

1 UNITED STATES DISTRICT COURT
2 FOR THE NORTHERN DISTRICT OF CALIFORNIA

3
4 BETTY LOU HESTON, individually,)
and ROBERT H. HESTON,)
5 individually and as the)
personal representatives of)
6 ROBERT C. HESTON, deceased,)

7 Plaintiffs,) No. CV 05-03658 JW

8 -vs-)

9 CITY OF SALINAS and SALINAS)
POLICE DEPARTMENT, SALINAS)

10)
11 (CAPTIONS CONTINUED NEXT PAGE))

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13
14 RULE 30(b) (6) ORAL AND VIDEOTAPED
DEPOSITION OF TASER INTERNATIONAL, INC.

15 (PATRICK WALLER SMITH, PMK)

16 AND

17 ORAL AND VIDEOTAPED DEPOSITION OF
18 PATRICK WALLER SMITH, AN INDIVIDUAL

19 (Volume II, Pages 181 - 314)

20 Scottsdale, Arizona

21 December 15, 2006

22 10:22 a.m.

23 REPORTED BY:

24 Jacquelyn A. Allen, RPR

25 AZ Certified Reporter No. 50151

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 (CAPTIONS CONTINUED))
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)
 POLICE CHIEF DANIEL ORTEGA,)
 TASER INTERNATIONAL, INC., and)
 DOES 1 to 10,)
)
 Defendants.)
)
)
 EVELYN ROSA and ROBERT ROSA)
 as individuals, and TAMMY)
 HIKE, as Guardian as Litem)
 for H.R., a minor, and as the)
 personal representatives of)
 MICHAEL ROBERT ROSA, deceased,)
)
 Plaintiffs,)
)
 -vs-)
)
 CITY OF SEASIDE, et al.,)
)
 Defendants.)
)

No. C 05-03577 JF

I N D E X

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2	EXAMINATION BY		PAGE
3	Mr. Burton		186
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7	EXHIBITS	DESCRIPTION	PAGE
8	2	Two-page document entitled "TASER Device Warnings and Risks, Effective June 28,	
9		2005"	233
10	3	Ten-page document, TASER International instruction course excerpts from	
11		Version 11, released January 2004	233
12	4	Ten-page document, TASER International instruction course excerpts from	
13		Version 12, released November 2004	233
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1 APPEARANCES: (Continued)

2

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7

ALSO PRESENT:

8

Michael Brave, Esq.

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Jim Law, videographer

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1 Scottsdale, Arizona

December 15, 2006

2 10:22 a.m.

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4 THE VIDEOGRAPHER: We are on the record, and
5 this is the third tape of the continuing videotaped
6 deposition of Rick Smith.

7 Today is December 15th of the year 2006 at
8 approximately 10:22 a.m. Our location is 17800 North
9 85th Street, Scottsdale, Arizona.

10 Jackie Allen is your certified court reporter,
11 and Jim Law is your certified legal video specialist,
12 with Driver and Nix, 3131 East Clarendon Avenue,
13 Suite 108, Phoenix, Arizona 85016.

14 Will the certified court reporter re-swear the
15 witness, please.

16
17 PATRICK WALLER SMITH,
18 called as a witness herein, having been first duly
19 sworn, was further examined and testified as follows:

20
21 F U R T H E R E X A M I N A T I O N

22 BY MR. BURTON:

23 Q. Good morning, Mr. Smith.

24 A. Morning.

25 Q. A couple points have come up regarding sort of

1 some things to be cleaned up from yesterday. Mr. Brave
2 says that either he has a recollection or has done some
3 research and can recall a few depositions that you've
4 had that you didn't recall yesterday.

5 A. Okay.

6 Q. And he's just going to mention them on the
7 record, and you can just tell him if he's wrong, that
8 didn't happen or something.

9 A. Okay.

10 MR. BRAVE: The ones that I believe there
11 were -- Rick did depositions in were the Texas Elsholtz
12 case, E-l-s-h-o-l-t-z; as Rick mentioned yesterday, the
13 Florida Lewis case, L-e-w-i-s; the Indiana Borden case,
14 B-o-r-d-e-n; as was discussed yesterday, the California
15 Alvarado case, A-l-v-a-r-a-d-o; the -- way back when,
16 the California Madera/Torres case, M-a-d-e-r-a slash
17 Torres, T-o-r-r-e-s; the Nevada Cook, C-o-o-k case; and
18 the Michigan Thompson case, T-h-o-m-p-s-o-n.

19 I believe those are the ones.

20 THE WITNESS: Okay. Sounds reasonable.

21 Q. BY MR. BURTON: Lewis, Borden, and Alvarado we
22 covered yesterday. Do you remember what the essential
23 contention in the Elsholtz case was?

24 A. Yes. I believe it was a death in police
25 custody that involved a police shooting, but there was

1 some TASER involvement.

2 Q. Do you know what police department it was?

3 A. I don't. It was in Texas.

4 Q. And do you know what the resolution of that
5 case was?

6 A. I don't know if it's been resolved yet.

7 Q. Madera/Torres, let me take a guess. Is that
8 the one where the officer took the -- her firearm out
9 and she thought it was a TASER?

10 A. Correct.

11 Q. And -- by the way, I have my own theory about
12 what happened in that case.

13 A. I'm curious. What is it?

14 Q. It's that she took her firearm out and that she
15 squeezed off a round accidentally and then made up a
16 story about thinking it was a TASER. But I'm very
17 cynical about police squeezing off rounds accidentally
18 and not admitting it.

19 A. Interesting.

20 Q. Because I don't see how you could possibly make
21 that mistake, since they're holstered on opposite sides.

22 What's the status of that case, do you know?

23 A. We won at summary judgment --

24 Q. That's right.

25 A. -- in that case.

1 Q. Actually, I knew that.

2 And in the Cook case?

3 A. The Cook case involves a police officer
4 shoulder injury during a training hit. We suspect that
5 had something to do with the spotters and the way they
6 were holding the arm as he fell down, pushed his
7 shoulder.

8 Q. And the Thompson case?

9 A. I believe Thompson is an in-custody death case.

10 Q. Do you know what department that was?

11 A. I do not.

12 Q. Do you know the status of that case?

13 A. Not offhand, I don't recall.

14 MR. BURTON: And Mr. Brave, what did you say
15 was the state?

16 MR. BRAVE: Michigan. The status is the court
17 granted our motion for summary judgment.

18 MR. BURTON: Do you know what court that was in
19 in Michigan?

20 MR. BRAVE: I can tell you in about 30 seconds.

21 MR. BURTON: The department?

22 MR. BRAVE: I can tell you both.

23 Q. BY MR. BURTON: While he's doing that, the
24 other clean-up that we had had to do with these test
25 results from the recent breathing studies. And we

1 understand as a result of inquiry that was made as a
2 result of some discussions we had off the record at the
3 conclusion of yesterday's deposition, you ascertained
4 that Mark Johnson, who is a TASER employee, is involved
5 in the project and may in fact be a coauthor of any
6 report, and therefore may have access to at least some,
7 if not all, of the data --

8 A. Correct.

9 Q. -- that is potentially going to underlie that
10 publication, and that counsel are going to make efforts
11 to make the data available to the plaintiffs and their
12 expert witnesses in my two cases, subject to an
13 appropriate protective order.

14 A. That's correct.

15 Q. And I've explained to them, and I think you're
16 aware, that the plaintiffs in this case will either get
17 the data or seek an order from the court that the data
18 must be excluded from consideration in the litigation
19 because the plaintiffs did not have it made available to
20 them.

21 A. Right. We want you to have the data.
22 Obviously, there are some issues that require the
23 protective order, but I'm sure those can be resolved.

24 Q. And we sort of set a target date of getting
25 this resolved by January 22nd, which is the date that we

1 have noticed for a hearing on certain objections we have
2 regarding the expert witnesses in the Heston case.

3 A. Okay.

4 MR. BURTON: Whether a hearing would go forward
5 on that date or not would depend on Judge Ware and
6 factors that are beyond our control. But right now,
7 there's a noticed hearing that raises this issue for
8 that date.

9 Mr. Brave?

10 MR. BRAVE: The case is in the State of
11 Michigan, in the Circuit Court for the County of
12 Saginaw, S-a-g-i-n-a-w. It's Devica L. Thompson, first
13 name D-e-v-i-c-a, middle initial L. The file number is
14 03-0500008-N0-2. The police agencies are Carrolton,
15 C-a-r-r-o-l-t-o-n, Township Police Departments and
16 Zilwaukee, Z-i-l-w-a-u-k-e-e, Police Department, and the
17 date of the court's granting of our motion for summary
18 judgment is June 1st, 2006.

19 Q. BY MR. BURTON: Thank you.

20 Mr. Smith, do you happen to recall just any of
21 the general circumstances of the Thompson case?

22 A. I do not.

23 Q. Such as the number of TASER cycles?

24 A. No, I don't. It's been a while since the
25 deposition.

1 Q. Now I'd like to turn to where we were when we
2 left off yesterday, which was the HECOIE study, and
3 everybody -- oh, before I do that, the document I gave
4 you yesterday we marked as Exhibit 1 was actually the
5 training bulletin that went with the June 28th, 2005
6 warning that I questioned you quite a bit about and not
7 the warning itself. So your counsel kindly provided a
8 copy of the warning, which I understand to be virtually
9 verbatim and indistinguishable on any of the material
10 points that we were discussing yesterday in terms of
11 warning against prolonged exposures and interference
12 with respiration and so forth. So we'll have that
13 marked as Exhibit 2, just so the record of this
14 deposition is complete on that point.

15 If there are some discrepancies between the
16 warning and the training bulletin, if they could be
17 pointed out, that would be helpful, but I don't think
18 there are, based on my review of the two.

19 A. Okay.

20 Q. Now I'd like to talk about the HECOIE report at
21 some length. Was TASER International contacted at some
22 point by HECOIE and told that this study was going to
23 take place?

24 A. Yes.

25 Q. Did TASER International have a role in

1 initiating the HECOIE study?

2 A. Only insofar as we had approached the
3 Department of Defense about deploying TASER devices, and
4 this was, I believe, initiated within the Department of
5 Defense as a first step towards deployment. But TASER
6 never, you know, suggested that the Human Center of
7 Excellence do a study. We did not know who they were
8 until this project was launched.

9 Q. Just to summarize, to make sure I understand
10 what you're saying, TASER went to the DoD as a potential
11 customer, and the DoD said, Okay, we're going to do this
12 study and then we'll get back to you?

13 A. Not in those exact words, but that describes
14 the process. It was the Department of Defense that
15 determined that this study was something that they would
16 do.

17 Q. What was the approximate date that the DoD was
18 approached as a potential customer?

19 A. I would say our initial contacts probably began
20 in the year 2000.

21 Q. And when did TASER International learn that
22 HECOIE was going to do a study?

23 A. Most likely in mid 2003.

24 Q. Now, it seems obvious to me from reading the
25 study itself that TASER employees and consultants

1 participated very directly with the HECOIE investigators
2 in the process.

3 A. Correct.

4 Q. And did that begin about mid 2003?

5 A. I don't remember the exact date, but I would
6 approximate mid 2003.

7 Q. Did TASER International have anybody who was
8 one of its, let's say, employees or consultants or
9 somebody that it paid money to in one capacity or
10 another, let's say, on the HECOIE side of the study?

11 A. I'm not sure I understand the question.

12 Q. Well, there were people like Clifford Sherry
13 and other people, Dr. Klauenberg, who are listed as
14 authors of the study who actually worked for HECOIE in
15 preparing the study. Were any of those people employees
16 or consultants of TASER?

17 A. No.

18 Q. So it would be fair to say about the HECOIE
19 study that it was -- the people who did the study were
20 completely independent of TASER, but they received a
21 significant amount of input and data and information
22 directly from TASER?

23 MS. GIBEAUT: Objection to form. I don't know
24 what you mean by "significant."

25 Q. BY MR. BURTON: Okay. They received some input

1 and so forth from TASER?

2 A. Yes.

3 Q. And did you personally meet with the HECOE
4 people?

5 A. Yes.

6 Q. And I'm talking about during the study process.

7 A. Yes.

8 Q. Were there particular people from the HECOE
9 study group that were, like -- appeared to you to be
10 assigned to TASER and to acquiring information from
11 TASER?

12 A. Not specifically. The data gathering was done
13 in a meeting format, in an open meeting format, where
14 TASER was invited, law enforcement users were invited.
15 I think they called it a call for data was the way they
16 described it.

17 Q. And some of the data you would be able to give
18 them directly at the meeting, and then sometimes you
19 would have to research and then send it to them or
20 whatever?

