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run on a user computer."
Do you see that?
A. I do. I do see it.
Q. And what would that mean to a person of ordinary skill in the art?
A. I think it would be very confusing.
Q. Okay. So I skipped part of that. Let's read the first sentence. It states, "In some embodiments, user module 40 may cause code to be downloaded and/or executed to a user computer 10 or display device 8 -- 18."
Do you see that?
A. Yes, I do.
Q. Would that be confusing to a person of ordinary skill in the art?
A. Yes, and just to kind of help clarify my -- my answer that the user module 40, as I understand what you've just described, is on the server, and so when you use a term the server, let's put server in that place. In some embodiments, a server may cause code to be downloaded. That's just not precise enough. I think it would be confusing because the server doesn't actually cause anything. The server is responding to a call from the client, from the browser.
So if I read that and I was trying to

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implement that, I would have a server causing code to be downloaded in a vacuum because a server can't cause that without the client actually requesting it. So that's why I have a little trouble with that, and it revolves around just the wording of it. May cause code to be downloaded, I don't think the server causes that. It responds to a call from the -- from a client.
Q. So you think this is too confusing because it doesn't include the call from the client to request the code, which is then downloaded? It needs to be more -- much more specific for the person of ordinary skill in the art to understand what's going on here, correct?
A. Yes, because if you -- if somebody is reading this and they're trying to implement this, they would be working on the server, causing that to happen almost in a vacuum. Because it's not going to happen without being called. So that's an important part of that.
Q. You understand what client-server architecture is, correct?
A. Client-server architecture?
Q. Yes.
A. Yeah, that was my first question asking about when my computer experience started. That was in a client/server environment with a time share computer and a portable terminal with acoustical coupler, yes.

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Q. And when did you learn about the server environment with a time share computer and a portable terminal?
A. When?
Q. Yes.
A. In the days when I was being trained by a professor of computer science from BYU. That was certainly the first time I was exposed to it, but, you know, we did it again extensively in the '90s when I was writing software programs.
Q. And what year were you being trained by the BYU professor?
A. So long ago, I hate to even mention it, but it would have been in the '70s. '70s and early '80s.
Q. So client/server architecture has been known at least since the '70s, correct?
A. Sure, yes.
Q. So a person of ordinary skill in the art would understand in 2009 that a call from a client can cause a server to transmit code that the client would download, correct?
A. I think a POSA -- I think that -- you mentioned POSA, so -- I think you did anyway -- would understand client/server architecture, but on the other hand, if they're looking at this -- this is the Badros

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patent, right?
Q. Yes.
A. Trying to implement Badros, they would have to implement it with what they're -- with what Badros is describing, and Badros is describing a -- what I call a -- a server-based -- a server-based system, not a -- because it specifically talks about a server causing this to happen.
Q. Does the '329 patent require code to be downloaded and/or executed on a user computer?
A. As I understand it, the code is placed on the -- on the web page, you know, by a publisher, for example, that wants to look at viewability of ads on that web page. I don't know that anything is downloaded to the local computer. It's more or less placed on the -- on the web page itself.
Q. So the code is placed on the web page itself, but you're not sure whether it's downloaded to the user computer, correct?
A. Well, when you say "it," the way I understand the '329 code works is that code is placed on the content -- on the page that we're doing the viewability test on. Now, I don't call that being downloaded to the user computers because it's not resident on the local computer. Now, there may be a part of the '329 which

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causes something to be downloaded, but as I sit here in thinking about the way that code works, it looks like to me that code is placed on the content page and not downloaded to the user's computer.

Q. What places the code on the web page?

A. If we're talking about the -- the viewability, that code replaced by the -- you know, by the publisher, the person who wants to measure the viewability on that web page.

Q. From a technical point of view, what -- you know, is the publisher a human, or is the publisher a computer?

A. No -- well, I guess a computer could do it, but typically that type of code is actually loaded on the web page by the person who is designing the web page, the developer. I suspect you could get a computer to do it automatically, but I don't know how that would be done, but certainly a person could do it.

Q. Does the publisher determine whether the page is in view?

A. Well, when I use the term publisher, I am actually talking about the person or the entity that develops or -- that particular web page. So the publisher is not determining it, but the viewability test is determining it to the extent that it's measuring

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the viewability of the -- of the -- of the ad that more than likely is being served up from a server to that web page.

Q. Where is the viewability test run?

A. Where -- where is it run?

Q. Yes.

A. When the -- let's see. Let me think -- let me think for a second about where. You mean like physically where it's run, or is it -- or what do you mean by that, where it's run?

Q. Code is executed by processors, correct?

A. Pardon me.

Q. Computer code is executed by processors, correct?

A. Yes.

Q. Which processor in the system described in the '329 patent runs the viewability test?

A. Which -- which processor. Is there more than one processor when you ask about which? I mean, are you referring to more than one processor?

Q. Are there more than one processors contemplated in the system of the '329 patent?

A. I -- I don't even know how we're getting into processors, frankly, but I can just go back, and what I said earlier that the viewability test, that code is

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placed on the web page. What I'm -- what I am struggling with, in my mind, is exactly at what point the viewability test is invoked so the publisher or the advertiser can actually see what the viewability of their ad was. And I'm not sure what actually invokes that.

Q. Just a second. All right. I'm going to share my screen again. All right. So we're looking here at Figure 3 of the '329 patent. Do you see that, Bob?

A. Not very well, but I can see the outline of it, yes. That's better. All right.

Q. All right. So the patent describes this figure with this, among other things, the following sentence. "The Internet 112 is the preferable connection method by system users 118, 120, 122, and nnn in preferred embodiments of the present invention."

