

1 committee back into session. I would like to
2 note for the record that my vice-chair proxy,
3 Karen Celestino-Horseman, has excused herself
4 from the proceedings taking care of some
5 other business.

6 So we still have a quorum. We're good
7 to go. We're going to continue on. Voting
8 System Technical Oversight Program report.

9 I now recognize Dr. Jay Bagga and
10 Dr. Bryan Byers of Ball State University,
11 which administers the voting system technical
12 oversight program, also known as VSTOP, for
13 presentation concerning voting systems.

14 Dr. Bagga and Dr. Byers, would you
15 like to make any general introductory remarks
16 before we proceed?

17 MR. BAGGA: Thank you. Mr. Chairman
18 and members of commission, we would like to
19 begin by introducing the VSTOP team. I'm Jay
20 Bagga, co-Director of the working system
21 technical oversight program, or VSTOP.

22 With me is Dr. Bryan Byers, also
23 co-Director of VSTOP.

24 To my far right Mr. Mani Kilaru. He's
25 the IT specialist for VSTOP.

1 And to my right is Mr. Jordan
2 Jarnagin, elections system certification
3 specialist for VSTOP. We are pleased to be
4 here.

5 MR. OKESON: Thank you. For the
6 purposes of the court reporter, would you
7 mind spelling your names.

8 MR. BAGGA: Jay Bagga. J-a-y,
9 B-a-g-g-a.

10 MR. OKESON: Thank you.

11 DR. BYERS: Bryan Byers. B-r-y-a-n,
12 B-y-e-r-s.

13 MR. KILARU: Mani Kilaru. M-a-n-i,
14 K-i-l-a-r-u.

15 MR. OKESON: Thank you.

16 MR. JARNAGIN: Jordan Jarnagin.
17 J-o-r-d-a-n, J-a-r-n-a-g-i-n.

18 MR. OKESON: Thank you.

19 MR. BAGGA: So we have a number of
20 reports that we presented to this commission.
21 And we would like to begin with the first
22 one, which is the approval to change orders
23 or ECUs for election systems and software.

24 And Dr. Byers reminds me that I
25 arrived late and I was not oathed.

1 MR. OKESON: Oh, sworn in. Co-Counsel
2 Simmons, would you.

3 MR. SIMMONS: Raise your right hand,
4 say "I do" after the administration of the
5 oath. Do you solemnly swear or affirm under
6 the penalties and perjury that the testimony
7 you're about to give the Indiana Election
8 Commission is the truth, the whole truth, and
9 nothing but the truth? Say "I do."

10 MR. BAGGA: I do.

11 MR. SIMMONS: Thank you.

12 MR. OKESON: And thank you for making
13 that a point.

14 MR. BAGGA: Thank you.

15 MR. OKESON: Proceed.

16 MR. BAGGA: So the first report is an
17 ECU report. And (indiscernible) change order
18 report for a number of components of EVS
19 voting systems.

20 In this first report, which was
21 submitted on March 11, 2019, there are four
22 ECUs in one report. ECU983, ECU996, ECU1004,
23 and ECU1005.

24 And all of these ECUs and
25 (indiscernible) change orders are de minimis

1 changes, which are minor changes which do not
2 affect materially the functionality of the
3 voting system. The determination that these
4 are de minimis is made by the voting system
5 testing lab.

6 And to your report, you will see
7 attached reports from VISTAL. These are de
8 minimis changes. The first change, 983,
9 applies to the voting system component DS200.
10 It has changed the texture of the housing
11 seams for applying security seams.

12 The other three ECUs, 996, 1004, and
13 1005, all have to do with switching from
14 printers to newer versions. The older
15 versions are going end-of-life.

16 In the VS450 component for 996, the
17 modification is to switch from Dell-S2810dn
18 printer to B431dn printers. But VSTOP notes
19 that in this ECU, the printers to which we
20 are moving on are also going to become
21 end-of-life.

22 So, therefore, we are placing some
23 limitations on the approval of the ECU.
24 VSTOP recommends that the approval of ECU
25 have the following limitations for ECU996,

1 that this approval be granted only to those
2 components which have current units of DS415
3 in Indiana. The replacement cannot be used
4 with future purchases of DC450s.

5 And also that this replacement be
6 allowed only for one year since the new
7 printers will, again, be going end-of-life.

8 They could continue to be used, but
9 they could not be used as replacement parts
10 after one year. VSTOP recommends that the
11 commission approve these ECUs.

12 MR. OKESON: Co-Director King.

13 MR. KING: Yes. Mr. Chairman, members
14 of the commission, in preparing the material
15 for this meeting, we understood that there
16 was another ECO1000.

17 MR. BAGGA: That will be coming
18 subsequent.

19 MR. KING: You may want to present so
20 that the commission can consider these.

21 MR. BAGGA: It looks like there is one
22 motion for all the ECUs. So it should all be
23 presented together. May I ask Dr. Byers to
24 present ECU1000?

25 MR. OKESON: Co-Director Nussmeyer, do

1 you have anything else to add?

2 MS. NUSSMEYER: I don't, Mr. Chairman.
3 Thank you.

4 MR. OKESON: Go ahead. Thank you.

5 DR. BYERS: Thank you, Chairman,
6 members of the commission. ES&S also
7 formally requested the approval of an ECO for
8 a specific voting system. This particular
9 ECO was submitted on February 1, 2019. It is
10 ECO1000.

11 It was deemed by the voting system
12 testing laboratory as de minimis. It affects
13 the voting system EVS5240 and the component
14 DC200, specifically. And what they are
15 wishing to do is to change the material for
16 the ballot box that is used with that
17 particular unit to -- from a corrugated
18 plastic to an ejection-molded ABS plastic to
19 increase rigidity.

20 The members of the VSTOP team have
21 reviewed this ECO. And the supporting
22 documents from the VISTAL, which are attached
23 to your report -- copies of your report. And
24 this -- the VSTOP team finds that this ECO is
25 in compliance with the requirements for de

1 minimis change to hardware components.

2 And it only applies to the specific
3 ES&S voting system notated earlier that is
4 the EVS5240 and DS200 component. The
5 ES&S voting system EVS5240 is certified.

6 And this ECO was approved by the
7 election assistance commission, EAC, on
8 February 19, 2019.

9 VSTOP recommends approval of this ECO.

10 MR. OKESON: Is there anyone present
11 who would like to speak on these matters?

12 DR. BYERS: We notified
13 representatives from ES&S that these were
14 going to be handled today. However, we are
15 not aware of -- that they are here.