21 A. I believe so.

22 Q. I mean, is there an individual or any
23 particular individual that you recall as dealing with
24 more than anyone else from the HECOE side?

25 A. Not really. Not really. There was an

1 administrative assistant, I don't remember her name, who
2 tended to make contact regarding travel arrangements to
3 attend these meetings or would follow up to request the
4 information that was discussed at the meetings, but I
5 don't recall any of the technical people having a
6 particularly focused role.

7 Q. How many meetings would you estimate there
8 were?

9 A. I believe there were three.

10 Q. And, like, what was the duration of the
11 meetings? Were these, like, days or hours?

12 A. I think about a full day each, one to two days
13 each.

14 Q. What employees from TASER participated in the
15 meetings besides yourself?

16 A. Myself, Max Nerheim, and Robert Stratbucker.

17 Q. How about Mark Johnson?

18 A. I don't recall if he participated or not. I
19 don't think so.

20 Q. And were there any TASER-retained consultants
21 or independent contractors, somebody that TASER had an
22 ongoing financial relationship with, at that time or
23 previously, who also participated in the meetings?

24 A. It's hard to remember exactly who was there.
25 Some of the master instructors who obviously trained on

1 TASER may have attended some of those meetings, but I
2 don't recall exactly which officers were there and
3 whether or not they were master instructors or not. I
4 would have to see the list of attendees.

5 Q. Were you told what the HECOE findings were
6 going to be before the report was issued?

7 MS. GIBEAUT: Objection; asked and answered.

8 THE WITNESS: Not specifically. You know, we
9 were there for many of the discussions, and the third
10 meeting was where they had an expert review panel. So
11 there were ongoing discussions about the TASER
12 technology in general, but as with most government-type
13 studies, we didn't get a lot of insight until it was
14 finalized. And of course, you never quite knew what the
15 final findings would be.

16 So, I mean, we had some feedback and we had
17 some insight into the process, we could -- but I
18 wouldn't say that we knew the results affirmatively
19 until the report was finalized, and that really was in
20 the October time frame of 2004, as we were working on
21 the press release together with the JNLWD.

22 Q. BY MR. BURTON: I guess I don't understand --
23 well, my copy of the report, which was also -- which I
24 got I think off the Research Compendium, is dated
25 March 1st, 2005. Do you know why that is if the report

1 was released in 2004?

2 A. The executive summary was released in 2004.

3 Basically, my recollection of events was that
4 in December of 2003 at the last of the review meetings,
5 there was a consensus that there was an urgency that our
6 troops in Iraq and Afghanistan needed the TASER
7 capability. And at the meeting in December, the
8 consensus was that they would issue a high-level summary
9 immediately to at least get the green light for the
10 Department of Defense to start deploying TASERs early in
11 2004. I think they wanted to do it within a matter of
12 weeks, but then it sort of bogged down in the process.

13 And it ended up taking until October of 2004
14 for them to release the high-level executive summary
15 findings, which, again, the research group thought there
16 was a sense of urgency to get TASERs fielded. October
17 they released the high-level approval and the executive
18 summary, but they withheld on releasing the full report
19 until March of 2005. I think it's because it took them
20 that long to finalize the document and get sign-off from
21 all of the experts that were reviewing it.

22 Q. Do you have a copy of the October 2004
23 high-level executive summary?

24 A. I believe it's on our website, and yes, we have
25 a copy.

1 Q. If I have trouble locating it, I'll contact
2 your counsel and get that straightened out.

3 A. Sure.

4 Q. Were there any material differences between, in
5 your view, regarding the safety of the TASER as reported
6 in the high-level executive summary of October 2004 and
7 the March 1st finalized final report?

8 A. Substantively, no. There's obviously a lot
9 more detail in the final report.

10 Q. These dates are of some interest in our two
11 cases because, as you may or may not know, Mr. Rosa
12 was -- died on October 29th, 2004, in the early morning
13 hours of October 30th -- his incident occurred around
14 midnight -- and then Mr. Heston died on February 20th,
15 2005. So it's right in this same exact time period.

16 So I'm going to be asking you questions based
17 on the document I have, which is a March 1st, 2005
18 summary. And some of these questions go directly to
19 medical issues that are involved in these two cases.
20 And if there's a difference, if this is something that
21 you didn't know until the March 1st summary and the date
22 makes a difference, I would appreciate you bringing it
23 to our attention.

24 But if -- you have a copy of the HECOIE summary
25 there?

1 A. I do.

2 Q. And this is a March 1st summary, and we're not
3 going to mark it as an exhibit because of its length,
4 but I think we know what it is.

5 And I'd like to invite you first to page 9.
6 And in terms of the -- that's a chart of the effects
7 that were considered, and I'd like to refer you to under
8 Electrical Effects, and it says: Acute respiratory
9 impairment and failure, severity level 2 to 3.

10 Do you see that?

11 A. I do.

12 Q. And it says: Low concern - potential concern
13 only for extended duration stimulation.

14 And I'd like to ask you what you understood
15 that to mean.

16 A. I understood that to mean that this panel had
17 concluded that it was not an effect that they had much
18 concern about with the handheld devices.

19 When the HECOIE is talking about extended
20 duration, there is another application called the HENLM,
21 Hand Emplaced Non-Lethal Munition requirement, which was
22 where they were looking at placing a device that is
23 autonomous. Basically, it operates something like a
24 land mine that would be set up for area denial, and the
25 person that walks close to that device could get shot

1 with a TASER type of effect. And the requirement would
2 be to incapacitate and hold that person down for
3 extended periods of time because there's no people
4 around. They may need to keep them there for hours,
5 literally.

6 So my interpretation of this was that this was
7 not a concern this group had with the normal handheld
8 operation of the device, but that they might have
9 concern if deploying it in this autonomous mode where it
10 might apply shocks for hours, literally, that that would
11 be something they would be more concerned about.

12 Q. And then the line -- the next line is
13 Rhabdomyolysis, and the comment is, verbatim only, it
14 says "significant concern" rather than "potential
15 concern." Would your answer be the same about that, or
16 would it be different?

17 A. It would. It would.

18 Q. And then under Ventricular Fibrillation, it
19 gives concern as 3, which I understand to be the highest
20 level, and it says: Effect of concern - included in
21 quantitative assessment based on animal dose-response
22 data.

23 Did you have an understanding of what that
24 meant?

25 A. Yes.

1 Q. And what was that?

2 A. That this was an effect that one would be
3 concerned about, and -- oops, I'm sorry. I'm looking at
4 the wrong one here again. "Included in quantitative
5 assessment," so basically I think they came to the
6 conclusion that for the types of applications one would
7 see with the handheld device, you know, VF would be an
8 effect they would be concerned about, whether or not it
9 could occur, and that quantitative assessment had been
10 done on the animal model. I think they were referring
11 there primarily to the PACE study.

12 So in general, they're saying this is the type
13 of effect one would be very concerned about, but I think
14 the report and the supporting data shows that it's not
15 an effect that's associated with this type of current.

16 Q. I'd like to invite your attention to page 19,
17 and there's a Section 3.3.2.8, which has several
18 subsections I'm going to go through. The heading is
19 Effects of Prolonged Muscle Contraction: Respiratory
20 Impairment, Acidosis, Rhabdomyolysis, and Nervous System
21 Effects.

22 And do you have that?

23 A. I do.

24 Q. I'd like to invite your attention to the
25 sentence, it's about two-thirds of the way through that

1 first paragraph, or halfway through. It says: Field
2 experience indicates that in most cases only one or a
3 small number of five-second activations are needed to
4 achieve and maintain control of the subject.

5 Do you agree with that sentence?

6 A. Yes. That's the general experience.

7 Q. Do you know where that information came from?

8 I know this is HECOE's report and not your report.

9 A. Well, it says from their personal
10 communications to law enforcement officials. I don't
11 know which officials those would be.

12 Q. At that time in 2003, did the TASER training
13 program instruct officers that it may be appropriate to
14 deploy more than one M26 in the dart mode and activate
15 more than one five-second cycle on a subject?

16 A. Are those two questions?

17 Q. I can break it down into two.

18 A. That would be helpful.

19 Q. Okay, let's take the first one. Do you know
20 what the training was in 2003 --

21 A. I believe --

22 Q. -- regarding the number of devices?

23 A. I believe there was some discussion in the
24 training that there were circumstances where the
25 deployment of more than one TASER device might be

1 tactically required, and I believe that we had a video
2 on there showing some volunteers taking hits from two
3 TASERS at the same time. So I don't recall the exact
4 context.

5 Q. Has that training changed since then?

6 A. I don't think so.

7 You know, one of the challenges with the TASER
8 is, because it's a single-shot device, reloading can be
9 difficult during a stressful situation. So if there's a
10 miss, obviously deploying a second TASER may be
11 tactically advisable or necessary, or in certain cases,
12 with subjects that are perceived to be particularly high
13 risk, where an officer may get injured if they deploy a
14 TASER and they miss or it's ineffective, that having a
15 second TASER to deploy on target. So those are the
16 types of discussions.

17 Generally in our training at TASER we stay out
18 of making recommendations about when to employ a certain
19 tactic or not. We talk more about the capabilities and
20 limitations of the device. So the context of our
21 training, I think we're just more bringing to the
22 attention of law enforcement, hey, be aware, this is a
23 single-shot device, and that reloading may be -- you
24 know, require some skill and may be difficult, and
25 accordingly, you know, there are tactics you should look

1 at, such as, you know, having secondary TASER devices.

2 But we in general stay away from providing any
3 tactical advice, because really, that's the expertise of
4 law enforcement. We manufacture -- we're an equipment
5 manufacturer. So our training focuses on the
6 capabilities and limitations of the equipment, and then
7 we bring up tactical issues and the implications of
8 those capabilities and limitations. But that's where
9 sort of our training stops, and we hand off to the
10 experience and expertise of law enforcement professional
11 trainers.

12 Q. Well, when you were giving this training that
13 under certain circumstances two or more TASERs might be
14 deployed at the same time, prior to the June 2005
15 warning, were you, meaning the TASER instructor program,
16 also telling the people who were being instructed that
17 if the target is in a state of excited delirium, he may
18 be acidotic, and that there could be some health risk of
19 multiple TASER cycles?

20 A. I'd want to see the training materials in
21 specific to see what we said at that time about excited
22 delirium. It's hard for me to keep track -- we are on
23 our 16th version of training -- as to exactly what was
24 in each version.

25 Q. Well, that is a specific subject that's in the

1 deposition notice. And I think the answer is no, you're
2 saying right now you don't know. You'll have a chance
3 to correct the transcript, and that might be one that
4 you might want to -- I'll accept right now your answer
5 is you don't know, but that might be one that might be
6 appropriate.

7 A. Well, as you know, each of these training
8 programs are between 100 and 250 slides, plus attendant
9 written materials. Like I said, we have 16 versions of
10 training, so it's hard for me to keep track of, you
11 know, which details were in each version of training.
12 I'm the person most knowledgeable, but you can't keep
13 all that straight without, you know, having it in front
14 of me.

15 Q. Well, maybe if we need to straighten it out, we
16 can do some follow-up. I mean, I've been doing a crash
17 course in that myself, and I understand the volume
18 that's involved.

19 It says here, the passage I just read: Field
20 experience indicates that in most cases, only one or a
21 small number of five-second activations are needed.

22 I'm wondering, what's your understanding of
23 what, quote, a small number, unquote, means in that
24 sentence?

25 A. I would be speculating as to what the authors

1 meant.

2 Q. Well, based on your understanding of field
3 experience in most cases involving M26s and X26s, what
4 is your understanding of what the small number of
5 five-second activations are that are present in most
6 cases?

7 A. My interpretation would be probably five or six
8 or less.

9 Q. Now, the next sentence: However, repeated or
10 constant activation of the devices can deliver constant
11 electrical output, which results in sustained muscle
12 contraction with little or no muscle recovery period.

13 Do you agree with that statement?

14 A. Yes, assuming good contact, it can cause
15 sustained muscle contractions.

16 Q. With no -- little or no muscle recovery period?

17 A. In the case of constant activation, yeah, the
18 muscle would continue to flex.

19 Q. And that could be accomplished with an M26 by
20 holding the trigger down for whatever, 10, 15, 20
21 seconds?

22 A. Correct.

23 Q. And then that would record on the dataport, if
24 everything was working properly, as a series of
25 five-second activations; is that correct?