A. I don't know where you're reading from, but I can't read the text in this schematic, but go ahead.

Q. Yeah, yeah, I'm just reading from here. This is the patent on Google Patents. I'm just trying to make it easy on us, but you can read along with me. I'm referring now to Figure 3, the system and computer 108 is shown. The computer system 108 in the preferred embodiment comprises an ad dispatcher server 126, a tracking server 124, which can be the same as or part of

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the dispatcher server. One or more licensed digital content file servers 125. You see that?

A. Yes.

Q. All right. We have an understanding now of generally of what Figure 3 illustrates?

A. It has a lot of servers that they're referencing.

Q. And each of those servers has its own independent processor, correct?

A. As far as I know, yes.

Q. And each of the user computers has their own independent processors, correct?

A. I would say yes.

Q. Where in this -- sorry. Scratch that.

Which computer in this diagram would perform the viewability test?

A. Yeah, I don't -- I don't know looking at this schematic which one -- which one does it, but if the viewability test is on a web page, right, and the viewability test is invoked, then it's actually being invoked by whatever processor is in that particular computer.

MR. GREENLEAF: All right. We've been going about an hour. Can we come back at five to?

MR. BERTEN: Sure.

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MR. GREENLEAF: All right. See you then.
(The deposition was in recess from 12:45 to 12:57.)
MR. GREENLEAF: Q. Let's go back on the record, then. So when you were discussing the publisher, I'm just a little confused about what you were talking about. You said the viewability test is invoked so the publisher or advertiser can actually see what the viewability of their ad was. And this is Figure 1 of the '329 patent up on the screen.
Do you see that?
A. Yes.
Q. Where is the viewability test run in this diagram?
A. I don't know. I mean --
Q. Which of the servers -- sorry. Go ahead.
A. I was going to say maybe the text says where it's run, but I can't tell from the figure where it is run. I guess, again, you mean which processor is running it. I guess that's what you mean.
Q. Yes.
A. Yeah. Yeah, I can't tell from this where it's -- where it's run.
Q. So it's -- all right. No further questions on that topic. What does real time mean?

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A. Well, I would say when we started this deposition, you asked the stenographer -- I believe you asked her if there was a real-time connection. So for me -- and I -- I believe what you meant by that is are you able to see, let's say -- or is it being transcribed on a screen that you can see as I speak. So, to me, that's -- you know, that's a reasonable definition of real time.
Q. So real time doesn't mean instantaneous as in zero delta between when an action occurs and then the subsequent action occurs. There is some time, though it may be small, between one action causing a subsequent real-time reaction, correct? So, for example, in the real-time discussion that you just -- example you just gave, when you speak, our stenographer, Laura, types it in and then that data is sent to my computer screen, and that process takes some small amount of time. It's not instantaneous, correct?
A. I can't tell you how many real-time discussions I've been in as to actually what it means, but I would say conventionally when people think of it, they don't think of it as being instantaneous because almost nothing is absolutely instantaneous. So there's some 4,000ths of second or 2,000th of a second. There would be some time between it in a real-time

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definition.
Q. Even to a layperson, it seems likes magic as if it's happening instantaneously, but to those skilled in the art, they understand there is some delta like you described, correct?
A. Yes.
Q. Does the '329 patent disclose determining in real time whether an ad is in view?
A. Yeah, I'm not sure to what level it discloses it, but at some point, I looked at a -- at a demo of how it works, and I could see that the time that the ad was being viewed was being measured and the viewability was being measured also. So I'm not sure how -- what detail it discloses in the patent.
Q. All right. I'm going to share my screen. This, again, is the '329 patent. We're looking at Column 12 starting at Line 54 --
A. Can you blow it up a bit? There we go. That's good. All right. Go.
Q. That's a little too big.
A. Yeah, that's good. That's good right there.
Q. All right. So you see this here, the sentence --
A. I'm looking at Line 65.
Q. Yeah, I think we're going to go a little

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higher, Line 54. Do you see that?
A. I see 54 in the right-hand column.
Q. Yeah, so this is Column 12. It says, "The correlator JavaScript code on the ad content display page contains the variables and commands to continuously determine what ad content display page areas is/are within or within a pre-defined distance outside of the dimensions and scrolling position of the viewer's browser."
Do you see that?
A. Yes.
Q. What would that mean to the person of ordinary skill in the art?
A. I think it reads pretty clearly. I don't know that it would mean anything different. JavaScript code on the ad content display page contains the variables and commands to continuously determine what ad content display page area is/are within a pre-defined distance. I couldn't add anything to that.
Q. So when it says to continuously determine --
A. Uh-huh.
Q. -- does that mean the same as to determine in real time what the ad content display page areas is slash are within?
A. Yeah, I believe that's what I answered to a

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question a few minutes ago, but I would say continuously, that means real time. I'm actually seeing the number change as I -- as I view the viewability test, yes.

(EXHIBIT 1004 WAS MARKED FOR IDENTIFICATION.)

MR. GREENLEAF: Q. You're familiar with the Harkins patent, correct, Exhibit 1004?

A. I think it's one that I mentioned in my declaration, yes.

Q. Share my screen. All right. So I have up on the screen Exhibit 1004, the Harkins patent. Do you see that, Bob?

A. Yes, can you below it up a bit?

Q. Sure. So we're going to look at the abstract here.

A. Yeah, just hold it for a second there, please.

Q. All right.

A. Now I recall -- I recall it.

Q. Okay. And the first sentence of the abstract states, "Disclosed are systems and methods for selecting and placing advertisements via one or more advertising agents and/or advertising mediums."

Do you see that?

A. Yes.

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Q. Also says, "In one aspect of the present invention, the advertising agents are retail merchants who utilize a common card processing service and the advertisements are text, logos, coupons, or the like printed on the face of a card receipt."

Do you see that?