16 MR. OKESON: So discussion. Any
17 questions? Is there a motion to pass these?

18 SPEAKER: I move to approve the ECOs.

19 MR. OKESON: I guess it would be is
20 there a motion to adopt these VSTOP
21 recommendations for approval of the
22 engineering change orders 983, 996, 1004,
23 1005 described in VSTOP's reports as
24 modifications to the EVS? All of those
25 numbers.

1 SPEAKER: Yes. In fact, I move that.

2 MR. OKESON: Thank you. Second?

3 SPEAKER: I'll second.

4 MR. OKESON: Is there any further
5 discussion? Any questions? Co-Director
6 King, do you have anything?

7 Having heard no further discussion, a
8 vote on the motion. All those in favor say
9 "aye."

10 ALL TOGETHER: Aye.

11 MR. OKESON: Hearing no opposed,
12 motion carried and is adopted.

13 What are we on? MicroVote next?
14 MicroVote EMS 4.3 direct recording voting
15 system application and report. Dr. Bagga and
16 Dr. Byers, please proceed with your comments
17 and any modification information.

18 MR. BAGGA: Thank you, Mr. Chairman
19 and members of commission. This report
20 concerns MicroVote EMS 4.3. A system that
21 VSTOP field-tested at Ball State University
22 on June 26, 2019.

23 VSTOP conducted tests on this
24 micro-vote EMS. There is a modification
25 that's being brought into this system as part

1 of this report. And that modification
2 concerns a VVPAT or a voter verifiable paper
3 audit trail component.

4 What that does is it's an attachment
5 that is attached to the (indiscernible) panel
6 and the VVPAT component produces a paper
7 trail. So it's a paper record of the vote
8 that the voter votes, and the voter is able
9 to see her paper record behind the glass
10 window.

11 And Mr. Chairman and members of the
12 commission, there are photographs in the
13 attached report where you would see -- you
14 would have seen copies of photographs of
15 VVPAT attachment and the paper component --
16 the paper record of the vote that appears.

17 Our test included verifications of all
18 the required elements of the Indiana code
19 regarding voting systems as well as ADA
20 compliance affirmation from the vendor.

21 We also conducted mock elections of
22 the system, which included the ID-approved
23 test case scenarios for straight party
24 voting. And other tests were conducted on
25 the VVPAT . And we verified that the VVPAT

1 paper record matches with the record that the
2 voter votes on.

3 VSTOP also reviewed the VISTAL lab
4 tests submitted by MicroVote. This system is
5 compliant with the VVSP or the voluntary
6 voting system guidelines 2005. So we
7 described the VVPAT attachment. The VVPAT
8 attachment also allows a voter to rectify her
9 record in case a voter finds that she has
10 made an error, and a voter can wipe that
11 paper record and go back and correct her
12 record, and then print another copy. And
13 that copy is then saved as the cast ballot.

14 So the VVPAT system consists of a
15 number of components, which of course include
16 the DI panel and the associated components.
17 And they're listed on page 2 of the report.
18 And also it is run by several pieces of
19 software. And the software versions are also
20 listed on page 2.

21 During our field test, there was a
22 number of findings that we would like to
23 report on. When we did the test on June
24 26th, one of those findings is that -- let me
25 go to that page. That the line of sight for

1 VV pack equipment was not clearly visible in
2 case of some voters who would vote in a
3 standing position.

4 So a voter can vote while standing.
5 Or a voter can also vote while sitting on a
6 chair, especially for the (indiscernible)
7 compliance voters. And we tested it in both
8 scenarios. So we made a recommendation to
9 MicroVote, and we asked a question whether
10 this VVPAT unit can be adjusted or tilted so
11 that the voter has a better line of sight to
12 see the paper record.

13 And we heard that onset of the
14 affirmative that the unit can be tilted.
15 What we would recommend in our recommendation
16 is that there be proper training of the poll
17 records and election officials to the proper
18 functioning of the VVPAT and making sure that
19 the VVPAT is installed appropriately. And
20 that the poll records and election officials
21 are aware in case there's a refill needed for
22 the paper roll on which paper rolls are
23 printed.

24 We've been informed by VSTOP that
25 there are a sufficient number of paper votes

1 that can be printed to last an election day.
2 But if the paper roll were to run out,
3 there's an easy process that VSTOP has solved
4 where the roll can be changed.

5 As the last part of our report, we
6 also mention that a number of de minimis
7 modifications have been made to this system.
8 And when we tested the system, we tested the
9 prototype system. We did not see those
10 modifications. But then we received the
11 report from the lab that those modifications
12 are de minimis.

13 And I will describe those di minimis
14 modifications next. One is finger grips on
15 the VVPAT enclosure, which will help poll
16 workers to handle this VVVPAT component
17 easily.

18 And the second modification is a
19 slight repositioning of the security bracket
20 which is underneath the bottom of the RJ45
21 port so that the wire ties security seal
22 would better cover the RJ45 connector and
23 prevent it from possible removal during
24 voting. That's an adjustment to where the
25 wire port is located.

1 So with these two de minimis changes
2 and with the test that we have done, and with
3 the recommendation including training and the
4 proper adjustment of the VVPAT unit, VSTOP
5 recommends that the system be approved.

6 MR. OKESON: Is there anybody from
7 micro-vote here?

8 DR. BYERS: Yes.

9 MR. OKESON: Would you like to offer
10 any testimony on this matter?

11 MR. HIRSCH: Not unless there's a
12 question that you have.

13 MR. OKESON: I have a couple
14 questions. If I might.

15 MR. HIRSCH: Yeah, sure.

16 MR. OKESON: Number one, I heard
17 Dr. Byers -- you state that the -- sorry.

18 Before you answer my question, will you state
19 your name and spell it.

20 MR. HIRSCH: My name is Bernie Hirsch.
21 B-e-r-n-i-e, H-i-r-s-c-h. I'm the CIO for
22 MicroVote. And I was sworn in at the
23 beginning of the meeting.

24 MR. OKESON: Dr. Byers mentioned that
25 you have an opportunity to review the paper

1 on the vote. And if it is incorrect, you can
2 go back and vote again -- vote again may not
3 be the right way to say it -- but go back and
4 make a correction to that vote. How many
5 times can you do that?

6 MR. HIRSCH: So you can actually make
7 corrections to your ballot an indefinite
8 amount of times until you're satisfied with
9 it before you print it out.

