL. ADM. CODE 303.446	R09-8 (Site-Specific Rulemaking-Water)

MERIT AND ECONOMIC HEARING BEFORE THE ILLINOIS POLLUTION CONTROL BOARD, taken in the above-entitled matter before Ann Marie Hollo, CSR, RPR, RMR, and Notary Public for Montgomery County, State of Illinois, at 10:00 o'clock A.M., on November 3, 2008, at the Illinois Pollution Control Board Conference Room, First Floor, 1021 North Grand Avenue East, North Entrance, Springfield, Illinois, pursuant to notice.

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and Illinois Pollution Control Board
Members: Chairman G. Tanner Girard, Thomas E. Johnson,
Anand Rao, Nicholas J. Melas and Andrea S. Moore

E X H I B I T S

NUMBER	MARKED AND ADMITTED
Exhibit Number 1	12
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Exhibit Number 10	30

HEARING OFFICER TIPSORD: Good morning. My name is Marie Tipsord, and I've been appointed by the Board to serve as hearing officer in this proceeding entitled, In the matter of: Proposed Site Specific Rule for City of Springfield, Illinois, Office of Public Utilities, City Water, Light and Power and Springfield Metro Sanitary District from 35 Ill. Adm. Code 302.208(g): New 35 Ill Adm. Code 303.446.

With me today to my immediate right is the presiding Board member/Acting Chairman G. Tanner Girard. To his right is Board Member Nicholas J. Melas, and to Mr. Melas' right is Board Member Thomas Johnson. To my immediate left is Board Member Andrea Moore and to her left is Anand Rao from our technical unit.

This rule making was sent to first notice by the Board on September 16, 2008 and was published for first notice on October 10, 2008 at 32 Ill. Reg. 16303. The purpose of today's hearing is to hear the prefiled testimony in this matter beginning with the proponents and then the Illinois Environmental Protection Agency.

The testimony will be marked as an exhibit and entered as if read. After the testimony is marked as an exhibit, we will proceed directly to questions. Anyone may ask a question or a follow-up. I do ask that you raise your hand; wait for me to acknowledge you. After I've 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 a Board member or staff are intended to help build a complete record for the Board's decision and not to express any preconceived notions or bias.

If time allows after hearing all the prefiled testimony, I will allow anyone who has not prefiled to testify. There is a sign-up sheet for those who wish to testify at the far right of the room if there's anyone here who hasn't prefiled.

With that, Dr. Girard.

CHAIRMAN GIRARD: Good morning. On behalf

of the Board, I welcome everyone to this

hearing today as we consider proposal from the City of Springfield and the Springfield Metro Sanitary District to have a site-specific rule for boron. We look forward to the testimony and questions today, and we appreciate all the hard work that's gone into it up to this point. Thank you.

HEARING OFFICER TIPSORD: Thank you, Dr. Girard. And with that, I will turn to Christine Zeman.

MS. ZEMAN: Good morning, Hearing Officer Tipsord, Chairman Girard, Board Members Johnson, Melas and Moore. My name is Christine Zeman of Hodge, Dwyer, Zeman here today on behalf of the City of Springfield Office of Public Utilities, City, Water, Light and Power, and the Springfield Metro Sanitary District. Thank you for allowing us to come here today on an expedited basis to present our site-specific rule proposal.

Seven witnesses are present who have prefiled testimony. Dave Farris, CWLP's environmental health and safety manager, whose testimony addresses CWLP's facility, its NPDES

permit and an overview of its boron mitigation efforts in cooperation with the Illinois EPA.

Gregg Finigan, CWLP's superintendent of production, whose testimony addresses CWLP's power plant operation and its consideration of alternatives as it relates to the chemistry of boron.

Doug Brown, CWLP's projects director, providing information on the alternatives and alternative technologies, including utilization of non-Illinois coal, as well as the economies of the site-specific rule as proposed.

Don Schilling. Don is a senior associate chemical engineer with Burns & McDonnell in Kansas City, Missouri, addressing boron treatment technologies and their relative effectiveness.

William -- Bill Brown, a senior project manager with Crawford, Murphy & Tilly here in Springfield, whose testimony on behalf of the district addresses its Spring Creek plant operations, the plant's NPDES permit and effluent data and the beneficial impact of this proposal.

Deborah Ramsey, a chemical engineer with

Hanson Professional Services, Inc. has substantial experience in wastewater treatment, whose testimony concerns the derivation and

calculation supporting the proposed rule, information on receiving streams, uses of the affected water segments and the investigation of the flue gas desulfurization systems or FGDS blowdown as it relates to boron.

And, finally, Jeff Bushur, an environmental biologist with Hanson, providing information on the toxicological effects of boron and that the proposed rule can be granted without anticipated adverse impact to the aquatic life of the Sangamon River or other known uses of the Sangamon and Illinois River downstream from the Spring Creek plant.

From the district present to answer any of your questions are Greg Humphrey, the director and engineer; Jeff Slead, operations supervisor; John Drake with Crawford, Murphy & Tilly for the district, and Justin Reichert, the district's attorney. Also present to answer questions are Bill Murray, regulatory affairs manager, and Sue Corcoran, engineer in the environmental health and safety

office of CWLP.

Carl Weilert is here with Burns & McDonnell and is sitting here to answer questions.

And also with me representing the petitioners is Katherine Hodge and Lauren Lurkins of our firm.

CWLP owns and operates two power stations referred to as the Dallman Power Station and the Lakeside Power Station and the Potable Water Treatment Plant at 3100 Stevenson in Springfield, Sangamon County, Illinois. These plants generate electricity for the residences and businesses in Springfield and provide potable water to Springfield and the surrounding communities. The district owns and operates two wastewater treatment plants. Only the Spring Creek Wastewater Plant is at issue here in this proceeding. It generally handles wastewater and storm water flows from the southwest, west and northern parts of Springfield and the surrounding areas. It was constructed in 1928, had some improvements in the '30s and major improvements to increase its capacity in 1978.

Petitioners are seeking a site-specific rule to establish an alternative water quality standard for boron from the point of discharge of Outfall 007, or 007, from the district's Spring Creek Plant to the Sangamon River, and

then in decreasing concentrations to its confluence with the Illinois River, and in the Illinois River, 100 yards downstream from the confluence with the Sangamon River.

The general use water quality standard for boron at 35 Ill. Section 302.208(g) is 1 milligrams per liter. The Board has not adopted an effluent standard for boron, nor has the Illinois EPA imposed an effluent limit for boron at Outfall 007 for the Spring Creek Plant in the district's permit. Similarly, no federal water quality standard for boron exists.

Our proposal is requested to enable the Spring Creek Plant to accept a pretreated industrial effluent stream from CWLP's power plant. Operation of the air pollution control system at its power plant results in elevated concentrations of boron in the plant effluent stream that we propose to transfer to the

district's Spring Creek Plant.

The power plant is a critical power supply for the City of Springfield and surrounding areas. The site-specific water quality for boron is necessary to enable CWLP to operate its power plant in compliance with its permit,

which incorporates the effluent limit imposed by the Board in the adjusted standard in 1994, as well as with state and federal air pollution regulations.

Through our testimony today, we intend to demonstrate that treatment to the general water quality standard for boron of 1 milligrams per liter is neither technically feasible nor economically reasonable for the portion of the Sangamon River to which the Spring Creek Plant discharges and then downstream.

Granting of the site-specific rule as imposed is not expected to harm the aquatic life in the waters drownstream of the Spring Creek Plant, nor have a negative impact on the current use of the receiving waters.

And, finally, since its operation of its air pollution control systems, which began in 2003, when levels of boron in Outfall 004

increased approaching the 11 milligrams per liter in the adjusted standard, CWLP has worked closely with the Illinois EPA, albeit through the violation notice process, through reports and meetings, regarding its boron mitigation efforts. We appreciate the Agency's support of our proposal as stated in the Agency's prefiled

testimony by Robert Mosher.

Prior to presenting our witness, I do have one procedural matter to address.

HEARING OFFICER TIPSORD: All right. Let's address that, and then I want to check with the IEPA and make sure they want to make opening statements.

MS. ZEMAN: Excellent.

The procedural matter concerns an errata sheet that we would like to present as -- do you want this presented as an exhibit?

HEARING OFFICER TIPSORD: That's fine.

MS. ZEMAN: It does make some corrections to some of the terms of the site-specific rule as proposed in the Board's first opinion and order.

HEARING OFFICER TIPSORD: If there's no objection, we will admit that as Exhibit 1.