A. Yes.

Q. Now we're going to look at Paragraph 76, and this is referring to Figure 4. Do you see that on the screen?

A. Yes.

Q. All right. So let's just look at Figure 4 real quickly. Get some context. And we're going to look at Figure 4 -- or Element 424, which is begin auction. So it starts out where we receive an advertising bid, and then we proceed through different steps, such as 412, determining an auction winner; and then 418, receive a graphic; and then 424, begin auction, et cetera. So I just tried to simplify that for efficiency, but you see all of the steps there?

A. Yes.

Q. Go back to Paragraph 76. Okay. So I'm going to read Paragraph 76 or at least a portion of it for the record.

Starts out, "Next at 422, the tagged graphics

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are stored via commercially known methods and processes -- and process 400 proceeds to 424. At 424, a new auction is initiated. In our exemplary embodiment of the present invention, a new auction for advertising in the run period subsequent to the run period of a previously-ended auction may be initiated.

"However, virtually any form of new auction may be initiated without departing from the scope of the present invention. The continuously occurring auctions ensure a constant flow of advertisements between the receipt printing systems, e.g., sales receipt, process machines 204, and/or card processing server 206, and the advertising -- advertisement provision systems, e.g., advertisement data server 208 and/or database server 210."

Do you see that?

A. Yes.

Q. The continuously occurring auctions, is that referring to real-time auctions in Paragraph 76?

A. Yeah, I mean I consider -- I think I mentioned earlier that the word continuously, I don't know that it's exactly the same as real time. But I think people would read that to mean it was done in real time, but it wouldn't necessarily have to be. There could be, you know, more time between those ads that are being

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displayed on these receipts. But, I mean, I don't -- I don't know a better definition than what we're talking about now. I mean, I equate continuously to be -- to be the same in conventionally as real time. Yes, it means it's continually happening.

Q. Do you know what an IDS is?

A. A what?

Q. An IDS. Do you know what an I-D, as in David, S --

A. No.

Q. -- is?

A. Name doesn't ring a bell. I'm thinking about it now. IDS -- I -- I just -- it doesn't ring a bell right now. I've heard the term. It just doesn't ring a bell, IDS. I don't know.

Q. So IDS means information disclosure statement. Are you familiar with that term?

A. Yes.

Q. What does that mean?

A. Information disclosure statement is somebody is disclosing information that might be an affidavit. Might be something that they're declaring.

Q. So typically during patent prosecution, applicants will file an IDS to -- to satisfy their duty of disclosure of relevant prior art. Are you familiar

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with that concept?
A. I am.
Q. And so the prior art that the applicant cites in an IDS is relevant to the disclosure of the patent, correct?
A. I understand that it is. I'm not intimately familiar with how the patent office looks at those things, but I do understand that concept.
Q. All right. I'm going to show you Paragraph 66 of your declaration, which I have up on the screen. We'll zoom in. Do you see that?
A. Yes.
(EXHIBIT 2053 WAS MARKED FOR IDENTIFICATION.)
MR. GREENLEAF: Q. It's talking about Exhibit 2053, which you refer to as the 2004 ad guidelines, correct?
A. Yes.
Q. All right. And you cite page five, which states, "This guideline requires ad counting to use a client-initiated approach. Server-initiated ad counting methods configuration in which ad impressions are counted at the same time the underlying page content is served are not applicable for counting ad impressions because they are the furthest away from the user

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actually seeing the ad."
Do you see that?
A. Yes.
Q. What does actually seeing the ad mean?
A. Well, I'm not sure, you know, why it needs, you know, more explanation, but from my standpoint, it really says what it says there, the user actually seeing the ad. The user being the person who is, I guess, running the computer system.
Q. So it's as if I'm sitting in front of my computer and we go back to the Wikipedia page we were looking at earlier, there's a screenshot of the JavaScript source code, and you and I both are actually seeing that right now, right?
A. Yes, we are both actually seeing that.
Q. And if we looked away towards whatever else in the room, away from our computer screen, it would be visible, but we ourselves would not be actually seeing it, correct?
A. Yeah, we're not looking at it. We wouldn't be seeing it. Yes, that's how I interpret that.
Q. And if, say, we were doing -- performing a viewability test on this JavaScript source code screenshot, then we would only be documenting the fact that it's on the screen, not that we are actually seeing

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it, correct?
A. Yeah, if we were looking away from it while the viewability test was being run, we wouldn't be seeing it.
Q. So in 2004, when these ad guidelines were published, the statement the user actually seeing the ad meant the same thing in 2004 as it means today in 2024, correct?
A. When I see a term user actually seeing the ad, I don't think that changes. It's a function of -- of time.
Q. What words do change as a function of time? And let me ask a broader -- let me ask a more narrow question. Has the word display changed from 2004 to -- let me -- let me scratch that.
Has the definition of the word display changed from 2004 to 2024?
A. Yeah, I don't think the word display changed. I don't think I've opined that it changes. I mean, the actual word "display." The concept of impression-based advertising might change, but I don't -- I don't -- that's kind of a concept that might change over time as technology changes, but I don't see the word display by itself changing. It might change in context.
Getting back to your earlier question, a word

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like -- like you asked about what word changes. Like a word like bad used to be bad and sometimes it means good, but I don't see display following that pattern.
Q. So you stated that actually seeing the ad doesn't change. What about actually viewable on the user's screen? Does that change between 2004 and 2024?
A. Let me think for a second. So you're asking me does the phrase actually viewable on the screen change.
Q. Yes.
A. I don't -- I don't think the phrase necessarily changes. How it's used might change in -- in context. For example, when we talked about viewing impressions, I'll say in my life, let's say 2004-2005, we talked about viewing impressions, but actually they were not really viewing impressions. They were just impressions that were served by the server over to a web page.
That concept can change once we have new technology that allows us to do more than just count impressions from the server. The actual words I don't think necessarily change.
Q. All right. So now we're looking at Paragraph 67, and it talks about a page impression --
A. Yeah, can you --