10 MR. OKESON: Co-Director King.

11 MR. KING: Mr. Chairman, yeah, let me
12 clarify. Indiana law effective July 1st of
13 this year does place some limitations on
14 that. But what Mr. Hirsch has testified to
15 is what the system is capable of doing.

16 But what's permitted by law is for a
17 voter to have one opportunity in most cases
18 to correct their ballot and see a new paper
19 trail. But there is no limitation if a voter
20 is disabled and maybe having trouble
21 operating the system or casting their ballot
22 or if there is a technological problem with
23 the system.

24 MR. OKESON: Is there any way to
25 monitor that, or to -- enforce it is not the

1 right word -- is there anything that would
2 keep someone from continually correcting
3 their vote inside the box?

4 MS. HIRSCH: So the way the system
5 works is you have the ability to void that
6 paper ballot. The voter does one time. It
7 can actually be set up to five times. But
8 because of the Indiana law, we limit to one
9 time. And then they can print out another
10 copy. And then if they need to print more
11 copies because they're disabled and
12 they're -- so they do have the opportunity to
13 make corrections to any errors before they
14 print out their copy. And then, again, but
15 if they need to do more than two actual
16 printouts, then the poll worker can
17 reactivate the machine to help them do more.

18 MS. NUSSMEYER: How do you void a
19 paper ballot?

20 MR. HIRSCH: How do you vote a paper
21 ballot?

22 SPEAKER: How do you void?

23 MR. HIRSCH: So the machine -- the
24 voting process works just the way it has
25 before, where you make all of your selections

1 and then when you come to the last page, it
2 used to be that you -- the cast vote button
3 lights up, you push that, then you're done.

4 Now when you come back to that last
5 page, you push a button and the paper prints
6 out with your choices on it, and you're asked
7 to verify that. But it has not yet printed
8 anything at the bottom of that ballot.

9 It's just showing your selections.
10 And then if you want to review your ballot,
11 you can do that and you're warned that if you
12 make any changes to your ballot, then that
13 will void the paper.

14 So if you go back and you're reviewing
15 your ballot and you decide to make a change,
16 then when you come back to that last page, it
17 will print "ballot void" at the bottom,
18 scroll it off and print a new one for you and
19 then ask you to verify that one. And the
20 cast vote button is sitting there waiting to
21 be pushed. Or you can void your ballot a
22 second time. And then you have to get it
23 reactivated to do it a third time.

24 MS. NUSSMEYER: So there's two papers?
25 One would be the first time that I printed it

1 off, and then I'd have a second paper that
2 voids it?

3 MR. HIRSCH: Yes. It's on one roll.
4 So at the bottom of each ballot that's
5 printed, it's either "ballot void" or it's
6 "ballot cast." And that doesn't happen until
7 the voter decides that they want to verify.

8 MR. OKESON: So it's like a refund,
9 like, a point of sales receipt? You ring it
10 up once and you refund it back? So it
11 reconciled at the end that there's only one
12 vote cast.

13 MS. NUSSMEYER: Mr. Chairman, if I
14 may, just to clarify a little more. The
15 ballot -- the electronic ballot that is
16 stored in the system -- the actual tabulation
17 that's occurring -- until they hit that cast
18 vote button, it is not stored electronically
19 as a cast ballot on the DRE, and it's not
20 cast as a completed ballot on the VV pack,
21 that paper receipt roll?

22 MR. HIRSCH: Correct.

23 MS. NUSSMEYER: So if you make a
24 change, you go back in the ballot, you're
25 essentially -- it's like editing a Microsoft

1 Word document until you hit, you know, submit
2 final. You submit it through like an online
3 system, if you will.

4 So even though you may have two paper
5 records, only one of those two paper records
6 is the final ballot that would align with
7 what was saved and recorded within the DRE.

8 SPEAKER: And the law's written to
9 keep all paper ballots. Both the voids and
10 the casts, correct?

11 MS. NUSSMEYER: And that's
12 substantially similar to what you would do in
13 a ballot card voting system, that if a person
14 wanted to spoil their ballot, they write
15 "spoil." That's retained with the election
16 materials. But only the ballot card itself
17 that's counted through the standard
18 tabulation gets stored.

19 MR. OKESON: My second question is
20 relative to the running out of paper, if you
21 will. Is it like a retail point of sale roll?
22 That there's some color stripe? Something
23 that comes up that would indicate or a
24 notification electronically that says, "Hey.
25 You're about to run out of paper," so it

1 doesn't happen in the middle of a vote?

2 MR. HIRSCH: Yeah. So when I designed
3 this project, we had an entire chapter in the
4 (indiscernible) on the VVPAT. And that was
5 my guideline. And so one of the requirements
6 is there be a sensor to detect low paper and
7 paper out.

8 So there is constant communication
9 between the voter machine and the printer.
10 And if there's any interruption of the
11 communication, then that stops the process
12 and poll workers have to become involved. If
13 the paper runs low, the current voter -- we
14 have enough paper left so that the current
15 voter can continue voting and cast their
16 ballot.

17 And then when you try and activate it
18 for the next voter, it'll tell you that the
19 paper is low, it needs to be changed. If the
20 paper actually runs out, which we don't
21 anticipate it'll do because you already have
22 this paper low situation, but there is also a
23 sensor for paper out as well.

24 MR. OKESON: So would poll workers
25 then need to sort of continually peruse the

1 machines to ensure that they're not seeing a
2 low paper indicator? Is there some other
3 way that that gets communicated?

4 MR. HIRSCH: Yeah. That's not going
5 to happen. Because one of our design
6 criteria --

7 SPEAKER: We've got to assume
8 everything in the world is going to happen.

9 MR. HIRSCH: Yeah, yeah. Well one of
10 our designs was enough paper -- more than
11 enough paper -- to last at least one whole
12 day of voting, you know, every three minutes
13 or whatever. So we have over 600 feet of
14 paper on one roll.

15 MR. OKESON: But you make a
16 presumption about how many voids and --

17 MR. HIRSCH: Oh, yeah. And so we ran
18 a number of scenarios. The longest ballots
19 we've ever seen in Indiana; the shortest
20 ballots; voiding two times; all that. And we
21 couldn't come up with a scenario where we ran
22 out of paper in one day.

23 SPEAKER: This may not be a question
24 for you, but who would be in charge of
25 changing the paper?

1 SPEAKER: It would be ordinarily the
2 two judges. The bipartisan judges would --
3 or, if for some reason, a mechanic was
4 required. The county election board
5 designates people to perform the function.
6 But I would think it's ordinarily a poll
7 worker function.