Seeing none, it's Exhibit 1.

[WHEREBY, EXHIBIT NUMBER 1 WAS MARKED AND ADMITTED INTO EVIDENCE.]

HEARING OFFICER TIPSORD: You want to be sure that the agency gets a copy of that.

MS. ZEMAN: Very good.

HEARING OFFICER TIPSORD: And I appreciate

that. I do.

MS. ZEMAN: Thank you.

HEARING OFFICER TIPSORD: With that, Ms. Logan-Wilkey, would you like to make an opening statement?

MS. LOGAN-WILKEY: Yes.

Good morning. I am Joey Logan-Wilkey. I am an attorney for the Illinois EPA. The Illinois EPA is here today in support of CW --

HEARING OFFICER TIPSORD: Ms. Logan, could you slow down a bit? And you'll have to speak up.

MS. LOGAN-WILKEY: The Illinois EPA is here today in support of CWLP's petition for a site-specific rule making for the water quality standard for boron from the Spring Creek Plant to the Illinois River. The Agency has reviewed

the alternatives considered by Petitioners in agreement that the site-specific rule making is necessary and meets the requirement of the Illinois Environmental Protection Act and Board regulation. We have Bob Mosher, the manager of the bureau of water quality standards unit, here to answer any questions you have today.

HEARING OFFICER TIPSORD: Okay. And do you have a motion?

MS. LOGAN-WILKEY: Yes. At this time, I'd like to make the motion to file the testimony of Robert Mosher, which I have marked as Illinois EPA Exhibit 1.

HEARING OFFICER TIPSORD: I'm sorry. You need to file that instanter.

MS. LOGAN-WILKEY: Yes. I'm sorry. The motion is to file instanter.

HEARING OFFICER TIPSORD: And that motion is granted, and we will swear Mr. Mosher in later, and we will mark it as an exhibit at that point.

MS. LOGAN-WILKEY: Thank you.

HEARING OFFICER TIPSORD: Any other procedural things?

In that case, let's go ahead and swear in

all the witnesses.

MS. ZEMAN: Do you just want everyone to raise their right hand?

HEARING OFFICER TIPSORD: Please do so, those who have prefiled testimony.

[WITNESSES WERE SWORN.]

HEARING OFFICER TIPSORD: And with that, I've been handed the copies of each person's testimony and their attachments to the testimony. And I'm just going to go through

these fairly quickly.

If there's no objection, we will mark Dave Farris' prefiled testimony as Exhibit Number 2.

If there's no objection, we will mark Gregg Finigan's as Exhibit Number 3, Doug Brown's as Exhibit Number 4, Don Schilling's as Exhibit Number 5, William Brown's as Exhibit Number 6, Deborah Ramsey's as Exhibit Number 7 and Jeff Bushur's as Exhibit Number 8.

Is there any objection? Seeing none, those are marked.

[WHEREBY, EXHIBIT NUMBERS 2 - 8 WERE MARKED AND ADMITTED INTO EVIDENCE.]

HEARING OFFICER TIPSORD: And with that,

since we took these as if read, we will proceed right to any questions.

First off, Ms. Zeman, do you have any questions or clarifying questions that you'd like to add?

MS. ZEMAN: No, I don't.

HEARING OFFICER TIPSORD: I notice you have a better quality map than we have.

MS. ZEMAN: Yes.

HEARING OFFICER TIPSORD: If we can, can we get that admitted as an exhibit?

MS. ZEMAN: You may know that is attached to the prefiled testimony of Deb Ramsey and Jeff Bushur. So it is in the record. And it's just an increased size. And we also have one on the board as you come into the room, the meeting room.

HEARING OFFICER TIPSORD: You know what? I'm going to go ahead and mark this as yet another exhibit, and the reason being is that we had real difficulty reading the maps that were attached. So given that, I'm going to take this map, which is a little easier to read of the map attached to the testimony, and mark it as Exhibit Number 9 if there's no objection.

Seeing none, it's Exhibit Number 9.

[WHEREBY, EXHIBIT NUMBER 9 WAS MARKED AND ADMITTED INTO EVIDENCE.]

HEARING OFFICER TIPSORD: With that, are there any questions for the witnesses? We have some questions.

MS. BARKLEY: And I don't know if you want to go person by person or topic by topic?

HEARING OFFICER TIPSORD: If you have a person by person -- however you have them organized on your sheet, that's fine. Identify

yourself for the record, though.

MS. BARKLEY: My name is Traci Barkley. I'm with Prairie Rivers Network. Traci is T-R-A-C-I and Barkley is B-A-R-K-L-E-Y.

I just outlined some questions based on the prefiled petition. And there's three main sections, as I see it, that are being addressed through the petition. The first one is the treatment of boron is neither technically feasible or economically reasonable. And we note that there are some alternatives that were looked at as far as the process as moving towards the petition. One of them being

looking at dry ash disposal at facilities are currently discharged into Sugar Creek. And I understand that Petitioner has outlined that switching to dry ash disposal would not change the amount of boron in the flue gas desulfurization waste stream. However, we think there is a potential for limiting the amount of boron ultimately going to the Sangamon if that alternative were considered.

So I wondered if you could explain a little bit how far you looked into that option of switching dry ash disposal at the facilities that are discharging currently to Sugar Creek.

And if there's potential to switch from wet ash to dry ash, eliminate that load of boron to Sugar Creek, if that would then open the alternative of switching the adjusted standard to Sugar Creek to Spring Creek, ultimately reducing the overall load of boron in the Sangamon River.

HEARING OFFICER TIPSORD: For ease of the court reporter, when you get ready to answer the questions, be sure and identify yourself.

MR. DOUG BROWN: My name is Doug Brown.

According to the TSD document that was

developed, we did look at dry ash systems for the units -- Dallman units 31, 32 and 33. It was done by Burns & McDonnell, actually, through the previous study for SO2 compliance and looking at developing the options for our unit 31, 32 to determine if we would purchase a new scrubber system versus using alternate coal sources.

The dry ash systems that were looked at for 31, 32, which are basically identical units, the bottom ash is basically 80 percent, and the fly ash is about 20 percent. The bottom ash system is, as it was found out, that due to space limitations, it was not

technically feasible, as well as the fly ash systems for 31, 32 for the small amount of fly ash that results from a cyclone-fired units, economically it's not feasible.

Now, for unit 33, the bottom ash represents 20 percent, and the fly ash represents 80 percent. The bottom ash system was determined that economically it was not feasible. And with 33, fly ash, economically and technically it is feasible, but it is of high cost for the fly ash system, the dry fly

ash versus wet.

CHAIRMAN GIRARD: Can I ask a question, Mr. Brown? What pages are you referring to?

MR. DOUG BROWN: It would be pages 63.

MS. RAMSEY: 63. And it continues on Page 65.

CHAIRMAN GIRARD: Thank you.

MR. DOUG BROWN: The fly ash starts on 63. The dry bottom ash starts on 65.

CHAIRMAN GIRARD: Thank you.

MS. BARKLEY: For units 31 and 32, you determined as technically infeasible due to space consideration?

HEARING OFFICER TIPSORD: We can't hear you over here.

MS. BARKLEY: I'm sorry.

For units 31 and 32, it sounds like it was determined technically unfeasible due to space limitations. And I'm wondering if you could describe what is needed for dry ash disposal versus wet ash disposal that requires additional space.

MR. DOUG BROWN: This is Doug Brown again. The bottom of the boilers with the wet system has what they call a slag tank configuration,

where the ash drops into the tank and basically is ground up and sluiced out. For dry fly ash system, like a dryer conveyor system, there's not enough room in the basin of the boiler, the bottom of the boiler, for that configuration to be done, as well as to be able to -- you also have to be able to take that outside to an area where it can be dumped, and currently that area is blocked in by precipitators and other environmental control equipment.

MS. BARKLEY: You have to have conveyors to actually do the drying there, or is it possible to truck the ash somewhere else?

MR. DOUG BROWN: There's no way to get it outside of the building in that setup. With the drag chain conveyor type systems, there's

not enough room underneath the boiler to implement those.

MS. BARKLEY: And this is all written up in the technical support documents? Has a formal investigation been done?

MR. DOUG BROWN: The technical support document references the other studies that were done. So for instance -- let me see.

MS. RAMSEY: There is a report, the water

study. This is Deb Ramsey.

The report, the water study, which is really done trying to reduce water usage, and it came in under there. That was one of the things they looked at several times from a water usage standpoint.

