UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CIV. No. 1:19-cv-01334-CJB

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MIDWEST ENERGY EMISSIONS CORP.
and MES INC.,

Plaintiffs,

-against-

ARTHUR J. GALLAGHER & CO., et al.,

Defendants.

----------x

August 24, 2022
8:56 a.m. CST

- [redacted] -

- [redacted] [redacted]R-

VIDEOTAPED ZOOM DEPOSITION of MICHAEL HOLMES, the Witness in the above-entitled action, held via Zoom videoconference, taken before Dawn Matera, a Certified Shorthand Reporter and Notary Public of the State of New York.

* * *

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Also Present:

KRAIG HILDAHL, Videographer

CHELSEA GILCHRIST, Concierge

INA KOSOVA, Law Clerk, Gibson Dunn

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THE VIDEOGRAPHER: We are going on the record at 8:56 a.m. Central Time on August 24th, 2022. This is media unit number 1 of the video-recorded deposition of Michael v. Holmes taken in the matter of Midwest Energy Emissions Corporation and MES Incorporated v. Arthur J. Gallagher, et al., in the U.S. District Court for the District of Delaware, case number 1:19-CV-01334-CJB.

The location of this deposition is Grand Fork, North Dakota. This is Kraig Hildahl from Veritext Legal Solutions, I am the videographer. The court reporter today is Dawn Matera, also of Veritext.

Will counsel please introduce themselves for the record.

MR. NEMUNAITIS: Justin Nemunaitis for the plaintiffs and the witness.

MR. GLANDORF: David Glandorf of Gibson Dunn for the defendants, and

with me is Joseph Evall of Gibson Dunn.

MR. SYKES: Paul Sykes for the CERT defendants.

MICHAEL HOLMES, the Witness herein, having first been duly sworn by the Notary Public, was examined and testified as follows:

EXAMINATION BY
MR. GLANDORF:

Q. Good morning, Mr. Holmes.

A. Good morning.

Q. If you would just take a moment and -- I know we already have done this, but if you take a moment and state and spell your name for the record?

A. My full name, sir?

Q. Yes.

A. Okay. My full name is Michael Jerome Holmes, it's is M-I-C-H-A-E-L, and Jerome is spelled J-E-R-O-M-E, and Holmes is H-O-L-M-E-S.

Q. What is your address, Mr. Holmes?

A. My address is 2144S for south,

38th Street, Grand Forks, North Dakota 58201.
Q. Have you ever been deposed before?
A. Yes.
Q. How many times?
A. One.
Q. And was that deposition in relation to mercury control technology?
A. No, sir.
Q. Was that deposition in your professional capacity?
A. Yes.
Q. What was the issue, what was at issue in that deposition?
A. So the issue, the way I understood it, was I did atomizer evaluations early in my career. And one of the atomizers that I did particle size measurements, velocity, that type of thing. We had to evaluate. There was a, a customer was being, I guess, accused of over -- my understanding is they were being accused of overselling the capabilities and making and utilizing

part of the report that I had created. So a lot of the questions related to performance of the atomizer.
Q. Roughly when was that deposition?
A. Oh, wow, roughly 1990, plus or minus a couple of years.
Q. Fair enough. So it's been a little while. I am going to take a few moments, if it's okay, and just outline some of kind of the ground rules and the expectations here.
So you are under oath. You are under oath?
A. Yes.
Q. I will be asking you questions today and you are obligated to provide true and accurate and complete answers to the best of your ability; do you understand that?
A. Yes.
Q. The court reporter will record my questions and your answers and the videographer will be recording you. Do you understand that?