8 MR. HIRSCH: We anticipated the
9 technicians would do the paper change at
10 night. However, I did put a chapter -- an
11 addendum in the poll worker manual on how to
12 change the paper. It is sealed and locked.

13 It's a little ballot box. It's a
14 metal ballot box with a printer inside. And
15 in order to open it, you have to unseal it,
16 the serial number, use a key, and then change
17 the paper and reseal it.

18 MR. OKESON: I lied. I have one third
19 question. If the printer were to fail in the
20 middle of the day on election day, does that
21 particular voting booth machine just have to
22 shut down until it can be repaired? Or can
23 you continue to vote on it? What happens?
24 Maybe that's a question for you, Brad. I
25 don't know.

1 MR. HIRSCH: So they're not dedicated
2 to one another. Whenever the printer is
3 moved to a different machine or different
4 printer is moved to that machine, the machine
5 recognizes that and will print a new header
6 on the roll.

7 So it could be a machine that was
8 used -- a printer that was used with a
9 different machine yesterday and still had
10 plenty of paper left on it. If you
11 disconnect one and connect one, it'll print a
12 roll header at the beginning to tell you when
13 that happened and what machine it's now
14 attached to.

15 Plus, every vote record that's printed
16 out, at the top of each ballot, it shows you
17 the actual serial number of the machine that
18 it was attached to. And there's a new unique
19 ID that's associated with the paper record.
20 And there's a matching ID on the electronic
21 record for purposes of risk limiting audit
22 afterwards.

23 And that number is unique to that
24 record for the whole state. So that
25 eliminates duplicates if we ever go to the

1 situation where we're counting those ballots,
2 especially the automated counting of the
3 paper ballots. We can tell if that paper
4 ballot has been counted more than once.

5 MR. OKESON: I presume there's a
6 pretty significant training program that's
7 involved with the counties that have this
8 machine?

9 MR. HIRSCH: Different procedures
10 for --

11 MR. OKESON: Well, just reloading
12 paper, managing printers.

13 SPEAKER: Significant training.

14 MR. HIRSCH: We have set up training
15 as part of our whole certification process.
16 We have planned various regions to do
17 training and then come back in and do
18 individualized training this fall. If we get
19 approval, our implementation schedule is
20 beginning immediately.

21 SPEAKER: And so for, like, early
22 votes, you have 28 days of early voting. The
23 printer locks down the same way as the voting
24 machines would lock down at night? So
25 there's no tampering with the --

1 MR. HIRSCH: So according to the
2 federal guidelines, if there's a malfunction
3 in terms of it's printing out the wrong
4 stuff, then the whole -- that whole unit
5 should be removed from service.

6 If it's a question of, you know, that
7 particular printer is just messing up
8 printing, the voting machine is fine. It can
9 be removed -- the voting machine can be
10 removed and reactivated with a different
11 printer.

12 SPEAKER: I have some questions if you
13 don't mind. So when you're talking about the
14 different scenarios to make sure you don't
15 run out of paper, are you also running on
16 assuming the high volume for early voting?
17 Like how those machine would need to have --

18 MR. HIRSCH: They just have every
19 ballot-style machine. But by Indiana law, we
20 still have to give them three minutes.

21 SPEAKER 1: Well, I was thinking in
22 terms of the paper. There will be plenty
23 of paper around, I take it?

24 MR. HIRSCH: Yes. There's over 600
25 feet of paper on a five-inch roll. And this

1 thing is fairly substantial in size.

2 Primarily because of the large --

3 SPEAKER: I'm talking about the early,
4 in-person -- we've got thousands of people
5 showing up.

6 MR. HIRSCH: Right, right. So we
7 anticipate replacing the paper nightly. We
8 just don't want to do it when the polls are
9 open.

10 MR. KOICHEVAR: Had you -- or does the
11 system have a built-in indicator that could
12 predict how much feet is left in that
13 printer? You said there's 600 feet fully
14 loaded. Is there a way -- or have you
15 contemplated that -- or is it even possible
16 to build a, like, a sensor or some type of
17 program or whatever that'll say --

18 MR. HIRSCH: There is a sensor.

19 SPEAKER 1: I want to know how much is
20 in there. Is there any way to do that?

21 MR. HIRSCH: They don't have that. A
22 county could decide to use less than
23 five-inch rolls. They could put a three-inch
24 roll in there. We actually have manufactured
25 special paper for this.

1 I mean, it's thermal paper. But we
2 put our logo on the backside so there would
3 be no confusion on which side goes out.

4 Because this type of paper has a coating on
5 one side of it. And we didn't want
6 technicians to accidentally load it backwards
7 and not understand why it's not printing.

8 There is a logo on the back. If you
9 see the logo, then you know it's backwards.
10 But there's no way -- there's no sensor to
11 say -- like a little meter, as you will.

12 What they do is they have a light
13 sensor on there that tells you when it gets
14 low. And it doesn't matter what size roll
15 you put in there. When it gets below a
16 certain level, that light sensor will detect
17 that.

18 And then so that's the load paper
19 sensor. The out paper sensor is the printer
20 mechanism itself. When the paper gets pulled
21 out and there's no more paper, then it sends
22 out a different signal to the voting machine.

23 SPEAKER: So also with the early
24 voting, the receipt -- the paper record or
25 whatever we're calling it, is there a -- some

1 sort of identifier on that that would
2 identify the voter for purposes of that voter
3 dies before election day or anything like
4 that. Is there any kind of tracking
5 information on that piece of paper?

6 MR. HIRSCH: We do the retractions in
7 the electronic record. And the electronic
8 record is linked to the paper record by the
9 unique ID. The paper record does not contain
10 any voter identifiable information on it.

11 SPEAKER 1: Yeah. I didn't mean like
12 actually identifiable. But there is a way to
13 trace it? So it does have some sort of
14 tracking information on it?

15 MR. HIRSCH: The tracking information
16 is the two that are linked together. The two
17 vote records are linked together. If we
18 retract one, we can -- we know which one was
19 the paper one because they have the matching
20 numbers.

21 SPEAKER: But is it a matching number
22 based on what --

23 MR. OKESON: Please. Go ahead.

24 SPEAKER: So it is stored within the
25 system, right? The person who cast it, whose

1 absentee in person, has a unique identifier
2 so that it can be retracted? So you would
3 pull up that individual's ballot then to be
4 able to go to the VVPAT and identify those
5 votes cast?