MR. DOUG BROWN: On Page 65, it references the water conservation study done by Sargent & Lundy in April of 2004.

HEARING OFFICER TIPSORD: There's also a water study referenced at the top of that page by Burns & McDonnell. Is that the one you were speaking about, Ms. Ramsey?

MR. RAO: If I could just follow up. It's more to the studies. There are several studies and evaluations that were referenced in your technical support documents and also in the

prefiled testimonies. And has CWLP submitted copies of these to the Board?

MS. ZEMAN: We have not, but we can do that.

MR. RAO: Yeah, it will be helpful to look at those studies if you can submit those.

MS. ZEMAN: We will do that.

MS. BARKLEY: Can I ask a procedural

question real quick?

HEARING OFFICER TIPSORD: Sure.

MS. BARKLEY: Is there a public comment period after this hearing?

HEARING OFFICER TIPSORD: Yes.

MS. BARKLEY: Okay.

HEARING OFFICER TIPSORD: Yes. And, actually, since you asked a procedural question, in my zest to get this done and sandwich this hearing in among many other hearings, I miscounted days. And we will have to told a second hearing in the middle of December to address the DCEO letter that is required, and I'll discuss that at the end of the hearing. So we'll have a public comment period that will close after that hearing, and that will give everyone an opportunity. And we will discuss that comment period date at the

end of the hearing as well. So we'll take care of that.

And you had a follow-up question then?

MS. JAMES: Well, it's not exactly a follow-up question.

HEARING OFFICER TIPSORD: Sorry. Just state your name.

MS. JAMES: Stacy James, Prairie Rivers Network.

And I was looking at some of the biological data as far as the condition of the creeks. And, in particular, I was looking at the 1994 technical document that was submitted as part -- as far as the 1994 adjusted standard petition. And in there, it's focussed on Sugar Creek since that was the applicable creek at the time. And there's some information in there on IBI and MBI scores. And it seems like that is the creek to focus on as far as we've done this experiment. The creek has had an adjusted standard of 11, which is the same as what's being proposed for the Sangamon. It's been in place for 14 years. So what's going on with biological diversity? In Illinois, are we safe in the system to have an adjusted standard of 11 parts per million?

And so I guess I was disappointed of seeing the petition and technical support documents that there wasn't an assessment of particularly stream -- or stream station EOA01, which is the stream station directly downstream of the dam on Sugar Creek. And so, you know,

by looking at that 1994 technical document, it did have IBI scores and MBI scores for that station, but only up to 89. And so I'm wondering what the condition of the creek is now, what kind of monitoring has been done at that station since 1994 to basically prove that our rivers and creeks can support without any negative biological effect of standard of 11 parts per million.

HEARING OFFICER TIPSORD: For the record, that 1994 report was part of the original proposal. I think it was.

MS. ZEMAN: It was a part of the adjusted standard proceeding in 1994.

HEARING OFFICER TIPSORD: Right, but wasn't it also included in this?

MS. ZEMAN: Yes, it's Exhibit 2 to the petition in here.

HEARING OFFICER TIPSORD: Thank you.

MR. BUSHUR: My name is Jeff Bushur. And

at the start of the study -- I'm a biologist, by the way, with Hanson.

At the start of this study, we did ask EPA and DNR for any available information they had on mainly most of these streams in the lower

Sangamon water -- Sangamon watershed. And there were some stations that had data on Sugar Creek, but it was upstream of the lake even. So we didn't really have any available data, you know, post the '94 study as far as I know, but we did use whatever available data was available for the Sangamon River in upstream of, you know, the Roby station, Roby, Illinois. And we didn't find any available data for -- like the Sugar Creek.

HEARING OFFICER TIPSORD: Mr. Bushur, you need to speak up because when you talk that way, we lose you on this half of the room.

MR. BUSHUR: Just in summary, we didn't find any available data for that station on Sugar Creek that would have some of the higher boron concentrations.

MR. WILLIAM BROWN: May I chime in?

MR. BUSHUR: Go ahead.

MR. WILLIAM BROWN: William Brown.

The 11 PPM numbers you quoted, the first

one from the '94 study for Sugar Creek was an in-creek value. The second one of 11 is an in-pipe number for the plant effluent, not the river number. It's in the 4 range, so.

MR. RAO: I had a follow-up question. One of the questions I had was, has CWLP or the IEPA during the last, you know, four or five years, maybe since the last 15 years, have you monitored in-stream boron concentrations in the receiving stream anywhere close to the CWLP's outfall to see how boron concentrations change in the receiving stream?

MR. MOSHER: We definitely monitored in the Sangamon River.

HEARING OFFICER TIPSORD: Excuse me. Mr. Mosher, we haven't sworn you in yet.

MR. MOSHER: Well, I did raise my hand when everyone else did.

HEARING OFFICER TIPSORD: Oh, did you? All right. I'm sorry. I didn't notice that. Mr. Mosher from the IEPA has been sworn in then. Go ahead.

MR. MOSHER: We definitely measured boron concentration in the Sangamon River downstream of Sugar Creek. So we have that data available. I'm not sure if we measured boron

in Sugar Creek itself. I can check that, and we can supply that to the record.

Was there a second part?

MR. RAO: Yeah. Does this data show how the boron levels have increased since CWLP installed its SCRs, and they started measuring higher levels of boron in the stream itself?

MR. MOSHER: There's definitely been a rise in boron in the Sangamon River.

Up until -- let's see. We do something called a 303D report on the impaired streams in Illinois, as all states do to Congress every two years. And the Sangamon has, to my knowledge, not exceeded the levels granted in the adjusted standard of several years ago. But, again, I can put together a little report on boron concentrations and the levels.

MR. RAO: Okay.

MR. MOSHER: But I wanted to add a comment to the question. Since the agency is -- part of our duties are to do the monitoring. The Sugar Creek itself, I think the question was why wasn't it looked at so we could see what impacts boron was having at the previously adjusted standard? The effluent for the past several years has not met that adjusted

in Sugar Creek drownstream at the outfall than the 11 milligrams per liter granted. So at this time, it's not possible. And for the past few years, it hasn't been possible to see what effect 11 is having.

The other issue to that is that Sugar Creek at that locality has other issues. It's a stream segment right below a dam. The dam doesn't pass water except in very, very wet conditions. It goes months and probably years at times without any water going through there. So the stream, you couldn't do a study, I don't believe, and just say, "Oh, here's the effects of boron," because there's other things possibly impacting that stream -- probably impacting that stream.

MR. RAO: So right now from what you said, CWLP is exceeding its permit limit, but the stream itself may be in compliance to the standard?

MR. MOSHER: I doubt very much if the stream is in compliance with the adjusted standard of Sugar Creek right below --

MR. RAO: Is it not?

MR. MOSHER: Again, I will check. But

just given the knowledge that often there's no upstream flow at all because of the Lake Springfield dam, there's no water coming in to dilute the CWLP effluent. So I would surmise that a large portion of the time the stream contains a hundred percent effluent. We know the effluent doesn't meet 11 parts per million for the past several years. So my guess is the stream doesn't either.

MR. RAO: Okay. And does the agency believe that whether it's a good idea to modify the existing adjusted standards of Sugar Creek rather than have a site-specific change for the rest of the Sangamon River?

MR. MOSHER: It's our position that 11 is a place to stop for exposure of aquatic life, and therefore we supported essentially the dilution of these additional boron concentrations with the municipal wastewater to avoid anything over 11.

MR. RAO: Thank you.

HEARING OFFICER TIPSORD: And, actually, at this point, given, Mr. Mosher, I believe you started to discuss some of the things that are covered in your testimony, we'll go ahead and

mark your testimony and admit it into the record. If there's no objection, we'll mark it as Exhibit Number 10. Seeing no objections, Mr. Robert Mosher's prefiled testimony is admitted as Exhibit Number 10.

[WHEREBY, EXHIBIT NUMBER 10 WAS MARKED AND ADMITTED INTO EVIDENCE.]

CHAIRMAN GIRARD: Could I ask a follow-up question then? Mr. Mosher, you mentioned in your testimony that the Illinois EPA plans to work with the Natural History Survey to look at updating the boron standard, the boron water quality standard in the State of Illinois. Do you have any timetable on that? Or have any contracts been let, or what's the status?

MR. MOSHER: It's our goal to finish that process as soon as we can. We've already done a lot of work to that end. We're in discussions with USEPA Region 5, Chicago, who would have to give federal approval to that general standard. So we've had several letters back and forth with them already.