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Q. -- which --
A. Can you blow it up a little bit more for me, please? Yeah, there we go. Thank you.
Q. All right. So, again, Paragraph 67 is talking about a page impression, which is the same thing as a served impression, correct?
A. Yeah, page impressions in those days really talked about what was served, yes.
Q. Yeah, which is the same thing as a page view, correct?
A. Let me think for a second. Because page views, yeah, they could mean -- yeah. Page views normally refer to how many pages were viewed or served the whole page whereas impressions very often refer to the number of ads that were served, but they could mean the same thing.
Q. Okay. But you're stating in this first sentence of Paragraph 67 essentially that they mean the same thing, but --
A. Yeah, yeah, reported as a page view, yes. And in this case in the industry, yes.
Q. All right. So we have served impression, page impression, page view. Opportunity to view means the same thing as those three, correct?
A. Same three what? Now, just let me understand

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what you're asking.
Q. Served impression is the same thing as opportunity to view, correct?
A. Yeah, I don't see that language there, but it makes sense to me that the served impression is an opportunity. Yes, now I see it, right. Uh-huh.
Q. And then you're also familiar with the term OTS, correct?
A. OTS?
Q. Yes.
A. Yeah, if I used it in my report, I've forgotten -- forgotten it. So no.
Q. Okay. Well, I understand it to be a common term that means opportunity to see.
A. Oh, you said OTS.
Q. Yes.
A. Yeah, I don't -- I don't know if I used it. Did I use it in my report? I don't remember it, but I don't know if it's a common term, but I could understand how it could mean that.
Q. Okay. And what these terms mean is that the -- let's call it the ad is served to the web page. It's not necessarily actually viewable on the web page, correct?
A. Was that a question?

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Q. Yes. So let me -- I'll ask it again. All these terms we talked about are, you know, just recently these few terms, opportunity to view, opportunity to see, page impression, et cetera, let's just call them served impressions?
A. Uh-huh.
Q. Served impressions are not necessarily viewable impressions, correct?
A. I would agree with that, yes.
Q. Let's go to Paragraph 88 of your report. All right. Paragraph 88, do you see that?
A. Yes.
Q. It says, "Professor Edelman highlighted the need for a measure of viewability for ad impressions. For example, his report reads under the heading invisible banner ads and CPM attacks, whenever a CPM ad was placed into the Hula site, the advertiser paid full price for the corresponding impression even if only a corner of its ad was actually viewable [sic]."
Do you see that?
A. Yes.
Q. Sorry. Visible instead of viewable. So this means that if a corner of the advertisement was actually visible, then the advertiser would have to pay full price for the ad, correct?

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A. I'd say that's typically the case, yes.
(EXHIBIT 2061 WAS MARKED FOR IDENTIFICATION.)
MR. GREENLEAF: Q. You didn't provide a citation for that, but that's Exhibit 2061. We're looking page two of 2061. Yes, here we go. And then it continues on to further -- here, I'll blow it up.
A. Thank you.
Q. So you can see that in the actual exhibit the same thing we just read on page two, right?
A. Yes, yes.
Q. All right. So then there's an image. It continues, "to further increase revenues, Hula shows many ads for just seconds each."
And that's what you described earlier, right, with the flipping, correct?
A. Yes, it seems to be.
Q. And then it continues, "For example, the code below confirms Hula's efforts to replace, refresh an ad after the ad was visible for only nine seconds. Whenever a CPM ad was placed in an ad reloader, the advertiser paid full price even though the ad was visible only briefly."
So this is talking about performing a viewability test, but it is refreshing or flipping the

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ads very quickly, correct?
MR. BERTEN: I'm going to object to the extent it mischaracterizes the document. You can answer if you --
THE WITNESS: I don't -- I don't think it's talking about performing a viewability test other than just what I would call common sense, that the ads are being flipped, I can't see them. I guess that would in the simplest -- that might be a simple visibility test, but I don't think he's talking about a visibility test that he's aware of or knows about. I think he's just talking about what was almost considered common sense. If we put the impression out there and we don't show it long enough, the advertiser pays for it, of course, that's -- that's what caused the problems with CPM.
MR. GREENLEAF: Q. How long does an ad need to be displayed to constitute a viewability -- just let me scratch that. How long does an ad need to be displayed to constitute a viewable impression -- or let me scratch that. Start over.
How long does an ad need to be displayed such that it was actually visible?
A. Okay. The -- of course, the -- there's a couple of issues going on there. When you talk about how long, we have -- I don't remember all the ad

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guidelines, but there are some ad guidelines now for visibility, I mean, in terms of time. But when you say visible, you mean visible by a user? I mean, if the ad is displayed, it's -- it's displayed -- okay. It's -- I'm trying to get to an answer to a sentence I guess I don't really understand. So let me -- let me ask you to repeat the question again, please.
Q. How long does an ad need to be displayed to constitute a viewable impression?
A. Yeah.
Q. I'm sorry. That wasn't the question. How long does an ad need to be displayed such that it was actually visible?
A. Uh-huh. Well, first, I don't know that I have a specific opinion on that. I have to go back to what are the guidelines set up by the IAB or the MRC or what guidelines have been established for that. And I know they have some guidelines now. I'm not absolutely familiar with all the guidelines. So I'd have to refer to those, that being the benchmarks. I don't know that a personal opinion on it would be -- would be relevant. I'd have to look at what guidelines have been established by those -- by those agencies.
Q. When were those guidelines established?
A. Well, the -- I'm not sure exactly what all the