6 MR. HIRSCH: No. The way we do the
7 retractions is in the electronic record. And
8 we don't actually know how they voted when
9 we're doing that process or, like, while the
10 early votes are being --

11 SPEAKER 1: Right. Which you should
12 not. That (indiscernible) the whole point of
13 having a retraction number. But then how do
14 you tie that to the VVPAT in order to make
15 sure you know that's the ballot that you
16 should not be counting when you're performing
17 that work?

18 MR. HIRSCH: The only way to know is
19 with that unique number that's sent to the
20 electronic.

21 SPEAKER 1: So there is a unique
22 identifier in the VV pack that ties it to
23 that electronic ballot?

24 MR. HIRSCH: Correct. For every
25 voter. So there's a unique ballot -- it's a

1 new feature. It's a unique ballot
2 identification. It doesn't matter which
3 voter. Each unique ballot -- on the paper --
4 has a matching unique electronic ballot.

5 So whatever happens to that ballot --
6 so we extract ballots from the machines and
7 some of those might get retracted. The ones
8 that remain have unique numbers that need to
9 match the unique paper number.

10 We don't have, like, any sort of way
11 -- I don't know. Unwind the roll and mark it
12 off. The only way you would know is by
13 having the vote record from the cast ballots
14 and matching that up to the vote records on
15 the -- so in terms of future investment, what
16 I'm anticipating is perhaps coming out with
17 something where we'd be able to do automated
18 tabbing of those paper ballots.

19 And that software would be pretty good
20 at being able to detect what has been
21 rejected and what hasn't.

22 SPEAKER: Should there be a recount,
23 for instance, and they wanted to look at the
24 verified paper audit trail to do that
25 recount, then how would the parties know

1 which ballot on that VV pack was retracted?

2 Would they be able to find --

3 MR. HIRSCH: So there's not a cast
4 vote record for a retracted ballot because
5 it's not a ballot, right. It wasn't cast.
6 It was voided. So what we do have is a cast
7 vote record for the ones that were cast.

8 So what you will have, and we modified
9 the infinity print out as well so you have a
10 cast vote record that could be printed out of
11 the Infinity. Each cast vote record now has
12 that individual number on it, which has to
13 match up to the paper number.

14 SPEAKER 1: So you're saying is one is
15 retracted --

16 MR. HIRSCH: We have paper records
17 that do not have a matching cast vote record
18 on the machine because, like in the case of
19 that voided one, you know, so if it's voided
20 they only get that unique number when the
21 vote is cast.

22 MR. OKESON: Co-Director King.

23 MR. KING: Yeah, Mr. Chairman. Just
24 want to clarify with Mr. Hirsch following up
25 on Ms. Nussmeyer's questions about recounts

1 and other situations where the retraction
2 aspect of this becomes an issue.

3 I believe I'm correct in understanding
4 that individual ballots that have already
5 been cast prior to election date -- typically
6 we do have a record of those -- are retracted
7 individually.

8 So that if Ms. A is deceased after
9 casting that absentee ballot, or Mr. B moves
10 out of Indiana, that that ballot is retracted
11 individually as the facts become known to the
12 county election board. And they would have
13 an opportunity -- to the county board
14 election level to record the number of the
15 ballot that they retracted. Is that correct?

16 MR. HIRSCH: I'm not sure that we do
17 that. Do we do that? Do we record the
18 number of retracted ballots in our software?

19 MR. KING: I don't mean the total. I
20 mean the individual number.

21 SPEAKER: So if, like, Ms. A's ballot
22 was ballot number 1 and it's retracted, does
23 that mean in the paper record that ballot
24 number one is marked as retracted?

25 MR. KING: Correct. Or could be

1 counted when retracted, Ms. A's ballot vote
2 that ballot number one has been retracted.

3 MS. HIRSCH: Yeah. So the voter ID
4 part that's put in early voting, that's only
5 in the electronic record. And we're sort of
6 masking the way they voted from the normal
7 user.

8 MR. KING: I understand. But is it
9 receivable to the county election board?

10 MR. SHAMO: Not through the normal
11 interface. With the M software.

12 MR. KING: If you could repeat --

13 MR. OKESON: Will you stand up please
14 and just state your name.

15 MR. SHAMO: Steve Shamo with
16 micro-vote. S-t-e-v-e, S-h-a-m-o.

17 MR. KING: Again to continue our
18 scenario, we have Ms. A's absentee in-person
19 preelection date ballot. And you've
20 explained it will have an identification
21 number on both the electronic version of the
22 cast, as well as the VV pack ballot in the
23 system.

24 So if there's an intervening event and
25 Ms. A's is disqualified, death for example,

1 the county election board can respond by
2 retracting the ballot. My question was can
3 the county election board at that time record
4 the number of Ms. A's ballot? And so it has
5 a running list of the number of -- the ID
6 numbers of the ballots that have been
7 retracted prior to the final --

8 MR. SHAMO: Let me answer it by
9 explaining how we retract. I think maybe
10 that will give us -- close this gap here. So
11 when the voter walks in and issues their
12 ballot, the voter identification number is
13 entered into the voting machine first only
14 for absentee voting. The logic within the
15 Infinity does not attach that directly to
16 their ballot.

17 It creates an electronic envelope
18 which that ballot goes in and that number is
19 stamped on the outside of it. So when the
20 retraction process takes place, it takes
21 place prior to the summation of all the votes
22 cast. And so what we do is we physically
23 plug the voting machine itself into the
24 computer.

25 We don't see ballot information or

1 votes cast. We simply see the list of
2 identifying numbers of voters that had voted.
3 In most cases, their voter ID number. What
4 we do, then, is we simply check that box of
5 that voter's ID number and do not include
6 that ballot in the electronic totals that
7 come out of that machine.

8 MR. HIRSCH: So I should point out
9 that I did modify that process. It now
10 includes that unique record ID on the same
11 line. So that as you're deciding "yes, I
12 want to void voter ID such and such," on the
13 same line you see the paper record identifier
14 on that line.

15 So you could record that number and
16 afterwards decide that's the one we're not
17 going to count.

18 MR. KING: So then in the event of a
19 recount, or a risk limiting audit, you would
20 be able to identify the specific paper trail
21 VV pack ballot that should not be
22 incorporated into the --

23 MR. HIRSCH: Correct. Because on that
24 particular screen, if you're looking at it to
25 do the retractions, it includes the paper

1 record ID.