We are very close to awarding a grant to the Illinois Natural History Survey so they can

do some toxicity studies in their laboratory that would provide some -- to fill some gaps in the boron database as far as the USEPA's expectations of a water quality standard derivation. In other words, we need to test a few more species on their sensitivity to boron. So all of that is moving forward.

Contracting right now is difficult, but I just this morning think I have all the paperwork done to award this grant to the Natural History Survey so they can begin their testing. And, again, that might take another four to six weeks I'm told, but after that time, the grant will go through, and the survey can do that testing.

CHAIRMAN GIRARD: Thank you. Do other states have different boron standards than Illinois?

MR. MOSHER: Very few states have anything at all for boron. Illinois is fairly unique in that regard. And back in the early '70s, the original board standards came out with a boron value. And through what we can find, most states just don't do it that way. A few states do have what they call a derived water quality

criterion. Michigan and Indiana are two of those states. The derived water criteria are not done to the level of completeness and thoroughness that a water quality standard is developed. In other words, there is not a public comment period and so forth in a derived water quality criterion. They're often calculated using less data and more safety factors to make up for the lesser amounts of data. So that's how a couple of our neighboring states have done it. And we would not want to rely on what Indiana or Michigan -- did I say Indiana and Ohio before? Yeah, it's Indiana and Michigan. But, anyway, those derived water quality criteria are not done to the level of thoroughness that we want to see with a state standard for Illinois.

CHAIRMAN GIRARD: Thank you.

BOARD MEMBER JOHNSON: Just, Bob -- Tom Johnson -- just out of curiosity here. In your testimony, you indicated that a hundred eighty-five miles downstream of the Springfield Metro Sanitary District discharge, the nearest community that takes the water from the public water supply, from the river, what community is

that?

MR. MOSHER: Alton.

MR. BUSHUR: This is Jeff Bushur again.

Could I add -- just, we were talking about data that was available as far as current or existing boron concentrations. There is a summary that we put on a chart on Page 43 of the technical support document for the Riverton station at Sangamon River, which shows a graph of concentrations from '99 through '04 if anybody wants to look at that.

MS. RAMSEY: Deb Ramsey.

There is also downstream communities on tables -- on figures 42 and 43. And probably the fallacy in these tables is they only went up through January of '04. That was the most recent data that we could get. And the SCRs at the CWLP plant did not come on line until 2003. So you don't have a great big deal of time after the SCRs were on line. However, Hanson's personnel went down and took some select samples on four dates in September and October of 2007, and those data are shown on Page 4-8, Table 41. And I think our highest sample was upstream of the proposed outlet. Is it Outlet

004? It was 2.14 milligrams per liter on October the 1st, 2007. Generally, those are closer to a .1 milligram per liter.

MR. RAO: I've got a follow-up on this issue of water quality data. Mr. Mosher, in the TSD, we saw that the most recent data was from 2004, other than Hanson's monitoring. Does the agency have any more recent water quality data for those segments of the streams that are affected by this site-specific rule?

MR. MOSHER: Definitely for the Sangamon River, and I'll put that together.

MR. RAO: Okay.

MR. MOSHER: I'm going to check if we have any data for Sugar Creek or not. I'm not sure about that.

MR. RAO: Okay. And also in your testimony -- excuse me. I have this cough.

In your testimony on Page 5, you stated that while existing toxicity database summarized by CWLP is adequate for the site-specific demonstration, you mention additional data would likely be available during the course of this rule making. So could you please comment on this additional

toxicity data you're talking about in your prefiled testimony?

MR. MOSHER: Well, we're going to do two things. We're going to search the literature for additional boron toxicity testing above and beyond what's already been done in the petition. We're finding some unpublished studies through various contacts we have. We're trying to get copies. It's very difficult sometimes to get copies of "gray" literature, or you know, more or less unpublished studies, but we're working on that. And then we'll also begin to get results from the Illinois Natural History Survey's testing specifically for us.

Again, I'm assuming most of these things take maybe six months from now before it's all said and done with the Board, and by that time, I'm hoping that we'll be able to have an updated table of boron, aquatic life toxicity. Possibly that could be in the form of a general rule making that we're ready to submit to the Board, or it would just be something along the way that we could put together and share.

MR. RAO: Okay. Thank you.

HEARING OFFICER TIPSORD: Go ahead.

MS. JAMES: Stacy James for Prairie Rivers Network.

And I guess, first of all, I wanted to point out that there is a federal criteria for boron, and that's 750 micrograms per liter, and that's meant to be protective of sensitive crops during irrigation. So I mean, just as a comment, people should keep in mind that by adopting a higher standard on a major river will prohibit irrigation in the future.

And then I've got a question about -- it was said earlier in the hearing that the proposal is actually to have 11 milligrams per liter in the pipe, but from reading the petition, it seemed to be a hundred eighty-two yards downstream of the Spring Creek confluence with the Sangamon. So I just wanted to be sure that I am correct in that it will be 11 for some length of the river, and that then it would transition into about 4 1/2.

MS. RAMSEY: That is correct. It will start out at 11, and a hundred eighty-two yards later it will be 4 1/2. So you read that correct.

MS. BARKLEY: I have a follow-up question

for Mr. Mosher. You mentioned that the Sugar Creek example wouldn't be a good one for helping predict what might happen at Spring Creek, at least in terms of the --

HEARING OFFICER TIPSORD: Ms. Barkley?

MS. BARKLEY: Mr. Mosher mentioned that using Sugar Creek as an example for predictive value of what might happen in the Spring Creek system with an adjusted standard for boron wasn't appropriate because of, well, several things, but one of them being that the 11 milligrams per liter adjusted standard had been in violation. And I wonder if you had could help characterize how much of a violation and what sort of values we're talking about. Because when we're looking at moving from 1 milligrams per liter water quality standard, as it currently exists, to 11, that's quite a difference. And I wonder what the difference between the 11 milligrams per liter adjusted standard is as opposed to what -- in comparison to what is currently being discharged or maybe on average is being discharged.

MR. MOSHER: Well, let me ask you. Is any

effluent data in the technical support document that's been filed?

MS. RAMSEY: Not for Sugar Creek.

MR. MOSHER: Not for the discharge itself, right? For the CWLP discharge?

MS. RAMSEY: Right.

MR. MOSHER: In that case, we can put together through agency records, the compliance data that's submitted every month to the agency. And I can attach that to the stream data that I've already promised to round up. We can file that as a -- I don't know.

Joey, what do we call something like that?

MS. LOGAN-WILKEY: We will file it as agency comments prior -- or after the hearing. Excuse me.

MS. BARKLEY: I think that would be great, because I think before dismissing the ability to look at Sugar Creek for its potential predictive value, we need to look at the appropriateness as to whether the conditions are similar enough to use for the Spring Creek situation as Stacy pointed out. I think there might be some value in studying this to see what we can possibly see down the road.

I also would like to ask about what other constituents we can expect in the flue gas desulfurization stream, waste stream, other

than boron. What else is going to be coming along with it that will be sent to the Spring Creek facility and then ultimately discharged to the Sangamon River?

HEARING OFFICER TIPSORD: Go ahead.

MR. WILLIAM BROWN: William Brown with Crawford, Murphy & Tilly.

There have been some analyses done through our jar testing where we were trying to determine solids removal, which included chlorides and sulfates. And then we also ran tests on the variety of metals from everything from iron and magnes to calcium magnesium all the way to zinc. And so those constituents exist in the waste stream at some concentration.

MS. BARKLEY: Is it expected that all of those additional constituents would be able to meet water quality standards once it moves through the Spring Creek system?

MR. WILLIAM BROWN: Yes, it is anticipated, mm-hmm.

MS. BARKLEY: Would those be considered additional loading of pollutants as opposed to what's currently discharged by the Spring Creek facility?

MR. WILLIAM BROWN: Well, I'm not quite sure of your question, but there's no suspended solids, there's no BOD loading, none of the traditional loading, you know.

MS. BARKLEY: But there will be higher levels of some pollutants that haven't been in the Spring Creek facility waste stream previously?

MR. WILLIAM BROWN: It will add a certain amount, but, again, the flow is a very small percent of the entire Spring Creek plant. So it may not even be measurable. At this point we're not sure.

MS. BARKLEY: Are there conditions that under which it might be hard to meet water quality standards for sulfates, chlorides coming from the Spring Creek facility?

MR. WILLIAM BROWN: I don't believe there is a chloride standard beyond -- we don't think that that it will impact that in terms of NPDES water quality standards.