A. Yes.
Q. Even though we are being videoed, the court reporter is recording only words, so it's important that you answer in words rather than gestures or nods; do you understand that?
A. Yes.
Q. And it's a little awkward over Zoom, but I will do my best to let you finish answering a question and I ask that you let me finish asking before you provide your answer; is that okay?
A. Yes.
Q. If at any time you do not understand a question, please ask and I will do my best to clarify. Do you understand that?
A. Yes, thank you.
MR. NEMUNAITIS: David, can I interrupt for one second and just ask you, can everybody hear everything okay still?
THE REPORTER: I can.
MR. GLANDORF: I can.
(Off the record.)

BY MR. GLANDORF:
Q. We will take periodic breaks, please let me know if you need a break at any time. I would just ask that you would finish answering any pending question; is that okay?
A. Yes.
Q. Are you planning to offer testimony at trial in this matter?
A. No.
Q. Are you being compensated for this deposition?
A. No.
MR. GLANDORF: So at this time I am going to introduce our first exhibit, we will see how this goes.
(Holmes Exhibit 1, Document Bates stamped ME2C-RC-00163545, was so marked for identification, as of this date.)
A. Is it going to come up on my screen or do I need to pull something up?
Q. I believe it will come up. But it's still thinking about it here.
(Off the record.)

[redacted]

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BY MR. GLANDORF:
A. Okay, my resumé came up.
Q. Excellent. All right. This is going to work.
Mr. Holmes, do you see Exhibit 1?
A. Yes, I see the resumé. It says Exhibit 1, I see that.
Q. And are you able to scroll around and see the whole document?
A. Let me try here. Yes.
Q. Do you recognize Exhibit 1?
A. Yes.
Q. What is Exhibit 1?
A. It's my -- you were looking for a long resumé, so it was my resumé before I left EERC to take on my new job, so in my new job I don't have a long resumé. So I provided this.
Q. Who prepared this document?
A. I think executive assistant. Administrative assistant.
Q. An administrative assistant at EERC?
A. Yes.

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Q. And what does EERC stand for?
A. Energy and Environmental Research Center.
Q. Are you currently employed at EERC?
A. No.
Q. Where is your current place of employment?
A. I work kind of a hybrid job where I work under a North Dakota industrial commission as a technical advisor. And then I work under the Lignite Energy Council as the executive vice president for R&D. My focus is on lignite coal and it's focused on the State's R&D program. And I believe there, I believe it was December of 2016.
Q. So is this resumé updated as of December of 2016?
A. Yeah. So it would be the resumé I would use before I left and officially and basically through the calendar year 2016.
Q. Let's step back now to the beginning. I want to spend a little bit

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of time walking through your employment and educational background, if we could.
A. Yes.
Q. Could you start by telling us your -- where you went to college and what you studied?
A. Yes. I started my college at a college in North Dakota called Mayville, M-A-Y-V-I-L-L-E, State University. And I got two bachelor's degrees at Mayville State, one in chemistry, and one in mathematics. And as part of that, I decided engineering was the route for me because I liked the more math-driven chemistry.
So I ended up getting a Master of Science degree in chemical engineering at the University of North Dakota. And so that was roughly a two-year to finish all the course work.
And then I later defended my thesis and I can't remember the exact year I went and defended my thesis. But I was employed as of September, I guess it was August of 1986.

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Q. And at a high level -- sorry to interrupt. At a high level, what was your thesis, what was the subject of your thesis?
A. Oh, my thesis subject was on basically, it was related to coal liquefaction. And there are two types of coal liquefaction. Mine was focused on direct liquefaction.
Q. Can you define liquefaction for us?
A. Yes, turning coal into a liquid fuel, primarily fuel.
Q. Where did you go after graduating?
A. After graduating I took a job at Babcock & Wilcox's research and development division in Alliance, Ohio.
Q. And how long were you there?
A. 15 years.
Q. And what was your position while you were -- I assume it changed over time?
A. Yeah, it changed over time. I believe when I left it was titled

principal engineer 2. It might have been principal research engineer 2. But it was a nondescript title, you know.

They had a bunch of researchers working together on projects. So I would manage different projects.