1 A. Correct.

2 Q. Now, what's your understanding of the
3 significance of there being little or no muscle recovery
4 period?

5 A. I'm not sure there is a particular significance
6 to that.

7 Q. Have you ever heard of the concept of a
8 refractory period?

9 A. Yes.

10 Q. And what does that mean to you?

11 A. I'm not sure a refractory period would apply
12 here. A refractory period, as I would think of it,
13 would be the period between individual pulses, after the
14 muscle twitches, that it relaxes again.

15 Of course, people -- there are different uses
16 of the term "refractory period," but as far as muscular
17 stimulation, that would be my interpretation; they'd be
18 talking about the period of relaxation after an
19 electrical pulse or a nerve impulse twitch stimulation.

20 Q. Do you have a concept of what the refractory
21 period for a human muscle is?

22 A. Yes.

23 Q. And what is it?

24 A. I'm drawing a blank on the exact number right
25 now, but I could back into it, that it would be

1 somewhere around 100 milliseconds, because at shorter
2 than 100 milliseconds, the individual twitches start to
3 fuse into clonus. So in the context here where we're
4 talking about the relaxation following a contractile
5 twitch, would be in that range.

6 Q. So the concept you're using is one that, I
7 guess I would call it mechanical, in the sense that if
8 you have the pulses closer together than the 100
9 milliseconds, the muscle won't have time to relax, and
10 it will stay in that kind of pure tetanic state we were
11 talking about yesterday?

12 A. I would not agree with that characterization.
13 There is relaxation that occurs.

14 The point is, though, that you don't get to
15 complete -- if you have a twitch and then it comes back
16 to zero, individual twitches then do not summate. As
17 you start to bring those electrical pulses closer
18 together, you get some overlap of those twitches so they
19 start to summate, but there's still relaxation that's
20 occurring between each twitch. It may not be visible to
21 the naked eye at which you may start to see the muscle
22 moving in a smooth manner, but at the level of the
23 muscle fibers, there's still relaxation, until you get
24 up to very high stimulation frequencies, like 80 pulses
25 per second or so.

1 Q. Now I'd like to -- to next sentence has to do
2 with what you had mentioned before, I'll call it the
3 land mine or the booby-trap TASER. And then the last
4 sentence reads: If long periods of uninterrupted EMI
5 activation did occur, the risk of unintended adverse
6 effects, such as cardiac arrhythmia, and then there's a
7 parenthetical, (see ventricular fibrillation discussion,
8 Section 4.4), impairment of respiration, or widespread
9 metabolic muscle damage, and then there's a parenthesis,
10 (rhabdomyolysis) could be severe.

11 Do you see that sentence?

12 A. I do.

13 Q. And what's your understanding of what they mean
14 by "long periods"?

15 A. Well, again, I think here we're contemplating
16 tens of minutes or even hours. So of course what
17 they're saying, you know, for very long periods of time,
18 some activities that might be normal for seconds or
19 minutes might be more problematic for very long periods
20 of time with an autonomous device. That's my
21 understanding.

22 Q. Do you agree with that sentence?

23 A. Parts of it.

24 Q. Why don't you tell us what parts you agree with
25 and what parts you don't agree with.

1 A. Okay. The risk of cardiac arrhythmia,
2 particularly ventricular fibrillation, it's my
3 understanding in discussions with some of our medical
4 experts that the risk of ventricular fibrillation does
5 not change significantly beyond about two seconds, that
6 after the heart's been under stimulation for about a
7 two-second time period, that the risk doesn't increase
8 beyond that. The heart is in sort of a stasis. If it
9 hasn't fibrillated by then, it's not likely to
10 fibrillate. So I don't know that the duration as far as
11 cardiac arrhythmia, ventricular fibrillation in
12 particular, goes up with time.

13 The impairment of respiration, if that were to
14 occur, then of course it would be a bigger risk over
15 longer time periods. My personal experience is that it
16 does not impair respiration, so that would be less of a
17 concern. But that data was not known, or at least it
18 wasn't documented at the time of this report. I mean,
19 we had qualitative data, human volunteers breathing when
20 they were hit, but it hadn't been really raised as a
21 significant issue yet, and therefore, hadn't been
22 documented the way it has been recently.

23 "Or widespread metabolic muscle damage could be
24 severe." And I would agree with that if we're talking,
25 again, about very protracted time periods. Again, I hit

1 the gym this morning, and, you know, I'll go for two to
2 three minutes on a set of doing some pretty heavy
3 muscular work, and I think that's fairly normal. And
4 that's not where I'd be worried about metabolic muscle
5 damage. I think you were talking about much, you know,
6 longer durations of very intense work. So -- but I
7 would agree, you know, if we're talking tens of minutes
8 or longer, that the muscle damage, because we are
9 getting sustained contractions, would be a concern.

10 Q. Did TASER International take any steps to
11 clarify with HECOE what was meant by "long periods of
12 uninterrupted EMI activation"?

13 A. No. I mean, to me, it was fairly clear, when
14 they're talking about devices that are deployed on their
15 own with no human oversight, that they're talking about
16 putting people down -- and, you know, if you knock
17 somebody down for 20 seconds, you haven't accomplished
18 much. You need to keep them down for quite a long
19 period of time until someone can get there to deal with
20 it. So my understanding is this was fairly obvious that
21 we're talking about very long periods of time.

22 Q. Did anybody ever raise with you, sort of
23 reading this paragraph as a whole, in saying that HECOE
24 seems to be possibly suggesting here that periods longer
25 than the one or small number of activations needed to

1 maintain control of the subject starts to raise these
2 risks of arrhythmia and rhabdomyolysis and impairment of
3 respiration?

4 MS. GIBEAUT: Objection to form.

5 THE WITNESS: Yeah, I don't recall that being a
6 concern for the handheld application.

7 Q. BY MR. BURTON: Let's look at the next -- or
8 it's a subparagraph, it's 3.3.2.8.1, Acute Respiratory
9 Impairment and Failure. And the first sentence reads:
10 If placement of the darts induces spasm of the muscles
11 of respiration, and then there's a paren, (diaphragm and
12 intercostal muscles), end paren, one can hypothesize
13 that the subject may not be able to breathe.

14 Do you see that?

15 A. I do.

16 Q. And is there presently published -- and I know
17 we kind of went over this yesterday, but I just want to
18 make it clear -- any findings that you know of -- and
19 I'm talking about published, and I know we're going to
20 deal with Dr. Ho's and Dr. Chan's stuff downstream --
21 that disprove this particular hypothesis?

22 A. I think there may be some of Ted Chan's work.
23 I don't recall if he addressed breathing specifically in
24 his work that's already been published.

25 So other than that, most of the work I'm aware

1 of -- or other than that, all the work that I'm aware of
2 is currently in publication process, so it has not yet
3 been published. That has really been a rather recent
4 issue that this has been raised as a concern.

5 Q. Well, was this raised in 2003 when this study
6 was initiated and you were at these meetings?

7 A. It was raised -- I think you need to look at
8 the qualification language, if placement of the darts
9 induces spasms, one can hypothesize. But it wasn't
10 something that we were seeing.

11 You've got to remember, I wasn't just relying,
12 and the company was not just relying, on published data,
13 but on our own experience of seeing hundreds and
14 thousands of people hit with TASERS, and we weren't
15 seeing people stop breathing. So while this was a
16 theoretical issue, and it was focused on an application
17 that didn't exist yet, very long applications of an
18 autonomous device, so no, there really wasn't a concern
19 that seemed reasonable at the time, at least not as it
20 related to our handheld devices.

21 Q. Now, the next sentence says: Furthermore,
22 personal observations during animal studies in pigs, and
23 then there's a reference to Clifford Sherry, suggested
24 that the test animals hold their breath while being
25 stimulated with the TASER.

1 I notice that Dr. Sherry is a coauthor with
2 Dr. Jauchem.

3 A. Correct.

4 Q. And is it your understanding that these
5 personal observations, this is the same test that was
6 published in the October 2005, Jauchem?

7 A. That, I don't know. I frankly didn't recall
8 this point from any of the discussions that were being
9 held at the time.

10 I mean, really, the primary focus were on the
11 effects that were of concern, ventricular fibrillation
12 quantification in particular, risks from falls, eye
13 strikes injuries, modeling of those risks. That's where
14 the focus of those data-gathering meetings were at. So
15 I didn't -- you know, didn't recall any real discussion
16 about this issue or their tests on the pigs.

17 Q. Do you know Dr. Sherry?

18 A. I've met him.

19 Q. Do you have any question about his
20 qualifications or his integrity or competence?

21 A. I don't think so.

22 Q. Have you, or to your knowledge, has anybody on
23 TASER's behalf, discussed this particular personal
24 observation with Dr. Sherry?

25 A. I don't believe we talked to Sherry, no.

1 Q. Same question, Dr. Jauchem?

2 A. Yes.

3 Q. And did you personally discuss with Dr. Jauchem
4 the question of the respiration in the pigs?

5 A. Yes.

6 Q. And what did he say?

7 A. Our discussion was much later than this, when
8 they were presenting their findings in -- it was a
9 conference sometime in maybe 2005. And the discussion
10 basically was about what their findings were. This was
11 just before I think the Canadians had released their
12 study, so this was the first time that we'd heard of
13 this kind of data.

14 And it's pretty much consistent with what we
15 talked about before. We talked about the pigs and why
16 it was that we didn't think we were seeing this effect
17 in humans. We talked about the anesthetic, and the pigs
18 behave quite abnormally when they're restrained on their
19 backs. It's not a position they're normally in
20 physiologically, so sometimes they see bizarre
21 responses. I remember we talked about that.

22 Q. But what did Dr. Jauchem say to you, not about
23 what -- I know kind of what TASER's position is on that,
24 but I was just wondering if what Dr. Jauchem had said --

25 A. I think basically he just advised us of some of

1 the results that were in his study, the one that was
2 later published.

3 Q. Did he tell you whether or not he agreed with
4 the qualifications that you were making about the
5 reliability of his observations? Or not the reliability
6 of the observations, but their transferability to human
7 beings?

8 A. I recall he agreed.

9 Q. Now I'd like to -- I'd like to go to the next
10 paragraph. Well, let me finish this one. The next
11 sentence says: In an extreme case of several minutes of
12 exposure during which respiration is impaired, acute
13 respiratory failure, which is immediately life
14 threatening, could plausibly develop.

15 And "several minutes," is what they're talking
16 about there, is that your understanding if it were the
17 case that the device stopped respiration, then the
18 subject could asphyxiate?

19 A. Yes. I mean, basically what they're saying is
20 if the subject can't breathe for several minutes, they
21 might asphyxiate.

22 Q. And then the next sentence: Acute hypoxia and
23 CO2 retention causes acidosis and failure of aerobic
24 cellular energy production in all tissues, with earliest
25 effects seen in the brain and the heart.

1 Do you agree with that just as a scientific
2 principle?

3 A. Yes.

4 Q. And the next sentence: Respiratory failure or
5 muscle lactate production, or a combination of these,
6 may induce acidosis.

7 Do you see that?

8 A. I do.

9 Q. And is muscle -- do muscles produce lactate
10 when they're contracted?

11 A. Yes.

12 Q. And would that be true whether they're
13 contracted voluntarily, let's say by the brain when you
14 were weight-lifting this morning, or when they're
15 contracted involuntarily by application of a TASER
16 current?

17 A. Yes.

18 Q. And is it true as a general scientific
19 principle, as your understanding, that the more the
20 muscle is contracted, the more lactate it will produce?

21 A. Generally my understanding would be the longer
22 time duration it's contracted, the more lactate it would
23 produce.

24 Q. And how about the intensity? Do you produce
25 more lactate when you bench press 200 or 120?

1 A. I'm not so certain. I'd want to go look at the
2 data on intensity before being in judgment there. I
3 know about the time correlation.

4 Q. The next sentence: Any acidosis from sustained
5 muscle contraction will at first be localized to muscle,
6 and would affect systemic pH only if lactate production
7 were prolonged and massive, such as might occur with
8 stimulus durations much greater than the five seconds,
9 even without impaired respiration.

10 Do you agree with that?

11 A. In general, yes.

12 Q. Is there any difference you have with it? I
13 mean, when a lawyer hears somebody say "in general,"
14 they always say that's a weasel word, and they want to
15 pin the person down.

16 A. I don't know if I would agree with "weasel
17 word," but I --

18 Q. That's what lawyers call it.

19 A. -- what I would say is if lactate production
20 were prolonged and massive, those are important
21 qualifiers, so with those qualifiers, I would agree
22 here. I'm not sure that we'd characterize the direct
23 application of those parameters onto TASER-induced
24 muscular contractions.