MR. RAO: I have a follow-up question, and this is for Mr. Doug Brown, but I'll ask, you know, whoever can answer. This relates to the whole issue of creek -- the Spring Creek Treatment Plant.

I think you mentioned that CWLP has contracted with the SMSD to treats its wastewater. So this kind of follows on the earlier question about does this contract spell out what parameters in your wastewater is going to be treated by the Spring Creek and Spring Creek Treatment Plant?

MR. WILLIAM BROWN: There is an intergovernmental agreement, and I would -- that document I would defer comment to the CWLP for that, for the answer to that.

MR. RAO: Yeah, I wanted to know if it lists all the chemical parameters that needs to be treated by the plant, and if so, what are those parameters.

MS. ZEMAN: Can we swear Bill Murray to address that?

HEARING OFFICER TIPSORD: Sure.

[WHEREUPON THE WITNESS WAS SWORN.]

MR. MURRAY: The intergovernmental

agreement that Mr. Brown referred to does not have specifications, per se, in it for the sanitary district or for us to deliver a certain stream, other than we have agreed to run it through a pretreatment operation on our plant site before we would discharge it to the

forcemain that would eventually connect with the district's forcemain system.

MR. RAO: So whatever effluent that you get out of the pretreatment plant, they're supposed to accept that, accept it and treat it? Is that how it works?

MR. MURRAY: In our preliminary discussions with the district before the contract was entered into, we provided them with data developed by Crawford, Murphy & Tilly and Mr. Brown that was intended to demonstrate what we anticipated the constituents of that stream to be. And before this district agreed to meet with us further, they considered that information and let us know that they would pursue this proposal.

MR. RAO: Okay. Is that data part of your petition?

MS. ZEMAN: No, it's not.

MS. RAMSEY: No, it is not.

MR. MURRAY: I wasn't sure whether it was part of the technical support document.

MR. RAO: Would it be possible for you to submit that information?

MR. WILLIAM BROWN: Yes.

MS. ZEMAN: Do you have anything? Do you

have that paper?

Yes, we will certainly do that.

MR. RAO: And also, you know, in the --

HEARING OFFICER TIPSORD: Actually, before you go on, would it be also possible for us to see the intergovernmental agreement?

MS. ZEMAN: Yes. We will make that as an attachment.

HEARING OFFICER TIPSORD: Sorry.

MR. RAO: I think in Mr. William Brown's testimony on Page 6, he had mentioned that CWLP had contracted with SMSD to accept the FGDS wastewater, provided that the acceptance does not upset the normal plant operations. My question is, do we have reason to believe that the flue gas desulfurization wastewater may upset the plant operations of the SMSD Spring Creek plant?

MR. MURRAY: This is William Murray again.

MR. RAO: Okay.

MR. MURRAY: This was a concern that the district had from a conservative approach that they took in our discussions. And the intergovernmental agreement provides for contingencies to that effect, though we can't identify what that might be, but we have

discussed with them to be prepared to respond to any difficulties that they may experience subsequent to this being implemented.

MR. RAO: Okay. Thank you.

MS. BARKLEY: In looking at -- I understand that it's considered an insignificant waste stream, the 270,000 gallons per day coming from the flue gas desulfurization stream, compared to 20 million gallons per day that's flowing through the Spring Creek plant right now. But as I understand it, you've considered the other alternatives for treating boron to be exhausted, and you're looking now at using the ability of dilution to basically get the concentration of boron down to meet a lower concentrations acceptable. Knowing that you

need the certain waste stream, or certain amount of water, certain volume and flow to do that, what will happen during times of drought when you don't have as much water flowing through the system?

MS. RAMSEY: This is Deborah Ramsey, and I'll answer that.

The calculations were made using drought numbers. They were worst-case scenario.

MS. BARKLEY: I note in the petition that it states that CWLP is proposing collecting the flue gas desulfurization waste stream at 250,000 gallon influent holding tank, which would provide about 20 hours -- 22 hours of holding time for the waste stream. Do you feel that that's adequate if you have extended drought conditions?

MS. RAMSEY: Well, as I've said, we've looked at historical flows out of the wastewater plant, and, yes, it would normally be acceptable. And if not, then holding the water for a day or two would be enough. I mean, if they do go lower than that, it's for a 24-hour period.

MS. BARKLEY: Is there another option if

that holding capacity is not available or if it's already in use? Is there another option for CWLP to prevent that high boron concentration waste stream being sent to Spring Creek facility?

MS. RAMSEY: It could obviously reduce the flow.

MR. FINIGAN: Gregg Finigan from CWLP.

Operationally there are ways for us to reduce that flow and maintain it within the

system for a longer period of time. And we would take those measures in those particular instances.

MS. BARKLEY: Okay.

MR. RAO: How long can you do that, control the flow?

MR. FINIGAN: We estimate that with the storage capacity, that we would be able to maintain it for 48 hours with just the storage capacity without any operational changes. With the operational changes, we estimate that it could be another 24 hours. So basically we can't go beyond 72 hours.

MR. RAO: Okay. Ms. Ramsey, you mentioned that in your calculation, you used the drought

flow. Is that the seven-day low flow that you used from the ISW 2002 map?

MS. RAMSEY: Yes.

MR. RAO: How does the data from the ISW's map compare with your actual flow data? Does the plan itself have actual low flow data?

MS. RAMSEY: Yes. And I think that's what goes into the mapping, isn't it?

MR. RAO: Does it?

MS. RAMSEY: I think so.

MR. RAO: Okay. Thank you.

MS. BARKLEY: The petition also claims that alternative site-specific rule would have significant economic impact. And when I went through the petition and looked at the numbers that were put together, it seems like some of the cost estimates were -- that the option was abandoned before the full cost estimates had been completed. And I wonder as part of this record, if you could put together cost estimates for all of the alternatives put forth, including reverse osmosis, electrocoagulation, the brine concentrator spray dryer treatment system -- I can't remember all the others, but I think there were

a few others. And I think we'd like to see the full -- both the capital cost and the operating expenses for a set time period for all of them, so you can look across the board and see. Because I think the conclusion -- you came to the conclusion that the most cost effective was saying the Spring Creek plant, but it doesn't -- it didn't seem to us, at least what was presented, that the numbers were complete.

And I also would like to go back to alternatives. In the petition, you note that high levels of ammonia in the wastewater seem

to be contributing to the release of boron. So I wondered if you investigated opportunities to reduce ammonia to prevent or inhibit the release of boron.

HEARING OFFICER TIPSORD: Ms. Barkley, before we go to the second question, can we stay with the first question, and that is the cost?

MS. BARKLEY: Sorry.

HEARING OFFICER TIPSORD: I believe Ms. Ramsey has a partial answer.

MS. RAMSEY: Yes. I believe we have laid out the capital cost, the annual, and put it

into a present value in Table 6-2 on Page 6-11 of the TSD.

MS. BARKLEY: Could you repeat that? Page 6-11?

MS. RAMSEY: 6-11, Table 6-2, cost of treatment alternatives for the removal of boron. And we present capital costs, annual O & M costs and put those at a present value. And, further, break that down into a present value per electric service.

MS. BARKLEY: Okay. I'll have to look at that again.

MR. RAO: I have a follow-up on that.

Ms. Ramsey, in that table, the only thing that I found missing was the cost for your proposed site-specific rule making and what it's going to cost CWLP. And I think -- let's see. In one of the prefiled testimonies --

MR. DOUG BROWN: I can tell you where to look.

MR. RAO: Yeah. I think it was from Mr. Don Schilling who presented a cost what it would cost to manage your FGD wastewater by transferring it to the Spring Creek plant.

MR. DOUG BROWN: This is Doug Brown.

On the TSD on Page 614, it's the last paragraph. It runs you through the costs for the system. It's 15.5 million.

MR. RAO: So the cost of the proposed option is higher than at least one of the options that are listed in the table on 6.2?

MR. DOUG BROWN: This is Doug Brown again.

On 611, the costs that were associated with the brine concentrator system were at the time that the study was done by Burns & McDonnell. As we pursued that option, as you can read from the TSD, we ran through some significant impacts through engineering designs change on a continual basis. The

project was abandoned for about a 40 million dollar capital cost.

MR. RAO: Yeah. That's what I wanted to get clarified. The cost increased significantly for the brine concentrator?

MR. DOUG BROWN: Yes.

MS. RAMSEY: In my understanding, when Burns & McDonnell put those costs together, they were in comparison to one another and not necessarily confirming you could build it for that.

MR. RAO: And I think one of the reasons you abandoned that brine concentrator followed by spray dryer was significant problems of handling and disposal of the solids?