2 MR. KING: Okay. I think that's what
3 we were generally getting at.

4 SPEAKER: And if I may. Just to refer
5 back to Mr. King's question to -- so in an
6 early voting context, you might have 25 DREs
7 with the VVPATm. Each one with their own
8 individual roll of paper. If Ms. A, you
9 know, voted on machine one, how would the
10 county election board know which roll of
11 paper to go back and pull to be able to view
12 and find that record to retract? Does it say
13 at the top of each day that this is July 1st,
14 you know, machine one?

15 MR. HIRSCH: It does. There's a roll
16 header. Every time the machine is powered
17 back up, it's printed. That's the first
18 thing that gets printed when it's reactivated
19 for voting.

20 SPEAKER 1: And we would know Ms. A
21 was --

22 MR. HIRSCH: But there would be
23 procedures on how you store those rolls.
24 That's beyond the scope of our certification.
25 So, you know, you pull it out of the machine

1 and where you put it -- I anticipated someone
2 would just put a rubber band around the roll
3 and write on the outside, you know, serial
4 number such and such on such and such date,
5 and put it on a shelf somewhere.

6 MR. KING: I want to invoke the Lake
7 County practices, how they handle the storage
8 of absentee ballots after we count them and
9 tabulate them on election day through an
10 envelope -- registered envelope number. And
11 basically signatures of date, like you
12 mentioned, day that roll was used, machine
13 that it was used upon, and that
14 (indiscernible) that we seal that envelope.
15 Therefore, we have a catalog running to go
16 back to that location.

17 MS. NUSSMEYER: And I don't believe
18 there is anything super specific in State law
19 that requires them each day to remove the
20 roll of paper and do this sort of reporting
21 that might be helpful on the back end
22 canvassing. But I do think that it's
23 probably worthy of conversation with the
24 counties for best practices.

25 MS. KING: I agree with Co-Director

1 Nussmeyer.

2 SPEAKER: And I believe that it's our
3 responsibility, too, as these practices
4 develop that we submit our procedures as part
5 of our VSTOP-certified system. You run it
6 through them so they verify the procedures
7 that we're doing then.

8 MR. HIRSCH: And we're continuing to
9 refine those as we gain more and more life
10 experience. We might not need to use
11 five-inch roll. You know, three-and-a-half
12 inch roll might be the optimum for certain
13 types of elections. And we'll find that out
14 over the years.

15 MS. NUSSMEYER: Is this supposed to be
16 used in the 2019 election?

17 MR. OKESON: I'm sorry?

18 MS. NUSSMEYER: Is this supposed to be
19 used in the 2019 general election?

20 SPEAKER: We will have approximately
21 100 units going out for pilot in counties
22 like -- the counties right now. Bartholomew
23 County is going to be our biggest focus.
24 They're going to use them in advanced
25 (inaudible) and for election date. And we've

1 contacted Boone County who's in agreement to
2 do it. And then depending on the remaining
3 numbers left, that we could put into Lake
4 County.

5 The only problem there is Lake County
6 wants to do it at all five of their satellite
7 locations. And that will pretty much take up
8 the inventory. So we're hoping that they
9 will focus on one or two of their satellite
10 absentee locations.

11 SPEAKER: The email exchange about the
12 office titles for the straight party
13 selections and -- so this paper ballot -- I'm
14 supposed to be able to look at this piece of
15 paper and have it and understand who they
16 voted for. And looking at it -- and this is
17 attachment five, I think.

18 MR. OKESON: Four or five.

19 SPEAKER 1: It doesn't seem to me to
20 be at all clear. And I don't know if this is
21 something that the county needs to work on or
22 who it's -- I see that it -- so it looks like
23 straight party selections is going to show
24 the public question of whether they answered
25 yes or no. And right below that it says

1 (inaudible) -- but it doesn't indicate the
2 office at all. And then if there isn't
3 straight party selection, it still doesn't
4 indicate --

5 MR. HIRSCH: The confusion is -- I
6 assume the confusion is what you're seeing is
7 the VSTOP test scenario election. So it
8 wouldn't say -- on this one it'd say,
9 President United States.

10 SPEAKER: Oh, so that helps. Because
11 when the titles are removed, I thought that
12 it meant it really was going to say office
13 one. I thought that really is not a --

14 SPEAKER: Yeah. In fact, one of the
15 modifications we made after we first fired it
16 it up is we realized we needed a more
17 significant indentation between the office
18 title and the candidates chosen. So it's
19 fairly clear when you see it with the actual
20 title.

21 MR. BAGGA: Mr. Chairman, members of
22 the commission, let me clarify that. When it
23 came out of the field test -- when we were
24 testing the paper record, we saw that the
25 public question was -- the label -- public

1 question was printed no matter whether the
2 voter has voted yes or no.

3 If it was an undervote in the public
4 question, the label will still be printed in
5 red. So that seemed to be confusing to a
6 voter. So the modification that they made,
7 now the label public question will only
8 appear if a voter votes yes or no.

9 Similarly, a straight party would only
10 appear if the voter chooses to vote straight
11 party. I would also like to add an element
12 to the previous discussion we had about
13 ballots and the number of tries and the
14 copies on the papers. And as reported on
15 page 1 that the official ballot is the real
16 ballot.

17 The paper record is just a copy and
18 that's not -- it's our understanding is the
19 official is the ballot in the DRE and not the
20 paper ballot. That's just a copy of that
21 form of identification.

22 MR. OKESON: Thank you for clarifying
23 that. Any other questions? And this is
24 expiring October 21st, 2021. So is there a
25 motion to approve the application for

1 modification on the micro-vote EMS 4.3
2 voting system of the recommendation of VSTOP
3 and subject to any restrictions or additional
4 requirement in that recommendation for a term
5 expire October 21st, 2021? Is there a
6 second?

7 SPEAKER: I'll second.

8 MR. OKESON: Any discussion?

9 SPEAKER: Real quick. Is there any,
10 like, statute and state laws that says we can
11 do this? Or is it a concern of outside
12 influence? Or what is the --

13 MR. SIMMONS: The 2019 statute of
14 general assembly past legislation authorized
15 the use of systems that do do that. So that
16 would be the first time in Indiana. It also
17 provided for phasing out over a ten-year
18 period the use of all electronic voting
19 systems that do not do that.