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dates are, but the purpose of those groups generally are to establish guidelines as a -- you know, as technology changes or as publishers overpay for CPM and things of that nature. So I think the guidelines change, and I say change -- they're modified because these groups meet regularly. So I don't know how often they actually change the guidelines.
Q. Were the guidelines established in 2009 when the '329 patent -- you know, the disclosure -- scratch that.
In 2009, when the --
A. Uh-huh.
Q. -- priority document for the '329 patent was filed, were those standards established?
A. Yeah. I think I referenced, in my report, some dates on when they were established. I don't remember them offhand. I do understand that they would have been established sometime after it was demonstrated to them that the -- that the test worked. Yeah, I can almost see that, right. There we go, yeah.
Q. I don't know that your report actually says it, but it's my understanding, and correct me if I'm wrong --
A. Okay.
Q. -- that it's your opinion that RealVu slash

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Rich Media Club invented the viewability test. They demonstrated that to MRC. MRC was impressed by RealVu's viewability test and thereafter established the guidelines for what constituted a viewable impression; is that accurate?
A. Yeah, I think it's reasonably accurate. I believe they demonstrated to the MRC and also to the other fellow I mention in my report, David Cohen. I don't -- I think he was with another group. He was with a research group. Yes, but sometimes after those demonstrations, they would be looking at establishing new guidelines.
Q. Let's look at the '329 patent again. All right. So we're looking at Column 12, sentence begins at Line 65. It says, "The billboard module may also cease rendering or send additional requests to the ad dispatcher server to select a new ad slash content to render in the billboard module, say if the billboard was in view for a pre-determined period of time or has scrolled outside the viewer's browser window dimensions."
How long does the pre-determined period of time have to be according to the '329 patent?
A. I don't know. I don't recall seeing a specific period of time. I may have read it, but as I

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sit here, I don't recall that.
Q. Does the '329 patent require the pre-determined time to be longer than 9 seconds?
A. Well, again, I don't remember in the patent reading a specific time period or even a suggested time period. It may very well be there, but I don't recall it.
Q. So we're looking back at Exhibit 2061 again. It says, again, for example, the code below confirms Hula's efforts to replace, refresh an ad after the ad was visible only nine seconds. When --
A. I'm sorry. Can you blow that up a bit, please? Thank you. There we go. Whoops.
Q. So refresh an ad after the ad was visible for only nine seconds. Whenever a CPM ad was placed in an ad reloader, the advertiser paid full price even though its ad was visible only briefly, and so we started out with the code below. So it's got source code here that confirms Hula's efforts to refresh the ad as just described; is that accurate?
A. Yes, I have no reason to doubt what it's saying there, yes.
Q. Okay. You're familiar with Google, correct?
A. Yes.
Q. And Google became extremely profitable,

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largely because of its ad business, correct?
A. Yes.
Q. And for many years Google was extremely profitable serving ads that may not have been actually visible on the user's screen, correct?
A. Well, first, I don't know how many years they were doing it, but if they were serving impressions, that would be one thing, but I believe Google's main ad business was pay-for-click model.
Q. So at least prior to 2009, in your opinion, they must have been using some other method other than a viewability test, correct?
A. Other method for what?
Q. For profiting from advertising. They must have been using some other method to profit from advertising other than a viewability test, correct?
A. Again, as far as I know, they didn't have a viewability test before then, but their business model was pay-per-click. That's how they became profitable by selling billions of clicks. That may be even simplistic. That's really one of the measures for Google.
Q. So Google had no motivation to switch to a viewability test because they were selling billions of clicks, correct?

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A. I don't know what they were motivated for. They're a pretty greedy company. They maybe wanted the click business and the impression business, and I mean that with all respect that they're a greedy company. They're very aggressive.
Q. Does Google use a viewability test today?
A. I don't know.
Q. Why wouldn't they use a viewability test today?
A. I'm not privy to their strategy, so I don't know.
Q. So you testified that there was a long-felt need for a viewability test, correct?
A. Yes.
Q. And you also testified that the viewability test is commercially successful, correct?
A. Yes.
Q. So why wouldn't Google want to use a -- an invention to which there was a long-felt need and it is commercially successful?
A. You know, I've watched Google since they started 20 years ago, and I am just not privy to their strategies or sometimes their thought processes. That's a very complicated decision. Obviously, they have their own reasons, but I don't know what the reasons are.

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Q. Do you know what AdSense is?
A. Yes.
Q. What is AdSense?
A. It's Google's -- it's a Google product. Actually, I testified on it, so I should know something about it for Google, but it's their method of dropping ads tailored to a user's -- I don't want to say profile, but content on a web page. So it's their method of dropping an ad on a web page.
Q. And you're not sure whether AdSense includes a viewability test, correct?
A. I'm not sure. I can say that to the extent that I've been exposed to AdSense through a couple of Google projects. As far as I know, they don't -- they don't use that test in AdSense, no.
Q. Is there any way to perform a viewability test without infringing the '329 patent?
A. I didn't really examine that. I didn't study it. It seems to me that a couple years after the '329 was accredited that I think Google did get an accredited test. I don't know if their test is infringing or not, but at least I understand there was another -- another test that was accredited.
MR. GREENLEAF: Okay. Can we take a five-minute break? Come back at five to the hour. Go

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off the record.
MR. BERTEN: Can we make it 10 and come back at 10 'til -- I mean the top of the hour, please.
MR. GREENLEAF: Yeah, that's fine. Sure.
(The deposition was in recess from 1:49 to 2:01.)
MR. GREENLEAF: Q. Okay. We're back on the record. Bob, did you have any conversations with anybody during the break?
A. I think I talked to my wife.
Q. All right. Did she help you out with your deposition?
A. No. She asked me about you.
Q. Okay. Well, I'll leave it at that. Despite my temptation. All right. Do you recall we looked at the source code that you discussed with Igor earlier, correct?
A. Yes.
Q. And you needed Igor's help to understand the code, correct?
A. Yes.
Q. What additional skills would you need to be able to have reviewed that code independently?
A. I would go back and pick up my old JavaScript book and refresh myself on functions, study it for a