MR. DOUG BROWN: That's correct, yeah. It was not anticipated at the time of the design as far as being that option, the way I understood it, as I was not part of that at that time, but the disposal, the amount of the byproduct was small. And it ended up being a major disposal system would have to be installed, as well as trying to find a source to landfill it, along with other technical issues with handling the product.

MR. FINIGAN: The product was going to be

very difficult to handle. There would be material handling problem. You'd have to keep it out of any kind of moisture. It picked up moisture very quickly.

MR. DOUG BROWN: Out of the atmosphere.

HEARING OFFICER TIPSORD: And that was Mr. Finigan.

MR. FINIGAN: I'm sorry. Excuse me.

MR. RAO: Okay. And does the cost that you had mentioned in Table 6.2, does it reflect

the disposal costs at all?

MR. DOUG BROWN: No.

MR. RAO: Okay. Thank you.

HEARING OFFICER TIPSORD: And with that, I think we can go to your second question.

MS. BARKLEY: I was interested in hearing about what was looked at in terms of reducing ammonia, if ammonia was triggering the release of boron.

MR. FINIGAN: Gregg Finigan from CWLP.

We looked at a lot of different ammonia. I think when you phrased your question, I think you said there were high levels of ammonia? Could you -- actually high levels of ammonia? They were below NPDES levels. We went from a stream that had no -- basically undetectable

quantities of ammonia to having a stream, that at least to ash pond stream, had a small detectable amount of ammonia basically in the .1 to .2 milligrams per liter range. Where as in the gas flow, the gaseous phase, which is released to the FGDS blowdown stream, that level of ammonia is basically undetectable. It's less than .1 parts milligrams per liter. And the reason that it's very hard to detect in

that is because of the other constituents that are in that waste stream, the chlorides and the sulfates. To dilute those down to an area where you can read the ammonia successfully is very difficult.

MS. BARKLEY: I didn't mean to say that they were high levels of ammonia, because I haven't actually looked at the values, but your petition states that trace ammonia concentrations from the SCR operation results in increased leaching of boron levels, and or increased boron solubility in the Dallman ash pond. So I wondered if you looked at the potential of reducing ammonia in the waste stream and then its ability then to reduce the leaching of boron.

MR. FINIGAN: The ammonia in the waste

stream that we're discussing, the FGDS waste -- the blowdown stream, the ammonia is undetectable, for the most part, in that stream.

MS. BARKLEY: So you don't see --

MR. FINIGAN: The statement that you're talking about is the small amounts of ammonia, trace amounts of ammonia, that we found in the

Dallman ash pond that leads to Outfall 004 and to Sugar Creek, to help explain the higher boron levels we were getting in Sugar Creek.

MS. BARKLEY: Okay. And just for clarification, when I look at this, I see that there is potential, and I can further comment on this when Prairie Rivers submits their comments. But it seems like that the reason an additional adjusted standard is requested for Spring Creek is because the adjusted standard on Sugar Creek isn't sufficient for both waste streams.

So when I'm looking at this, I'm looking at the potential for reducing boron in both waste streams so that they both can come over in adjusted standard, not just keeping business as usual at one so that we can ask for an adjusted standard on another. So in our

review, we haven't been looking at just what's being proposed for Spring Creek; we're looking at the overall picture, as you have as well. So that's why I am asking some questions about the Dallman ash pond and the 004 Outfall and the Sugar Creek system.

MS. RAMSEY: Can I make a little bit more

clarification on Gregg's comments to make sure everyone understood them? The ammonia is a necessary component of the SCR, the selective catalytic reduction system. And if you take the ammonia out entirely, we lose our air pollution control. We lose our hydrous oxide reductions. It is used in the gaseous stream, and it's just the trace amount that comes out, and they do watch that. If it falls off to absolutely nothing, I think that means that they're not doing a good job with the air pollution control systems. You know, so they keep, I want to say, 1 to 2 milligrams per liter.

MR. FINIGAN: We test it as it comes out of the SCR, the control system. We test the ammonia slip at that point. It's between 1 to 2 parts per million at that point. And that would be in the ash phase; that would be in the

ash component. And then it's tested at the ash pond and the sluice component. And then also we periodically test the FGDS blowdown component.

MS. RAMSEY: Thank you.

MS. JAMES: Stacy James, Prairie Rivers

Network.

Would it be possible to reduce or remove the ammonia before it gets to the ponds?

MS. RAMSEY: Can I answer that one?

MR. FINIGAN: Go ahead.

MS. RAMSEY: I think that it's already had contact with the very small solid particulates in the air pollution control system. And it's happening there. It's not happening so much, we don't think, in the ponds. We think we are leaching boron from the very small particulates that you run into in the air pollution control systems, and they blow down with the liquid.

MR. FINIGAN: Gregg Finigan again from CWLP.

The other thing is that this interaction between the ammonia and the boron happens before you get to an area where you could treat it. It happens in the gaseous phase or from the flue gas. And it happens in the sluice ash

system before it ever gets to the Dallman ash pond.

MS. BARKLEY: I have a question about the brine concentrator spray dryer. Aquatech maintains that this equipment is being used

successfully at five other facilities, one in Kansas and four in Italy. And I note the petition says that this technology has not been used as a flue gas desulfurization stream, although it seems like it has at these five other facilities. So I wonder if you could clarify what's different about CWLP's facilities.

MS. RAMSEY: This is Deborah Ramsey.

I would say the difference is the concentration of the boron and the other ions in the stream. All of these technologies work on low concentration streams. It's that when you start getting into 400 or 500 parts per million boron, I have not seen any commercial application for those kind of concentrations.

HEARING OFFICER TIPSORD: Okay.

MR. SCHILLING: My name is Don Schilling with Burns & McDonnell. I just want to follow up with that question.

The facilities have all been -- that you

referenced, one was the Iatan Power and Light, and that has not gone into service yet. That's scheduled to be commissioned probably in the early spring of 2009.

The five units in Italy that Aquatech is doing, none of those have been put into service yet either. I think one or two of them are right on the doorstep of commissioning. So we're watching those with Aquatech very closely to see what the results are. But although they're being designed and built, none of them have been put into service. Actually, there's been no brine concentrator system in service right now that we can monitor on FGDS wastewater.

MS. BARKLEY: Okay, yeah. I noticed in materials that we have from Aquatech that they have -- you have probably seen them -- facility descriptions of what's being done at these facilities, but they don't really give the indication that they are in operation. And this one for your facility, that makes it look like it is in operation right now.

MR. SCHILLING: There's actually another one. HPD Veolia is also a supplier of similar equipment. They have a contract for a facility

in Spain that is in design and construction still, but not in service as well.

MS. BARKLEY: Has the 7 million for that

equipment already been spent, for the brine concentrator spray dryer? I noticed that you have -- you've entered into a contract or you had entered into a contract with Aquatech. Has that money already been spent?

MR. DOUG BROWN: Yeah. This is Doug Brown.

The contract with Aquatech is complete. The equipment is -- yeah, the equipment was purchased. So it wasn't taken lightly to abandon the project.

MS. BARKLEY: Are you aware of other coal-fired facilities with these SCR pollution control technologies that are using either Illinois basin coal or similar coal that would create the same high boron concentrations?

MS. RAMSEY: Can I answer that question in part? Because I have another client who actually -- it's all a matter of public record, so I can talk about it. But the Duck Creek Station near Canton, Illinois has a similar problem, and what they did is they changed their discharge. They no longer discharge to

Duck Creek. They're going directly to the Illinois River, and they're getting down to

within the 1 part per million.

MS. BARKLEY: There were other facilities that were mentioned to us that might have similar situations. The Kincaid -- I don't have my notes with me. But have you looked at what other power plants are doing? I mean, I understand this is a client of yours, but have you done a search throughout Illinois to look at other coal-fired power plants that would also be required to use air pollution control technology and would also likely be using Illinois coal?

MS. RAMSEY: Yes. If you would actually look in the -- on Table 6-1 on Page 6.4 of the TSD, tonnage and source of coal used by Illinois utilities in 2005, you can see that the majority of them are using power river basin coal from Wyoming. It gives you the tonnage and where they're getting their coals from. So that is a lot of the times the solution is to go to an alternate coal source.

MR. FARRIS: This is Dave Farris with City, Water, Light and Power.

Just for a point of clarification.

one of those plants that burns power river basin western coal and does not operate a scrubber.

HEARING OFFICER TIPSORD: A question? Go ahead.