25 Q. Well, let's flip the sentence around and put

1 the first part second, so it would kind of read -- the
2 third part first, and so it would read: What might
3 occur with stimulus durations much greater than five
4 seconds would affect systemic pH.

5 In other words, do you agree with the premise
6 of this sentence, that stimulus durations much greater
7 than the five seconds, even without impaired
8 respiration, would affect systemic pH?

9 A. You left out "only if lactate production were
10 prolonged and massive," and I don't know if the data
11 that supports -- I don't know if data supports, and I
12 don't think it does, that lactate production is massive
13 from a TASER discharge.

14 So I'm just very careful about -- you're trying
15 to make the leap from where they're talking here about
16 sustained muscular contractions, will it first be
17 localized, it would affect systemic pH only if lactate
18 production were prolonged and massive, such as might
19 occur with stimulus durations of much greater than five
20 seconds. So I think -- I don't want to agree with that
21 sentence -- I wouldn't agree with that sentence without
22 that qualifying language, because they're speculating
23 there about whether lactate production would be massive,
24 and I don't think the data supports that it is.

25 Q. Well, when TASER put the M26 on the market in

1 late 1999, what data did it have regarding lactate
2 production from the muscle contractions with stimulus
3 durations much greater than five seconds?

4 A. That was not an area that we felt was of much
5 concern, much like this expert review panel. So it was
6 not an area we directly investigated.

7 However, we relied on the knowledge and
8 expertise of Dr. Robert Stratbucker, our medical
9 advisor. I think he as well, you know, felt it was not
10 an area of concern that merited research, that the
11 muscular reactions from a TASER device were much like
12 exercise. The effects of concern were primarily
13 cardiovascular in nature, so that's where we focused our
14 prerelease testing.

15 Q. Well, when I read this report, I'm reading the
16 previous paragraph where they're talking about most
17 cases only one or a small number, so we'll say five or
18 six, so let's say one to six, activations are needed to
19 achieve and maintain control of the subject. And then
20 it says longer durations, or much longer durations, may
21 create this massive lactate production.

22 And did TASER take any steps prior to June of
23 2005 when it issued that warning to warn users of its
24 product that prolonged shocks may cause increases in
25 lactate production that would contribute to acidosis,

1 which may already be present in the subjects?

2 A. I would answer that by saying that this report
3 doesn't draw any additional risks to mind, at least as
4 we're going through it here today, above and beyond what
5 we would see from physical exertion or exercise, and as
6 far back as 2003 we had warnings in there about the
7 nature of a TASER device is very similar to intense
8 physical exertion. I know that that slide was in at
9 least as early as Version 10 that came out in May of
10 2003.

11 And I think that's basically a layman's
12 interpretation of what they're saying here. The TASER
13 causes muscular contractions, it is a physical exertion,
14 and they speculate if that were to go on for very
15 protracted periods of time, they talk about some of
16 these effects, some of which I think, and particularly
17 respiration, the data shown were indeed speculative and
18 have not been borne out.

19 So as far as the other effects they're talking
20 about, I think TASER clearly did describe the nature of
21 the contractions to law enforcement customers, that
22 these were, you know, strong muscular contractions and
23 strong physical exertion.

24 Q. Did you see any clarification from HECOIE as to
25 what they meant here by --

1 A. Excuse me. I've got a little bit of a cold
2 coming on today.

3 Q. Do you take multivitamins?

4 A. Not today. I should have.

5 Q. I started taking multivitamins 18 months ago
6 and haven't had a sniffle since. I was always getting
7 those hacking coughs.

8 A. Wow. That's actually good testimony.

9 Q. Everybody tells me they're placebo effect only,
10 but ...

11 A. Well, if it's working.

12 Q. Yeah.

13 A. Okay, I'm sorry. Where were we at?

14 Q. Yeah. There's a sentence here, or a statement:
15 Stimulus durations much greater than five seconds. Did
16 you ever see clarification from HECOIE as to what sort of
17 time period they meant by much greater than the five
18 seconds?

19 A. No. My understanding from our discussions was
20 they were talking about unmanned applications that were
21 far greater. I don't know if I could quantify how much
22 greater, but, you know, minutes to tens of minutes to
23 hours.

24 Q. Now, the next sentence: When acidosis becomes
25 severe, confusion, irritability, or lethargy can occur,

1 followed by -- I'll say "fainting" so I don't
2 mispronounce -- and if unresolved, can be fatal.

3 Do you agree with that as a scientific
4 principle?

5 A. Yes.

6 Q. And then the next sentence is: However, the
7 treatment of acidosis is restoration of gas exchange and
8 cessation of the muscle contraction.

9 Do you agree with that?

10 A. Yes.

11 Q. And I'm not sure what the next sentence means:
12 Only in severely affected people would support of tissue
13 perfusion be necessary.

14 Do you know what that means? If you don't,
15 it's fine. We can move on.

16 A. Yeah, I'm not sure what exact procedure they're
17 talking about.

18 Q. Yeah, I have no idea.

19 Okay, the next sentence: In a subject who is
20 able to breathe, lactic acidemia stemming from the EMI
21 would be temporary and self-correcting once the muscles
22 are released from spasm.

23 Would you agree with that?

24 A. Yes.

25 Q. Would you agree with the inverse of that, in a

1 subject whose breathing is compromised, lactic acidemia
2 stemming from the ECI (sic) would not be temporary and
3 self-correcting, even though the muscles are released
4 from spasm?

5 A. Yes, insofar as that if somebody is unable to
6 breathe, regardless of the level of activity, they're
7 going to -- the lactic acidemia will continue. They'll
8 get more and more acidic just by the act of the fact
9 they can't breathe.

10 Q. And I think we covered this yesterday, but let
11 me just ask it again, because it's quite material to the
12 Rosa case, although not the Heston case: Are you aware
13 of any TASER warnings or training prior to the June 2005
14 warning and bulletin we discussed yesterday, that
15 officers who deploy a TASER M26 in the dart mode should
16 ensure that the subject is able to breathe as soon as
17 possible so that the lactic acidemia stemming from the
18 application of the TASER device will self-correct?

19 A. How long of an application are you talking
20 about in that regard? I mean, are you talking about
21 these very long applications? Are we talking, like, a
22 small number of applications?

23 Q. I'm talking about applications with a handheld
24 device.

25 A. You know, in that regard, I would probably

1 defer to the then-active training module, because in
2 addition to our standard that we've got warnings that
3 are in the warning section, but then there's all of the
4 other context that is conveyed as part of our training
5 materials. And I think those would have to be taken,
6 you know, in toto, so I'm not sure how to answer that
7 question.

8 I mean, for example, we have many discussions
9 throughout our training about going hands on and getting
10 people quickly under control, et cetera, so I'm not
11 comfortable saying that no, we didn't have warnings, but
12 I also don't understand exactly what type of warning
13 you're asking about.

14 Q. Well, again, I think this subject matter is
15 within the scope of the designation. I'll just put --
16 you know, the answer I think is "I don't know."

17 A. Well, I'm not sure I understood your question
18 maybe would be the best answer.

19 Q. Well, if that's the case --

20 MS. GIBEAUT: And just to say, I mean, these
21 may be within the scope of the designation, but he's
22 also referring you to documents that you have, so those
23 can be looked at for the answer.

24 MR. BURTON: Right. And that's fine, except
25 for there's a somewhat significant amount of documents,

1 and one of the reasons why I do 30(b)(6) depositions is
2 to make sure that I'm not overlooking something or I'm
3 understanding how the party is interpreting its own
4 documents.

5 MS. GIBEAUT: And that's fair, and you're
6 welcome to show him the documents so that he can refresh
7 his recollection of what they say, but like you said,
8 there's a large amount of documents, and to ask
9 Mr. Smith to remember exactly what's written in each one
10 I think is just overburdensome at this point.

11 MR. BURTON: Right, but it's -- even though I
12 consider myself a competent lawyer, I still find it hard
13 to show people documents of something that's not there,
14 if you know what I mean. I mean, because I think it's a
15 negative.

16 So let me reread the question. If you need me
17 to rephrase the question, I'll do that. I just -- and
18 then we can kind of move on, but -- it's got no
19 application I know of to the facts of the Heston case,
20 but it is a significant element of the Rosa case, where
21 there's statements by the officers that after they Tased
22 him, they stepped on him and held him down with their
23 body weight while on his chest .

24 So if you could reread the question.

25 THE COURT REPORTER: "Are you aware of any

1 TASER warnings or training, prior to the June 2005
2 warning and bulletin you discussed yesterday, that
3 officers who deploy a TASER M26 in the dart mode should
4 ensure that the subject is able to breathe as soon as
5 possible so that the lactic acidemia stemming from the
6 application of the TASER device will self-correct?"

7 THE WITNESS: If you are asking me if we warned
8 about that, I don't recall that we did, so I would say
9 most likely not. But I would also disagree with the
10 premise of acidemia from a TASER hit in that context.
11 If we're talking about one or a small number, I don't
12 think that would be even a concern.

13 But as regards to did we have that specific
14 warning, I don't think so.

15 Q. BY MR. BURTON: And by "small number," we can
16 assume -- can I interpret that as one -- or a small
17 number as a range of one to six cycles?

18 A. With some fuzz around it, maybe one to ten. If
19 you're asking me my opinion of the interpretation of
20 what they meant by "a small number," I'm assuming a
21 handful, five or six.

22 Q. But I mean, you'd just used the phrase, and I
23 was just using the definition that you had given me
24 before. Is that okay?

25 A. I understand.

1 Q. And then the next sentence: Unconventional use
2 of EMI-type devices that may result in longer duration
3 exposure may lead to acute respiratory impairment and
4 failure as described above.

5 Let me ask you two questions regarding that
6 sentence. At the time the report came out, did you
7 agree with it?

8 A. I'm not sure that we focused on it, because
9 they were dealing with unconventional uses that -- so it
10 was not something that -- you know, when the report
11 comes out, like any document, you read it and you focus
12 on what's relevant. And this was not something that we
13 spent a lot of focus on. It was a theoretical concern
14 about a future, quote, unconventional use.

15 I think I mentioned before, you know, our
16 personal experience in observing people being hit was
17 that they breathed and they yelled and they verbalized,
18 so if you sat me down at the time this report came out
19 and we talked about it, I probably would have had some
20 issues with this idea that the TASER would cause
21 respiratory arrest. But I just -- I've got to tell you,
22 I don't -- this was kind of talking about far-out future
23 stuff, and we just didn't focus on those elements very
24 much. We were focused more on the handheld
25 applications.

1 So I consider I can give you a better read on
2 how I interpret it today than how and whether I
3 interpreted that specific content three years ago --

4 Q. Well, today you have a --

5 A. -- two years ago.

6 Q. Today you have a little different opinion
7 because you've got at least some idea of what Dr. Ho's
8 data is going to be?

9 A. Yeah, or I'd say I have a more substantiated
10 opinion, whereas before it may have been based on
11 personal observations and experience as opposed to
12 quantified data.

13 Q. Then the next sentence: However, the normal
14 operating conditions for the TASER do not include a
15 stimulus duration longer than five seconds without
16 deliberate operator action, so this effect is not in the
17 quantitative effectiveness and risk characterization.

18 Let me just -- I'll tell you what I think
19 they're saying, and then you can tell me if you
20 disagree, that they're saying because the device is set
21 for a five-second cycle, we don't need to consider right
22 now, or we're not considering right now, the potential
23 effects of these longer duration exposures.

24 A. I would agree with that in general, that what
25 they're saying is they're not going to do quantitative

1 effectiveness and analysis on future applications which
2 include those long, non-human-oversight-type
3 applications.

4 Q. Then the last sentence is: Future research
5 will be needed to address longer duration exposures.

6 Do you see that?

7 A. I do.

8 Q. And do you agree as of, let's say when this
9 report came out, which was almost two years ago or about
10 two years ago, would you agree with that?

11 A. Again, in the context of when they're talking
12 about significantly longer durations, beyond durations
13 that we would normally exert ourselves voluntarily, and
14 that's what I understand them to mean. I don't
15 understand this to mean that future research will be
16 needed to address a ten-second exposure or a six-second
17 exposure or a 30-second exposure. I think what they're
18 basically saying is we're going to stay in the realm of
19 what would normally be used with these handheld devices,
20 and if future research is needed to address these very
21 long devices that go beyond normal human exertion, then
22 to see what those effects would look like. That's my
23 interpretation.

24 Q. But you agree -- do you agree that as of, let's
25 say, March 1st, 2005 or October 2004 when the executive

1 summary came out, that future, you know -- and I
2 understand what you mean by longer duration exposures --
3 that future research was needed as of then?