Q. You were managing research projects; is that right?

A. Yes.

Q. All related to coal combustion?

A. No. No. R&D related to energy. So coal combustion was certainly in the mix.

I did -- stop me if I am going off track -- but I did particle size measurements. Gas velocity using laser technologies like laser Doppler velocimetry, Malvern particle sizing. Atomizers. I did a lot of work on SO2 emissions from different facilities. Fuel processing. Some for the fuel cell industry to prepare and process fuels to provide hydrogen mixtures for fuel cells. And economic evaluations.

I'll stop there and wait for a

more direct question, because I could use up all your time talking about the various projects.

Q. Fair enough. Let me ask a couple of more targeted questions.

Was a portion of your work during this time related to mercury control from emissions?

A. Yes.

Q. And was your work tied to any particular location, any particular energy plants or systems?

A. My work, the biggest and last project I did was tied to, it had partial funding from the Ohio Coal Development office. And also we had a suite of fuel that happened to be representative of a subbituminous coal.

Q. Can you give us a description of the type of work you did related to mercury during that time?

A. There was a lot of variety in that project. But it was everything from which analyzers worked and how and when they work. Because with mercury, you're

trying to measure and capture one part per billion.

I guess I will wait for a more specific question, but I will say that a lion's share of that project was focused on wet scrubbers. Because Babcock & Wilcox, at the time, a lot of their business was in wet scrubbers.

Q. Okay. We will come back to those, I believe, as we go along here.

At some point then you transitioned to EERC; is that correct?

A. Yes.

Q. And why did you make that change?

A. Family health reasons from North Dakota and Minnesota made me want to look at moving back closer to be near specifically my mother.

Q. And what position were you hired to at EERC?

A. I can't remember the initial title. I think it was -- sorry, it was a long time ago. It was August of 2001. And my title was senior research advisor,

I am pretty sure. And I apologize, I never really focused heavily on title.

Q. That's fair. Was your work during your time at EERC in this 2001 to 2004 time period -- let me start again.

During the 2001 to 2004 time period at EERC, was your work focused on mercury control?

A. In R&D, your work ends up being diverse because you got a lot of opportunity, a lot of challenges facing the industry and a lot of contracts. But it is fair to say a majority of my work at that time was focused on mercury.

Q. During that time, was the focus still on wet scrubbers or were there dry scrubbing techniques as well?

A. The focus during that time was more diverse than wet scrubbers. And wet scrubbers were a very, I guess I am remembering a very small portion of what I was focused on. It was some, but it wasn't the main focus.

Q. What was the main focus?

A. Well, the main focus was -- let

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Q. Prior to implementation of the regulations, was activated carbon the most commonly studied sorbent for mercury control?

A. Yes, I believe so.

[redacted]

[redacted]

[redacted]

Q. For mercury control, where in the system do you typically add activated carbon?

A. I am trying to think how varied

it is, but the simple answer is upstream of the particulate capture system and I guess I would work with an activated carbon chemist.

And again, my problem with this is I haven't done any of the commercial work on this so I don't know where they add it. But you would want to be downstream enough not to destroy the carbon properties. And upstream enough to get that in-flight benefit as well as any benefit in the particulate capture system. So upstream of your particulate collection. Downstream of any detrimental temperatures.

Q. Thank you, that's helpful.

I am just trying to define a range here. Because I understand that there is some variety within that range of location.

So just to clarify, you would not want to add the activated carbon after the particulate collection system, because then you wouldn't be able to remove those particulates; is that right?

A. Well, I would have to talk to power plants and make sure that I am not wrong, but I would say that's right unless you've got a second particulate collection system, you're going to fail your capacity requirements at the power plant if you aren't upstream of your particulate collection.

Q. And you want to be downstream of any area where the temperatures are high enough to destroy the carbon; is that right?