MS. JAMES: Stacy James for Prairie Rivers Network.

I'm wondering by the time the waste stream does hit Spring Creek STP, if it would be dilute enough to make some of these treatment technologies a lot more economically feasible? And therefore instead of granting another adjusted standard, could Spring Creek -- would it be economically feasible for them to add some of this technology so that boron is basically essentially diluted by their much larger waste stream?

MS. RAMSEY: This is Deborah Ramsey.

The problem with that is, of course, now you have 20 million gallons of water a day instead of the CWLP flow, and the size of the equipment would be monstrous. I mean, it would be -- it would be huge investments in capital equipment.

MS. JAMES: Has it been estimated, though?

MS. RAMSEY: I've actually done some estimates like that for another power plant, and they came out with higher numbers. They were using something that was around a 4 1/2 or a 5 milligram per liter. We had looked at that once upon a time. When the Duck Creek facility got their adjusted standard discharge into Duck Creek, we did estimates of that type.

MS. BARKLEY: I have just two more questions. One, you note in the petition that the FGDS blowdown is a means to remove chlorides and other contaminants that otherwise build up in the system and cause a corrosive environment in stainless steel towers. So I wonder when this waste stream goes to the Spring Creek, the treatment plant, what they will need to do, if dilution would be enough, or if you anticipate having to use additional anticorrosive materials.

MR. WILLIAM BROWN: William Brown.

Initially when the waste stream is received in the sanitary sewer, we plan to line portions of the sewer that will make it inert to the high chlorides initially. And then it is believed that the dilution of the chlorides

throughout the system and into the plant will be enough to keep any damage from, you know, being caused to the plant.

MR. FINIGAN: Gregg Finigan, CWLP.

Our chloride limits on our metallurgy at CWLP, we have two different types of metallurgy on our towers, at the two different FGDs. One has a limit of 15,000 milligrams per liter. The other one has a limit of 10,000 milligrams per liter. So the actual corrosive effect on stainless steel is at a very high concentration.

MS. BARKLEY: And I also note with the brine concentrator spray dryer system, that there was concern about how much of the waste material would be created. And I wondered if anyone looked at the potential for that, a beneficial reuse of that waste product.

MR. FINIGAN: Gregg Finigan, CWLP.

Based on the -- it was -- first of all, it was very difficult to even get a big quantity of this material to even test. When we tested it from landfills, we really could not determine whether it might be a hazardous or nonhazardous waste. The landfill would not

support whether -- without a larger quantity of material, whether that was going to be a hazardous or nonhazardous waste. Thus some of the estimates on the landfill costs are kind of vague. But, yeah, I don't know that we'd -- I don't believe that -- there's additional testing that needed to be done in order to answer that question.

MR. DOUG BROWN: This is Doug Brown.

There's also a previous department of energy project where at least it's referenced in the TSD, where they had a brine concentrator system, and that system basically was shut down, their brine concentrator system, because it was not commercially sellable. So that there was no application they could find to --

MS. BARKLEY: The system wasn't or the waste product?

MR. DOUG BROWN: The waste product was not sellable. The system also had issues as well.

MR. RAO: A follow-up question. The part of the pretreatment system that you're proposing you're going to use, that cyclone, how do you handle the solids that are removed by that?

MR. FINIGAN: Gregg Finigan, CWLP.

The solids will be returned to the FGD system.

MR. RAO: Okay. So it doesn't leave the --

MR. FINIGAN: No. It stays in the cycle.

MR. RAO: How is -- this clarifier, what kind of efficiency do you expect?

MR. WILLIAM BROWN: William Brown.

The clarifier is utilized for solids removal only, and it's very efficient. Probably, you know, 95 percent easily, turbidities leaving will typically be less than 1 or 2. The material treats very well. It's a very heavy solid that falls out, with the addition of a little polymer, and forges in the sludge blanket. The effluent qualities should be excellent, solid free basically.

MR. RAO: Thank you.

MS. ZEMAN: I would like to go back in response to Doug Brown's comment about the test project. The reference to that in the technical support document is on Page 6-12.

HEARING OFFICER TIPSORD: Anything further?

MS. BARKLEY: Actually, I do. I'm sorry.

HEARING OFFICER TIPSORD: That's quite all right.

MS. BARKLEY: With this being a site-specific and adjusted standard for the stretch of the river, I wondered if there are other facilities that currently have to meet -- or have boron limits in their permits that would also be benefiting from this adjusted standard?

I just note in the 1994 petition for the adjusted standards on Sugar Creek, I believe that the standard was to 304.105, not through 302.208, which is being sought today. So 302.208 would be the boron water quality standard, which would then possibly have implications for other dischargers. And I think 304.105 would be applicable to this facility, or you know, this outfall. And I wonder what the difference is or if there's a reason why you chose one over the other.

MR. MOSHER: Bob Mosher.

I think your question has to do with downstream facilities on the Sangamon River and would any of them benefit. Municipal

wastewater typically is about half a part boron, half a part per million. So municipal facilities don't benefit. They don't need a mixings on -- they're meeting the 1 milligram per liter boron water quality standard at the pipe. And there just aren't any other kind of facilities downstream. There's a few municipalities, but small ones. So I can't see anybody benefiting.

MS. RAMSEY: To follow that up, there is a list of all the NPDES permitted discharges to the Sangamon River from the confluence of the South Fork at the Sangamon River to the Illinois River on Page 3-7. It's Table 3.3-1. And as Bob said, they're all municipal-type discharges, very small quantity average flows.

MS. BARKLEY: And do we know who withdraws water from the Sangamon River?

MS. RAMSEY: No one that we could find.

MS. BARKLEY: Okay.

MR. RAO: I had a follow-up question. Based on what Mr. Mosher said, the typical boron level and municipal wastewater treatment plants are like .5 parts per million. Ms. Ramsey, in the calculation, you use

.25 milligrams per liter. Was that value based

on an actual measurement of boron levels?

MS. RAMSEY: Yes, it was.

MR. RAO: And was that done in a period of time to establish that level as appropriate for your calculations?

MR. WILLIAM BROWN: Right. We did -- it was done in 2007, I believe, and the actual samples from the sanitary district were taken and analyzed. For the purpose of the -- did that answer your question?

MR. RAO: Yes.

MR. WILLIAM BROWN: Okay.

MR. RAO: Thanks.

HEARING OFFICER TIPSORD: Ms. Barkley?

MS. BARKLEY: I believe in the supporting technical documents you have, you have information -- I think it's the ambient water quality monitoring stations where you did, I think, a plant survey of aquatic macrophyte plant survey? But I wonder if any additional investigations have been done past those three sites to look at macrophytes and their importance for fish habitat.

MR. BUSHUR: This is Jeff Bushur with

Hanson.

And last year, at the end of last year, we

did -- kind of field surveys we did, and it was to pretty much generally characterize the affected stream segments. And we mainly did it north of Springfield along the Sangamon River in a canoe and also by Petersburg and also up by Oakford, and that was just the stretches we did. I mean, there's long river miles, so we didn't do the whole length. But it was a very low water time. And in each of the stations, we didn't see any aquatic microphytes in the water. You know, the water levels were really low. So most of the vegetation was up, you know, on the banks, which would be typical for the Sangamon.

MS. BARKLEY: So those three segments were near the ambient water quality network sites?

MR. BUSHUR: Of what EPA usually uses.

MS. BARKLEY: Right.

MR. BUSHUR: Yeah. Let me check my map, but I believe so.

MS. BARKLEY: Is that something -- well, I'll wait.

MR. BUSHUR: And this map is on Page 310.

And, actually, the segments that we traveled on the north side of Springfield started at Riverside Park is where we started, and we went

all the way into kind of the area of dispersion that was mentioned from the outfall of Spring Creek down approximately 200 yards. And then over at Petersburg, that is an Illinois EPA station, E24. So we did do that one. And then also the E25 is where we looked at the Sangamon River with Oakford.

MS. BARKLEY: But nothing was done between those stations?

MR. BUSHUR: No, just a general characterization of the Sangamon River.

MS. BARKLEY: Okay. And then for IEPA, when you further developed the toxicity database with the Natural History Survey, were you looking at aquatic plants as well as other aquatic organisms?

MR. MOSHER: We don't have any plans for aquatic plant toxicity tests at the Illinois Natural History Survey. We are reviewing the literature values for aquatic plants, and we'll be negotiating or inquiring of USEPA of how to interpret aquatic plant data.

HEARING OFFICER TIPSORD: Go ahead.