4 A. I would agree in general that future research
5 is always needed. Virtually every report we've ever
6 seen, and I'm sure even when Dr. Ho's report comes out,
7 it will say future research is needed. That tends to be
8 a statement that's in every report, that there's always
9 room for more research. So I -- I would agree with it
10 at all points in time, that more research is always
11 needed.

12 Q. But specifically would you agree with what I
13 think they're saying in this report, that there's a gap
14 in the data regarding the health risks from lactate
15 production and potential respiratory compromise
16 associated with longer duration exposures?

17 A. At the time this report was released in March,
18 that's certainly what they said. And I think they're
19 referring to very long durations of many minutes or
20 more.

21 Q. And the only research on this question that has
22 been published since that time would be Dr. Jauchem's
23 pig study?

24 A. And potentially Dr. Chan's human work may delve
25 into this space a bit.

1 Q. But his didn't -- Dr. Chan's study did not
2 involve longer duration exposures, did it?

3 A. You're correct. You're correct.

4 Q. Dr. Jauchem's did by shocking the pigs five
5 seconds on, five seconds off, for three minutes?

6 A. Correct.

7 Q. And then some of this work that's in progress
8 with Dr. Chan and Dr. Ho may relate to this question,
9 and we'll sort that out later as we've discussed.

10 A. Correct.

11 Q. Now, on rhabdomyolysis --

12 A. Would now be an appropriate time for a small
13 break?

14 MR. BURTON: Off the record.

15 THE VIDEOGRAPHER: We are going off the record
16 at 11:39 a.m.

17 (Recessed from 11:39 a.m. until 12:00 p.m.

18 Marked for identification Deposition Exhibits 2
19 through 4.)

20 THE VIDEOGRAPHER: We are back on the record at
21 12:00 noon.

22 Q. BY MR. BURTON: While we were off the record,
23 Mr. Smith, you and your attorneys did some research into
24 the subject matter that we were discussing right before
25 the break, which has to do with, and I'll speak in very

1 general terms, the interplay between TASER usage or
2 deployment and somebody who may be a potential
3 in-custody death or somebody who is in a state of
4 drug-induced agitation.

5 And you produced in response to that and in
6 response to the "I don't know" or "I can't remember"
7 answers that we had discussed earlier the TASER
8 International instruction course excerpts from
9 Version 11 released January 2004, which we've marked as
10 Exhibit 3, and Version 12, which was released November
11 2004, which we've marked as Exhibit 4; is that correct?

12 A. Yes.

13 Q. I think I got that right. Thank you.

14 I would like to invite your attention to
15 page 23 of the HECO study in the Section 3.3.2.10,
16 Cardiac Effects.

17 Do you have that in front of you?

18 A. I do.

19 Q. Now, there's a reference in the second
20 paragraph of that subject to Underwriters Labs and the
21 International Electrotechnical Commission having
22 published safety limits relating to the amount of
23 current needed to induce ventricular fibrillation.

24 Do you see that paragraph?

25 A. I do.

1 Q. And do you agree that those safety limits do
2 not apply to the M26 or the X26 because of the different
3 waveforms?

4 A. Not entirely.

5 Q. Could you explain, then.

6 A. Yes.

7 I would agree that more relevant were the
8 studies like the PACE study that looked at the same type
9 of waveforms, and we actually developed ventricular
10 fibrillation thresholds using TASER-type data. The
11 IEC 479 safety standard, there actually are parameters
12 in there that look at short-duration pulsed discharges
13 like the TASER M26 and X26. In fact, there was a
14 Dartmouth study back in the 1990s that looked at those
15 safety standards and used them to evaluate the M26 and
16 X26.

17 So there's some conflict even within the
18 defense scientific community about their applicability
19 and their level of applicability. But I think what
20 everybody can agree on is that standards developed using
21 TASER pulses are certainly more applicable and more
22 relevant than trying to take standards that were
23 developed for other types of electricity and then adjust
24 them to -- there are certain compensating calculations
25 that are done to apply them to TASER-type devices.

1 Q. Well, have any entities or societies
2 independent of TASER itself set safety limits for the
3 current that is -- of the waveform characteristics of
4 the M26 or X26?

5 A. Not specific to those waveforms. Again, in
6 IEC 479, there are standards that are developed for
7 pulsed discharges in general, and they include
8 calculations for how to apply those standards based on
9 pulse widths, so one can take those standards and there
10 are elements that are applicable to the M and X26.
11 Again, that's IEC 479.

12 But beyond that, in direct response to your
13 question, there's been no separate body that has
14 established a published guideline that is specific to
15 these types of data beyond the ground-breaking research
16 we've done and supported.

17 Q. Which is published in the PACE January 2005
18 study?

19 A. Correct.

20 Q. And so that's what you consider to be the
21 applicable statement of the safety limits of the amount
22 of current that -- from the M26 or X26 waveforms that
23 will not or do not carry a risk or unreasonable risk of
24 inducing ventricular fibrillation?

25 A. Yes.

1 Q. I'd like to go to the Controlled Animal Studies
2 section and on page 24, the first whole paragraph. And
3 I believe this is discussing one of your own company
4 studies.

5 A. It was done at the University of Missouri, but
6 one that we sponsored.

7 Q. And is this the same as the PACE study, what
8 they're discussing here?

9 A. Yes.

10 Q. And so they said, if we look at page 24, the
11 first whole paragraph, the second sentence: Electrical
12 output 20-fold higher than the normal operating output
13 induced ventricular fibrillation in six out of 12
14 animals.

15 A. Correct.

16 Q. So that's how you sort of got the safety
17 standard that you would have to multiply the amount of
18 current by a factor of about 20 to start reliably
19 inducing ventricular fibrillation into these -- these
20 were anesthetized pigs, right?

21 A. Correct, with the probes in the worst case
22 directly across the heart.

23 Q. Now, are you familiar with John Webster's
24 recent experiments?

25 A. Oh, yes, I am.

1 Q. And I understand those are not published yet in
2 any sort of journal.

3 A. I'm not sure whether they've been published or
4 not.

5 Q. And is it your understanding that he was able
6 to induce ventricular fibrillation with what he claims
7 are much lower currents?

8 A. Yes, but by exacerbating other risk factors.

9 Q. And from what you know about Dr. Webster's
10 experiments, do you believe they're not applicable to
11 human subjects?

12 A. I wouldn't say that.

13 I would say, though, his study, whereas the
14 PACE study looked at the external application of TASERS
15 and then increased the pulse amplitude to see, okay,
16 what's the safety margin based on the amount of energy,
17 what Dr. Webster did was actually cracked open the chest
18 of these animals and moved the probes down until they
19 were very near the heart, and did some other features to
20 exacerbate the electrical delivery to the heart. So
21 what he was effectively doing was moving the probes
22 closer and closer inside the body to establish a safety
23 margin that way. So the fact he was able to induce
24 ventricular fibrillation in the manner he did it, you
25 could do it with a 9-volt battery, or even a double A

1 battery.

2 So it's helpful data in understanding the
3 extremes one would have to go to in terms of actually
4 cracking the chest open, drilling a hole down through
5 the chest wall, removing all of the tissue that normally
6 would be conducting the current, and then filling a
7 channel through the rib cage with a conductive gel, and
8 then delivering the current from the TASER like a laser
9 beam through this conductive gel that focused the energy
10 right into the surface of the heart from a very close
11 distance of only a few millimeters.

12 Again, it's good research, it's helpful
13 information to understand -- it furthers scientific
14 understanding, but I don't think it raises a concern,
15 nor does Dr. Webster think that there is much of a
16 significant concern, based on his own relations, that
17 this would happen in the field in a human.

18 Q. Can you just summarize, and I can break it down
19 if you need to, the business or professional
20 relationship between TASER International and
21 Dr. Webster? I understand it's changed over the years.

22 A. It has.

23 Dr. Webster and Dr. Stratbucker have a
24 professional relationship, and Dr. Stratbucker worked
25 with Dr. Webster in putting together a response to the

1 National Institute of Justice, which had put out a call
2 for studies into TASER safety. Stratbucker was, and
3 Wayne McDaniel and some others, were originally working
4 with Dr. Webster.

5 There was apparently some issue raised by some
6 political group, I think it was PETA, the People for the
7 Ethical Treatment of Animals, that Dr. Stratbucker was
8 involved in this study. And at that point, Dr. Webster
9 sort of reacted to the publicity, and they parted ways.
10 He asked Dr. Stratbucker not to be involved in that
11 research because of his position with TASER and because,
12 and again, in response to, I guess, a protest group that
13 was making an issue of that relationship, which again is
14 a bit bizarre, because it's very normal in medical
15 research. Some of the preeminent studies that the U.S.
16 government relies on were conducted either by company
17 researchers or by teams of company researchers and
18 university researchers.

19 So it seems to be a strange standard that it
20 was applied in this case. But nonetheless, sometimes
21 adverse media makes people do things that they normally
22 wouldn't otherwise do.

23 Q. Dr. Kroll, in his expert report that was
24 submitted in the Heston case, sort of dismisses
25 Dr. Webster's findings that we've been discussing

1 because they're, he uses the term "advocacy research."

2 Would you agree with that?

3 A. I would say that in my opinion, Dr. Webster --
4 I'm trying to think of the right way to say this,
5 because I have tremendous respect professionally for
6 Dr. Webster. But I think when there were allegations
7 made of the ties to TASER, he went in a very different
8 direction in his research, almost, I would say,
9 overcompensating to prove that he didn't have any bias
10 or relationship toward TASER.

11 And I think in fact, that bias went far the
12 other direction, because the whole nature of the
13 experiments changed, and this was not originally, as I
14 understand it, what the NIJ funded. And again, the
15 research, it's helpful, it furthers scientific
16 knowledge, but they really went to some significant
17 extremes to obtain fibrillation results.

18 Q. I'd like you to -- I'd like to invite your
19 attention to the bottom of page 24. And they're
20 referring here to what I believe is a study that
21 Dr. Stratbucker performed on small pigs with the Air
22 TASER model 34000. Is that -- am I reading this right?

23 A. Which paragraph, now?

24 Q. The paragraph on the bottom of page 24.

25 A. Yes.

1 Q. And it says at the last sentence on that
2 page -- well, it says: Each stimulus was five seconds
3 in duration. There were no ectopic heartbeats and no
4 evidence of myocardial injury. Respiration was briefly
5 arrested during some chest discharges, but returned
6 spontaneously at cessation of stimulation.

7 Did you see that?

8 A. Yes.

9 Q. Is that an accurate reflection of what happened
10 at that testing?

11 A. I would believe so. I would defer to
12 Dr. Stratbucker. I believe this was based on an
13 interview or his relation of his experiments to the
14 HECOIE.

15 Q. So had, prior to the HECOIE report being issued,
16 had TASER performed animal studies which had shown, at
17 least in some cases, the arrest of respiration during
18 TASER discharges?

19 A. I would say that was more of a casual
20 observation.

21 The focus of this test was on cardiac effects,
22 so this may have been a function of Dr. Stratbucker
23 relating with Dr. Jauchem over his results later in 2004
24 and 2005. Again, I don't know, but I would guess maybe
25 that Dr. Stratbucker, in talking with Dr. Jauchem, may

1 have said, hey, I may have seen some similar effects.

2 I don't recall it having been raised as an
3 issue. Evidently Strat didn't see anything that caused
4 him any concern. He never brought it to my attention.

5 Q. Do you think that the fact it was an Air TASER
6 34000 or it was a small pig made any difference?

7 A. Well, actually, in that testing he's referring
8 to was just a 34000.

9 I think here he's referring to some of the
10 tests where we developed the M26, because it talks about
11 the output of a power supply coupled to electrodes. So
12 that was a variable output power supply. We could -- he
13 could crank the energy up and down and change the pulse
14 repetition rate. So yeah, I mean, he may have been
15 operating at much greater power levels when he saw that.
16 I don't know.

17 Q. Now, in addition to the pig studies, TASER
18 International, through Dr. Stratbucker and Dr. McDaniel,
19 did a series of canine studies in connection with
20 developing and testing the safety of the M26, and that's
21 referred to in the next paragraph, page 25.

22 A. That is correct.

23 Q. And those tests showed that the TASER current
24 that ultimately went into the M26, and in modified form,
25 the X26, did not pose a risk of ventricular fibrillation

1 in these dogs --

2 A. Yes.

3 Q. -- just to oversimplify the findings of that
4 study.

5 A. Correct.

6 Q. And was that study ever published?

7 A. Yes, it was.

8 Q. And do you know where it was published?

9 A. I believe it was published in presentation form
10 at an IEEE conference.

11 It was published also in letter form that was
12 included in our training materials that you would have
13 on CD, an overview letter from the doctors, basically to
14 end users, describing the results of the testing.