20 MR. OKESON: Any other discussion?

21 MR. BAGGA: We would also like to add
22 for the record question numbers that are
23 listed on page 2 for the components, the
24 Microsoft Windows 10 --

25 MR. OKESON: Before you go down that

1 road -- we have a motion. And we have a
2 second. We need to vote on that before he
3 continues on the record, correct?

4 MR. SIMMONS: I think you basically
5 close discussion. And take the vote on the
6 motion.

7 MR. OKESON: Yeah. So we have a
8 motion and a second to approve the micro-vote
9 voting system upgrades. End of discussion.
10 So take a vote. All those in favor signify
11 by saying "aye."

12 ALL TOGETHER: "Aye."

13 MR. OKESON: Hearing no nays, the
14 motion carries. And is adopted. Do you have
15 any additional comments?

16 MR. BAGGA: For the purpose of record,
17 we would like to add that the question
18 numbers that are shown on page 2 of the
19 report, in particular for component Microsoft
20 Windows 10 Professional, it lists the build
21 number of that question as 1809.

22 Those build number can change based on
23 when Microsoft decides to do security
24 updates. So that's the version number that
25 was tested for the build when we did the

1 field test with the lab test. That can
2 change.

3 MR. OKESON: Is that the 1809?

4 MR. BAGGA: Yes, Mr. Chairman.

5 MR. OKESON: Okay. Thank you. Moving
6 on to Hart InterCivic Verity 2.3 Voting
7 System application and report.

8 SPEAKER: Thank you. Mr. Chairman and
9 members of the commission, this is a
10 recommendation report for Hart InterCivic
11 Verity Voting 2.3. Which is an application
12 for a -- and evaluation of a new voting
13 system and for subsequent certification by
14 the Indiana Election Commission.

15 Hart InterCivic applied for this
16 certification on January 1, 2019. The system
17 went to the lab for testing -- the VISTAL lab
18 for testing and was found to be in compliance
19 with the VVSG version 1.0.2005. And the
20 system was also certified by the U.S.
21 Election Assistance Commission on March 15,
22 2019.

23 This particular voting system was
24 tested at Ball State University over a
25 two-day period on May 21st and 22nd of 2019

1 by the VSTOP team. And the field test
2 included verification of all the required
3 elements of the Indiana statutes as
4 applicable regarding voting systems as well
5 as an ADA compliance examination.

6 Mock elections including the
7 IED-approved test scenarios for straight
8 party voting or SCA61 were conducted on the
9 voting system. Verity Voting 2.3 is a
10 comprehensive voting system that includes
11 software/hardware components to support
12 paper-based, electronic, and by-mail voting.

13 These components allow election
14 officials to accomplish a variety of high
15 level tasks. The components of this system
16 are listed in the tables within the
17 recommendation report from VSTOP, which
18 includes a list of hardware, corresponding
19 firmware, corresponding software and a list
20 of COTS or commercial off-the-shelf
21 components that are used by the system.

22 The components that Hart InterCivic is
23 seeking certification on with their
24 corresponding software and firmware include
25 the Verity scan, the verity touch writer, the

1 Verity touch writer duo, and the verity
2 controller.

3 Based on our tests and our review of
4 the materials, we'd like to talk a little bit
5 about the findings of our examination of the
6 documentation, as well as correspondence with
7 Hart InterCivic with regard to this system
8 and our own on-campus test.

9 The verity touch writer duo is a
10 component which is -- consists of a series of
11 up to 12 ballot-marking devices that are
12 connected by a daisy chain network.

13 And what we found is that this
14 particular network is a closed network. And
15 it's just a connection of up to 12 voting
16 systems that could be controlled by a
17 controller, poll worker, in order to identify
18 specific ballot styles on each machine in
19 that 12 -- up to 12-machine daisy chain.

20 And this closed network -- and we
21 spent quite a bit of time researching this.
22 We believe it doesn't impose any additional
23 vulnerabilities or threats even though it's a
24 network without a person having direct
25 physical access to the hardware.

1 The verity print features were
2 determined to not be on the scope of
3 certification. And that was actually part of
4 the original application. The Verity printer
5 is a device that prints a ballot that is
6 unmarked. It's essentially a ballot that
7 would be marked.

8 And it wasn't under the scope of
9 certification for Indiana so it was removed
10 from the original application. And you'll
11 see an amended application in the packet of
12 materials, which was provided to us this
13 month.

14 As I mentioned earlier, on May 21
15 during the mock election, on the Ball State
16 University campus, we did experience an issue
17 with straight party voting. That affected
18 at-large races. The predetermined vote
19 tallied -- vote tallies -- for the at-large
20 races did not match the tabulated results
21 from the Hart system.

22 The representative from Hart
23 InterCivic was there for the test, was very
24 responsive to this and explained that the
25 reason for this was due to an improper

1 selection of a setting in the system. And he
2 discovered this later in the day through
3 correspondence with Hart InterCivic
4 technicians.

5 So they were able to correct this
6 problem, identify the problem, troubleshoot
7 the problem, and correct it so we could
8 repeat the mock election on the following day
9 on May 22nd, 2019. And everything turned out
10 fine with all of the vote tallies matching.

11 So our recommendation is that on the
12 bases of your review and evaluation, we find
13 that this particular voting system -- the
14 verity 2.3 referenced in the report -- meets
15 all of the requirements of the Indiana code
16 for the use of voting in the State of
17 Indiana.

18 And this finding includes compliance
19 with the legal requirements for the voters
20 with disabilities. Included in this
21 recommendation, VSTOP advises Hart InterCivic
22 to be sure to train poll workers to instruct
23 voters to verify their cast ballots printed
24 on the verity touch writer before scanning
25 with the verity scan.

1 VSTOP also recommend that the Hart
2 InterCivic company properly train election
3 personnel creating and validating election
4 setup to be in compliance with Indiana
5 requirements to make sure that proper
6 settings are made in the system prior to
7 deployment.

8 Therefore, on the basis of our review,
9 and our review of the laboratory test and our
10 own test on campus and our discussions with
11 Hart InterCivic, VSTOP is recommending the
12 certification of this particular system.

13 MR. OKESON: I'm not seeing anyone.
14 But I don't assume there's anybody around
15 back there from Hart InterCivic.

16 SPEAKER: They're not here.

17 MR. BAGGA: The vendors were notified
18 they were being heard. And they did not
19 respond to whether they were going to be
20 attending or not. So we don't have anybody
21 here.