MS. JAMES: Stacy James, Prairie Rivers Network.

I'm looked at the table for cost of

treatment alternatives. And so in there you have --

HEARING OFFICER TIPSORD: For the record, Ms. James, state where that is again please.

MS. JAMES: It is in the technical support document. It's Table 62 on Page 611, I guess.

HEARING OFFICER TIPSORD: Thank you.

MS. JAMES: And there's three options presented. One is the brine, one is the reverse osmosis followed by the spray dryer. And I'm wondering if when you start things off with "RO" instead of "BC," does that change the spray dryer product to be less of a hydrophilic, I guess, you know, more handleable? And if so, if it's a better -- if it's an easier product to deal with, then how does this option right now compare with your 15 million in the capital cost, and, plus, you know, over 2 million a year annual costs for O and M for what you're proposing today?

MR. SCHILLING: This is Don Schilling on

that.

I don't know if this will completely answer your question, but --

HEARING OFFICER TIPSORD: Mr. Schilling, remember you're speaking to this end of the

room, too.

MR. SCHILLING: Since the study, we continued to look at these options to see what the development of the industry was. The reverse osmosis process does -- would change the characteristics of the solids. The reverse osmosis process would require extensive pretreatment. And in our study, and I think in -- that extensive pretreatment created more solids, and it would also have to be dewatered and disposed.

Since our study, though, we have continued talking to Aquatech, who was the main vendor/supplier for the reverse osmosis-type equipment. And, in fact, on the Iatan project, when we went out for bids, we solicited bids for both processes -- the reverse osmosis process, as well as the brine concentrator process. In response to those bids, Aquatech has said they no longer will provide the

overall process -- the treatment process for FGDS wastewater treatment. They had run some pilot tests and tried to operate the reverse osmosis water treatment on FGD wastewater. And they found they had some significant fouling and deposits formed on the RO membranes. So if

we even wanted to pursue the RO process, there's not a supplier that will offer that anymore.

MS. BARKLEY: I don't have any more. Thank you.

HEARING OFFICER TIPSORD: Are there any other questions for the proponent?

MR. RAO: I have a couple.

Mr. Bushur, in your discussion about the uses of the Sangamon River, you had mentioned that the main uses are aquatic life habitat and recreation. Doesn't the river segments affected by the site-specific rule also support wildlife habitat?

MR. BUSHUR: Wildlife habitat?

MR. RAO: Yes.

MR. BUSHUR: I guess in certain flood stages, you'd probably have more use of wildlife habitat, but also side pools, you

know, in low water stages, you're mainly restricted to the very base channel. So, you know, as far as the water being used for other sources, I mean, in general, you could say that some wildlife do use certain parts of the river.

MR. RAO: Is there any concern

regarding -- I know the standard is mainly related to the irrigation, but are there any toxicity information that --

MR. BUSHUR: Well, mainly, you'd be talking about, you know, besides the aquatic life we looked at in this study, other than that, I would think of more, you know, higher forms of life, like deer and that sort of thing. And generally in mammals, in these concentrations, it's really not in what we saw is not much of an issue in some of the higher mammals.

HEARING OFFICER TIPSORD: If I may, Mr. Rao. As someone who pays a lot of attention to the eagle population, there's been a report of at least one eagle's nest along the Sangamon River -- and I believe, though, that's upstream of you. I wouldn't swear to that, but

I believe it's upstream. But what impact does boron have on, for example, eagles?

MR. BUSHUR: I did not see -- this is Jeff Bushur again from Hanson. I did not see any technical data or studies regarding eagles. I'm trying to think. There were some studies on mallards. That's the only thing I remember. I think we have it referenced in here.

HEARING OFFICER TIPSORD: Yes, you do talk about that in your study about the mallards.

MR. BUSHUR: It did show a little bit of bioconcentration, but not bioaccumulation in their tissue. Like one in the study, they were fed or given higher dosages of boron, and they saw it in their system very short term, and then within just a day -- or, again, I'd have to check, but it relieved itself out of its system. So there's no -- that study didn't see any bioaccumulation in the mallard's tissue.

HEARING OFFICER TIPSORD: Thank you.

MR. RAO: Ms. Ramsey, I have a couple of questions relating to that proposed site-specific rule language. In the site-specific rule, the stream segments are described or are identified by the length of

the confluences as points of reference, in yards and river miles for distance. For sake of position, would it be possible for you to describe these segments in terms of coordinates?

MS. RAMSEY: Yes. We can get that for you. I don't have that now, but that's something we can get for you.

MR. RAO: Yes. And also there's this

term, "area of dispersion," which is used in the site-specific rule language. And the way it states that boron levels in such waters must meet water quality standards for boron as in this section. 11 milligram per liter in an area of dispersion within Sangamon River from Outfall 007. Is this area of dispersion intended to mean that 11 milligram per liter would not apply to the entire cross-section of the river at the outfall, or the entire cross-section is considered the area of dispersion?

MS. RAMSEY: The entire cross-section was considered an area of dispersion. And the reason we think we could -- that you're going to get the entire cross-section involved is if

you go out and look at it, shortly -- it was a difficult thing to model or anything, but when you go out and look, there's like a coffer dam. And I think it used to be a CWLP dam of some type, but it's actually a coffer dam. And when you're at low flow, the entire river flow is pushed over this, through this segment that's probably about maybe a quarter of the width of the entire river. So we think you do get good mix just by virtue of the fact that you do have

to flow through there during low flows. I don't think it works so good at high flows, but then you have more water to deal with that.

MR. RAO: When you go through the permitting of this area, will it be identified? Or is it just assumed that it will be the entire cross-section of the river?

MS. RAMSEY: I'm not sure how you'd identify --

MR. RAO: No. You know, how the standard would be applied.

MR. MOSHER: How is this translated into permit limits? This is Bob Mosher.

I'm speaking as one not in our permit section here, but it is my understanding that

we will give a permit limit to the Spring Creek Plant equal to 11 as a daily maximum. They have to meet that level that is in the river. So 11 is the permit limit. 11 is what has to be met by the site-specific standard, if adopted, initially in the river.

MR. RAO: Okay. That helps. Thank you. I have nothing further.

HEARING OFFICER TIPSORD: Any other questions for the proponent? Seeing nobody, thank you very much.

Are there any questions for Mr. Mosher based on his prefiled testimony? Okay. Fine.

Yeah, we're going off.

[WHEREUPON THERE WAS A SHORT DISCUSSION OFF THE RECORD.]

HEARING OFFICER TIPSORD: All right. A couple of things.

Section 27 of the Environmental Protection Act requires the Board to request a Department of Commerce & Economic Opportunity economic impact study. We've asked them to conduct one. DCEO has 30 to 45 days to respond to that. And, as I said, because of the Board's current hearing schedule and my zeal to get this

hearing scheduled in an opening, I didn't have days sufficient. Their 45 days does not expire until today. So the Board has not yet received anything from DCEO. The Board is then required to have DCEO's response available for the public 20 days prior to a hearing.

That being the case, we will hold a second hearing on December 16th at 10:00 a.m. I would anticipate it will also be here in Springfield in the Board's conference room.

Prior to that hearing, I'm asking that any additional material and data that's been asked

for at this hearing be filed by November 21st. And if anyone has questions on that material, they should file those questions by December 5th. We will then have those questions answered at the December 16th hearing. If there are no questions filed on December 5th, the December 16th hearing will be limited exclusively to the DCEO's letter or non-letter or inaction or whatever we get from DCEO, and that will be the only thing we will hear at that hearing.

Also then on December 16th, we will set a final comment date to complete the record in this proceeding.

Does anyone have any questions on that?

Thank you all so very much. I want to really thank the witnesses. You did a very good job, especially keeping track of where things were in the TSD and telling us on the record. That's often one of the most time-consuming parts of my job.

Thank you very much. We're off the record.

[END OF PROCEEDING.]

NOTARIAL CERTIFICATE

I, ANN MARIE HOLLO, a Certified Shorthand Reporter for the State of Illinois, CSR# 084-003476, and a duly commissioned Notary Public within and for the State of Illinois, do hereby certify that there came before me at the Illinois Pollution Control Board Conference Room, First Floor, 1021 North Grand Avenue, Springfield, Illinois, THE MERIT AND ECONOMIC HEARING BEFORE THE ILLINOIS POLLUTION CONTROL BOARD,

and that said proceeding was reduced to writing; and this transcript is a true and correct record of the proceeding.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on November 10, 2008.

My commission expires April 5, 2010.

_____
Notary Public