15 And then I believe that Dr. McDaniel had a
16 manuscript that was submitted for publication. And I
17 believe it may still be in the peer review process, so I
18 don't know if it's actually been published yet.

19 Q. Now I'd like to refer you to the next
20 paragraph, and let me just read it. It says: Data from
21 an unpublished study, paren, (Mark Johnson, TASER
22 International, personal communication, 2003), end paren,
23 on the effect of acidosis on cardiac responses to the
24 TASER was provided at the July 2003 workshop. It was
25 reported that application of the M26 TASER to the chest

1 wall or directly on cardiac tissue of presumably
2 acidotic sheep caused no induction of VF.

3 Do you see that?

4 A. I do.

5 Q. And did TASER perform tests on sheep?

6 A. No.

7 Q. Do you know what test is being referred to
8 here?

9 A. Yes.

10 Q. And what's that?

11 A. Before he came to TASER International, Mark
12 Johnson worked at the Hennepin County Medical Center in
13 Minnesota. He, in his role at the hospital there, was
14 involved in their security department, and they were
15 interested in obtaining TASERs for use at the Hennepin
16 County Medical Center.

17 I believe they had some of the researchers
18 there that were doing other experiments with sheep. And
19 before they terminated the animals, they were -- they
20 started a TASER study where effectively they would
21 test for VF on these sheep. Again, it was sort of
22 like -- that they were just bundling it in with another
23 study.

24 And then at some point, it may have been that
25 Mark Johnson left to come to TASER International or

1 there was a -- basically something happened and it never
2 got published. I don't think anybody really owned that
3 project. So there was some experimentation done, but I
4 don't think it was ever published.

5 Q. Does that research exist?

6 A. I don't know. I don't know. I don't know. I
7 guess I can say "I don't know" again. I'd have to have
8 you check either with Mark Johnson or the folks up at
9 Hennepin to see if it exists.

10 Q. Do you know why they were testing TASERS and
11 the effect of acidosis on cardiac response?

12 A. I don't.

13 Q. I'd like to refer to the next paragraph. The
14 first sentence says: There is no systematic way to
15 determine morbidity and mortality associated with the
16 use of EMI, which you would call an ECD, devices.

17 Would you agree with that?

18 A. Insofar as I think what they're saying is
19 there exists no national reporting system. There's no
20 database that one can go to, like the Centers for
21 Disease Control tracks other types of incidents. But
22 there's nothing that tracks police in-custody deaths
23 or police in-custody deaths with TASERS, which would
24 be a subset. So in that context, I would agree with
25 that.

1 I'm not sure I agree with that as a broad
2 statement that there's no way to look at
3 morbidity/mortality. I think we've got tons of great
4 data that indicate results in those areas.

5 Q. And then as of the day of this report, which
6 would be, what, March 2005, it says, quote: The
7 peer-reviewed open literature contains very limited
8 objective scientific research data on the mechanism of
9 action, efficacy, safety, and acute and long-term
10 effects of these devices.

11 Would you agree with that as of that time?

12 A. That certainly was much more true then than it
13 is today.

14 Q. And some of those studies are weapons that are
15 significantly different than the M26 and X26, like the
16 one that Dr. Ordog looked at?

17 A. Correct.

18 Q. And the one that Dr. Kornblum looked at?

19 A. Correct.

20 I mean, there are differences. I don't know
21 how significant. That would be subject to discussion,
22 but there were certainly different devices.

23 Q. Now I'd like to invite your attention to
24 page 28 and Section 3.3.2.12, which is titled, The
25 Effect of Extended Stimulus Periods or Repeated Stimuli

1 on VF, Ventricular Fibrillation, Risk.

2 Do you see that?

3 A. M'hum.

4 Q. The effect of repeated EMI applications or EMI
5 stimuli for extended periods has been less well
6 characterized. I assume they mean investigated. I'm
7 not sure.

8 And then there's another sentence: There are
9 some data from the general bioelectricity literature to
10 suggest that VF thresholds decrease with greater
11 stimulus durations. See references in Nerheim, et al.,
12 2003.

13 Do you agree with that as a general principle?

14 A. You know, there are -- yes, in that in the
15 general bioelectricity literature, the standards that
16 I've seen generally talk about a decrease in thresholds
17 during the first two seconds, and then after the first
18 two seconds, that there's a stabilization that occurs,
19 and you don't see any significant decrease beyond two
20 seconds.

21 Now, we did a TASER -- related to them, we did
22 one experiment where we went out to 30 seconds, and we
23 did see some decrease in the fibrillation thresholds,
24 but we went back and repeated those experiments and we
25 were not able to replicate that. So it may have just

1 been, you know, an instance of one or two cases.

2 So in discussions with our experts, looking at
3 published standards, it seems that after the two
4 seconds, there may be some diminution, but nothing
5 significant. At least, that's my current
6 understanding.

7 Q. Well, you're referring to the next sentence
8 here: In limited experiments, ventricular fibrillation
9 thresholds in pigs decreased from 20-fold to 8-fold
10 above normal X26 TASER output as the stimulus duration
11 increased from the standard five-second period to 30
12 seconds?

13 A. Correct.

14 Q. And is that what TASER told HECOE?

15 A. I believe so.

16 Q. And did TASER tell HECOE that because it was
17 true?

18 A. Yes. As I mentioned, we had seen that in one
19 set of experiments. I don't believe that was actually
20 done with the final X26 waveform. I believe that was
21 with one of the progenitors with the earlier waveform
22 designs. And my recollection is that we went back with
23 the X26; we weren't able to replicate that result.

24 So it's a bit fuzzy. There may be some
25 moderate decline in VF thresholds at extended periods,

1 but the literature from general bioelectricity seems to
2 indicate that it's most pronounced within the first two
3 seconds.

4 Q. Well, is this data available? Do you have it?

5 A. Yes.

6 Q. Has it been published or produced?

7 A. I believe we've -- I would assume we've offered
8 it under protective order.

9 Q. Well, maybe we can take that up later.

10 A. This is part of the same muscle data we talked
11 about before that was not published. It's trade secret
12 stuff we use for developing products. But we can
13 certainly make it available under protective orders.

14 Q. And then the next sentence: The general
15 biomedical literature also suggests that fibrillation
16 thresholds can decrease nearly to the level of the
17 cardiac excitation threshold when subjected to a period
18 of repeated simulations -- or repeated stimulation
19 below the VF threshold, but above the excitation
20 threshold.

21 Do you see that, the next sentence?

22 A. Yes.

23 Q. Do you agree with that?

24 A. I believe so. I think I understand what
25 they're saying here. I don't think that's TASER

1 specific.

2 Q. Right. I don't think it's TASER specific,
3 either.

4 A. Okay.

5 Q. They're talking about a threshold, I assume,
6 for electricity that's above what they call cardiac
7 excitation, but below the threshold for fibrillation.

8 A. Correct. We're now starting to stretch the
9 bounds of my expertise to where I would be more
10 deferential to Drs. Kroll and others that really
11 understand the non-TASER cardiac electrical literature
12 far better than I. I think I've got a pretty good
13 handle on the TASER experimentation and TASER technology
14 and development. As we start moving far afield, I would
15 just caution that I would be deferential to those other
16 experts who are going to understand these areas far
17 better than I.

18 Q. Now, the last paragraph, and let me just kind
19 of read it in its entirety, because it has a lot to do
20 with both these cases: Field uses of the TASER,
21 primarily the M26, reported in the TASER International
22 database and examples provided in TASER International
23 training materials document that there have been cases
24 where subjects have been exposed to multiple shots,
25 multiple cartridges fired from the same TASER, or have

1 been stimulated repeatedly in succession with no
2 unintended effect. However, the TASER International
3 database records do not allow a close examination of the
4 frequency of such events, or specific details regarding
5 the number of simultaneous stimuli or the temporal
6 pattern of stimuli. The effect of multiple simultaneous
7 exposures or sequential exposures needs additional
8 evaluation.

9 And I'd like to just ask if you agree with that
10 paragraph, and particularly the last sentence about the
11 need for additional evaluation.

12 A. Well, I think what they're saying -- it's got
13 to be taken into context of the paragraph. What they're
14 saying is, looking at the field database that we have,
15 we collect certain information from police departments
16 on a totally voluntary basis. We have no jurisdictional
17 ability to force agencies to share data with us. For
18 those agencies that elect to use our web-based use of
19 force reporting form, it gives them an opportunity to
20 submit a lot of information about each use of force.
21 But you can only collect so much.

22 Now, what they're pointing out here is data
23 that's not included in that database related to the
24 time -- well, specifically the number of simultaneous
25 stimuli or pattern of stimuli, et cetera. So what

1 they're saying is, that database doesn't collect every
2 imaginable detail, and to look at those other issues,
3 the database may be of somewhat limited utility, i.e.,
4 they may want to use other means to look at that, such
5 as human studies with extended durations as we've been
6 doing.

7 Q. Well, do you agree that as of the date of this
8 report, March 1st, 2005, quote: The effect of multiple
9 simultaneous exposures or sequential exposures needs
10 additional evaluation?

11 A. I think I would agree with that in the general
12 context. As I've said before, there's -- more research
13 across the board is needed, not just in the area of
14 sequential exposures. More research always increases
15 the scientific understanding. I mean, today we don't
16 even fully understand the mechanism of effect of
17 aspirin. So I would certainly agree with that, but we
18 saw nothing, and today see no evidence, that there are
19 particular dangers there that raise a concern.

20 Q. Let me invite your attention to page 39. I
21 imagine this is a paragraph that you're familiar with,
22 the one that begins "No specific data," about halfway
23 down the page.

24 A. M'hum.

25 Q. Is this a paragraph you're familiar with?

1 A. If you want to give me a few moments, I'll read
2 it.

3 Q. Okay, sure.

4 A. Okay.

5 Q. The first sentence would be: No specific data
6 were identified for elderly populations or for
7 comparison of sensitivity between healthy adults and
8 individuals with underlying heart conditions or
9 abnormalities in the physiologic environment within the
10 body such as hypoxia, acidosis, electrolyte
11 abnormalities, and cardiac-sensitizing medications or
12 chemical exposure.

13 Would you agree that as of the time of the
14 publication of this study, there was no data for those
15 categories?

16 A. Not entirely. We had significant human
17 effects data in the database for, for example, elderly
18 persons.

19 But I would agree in general that what they're
20 pointing out here is there are literally infinite
21 different combinations of potential medical
22 abnormalities that people will have, and you cannot
23 synthesize them all experimentally. So in that context,
24 I would certainly agree that what they're saying is
25 there's no specific, and I would read this they're

1 talking about scientific data, where people have done,
2 for example, tests between different types of adults or
3 people with different medical conditions.

4 But I'd say this is a problem that's true for
5 every medical device and every police implement out
6 there, that you can't study in human populations people
7 that have severe underlying medical risks. Frankly, it
8 would never be allowed in this country for those types
9 of studies to be done.

10 So they're pointing out the obvious, that there
11 are many different human conditions and there's not
12 TASER-specific data for those conditions, but I don't
13 think that that's intended as a specific critique or an
14 admonition that that data somehow needs to be obtained
15 experimentally. It's just a statement of fact.

16 Q. Well, one of the abnormalities they discuss is
17 the physiologic environment within the body, such as
18 hypoxia, acidosis, and electrolyte abnormalities. And
19 then it says: In extremes of these conditions, the
20 arrhythmogenic threshold can become so low that
21 malignant arrhythmias, including ventricular
22 fibrillation, can arise spontaneously.

23 A. Correct.

24 Q. Do you understand them also to be saying that
25 the arrhythmogenic threshold can become so low that the

1 TASER shock, which is normally safe, could cause a
2 ventricular fibrillation?

3 A. Not necessarily. I would view this as a more
4 speculative comment.

5 And I think if you read this in conjunction,
6 for example, with testing out of the United Kingdom,
7 where in the U.K., they did testing on many of these
8 factors, including seven different drugs, and the U.K.
9 testing came to the conclusion that while these factors
10 may increase the heart's susceptibility to a fatal
11 arrhythmia, there is no experimental evidence that any of
12 these factors increase that susceptibility to the point
13 where a TASER interaction could lead to a fatal outcome.
14 I'm, of course, paraphrasing, because I don't have the
15 U.K. study in front of me.