A. That would be my belief, yeah.

Q. You would not want to inject an activated carbon sorbent into the combustion zone; is that fair?

A. I wouldn't.

Q. Let's introduce a new exhibit here, if we can. It's going to be a pair of exhibits. And so maybe --

A. Can I go back to that --

Q. Oh, sure.

A. -- question slightly?

I am not saying that someone else hasn't found some magic way to

activate a sorbent in the combustion zone. I am just saying unrelated to my knowledge of, you know, the patents or anything else, it strikes me as an engineer you wouldn't want to throw something in a combustion zone that might be destroyed. But I could see maybe some sorbents being activated, possibly. I don't know.

Q. You would expect a carbon-based sorbent to combust in the combustion zone; is that right?

A. If you're in with the coal and it gets all of that mixing that the coal gets, I would expect that it would be reactive.

Now, activated carbon is a little less reactive than coal, because it's already been charred and steam activated. But again, that's where I think you would have a, get a better answer than I can give from a carbon chemist.

[redacted]

[redacted]

[redacted]

Q. And who is that?
A. Sharon Sjostrom, from my memory of her, worked for a company called ADA.
Q. Both of these individuals were involved in the study of mercury control; is that right?
A. I'm not sure of the level of involvement of Kilgroe. He obviously was at the conference. But Sharon I remember working a lot with different projects.
Q. Were you more familiar with Sharon Sjostrom than Kilgroe?
A. Yes. As far as what activity

they did, yes. But not completely familiar with anything either of them did.
Q. In your experience with Sharon Sjostrom, did you find her work to be of good reputation?
A. I would primarily see the results. I thought she was a researcher.
Q. I'm sorry, I didn't catch that word, what was -- you thought she was?
A. I thought she was one of the, I think you use the word "good reputation." I had no reason to doubt her reputation in the field.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Do you have an understanding of the word "char"?

A. Though, in working with researchers over the decades, char is defined differently by some people that are in the same area as me, but, yeah, I

[redacted]

understand what the definition of char to be.

Q. I would ask you, if you could, to give me the definition of char that you feel is appropriate for the coal-fired power plant context?

A. A quick answer is char is coal or carbonous material that hasn't been completely burnt.

Q. Do you have an understanding of the term "pyrolysis"?

A. Yes, but again, pyrolysis is one of those words, it's an extent of a decomposition of a carbon fuel. So I would have to look at the context to where someone is talking about pyrolysis to understand exactly what another person means.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

MR. NEMUNAITIS: Just to be safe, yes, let's designate that under the protective order for now and the witness would also like to read and sign.

THE VIDEOGRAPHER: We are going off the record at 4:18 p.m.

(Time noted: 4:18 p.m.)

ACKNOWLEDGMENT OF DEPONENT

I have read the foregoing transcript of my deposition and except for any corrections or changes noted on the errata sheet, I hereby subscribe to the transcript as an accurate record of the statements made by me.

_____

MICHAEL HOLMES

SUBSCRIBED AND SWORN before and to me this ____ day of _____, 2022.

_____

NOTARY PUBLIC

My Commission Expires:

CERTIFICATION

I, DAWN MATERA, a Notary Public for and within the State of New York, do hereby certify:

That the witness whose testimony as herein set forth, was duly sworn by me; and that the within transcript is a true record of the testimony given by said witness.

I further certify that I am not related to any of the parties to this action by blood or marriage, and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 25th day of August, 2022.

Dawn Matera

DAWN MATERA

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EXHIBITS

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ERRATA SHEET
VERITEXT

CASE NAME: Midwest Energy Emissions Corp. v Arthur J. Gallagher & Co.
DATE OF DEPOSITION: August 24, 2022
WITNESS'S NAME: MICHAEL HOLMES

PAGE/LINE(s)	CHANGE	REASON

MICHAEL HOLMES

Subscribed and Sworn To
Before Me This ____ Day
of _____, 2022.

_____
Notary Public
My Commission Expires _____

Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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