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while. It would take a while, but I would be able to do it.
Q. How long would it take you?
A. I don't know. 50 hours.
Q. All right. I have up here on my screen the declaration of Robert Sherwood in an IPR related to U.S. Patent No. 6,628,314. Do you see that?
A. Yes.
Q. Do you recall drafting this declaration?
A. Do I recall what?
Q. Drafting this declaration?
A. I'm trying to remember which this is -- I'm trying to -- can you blow up the --
Q. Yeah, sorry. This is Facebook versus B.E. Technology.
A. Okay. I remember it. It's some time ago, but yes.
MR. BERTEN: Kevin, are you going to share this, or is it in the chat or mark it?
MR. GREENLEAF: Q. I can put it in the chat. I'll put several documents in the chat. One more. All right. So do you have those documents, Bob?
A. I didn't download them. I'm happy to look at them on the screen.
Q. Okay. Well, they're there if you need them,

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and I will upload a few -- the relevant patents to those declarations. Give me a moment. All right. So back to this declaration from the Facebook versus B.E. Technology IPR, and you recall drafting this declaration, correct, Bob?
A. My screen -- it's gone from my screen now for some reason.
Q. Okay. Let me try again.
A. Yeah.
Q. All right. Do you see it now?
A. It's pretty small. Yeah, I see it, yes.
Q. Okay.
A. Let me just see the date on it. What's the date?
Q. It is dated October 9, 2023 -- 2013.
A. 2013, okay.
Q. All right. I've also uploaded to the chat the '314 patent to which your declaration concerned. See the document is -- your declaration concerns U.S. Patent No. 6,628,314?
A. Yes.
Q. All right. And up on the screen I have U.S. Patent No. 6,628,314, correct?
A. Yes.
Q. And the title is computer interface method and

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apparatus with targeted advertising, correct?
A. Yes.
Q. All right. And Claim 11 is directed towards -- zoom in for you -- a method of providing demographically targeted advertising to a computer user. Do you see that?
A. Yes.
Q. And one of the claim limitations is selecting advertisement -- advertising content for transfer to the computer. Do you see that?
A. Yes. Excuse me.
Q. Does the hypothetical person of ordinary skill in the art need to have a background in advertising to understand Claim 11?
A. I'm not sure what the context of the -- of that project was. If you go back to the POSA definition, it might help me recall, but I'd have to -- I'd have to look at the, you know, the -- have to understand the engagement again to see what -- what was actually involved in the POSA.
Q. Here is Figure 15 -- sorry -- Paragraph 15 of your declaration, which states, "From analyzing the '314 patent in the relevant of prior art, it is my opinion that the POSITA would have at least a Bachelor's degree in computer science, electrical engineering or similar

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field, or commensurate industry experience of at least two years of Internet advertising methods, browser technology and related computer programming, or a combination of education and industry experience."

Do you see that?

A. Yes.

Q. So you do state that the person of ordinary skill in the art would have a bachelor's degree or commensurate industry experience of at least two years in Internet advertising methods, correct?

A. Yes.

Q. So the person with the Bachelor's degree would be able to understand a '314 patent without having any experience whatsoever in Internet advertising, correct?

A. I think that's the way we defined a POSA in this case.

Q. Do you have any reason to change your testimony about the person of ordinary skill in the art in your declaration concerning the '314 patent?

A. No.

Q. Here is your declaration in another IPR with Branch Banking Trust Company versus EMG technology for U.S. Patent No. 7,441,196.

A. What was the date on that, 2008?

Q. Just a second. March 14th, 2014.

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A. 2014, I see it.

Q. Do you recall this declaration?

A. Just barely.

Q. All right. Up on my screen is U.S. Patent No. 7,441,196. Do you see that?

A. Yes.

Q. All right. And it is titled apparatus and method of manipulating a region on a wireless device screening -- sorry -- wireless device screen for viewing, zooming, and scrolling Internet content.

Do you see that?

A. Yes.

Q. All right. Now, we're looking at Claim 9 of the '196 patent, which recites a method comprising, displaying a first advertisement. The displaying of the first advertisement being via an Internet. You see that?

A. Yes.

Q. Does a person of ordinary skill in the art need to have experience in advertising to understand this patent claim?

A. I'm trying to remember the context. If you go back to the POSA definition, it will help me recall what this was all about.

Q. All right. We're looking at Paragraph 60 of

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your declaration. Do you see that?

A. Yes.

Q. And it states in the middle, "I am of the opinion that the POSITA in the 1999 time frame would have had a Bachelor's degree in computer science or commensurate industry experience of at least two years of experience with HTML programming and general knowledge of Internet browser technology or a similar field," correct?

A. Yes.

Q. So person of ordinary skill in the art would not have needed a background in advertising to be able to understand the '196 patent, correct?

A. We didn't include that as a -- as a requirement. I don't remember all the details of the patent. I don't remember why we didn't include that. You know, very often the -- except for this case, the POSA definition is pretty straightforward, but I don't recall why, in this particular case, I deleted the advertising component.

Q. All right. We're looking at a more recent IPR, IPR No. 2022-01436 concerning U.S. Patent No. 8,244,582 and the declaration of Robert Sherwood.

Do you see that?

A. Yes.

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Q. Do you recall this declaration?

A. Yes, I remember this declaration. I don't remember the details of it, but I recall doing it, yes.

Q. On the screen I have the U.S. -- the '582 patent. Do you see that?

A. Yes.

Q. And it is titled method and stored program for accumulating descriptive profile data along with source information for use in targeting third-party advertisements.