16 So I think those are opposite sides of the same
17 coin. They're pointing out that people can have very
18 dangerous health conditions. We don't know if there's a
19 potential interaction because you just can't simulate
20 all those conditions, whereas the U.K. came back from
21 sort of the same thing from a different angle, but
22 they've pointed out there's no evidence to suggest, and
23 they did do testing on different types of drugs and
24 conditions, and they found no experimental evidence that
25 would lower it sufficient for a TASER to cause one of

1 these arrhythmic events.

2 So again, and if we want to talk about areas
3 like the shifting of VF thresholds in general in these
4 other areas, I would defer to Dr. Kroll and others that
5 certainly know that literature much better than I.

6 Q. I'd like to jump ahead to page 68, and this is
7 the DSTL report. Can you explain your understanding of
8 what the DSTL report is? It's actually on page 67.

9 A. I'm sorry, on page 67?

10 Q. What am I saying? On page 67, right, is -- the
11 passage I want to ask you about is on page 68, but on
12 page 67, they talk about the key conclusions from the
13 DSTL report.

14 A. Correct.

15 Q. What's the DSTL report?

16 A. That would be the Defense Scientific and
17 Technical Laboratories.

18 Q. And what is that in relation to this study?

19 A. That is one of the studies out of the United
20 Kingdom that was sponsored by the U.K. Home Office.

21 Q. And so it was one of the studies that was
22 looked at by the HECOE --

23 A. Correct.

24 Q. -- people? Okay.

25 A. But there have been a number of DSTL studies

1 over time as they've released. There was, for example,
2 an early one that focused on the M26 solely, and then I
3 believe there was a second study that came out that
4 talked more about the M and the X26.

5 And the early report called for certain
6 research to be done, particularly in relation to drugs,
7 and the second report talked about some of the results
8 that they saw in those tests. So I don't know which one
9 specifically they're referring to here.

10 Q. Now, there's a bullet point on page 68. It's
11 the first bullet point on that page. There's text above
12 it. It reads -- it's in quotation marks: Guidance to
13 TASER users should reflect the likely increased
14 susceptibility to life-threatening cardiac events in
15 susceptible, paren, (i.e., those with acidosis or with
16 concurrent drug use) individuals, unquote.

17 Do you see that?

18 A. I do.

19 Q. Do you agree with that statement?

20 A. Not necessarily. You know, here they're
21 starting to get to the point where they're asking police
22 officers to be doctors, and unfortunately, police
23 officers don't have the benefit of being able to make
24 medical diagnoses. So this -- and again, I'm not a
25 police training officer, but this begins to sound a

1 little bit like it's expecting officers to be making
2 medical diagnoses that they're just not going to be able
3 to do in a real use of force confrontation.

4 I think at TASER International, our approach,
5 we've made general warnings about looking out for
6 individuals with obvious susceptibilities -- right on
7 the front of our owner's manual, for example, in
8 different places -- but I think getting down to these
9 levels of specificity, while scientifically interesting,
10 I'm not sure how applicable that would be to a police
11 officer realistically. Is it helpful to an officer
12 trying to do his job in a fast-moving environment.

13 Q. And then the next sentence in this bullet
14 point, which is not in quotation marks: Experimental
15 investigations are recommended to resolve the issues,
16 since the data reviewed did not provide adequate
17 evidence for or against an effect of pro-arrhythmic
18 factors on increased susceptibility to EMI devices.

19 Did you agree with that statement as of
20 March 1st, 2005?

21 A. Absolutely.

22 In fact, we took action on exactly these types
23 of recommendations to do further studies, and we
24 sponsored research at the Cleveland Clinic, the top
25 heart hospital in America, where they specifically

1 looked at the interaction of TASER discharges and
2 cocaine use. Cocaine is the primary use -- drug of use
3 we've seen in these deaths in custody, and cocaine is
4 known to have all sorts of adverse cardiac effects.

5 So in fact, we did agree that more research --
6 and again, as I'll tell you today, we continue to
7 sponsor research, and we welcome additional scientific
8 research. And the research that's been coming back has
9 been very helpful in understanding these risks. But so
10 far, the risks from TASERS on individuals with drug use
11 that's come back has not indicated that there is a
12 significant risk of an adverse interaction between a
13 TASER and somebody on drugs. The cocaine study, for
14 example, showed that the ventricular fibrillation
15 thresholds actually went up with the concurrent use of
16 cocaine.

17 Q. I'd like to ask you if you could look at
18 page 69, 6.5.1.2.

19 A. Okay.

20 Q. And that's called Temporal and Duration
21 Effects. The first sentence reads: The quantitative
22 impact of extended periods of continuous stimulation,
23 repeated stimuli, and multiple simultaneous stimuli on
24 the induction of effects is not well characterized.

25 Do you agree with that statement?

1 A. Well, certainly there was some -- there has
2 been some characterization of those effects,
3 particularly there was some simultaneous stimuli applied
4 in the 2000 University of Missouri, or 1999 University
5 of Missouri studies. I think that's sort of qualitative
6 about how well it's characterized. I would agree that
7 it's not as well characterized as the standard
8 discharges.

9 Q. And that's, I think, the point they're making
10 in the next sentence, would you agree, quote: The
11 assessment as presented is most appropriate for
12 evaluating the normal operating mode of the handheld EMI
13 device, paren, (single or well-separated serial
14 five-second duration stimulation periods)?

15 A. Yeah, I don't have a problem with that
16 statement.

17 Q. And then the next sentence says: As one
18 extrapolates the results to uses that differ greatly
19 from this baseline case, uncertainty is increased.

20 Would you agree with that?

21 A. Yes.

22 Q. The data are adequate to provide some degree of
23 bounding estimates for temporal response.

24 Do you agree with that?

25 A. Let me go ahead and read the rest of the

1 paragraph. I'd like to see sort of what the ...

2 Q. Sure.

3 A. I haven't read this in quite some while.

4 Okay, so if you could repeat your question.

5 MR. BURTON: Could it be re-read, please?

6 THE COURT REPORTER: "The data are adequate to
7 provide some degree of bounding estimates for temporal
8 response.

9 Would you agree with that?"

10 THE WITNESS: Yes.

11 Q. BY MR. BURTON: Skip the next sentence. I
12 think we already covered this. It's restated from
13 something we did before: However, based on test data in
14 animals, increasing the duration of constant stimulus
15 decreases these thresholds, referring to the VF
16 thresholds, significantly.

17 You don't agree with that; is that correct?

18 A. Well, as I mentioned, I think that was from a
19 sample of one, and I don't think that was repeatable.
20 So I don't know that I would rely on that. And we
21 conveyed that to the HECOIE folks. You know, we shared
22 all of our data, and they had the chance to go through
23 it.

24 So conservatively we might look at that, but I
25 think, again, you've got to realize that this was in the

1 worst case, with the probes directly across, directly
2 across, the heart in the highest stimulation locations
3 possible. So of course, as the electrodes move further
4 and further from the heart or in areas like the back,
5 where the lungs are between the heart and the back, I
6 don't know that that would apply. I think this is
7 helpful; it's conservative speculation, but I don't know
8 that one would draw, you know, meaningful conclusions
9 from it.

10 Q. Well, when you got these results that, even if
11 they were just in this one animal, that a stimulus
12 duration from five seconds to 30 seconds reduced the
13 ventricular fibrillation threshold by more than half,
14 did you discuss with your people what might be causing
15 that?

16 A. I don't think so, because it was not really --
17 I don't recall it was repeatable.

18 Q. So was there any concern that the longer
19 duration, the 30-second stimulus duration, actually was
20 creating metabolic changes in the blood chemistry that
21 were having the effect of reducing the ventricular
22 fibrillation threshold?

23 A. I don't think so, because none of the blood
24 draws that we were doing were showing adverse changes in
25 blood chemistry.

1 Q. I'd like to go to the next sentence. It says:
2 Without additional data, a quantitative
3 duration-response relationship cannot be derived.

4 Do you see that?

5 A. I do.

6 Q. Do you agree with that?

7 A. Yes, certainly more data would have to be
8 developed. Yes, I agree with that.

9 Q. So since TASER, at least at the time of this
10 report in March 2005 or October 2004, did --

11 A. March 2005.

12 Q. I'm --

13 A. March 2005 was when we got the full report.

14 Q. Okay.

15 A. October was the --

16 Q. Right, the executive summary.

17 A. -- three-page executive summary.

18 Q. So you might not have gotten this kind of
19 detail, then?

20 A. Correct.

21 Q. But would you have agreed with this in
22 October 2004, without additional data, a quantitative
23 duration-response relationship cannot be derived?

24 A. Yes.

25 Q. Well, did the decision-makers at TASER

1 International consider that it should warn its users
2 that the potential consequences of extended stimulus
3 periods are -- that those consequences are not known at
4 this time, and therefore, that long stimulus durations
5 should be avoided when possible?

6 A. Well, I think we were -- we were already doing
7 that. If you look at our Version 12 training from
8 November of 2004, and I'll refer you to --

9 Q. That's Exhibit 4.

10 A. -- the second page there, we have a slide in
11 the training course for officers using the TASER. And
12 I'll read it into the record. It says, quote, "Duration
13 of Field Applications. The application of the TASER is
14 a physically stressful event. Although there is no
15 predetermined limit to the number of cycles that can be
16 administered to the subject, officers should only apply
17 the number of cycles reasonably necessary to allow them
18 to safely approach and restrain the subject. Especially
19 when dealing with persons in a health crisis such as
20 excited delirium, it is advisable to minimize the
21 physical and psychological stress to the subject to the
22 greatest degree possible.

23 "Further, TASER applications directly across
24 the chest may cause sufficient muscle contractions to
25 impair normal breathing patterns. While this is not a

1 significant concern for short (five-second) exposure, it
2 may be a more relevant concern for extended duration
3 applications. Accordingly, prolonged applications
4 should be avoided where practicable."

5 And then there's a number of notes that go to
6 the instructor on that slide. So in fact, TASER did
7 have warnings in there.

8 Now, the more relevant concern at this point in
9 time was certainly breathing. That was just coming to
10 light as an issue. And as soon as that was raised as an
11 issue, TASER included this contextual slide warning
12 right in its training immediately. I think the earliest
13 I knew of Jauchem's work was right around this same
14 time. And that certainly is of greater concern than,
15 you know, thresholds -- we're dealing with thresholds of
16 20, and 8 to 1, and 15 to 1. We certainly already had
17 those warnings about avoiding long durations when
18 practical, but I think we very carefully chose that word
19 "when practicable" as well, because when police are
20 dealing with very violent, resistive subjects, sometimes
21 they may not be able to avoid it.

22 Q. Now I'd like to skip down a few sentences to
23 the one that reads: As an upper bound, it is reasonable
24 to conclude that constant stimulus durations that exceed
25 a minute or two are likely undesirable, since they would

1 enhance risks related to impaired respiration and
2 increased risk of rhabdomyolysis.

3 Do you see that?

4 A. Yes.

5 Q. Do you agree with that?

6 A. At that point in time, the respiration was --
7 issue didn't have as much human data as we have today.
8 So as I sit here today, I would say that rhabdomyolysis,
9 if we're talking about periods that significantly exceed
10 two minutes, I would agree with that.

11 The respiration does not appear to be impaired
12 by TASER use. In fact, my understanding is the data
13 shows that it goes up. But I think in the interest of
14 conservatism, you know, as you can see, we had
15 contextual warnings in place to alert end users that
16 this is something they should be keeping an eye on.

17 Q. Well, it says --

18 A. Or avoiding, I'm sorry. Let me change that to
19 avoiding extended durations where they can.

20 Q. Well, it says: "Constant stimulus durations
21 that exceed a minute or two increase the risk of
22 rhabdomyolysis.

23 Would you agree with that?

24 A. My understanding of rhabdomyolysis would be
25 that this would be significantly beyond that. I would

1 say the minute or two were likely more related to the
2 respiration concern. My understanding is rhabdomyolysis
3 would be further out the time curve. So if the data
4 indeed is showing that respiration is really not an
5 issue, then that one to two minutes probably shifts
6 out before you start getting concerned about
7 rhabdomyolysis.

8 Q. And did you know that Robert Heston, according
9 to the dataport, was shocked by three TASERS pretty much
10 continuously over a 70-second period? I mean, not all
11 three continuously -- I could break it down for you --
12 but one was pretty much continuously over 70 seconds,
13 and then two others were six cycles each, for a total of
14 25 cycles?