22 MR. OKESON: I don't have an -- I
23 can't picture it in my mind, this software
24 setup. And you didn't even use the word
25 software --

1 SPEAKER: Daisy chain?

2 MR. OKESON: Not that. But just this
3 set up.

4 SPEAKER: Oh, the settings in the
5 system?

6 MR. OKESON: Yeah. Is that done -- is
7 that an internal mechanism?

8 MR. BAGGA: That's a process, if I
9 may. During the election setup, there's a
10 check box. So there's a series of check
11 boxes. And Indiana straight party
12 regulations, as we know, in Indiana the
13 at-large races must choose, if more than one
14 person can be elected, the voter -- the
15 straight party voter does not filter down to
16 those races.

17 A voter must choose those candidates
18 that she wants to vote. So when we did the
19 test on the first day, that wasn't happening.
20 The at-large bases were also being populated,
21 . Which we found in testing of course.

22 So there's an election programming for
23 Indiana setup where that box needed to be
24 check. And they had not checked that box.

25 MR. OKESON: But that wasn't a known

1 thing until there's an audit done,
2 essentially, at the end of the day, correct?

3 SPEAKER: Once we saw the results, we
4 realized something was wrong.

5 MR. BAGGA: We realized that.

6 SPEAKER: And we brought that to their
7 attention. Then they troubleshooted the
8 problem. And they discovered that was the
9 reason was that a check box was not checked
10 in the election definition settings within
11 the system.

12 MR. OKESON: So when you go out to the
13 counties with the system, right -- I mean, is
14 this tested in some manner before -- I guess
15 what I'm saying is you wouldn't know about
16 this until after the election, right? Until
17 the end of the day and you go -- and you
18 have -- can you speak to that?

19 MR. KING: Yeah, Mr. Chairman, there
20 are safeguards, most prominently a public
21 test that's required for all voting systems
22 prior to election date and actually prior to
23 the start of early voting. So any anomaly
24 should be identified and corrected by then.

25 MR. OKESON: Okay.

1 SPEAKER: Mr. Chairman, if I may.
2 This issue with Hart is not unique to Hart.
3 But was it just two-ish years ago when the
4 law changed about straight party and that it
5 would not be be applied to at-large races and
6 all of the voting system vendors in Indiana
7 had to come before the commission to request
8 changes in their software to do straight
9 party voting in accordance with Indiana law?

10 So the fact that Hart has a special
11 Indiana setting is not unique to Hart, other
12 voting system vendors do it. And then it
13 would not be available on an ES&S system.
14 For example, at the county level as Mr. King
15 indicated, that would pop up in a public
16 test, or (indiscernible) inaccuracy testing
17 leading up to the public test.

18 SPEAKER: How many systems are
19 certified -- do we use in the state?

20 SPEAKER: Three or four?

21 Mr. King: There are five vendors.
22 Some of whom have more than one model type
23 that are certified. And so the number of
24 potential models out there is somewhere in
25 the 10 to 12 area.

1 SPEAKER: And I guess, all of you
2 guys, is it normal for someone from the
3 organization to appear?

4 MR. HIRSCH: It depends. Sometimes
5 they do, sometimes they don't.

6 MR. KING: I would say it is not
7 expected. Especially in the case of vendors
8 from out of state. Not because of the travel
9 that's involved. Micro-vote happens to be a
10 locally located company. But we don't
11 necessarily see others from Colorado, for
12 example.

13 SPEAKER: And Commissioner, I went to
14 both field tests actually. And
15 (indiscernible) had representatives there to
16 be there to troubleshoot and work with VSTOP
17 so they have had communication with
18 (indiscernible) leading up to the field test
19 and results afterward.

20 SPEAKER: And does it hit the same
21 marks that the other vendors have hit? Are
22 you guys comfortable with it?

23 SPEAKER: I would say yes from an
24 administrative perspective.

25 SPEAKER: I would agree.

1 internal tests that vendors do with their
2 clients with this set of elections so those
3 tests should catch any of this.

4 MR. OKESON: Okay. Is there a motion
5 to approve the application for certification
6 of Hart InterCivic 2.3 voting system in
7 accordance with the recommendations of VSTOP
8 and subject to any restriction or additional
9 requirements in that recommendation for term
10 October 21st, 2021?

11 SPEAKER: So moved.

12 MR. OKESON: Second?

13 SPEAKER: Second.

14 MR. OKESON: Any discussion? Hearing
15 none. All those in favor say, "aye."

16 ALL TOGETHER: Aye.

17 MR. OKESON: Hearing none, the ayes
18 have it. The motion is adopted. I think
19 that wraps it up.

20 The Indiana Election Commission has
21 finished its business for the day. Is there
22 a motion for the Indiana Election Commission
23 to adjourn? All those in favor say, "aye."

24 ALL TOGETHER: "Aye."

25 MR. OKESON: We're adjourned. Thank

1 MR. KING: And I'll defer to counsel,
2 to see if they have -- Officer Bates, just
3 from a legal perspective.

4 SPEAKER: I will note that the report
5 from VSTOP is in the same form as in the --
6 their provided state recommendation as other
7 previous voting systems.

8 SPEAKER: Okay.

9 MR. BAGGA: If I may. In response to
10 your question, there are 11 different voting
11 systems. So, Brad, you are in the range
12 there.

13 And going back to Ms. Nussmeyer's
14 remarks about other voting system vendors
15 having similar settings. Yes, VSTOP has come
16 across other voting systems when the state
17 party laws in Indiana changed. Most all
18 vendors had to make modifications to comply
19 with the new state party requirements. And
20 they came up with these Indiana settings.
21 And vendors who do business and who have
22 certified systems in Indiana are aware of
23 those settings, and there are other
24 safeguards. In addition to Mr. King's
25 mention of the public tests, there are

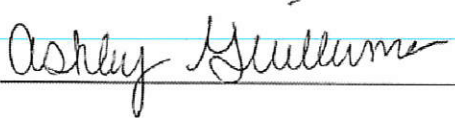
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C E R T I F I C A T I O N

I, ASHLEY GUILLERMO, hereby certify the report of proceedings; that said audio-recording was taken down from the electronic sound recording of the proceedings in the above-entitled matter and transcribed by me, and that the typewritten record was transcribed to the best of my ability.

I do further certify that I am a disinterested person in this cause of action, that I am not a relative or attorney of either party or otherwise interested in the event of this action, and that I am not in the employ of the attorneys for any party.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 12th of September, 2019.



Ashley Guillermo
Notary Public

My Commission Expires:
December 10, 2026
County of Residence:
Lake County, Indiana

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