Do you see that?

A. Yes.

Q. All right. Now we're looking at Claim 1. Do you see that?

A. Yes.

Q. All right. Scroll down to Element E, which says, "Wherein the maintained profile, including the added partial profile, comprises data used in targeting third-party advertisements to the user computer over the global computer network."

Do you see that?

A. Yes.

Q. Does Claim 1 require a background in advertising to be able to understand it?

A. I don't recall how we defined POSA in this

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case. If you go back to that, it may help me recall that.

(EXHIBIT 2001 WAS MARKED FOR IDENTIFICATION.)

MR. GREENLEAF: Q. All right. We're looking at Paragraph 34 of your declaration, which is Exhibit 2001 in the 143 IPR. In which you adopt petitioner's definition of the person of ordinary skill in the art, which is a person who possessed a Bachelor's degree in electrical engineering or computer science and two years of work experience in the field of network-based computer systems, such as systems for sending and receiving information over local networks and wide area networks, such as the Internet or worldwide web. A person could also qualify with more formal education and less technical experience or vice versa.

Do you see that?

A. Yes.

Q. Why did the person of ordinary skill in the art not require advertising background to understand the claims of the -- of the '582 patent?

A. Well, I don't remember the -- you know, the exact context of that, but generally when we're looking at the POSA definition even though, for example, the word advertising might appear in the -- in one of the

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claims, it looks like, in this particular case, we were focused on, you know, networking and wireless networks and the web as opposed to advertising. So in the context of the -- this declaration, it was a judgment, and that's the POSA definition that we -- that I decided on.

Q. Did you consider the actual inventor's skill relevant in determining the level of the person of ordinary skill in the art?

MR. BERTEN: Objection; I don't know the context.

MR. GREENLEAF: Q. Okay. I'll ask again. In this IPR for the '329 patent, did you consider the inventors Igor, Alan, et cetera? Did you consider their skill to be relevant in determining the level of the person of ordinary skill in the art?

A. Well, I tried to that, yes.

MR. GREENLEAF: Okay. I suggest we take a few minute break to 3:25 so you don't -- let's go off the record.

(The deposition was in recess from 2:22 to 2:30.)

MR. GREENLEAF: Q. All right. So let's go back on the record. I'm going to show you your declaration one more time. Exhibit 2045, on pages one

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through five you list your materials considered, correct?

A. Yes.

Q. Did you consider any documents in preparation for either your deposition or your declaration that are not listed in these materials considered?

A. No.

MR. GREENLEAF: No further questions.

EXAMINATION BY MR. BERTEN

MR. BERTEN: Q. I think I'm going to have a few. I guess we can jump into them. I guess I'll start here, Mr. Sherwood, since you started testifying today, have you and I communicated in any way?

A. No.

Q. We haven't spoken on the phone or exchanged e-mails or anything, correct?

A. Yes.

Q. Okay. Do you recall when Mr. Greenleaf was asking you very early in the deposition about an invention date in 2008?

A. Yes.

Q. And I think there was some discussion of paragraph -- I want to say it was 47 or something in the Alan Edwards declaration, which is Exhibit 2027. Do you recall that?

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A. Yes.

Q. I want to direct your attention to paragraph 13 of Mr. Edwards' declaration, which I believe I can -- I hope I can share it on the screen. Let's see.

MR. GREENLEAF: If you like, I could do it too.

MR. BERTEN: Q. I think I got it here. Yeah. Can you see Paragraph 13 of Alan Edward's declaration?

A. Yes.

Q. Can you just read the first sentence of that declaration?

A. Yeah, it's a little difficult, but, yeah, in -- can you blow it up a little bit more, please?

Q. Sure. I'll read it and you can just tell me if I got it right.

A. Okay.

Q. "In 2008, I and four of my colleagues at RealVu invented a reliable test for determining whether an ad was within, on the edge of, or nearing the viewable area, paren, or view port, close paren, of a user's browser."

Do you see that?

A. Yes.

Q. And this is one of the documents that you reviewed when you put your declaration together,

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correct?
A. Yes.
Q. And does it refresh your recollection as to where you might have concluded that the invention took place in 2008?
A. Yes, from this paragraph.
Q. Okay. During Mr. Greenleaf's questioning, there was some discussion of the Harkins reference. Do you recall that?
A. Yes.
Q. I want to put up for you paragraphs -- see, I might already have it pulled up. No. I'm putting up Paragraphs 76 and 77 of your declaration with regard to Harkins, and I want to make sure that they're big enough that you can read them. So give me second.
A. I can read that fine.
Q. All right. We'll do 76 first and then 77. And just let me know when you're done reading the first part of Paragraph 76.
A. I am.
Q. And then when you're done reading Paragraph 76 and 77.
A. Yes, I see both of those.
Q. Okay. So -- and you see in Paragraph 77 that you're discussing specifically Claims 3 and 8 of the

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'329 patent, correct?
A. Yes.
Q. All right. Let's take a look at those. I'm putting up in front of you Exhibit 1001, which is a '329 patent.
A. Uh-huh.
Q. I just want you to read the language of Claim 3.
A. Okay. The method of Claim 2, wherein the replacement auction is conducted in real time between the time the second communication is sent from the remote computing device and the time that the replacement advertisement is selected.
Q. And you'll see that Claim 8 has similar language --
A. System of Claim 7, wherein the replacement auction is conducted in real time. Yes, I see that.
Q. So we'll go back to Claim 3 and understand that the language is similar in Claim 8, and Claim 2 is similar to Claim 7. Claim 6 is similar to Claim 1, but let's take a look at Claim 2 because Claim 3 mentions it. Claim 2 says that the replacement advertisement is selected at least partially as a result of a replacement auction.
Do you see that?

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A. Yes.
Q. All right. Is there any concept in Harkins of running a replacement auction in result to a triggering event like what is set forth in Claim 1?
A. I didn't see it.
Q. Okay. And specifically with regard to a real-time auction as described in Claim 3, did you see anything in Harkins describing a real-time auction taking place in response to a triggering event like the amount of time that an ad had been in view as described in Claim 1?
A. No, I didn't see that.
MR. BERTEN: All right. I have no further questions.
MR. GREENLEAF: Let's come back at a quarter to. Off the record.
(The deposition was in recess from 2:37 to 2:47.)
FURTHER EXAMINATION BY MR. GREENLEAF
MR. GREENLEAF: Q. So, Mr. Sherwood, did you have any communication with Mr. Berten during the break?
A. No.
Q. All right. So I'm going to show you Claim 1 of the '329 patent, and maybe I'll show you on Google Patents might be easier to read. Oh, no. We had the

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document earlier. All right. So up on the screen you see Claim 1 of the '329 patent, correct?
A. I do.
Q. Does Claim 1 of the '329 patent require an auction?
A. I see A, B, and then I, two Is, and three Is. Is there another part of that just to be sure?
Q. No, the period's right here. I can show you the patent, but I'll just represent to you that this is --
A. Okay. Let me just read it again, right. The question was does it require an auction?
Q. Yes.
A. I don't see -- an auction might be inferred, but I don't see the requirement expressly requiring an auction.
Q. Now, I'll place Claims 2 and 3 in this window to -- for -- make it easier on you. All right. Now, here's Claims 2 and 3. Claim 2 requires that the replacement advertisement, as selected, at least partially as a result of a replacement auction, correct?
A. I see that, yes.
Q. And the '329 patent, a person of ordinary skill in the art would have understood the '329 patent to teach the ability to replace the advertisement

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several times, correct?
A. I believe it would -- it would teach that it was required to do that, but I don't know if it teaches the specific ability to do that. In other words, the actual steps of doing it, but it definitely speaks to the issue of doing it, yes.
Q. What do you mean it doesn't teach the actual steps to do it?
A. Well, it says the method of Claim 1 wherein the replacement advertisement is selected at least partially as a result of a replacement auction. It doesn't -- doesn't teach what steps are required to do that. It just says it's required to do that. That's how I read that.
Q. So does the '329 patent teach what steps are required to perform the limitation of Claim 2 wherein the replacement advertisement is selected at least partially as a result of a replacement auction?
A. Does it teach the actual steps to do that?
Q. Yes.
A. I don't recall that the actual specific steps are defined in the patent. It may be.
Q. Do they need to be defined in the patent to enable the limitation of Claim 2?
A. Claim 2, in my mind, stands on its own. I

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don't think the steps have to be in the patent to -- to enable Claim 2, but if you want to actually do Claim 2, you have to somehow come up with those steps to implement it.
Q. But that would be within the scope of a person of ordinary skill in the art to implement the limitation of Claim 2?
A. I think in the case of Claim 2, a person of ordinary skill in the art would be able to -- would be able to do that, yes.
Q. Were replacement auctions known at the time of the filing date of the -- let me scratch that.
A. Uh-huh.
Q. Were replacement auctions known as of the effective filing date of the '329 patent?
A. Yeah. I'm not sure about the phrase replacement auction, but as far as I know, there were auctions going on, yes.
Q. Is there a difference between a replacement auction and an auction?
A. I wasn't trying to make a distinction. But in some sense, there could be. A replacement infers there was already one something there and you're auctioning off for a replacement as opposed to an auction, which might be the step that you do to place the first content

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there.
Q. Are there any other differences besides the fact that the replacement auction pertains to a replacement?
A. None that I'm aware of.
MR. GREENLEAF: Thank you, Mr. Sherwood. No further questions. Appreciate your time. Enjoy your time in the middle of the country.
THE WITNESS: Thank you, Kevin. Thank you. Have a nice evening.
MR. GREENLEAF: Do you have anything to add?
MR. BERTEN: Nothing further. We'll reserve signature and do the regular order on the transcript.
MR. GREENLEAF: Nothing confidential, correct?
MR. BERTEN: I didn't hear anything confidential today.
MR. GREENLEAF: Okay. Unless I hear from you, I will file this publicly.
MR. BERTEN: Okay.
(The deposition was concluded at 2:55 p.m.)

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STATE OF_____)
) ss.
COUNTY OF_____)

I, the undersigned, declare under penalty Of perjury that I have read the foregoing transcript, And I have made any corrections, additions or Deletions that I was desirous of making; that the Foregoing is a true and correct transcript of My testimony contained therein.
EXECUTED this _____ day of _____, _____, at _____, _____.
(City) (State)

_____
ROBERT J. SHERWOOD

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Duration Media Ex-1056

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CERTIFICATE OF SHORTHAND REPORTER

I, LAURA AXELSEN, Certified Shorthand Reporter, State of California do hereby certify:

That ROBERT J. SHERWOOD, the witness whose deposition is hereinbefore set forth, was duly sworn by me before the commencement of such deposition and that such deposition was taken before me and is a true record of the testimony given by such witness.

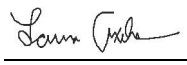
I further certify that the adverse party, RICH MEDIA CLUB, LLC,, was represented by counsel at the deposition.

I further certify that the deposition of ROBERT J. SHERWOOD, occurred via Zoom conference on Tuesday, February 6, 2024, commencing at 9:15 a.m. to 2:55 p.m.

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

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IN WITNESS WHEREOF, I have hereunto set my hand this 20th day of February, 2024.



LAURA AXELSEN, C.S.R. 6173

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