15 MS. GIBEAUT: Objection; I think that misstates
16 the evidence.

17 THE WITNESS: My understanding in the reviews
18 I've done of some of the statements from the officers,
19 et cetera, is that the majority, the vast majority of
20 those shots did not connect, and officers may have been
21 pulling the trigger, which is a very human reaction,
22 trying to get it to work.

23 But if you don't have both darts on target or
24 you don't have a good connection or you have a broken
25 wire or for whatever reason they weren't seeing the

1 physical reaction, I think it would be dangerous to read
2 the dataport and try to draw immediate conclusions that
3 the current was going into the body during those time
4 periods. There are a lot of factors. The dataport
5 tells us that the trigger was pulled, but it doesn't
6 tell us anything beyond that as far as the connection of
7 the circuit.

8 Q. BY MR. BURTON: And did you know that he had,
9 when he got to the hospital, he had rhabdomyolysis?

10 A. I did know that, and I'm aware that that's
11 unfortunately very common in cases with excited delirium
12 and PCP methamphetamine use.

13 Q. And also that he had severe acidosis or
14 acidemia?

15 A. Again, generally speaking, I was aware that
16 that was the case. I haven't read necessarily the
17 documents you're talking about, but I wouldn't be
18 surprised with that finding. Again, related to
19 methamphetamine use and excited delirium, that's very
20 common.

21 Q. And is it your opinion that it was just a
22 coincidence that he happened to have this cardiac arrest
23 after 70 seconds of TASER application?

24 MS. GIBEAUT: Objection; misstates testimony
25 -- or evidence.

1 THE WITNESS: My opinion, based on my cursory
2 review of the facts of the case and on the advice of
3 some Bar experts, is not that it's coincident, but it
4 was the very behavior, the excited delirium, the
5 behaviors that ensued, that -- and that led to the
6 confrontation with police, that led to them using the
7 TASER.

8 And unfortunately, it appeared they weren't
9 getting good connections, it was less than optimally
10 effective, and that the struggle continued, and hence,
11 the officers continued attempts to use their TASERs,
12 some of which were effective, until the point where
13 Mr. Heston died. And of course, at that point, they
14 stopped using the force options. Actually, I'm not sure
15 that he died. I may have probably mischaracterized
16 that.

17 But I don't see that that indicates a causal
18 relationship between the TASER device, knowing all that
19 the testing and scientific literature have shown, and
20 knowing that unfortunately, this case involved
21 potentially lethal amounts of methamphetamine and
22 symptoms of excited delirium that beyond a shadow of
23 doubt has been shown to be causal to death. To me,
24 that's pretty clear where the cause of death truly
25 lies.

1 And certainly, I think we'd all agree, it's
2 still a tremendous tragedy.

3 MR. BURTON: Thank you.

4 Can we go off the record?

5 THE VIDEOGRAPHER: We are going off the record
6 at 1:01 p.m. This concludes tape 3 of the continuing
7 deposition of Rick Smith.

8 (Discussion off the record. Recessed for lunch
9 from 1:01 p.m. until 2:01 p.m.)

10 THE VIDEOGRAPHER: We are back on the record,
11 and this is the fourth tape in the videotaped deposition
12 of Rick Smith.

13 Today is December 15th of the year 2006 at
14 approximately 2:01 p.m. Our location is 17800 North
15 85th Street, Scottsdale, Arizona. Jackie Allen is
16 your certified court reporter, and Jim Law is your
17 certified legal video specialist, with Driver and Nix,
18 3131 East Clarendon Avenue, Suite 108, Phoenix, Arizona
19 85016.

20 Q. BY MR. BURTON: Mr. Smith, I'd now like to ask
21 you about the document we discussed this morning, and
22 you should have a copy. It's a TASER Technology Review
23 Final Report from the Officer of the Police Complaint
24 Commissioner, and I believe this is from Victoria,
25 British Columbia.

1 A. Okay.

2 Q. I don't want to sort of belabor points that we
3 already covered. A lot of this has already, you know,
4 been covered, but I would like to discuss some -- sort
5 of the timing of when things happened, because all of
6 this was going on at around the time of the two
7 incidents I'm here for.

8 If we go to page 2, this is a cover letter from
9 a gentleman named Dr. Butt. And it says: Review of
10 Interim and Final Reports. And it refers to the fact at
11 the bottom of the paragraph under that Review of Interim
12 and Final Reports heading: The report's recommendations
13 include establishing a margin of safety by using a
14 minimal number of TASER applications.

15 A. I'm sorry, can I interrupt for a second, just
16 so I can follow along? I'm not following where you're
17 at. Are you on the first page?

18 Q. No, I'm on the second page.

19 A. The second page of the letter?

20 Q. Of the letter, right.

21 A. Okay, so it's got a "3" underneath of it.

22 Q. I'm sorry, yeah.

23 A. Okay, gotcha.

24 Q. Page 2 of the letter, page 3 of the document.

25 A. Okay.

1 Q. Review of Interim and Final Reports.

2 A. Got it.

3 Q. Okay. That first paragraph, the end of it:

4 The report's recommendations include establishing a
5 margin of safety by using a minimal number of TASER
6 applications, including careful control of continuous
7 cycling.

8 Do you see that?

9 A. Yes.

10 Q. I'm not so concerned about the second half of
11 that, about the using the X26 instead.

12 A. Right.

13 Q. But the first part, when did that particular
14 recommendation first come to the attention of TASER
15 International?

16 A. In this form would have been on the release
17 date of the report on the 14th of June.

18 Q. Was this concern brought to TASER's attention
19 by anybody in Canada before that date?

20 A. Not specifically.

21 The short answer is, the Canadians were very
22 concerned about keeping their report confidential until
23 the release date, so we had very little communication
24 with anybody that had anything to know about this
25 report. I think partially because of what Alex

1 Berenson's report, with the HECOE, you know, in late
2 2004, these folks were -- in Canada were being
3 particularly careful to avoid any preliminary prerelease
4 discussions with TASER International.

5 At least, that's my recollection.

6 Q. Did you agree with that recommendation?

7 A. I'm sorry, I flipped pages now, so let me go
8 back to it.

9 Yes, in general I think it's very consistent
10 with the advice that we had in our Version 12 training
11 slide we went over earlier, minimizing the number of
12 applications.

13 Q. And was that recommendation, at least, among
14 the factors that caused TASER to issue the June 2005
15 product warning?

16 A. Yes. This report in it's -- in totality was a
17 significant factor in our determination to take yet
18 another step with the totality of warnings we issued on
19 the 28th, two weeks after we got this. Took a little
20 while, as you can imagine, to work through with all the
21 experts the right interpretation and what the right
22 warning language would be.

23 Q. And now I'd like to invite your attention to
24 page 7, which is a similar cover letter from a
25 Dr. Christine Hall. At least, I assume she's a

1 doctor.

2 A. She is.

3 Q. The last paragraph on page 7, it seems to be a
4 similar recommendation. I'd just like to read it: For
5 example, the report's recommendation to limit the number
6 of conducted energy device discharges in an attempt to
7 mitigate the risk of relative hypoventilation, addresses
8 a current published scientific theory surrounding sudden
9 death for individuals suffering from features of excited
10 delirium, but also recognizes postulated mechanisms for
11 these deaths that are as yet not fully explored.

12 Do you agree with that statement as of that
13 time?

14 A. I do agree with the concept of limiting, not
15 with a hard limit, but with the recommendation that
16 users limit the number of times they use the TASER, or
17 the number of discharges, to the amount of time
18 necessary to accomplish the task at hand.

19 I think if I have to interpret what she's
20 talking about here as about, oh, the relative
21 hypoventilation risk, I would say what she was referring
22 to here was likely the Jauchem study with pigs, and as
23 such, at that point in time, you know, certainly there
24 was -- consistent with his results, she had some
25 concerns. I think that's what she's relating to here.

1 I have talked with Dr. Hall since then, and she
2 has obviously discoursed with Drs. Ho and others in the
3 field, so I think, while the recommendation of
4 minimizing any force application, including TASER, still
5 stands, I would -- I believe that her concern on the
6 issue of ventilation is greatly reduced.

7 Q. Would you agree with the part of this
8 sentence that refers to the fact that postulated
9 mechanisms for these deaths, which are in-custody
10 deaths, that are -- that are as yet not fully explored,
11 would you agree that the postulated mechanisms are not
12 fully explored?

13 A. I think what she's referring to there, and
14 again, this is my interpretation of a rather subtle
15 sentence, but she's saying that this limitation also
16 recognizes postulated mechanisms for these deaths that
17 are not yet fully explored. What I think she's
18 referring to there is a postulated mechanism of TASERS
19 for prolonged periods inhibiting breathing or causing
20 respiratory arrest. I don't think she's talking about
21 that the mechanisms of excited delirium and drug deaths
22 are not fully explored. I think there's a fair amount
23 of exploration in that space.

24 And so I think what she was saying is that more
25 exploration needed to be done on the effects of TASERS

1 on breathing in humans, which of course I believe
2 there's been significant work in that space since this
3 report.

4 Q. I'd like to invite your attention to page 12.

5 A. Okay.

6 Q. And it refers to the interim report released in
7 September 2004.

8 A. Okay.

9 Q. Did that report also recommend that there
10 should be -- the police should be minimizing multiple
11 TASER applications?

12 A. I don't recall. If it did, it certainly wasn't
13 as strong as the language in this report. I don't
14 recall that as a feature in the 2004, at least not a
15 significant feature at that time.

16 Q. Now, the next paragraph is research done by the
17 Air Force Research Laboratory. That's Dr. Jauchem's
18 study?

19 A. Yes.

20 Q. Do you agree with the last sentence of that
21 paragraph: We believe this study provides support for
22 the proposition that police should, where possible, be
23 minimizing multiple TASER applications?

24 A. Yes.

25 Q. Thank you.

1 Now, on page 13 at the very top, it mentions:
2 And the U.S. and National Institute of Justice is
3 funding a three-year study at the University of
4 Wisconsin.

5 And that's the study I think you've already
6 testified about that's underway but not finalized yet?

7 A. Yeah, I'm not sure what exactly they're
8 referring to there. The NIJ has a number of research
9 initiatives ongoing.

10 Q. So you wouldn't know exactly what they're
11 talking about, three-year study at the University of
12 Wisconsin to monitor changes to blood chemistry and
13 respiration?

14 A. No. I -- no, not beyond speculation.

15 Q. Well, understanding it as such, what would be
16 your best speculation as to what doctor or what team
17 they're referring to here?

18 A. Again, it would be pure speculation, that they
19 might be talking about the Webster work. He's at the
20 University of Wisconsin. But obviously, that's total
21 speculation on my part.

22 Q. And just on page 19, sort of in the middle
23 there, it's a paragraph that starts, "The second
24 program."

25 A. I'm sorry, I just got to page 19. Which

1 paragraph are we on?

2 Q. It's the fourth paragraph that begins, "The
3 second program."

4 A. Gotcha.

5 Q. Why don't you just read that paragraph real
6 quick. And it's -- I think it's also referring to the
7 University of Wisconsin study. And it's just -- does
8 that ring a bell as to any more detail as to what study
9 that is?

10 A. Yes.

11 Q. And what study is that?

12 A. I believe this is what Dr. Webster's original
13 study plan was to cover, and then somehow it got changed
14 into the very different approach of opening the chests
15 and drilling holes down to the heart. Became much --
16 sort of much more aggressively focused on -- than on the
17 issues here.

18 Q. Do you know whether, and maybe you don't know,
19 but do you know whether Dr. Webster is examining changes
20 in blood chemistry from TASER applications?

21 A. Not to my awareness.

22 Q. Now I'd like to invite your attention to
23 page 21, and there's a CBS News report quoting a
24 Georgetown University cardiologist, Dr. Charles Rackley?

25 A. Yes.

1 Q. Are you familiar with Dr. Rackley or have you
2 ever spoken to him?

3 A. I'm familiar with his interview on CBS.

4 Q. And do you agree or disagree with his comments?

5 A. Disagree.

6 Q. And what's the basis of your disagreement?

7 A. He's referring to Jim Jauchem's study on the
8 pigs where he shocked them repeatedly, as we've talked
9 about. And one of the blood markers he looked at was
10 troponin, which is a marker for cardiac damage. And
11 there was a very small and statistically insignificant
12 increase in troponin levels.

13 And CBS, again, a great example of our media
14 hyping things rather than sticking to the facts, CBS
15 talked to Jim Jauchem, who informed them that his
16 findings were remarkable in that even after 36 TASER
17 discharges, they saw no significant change in troponins.
18 He specifically related that there was no indication of
19 heart damage.

20 CBS went and obviously searched far and wide to
21 find a doctor -- and I don't know how much of the data
22 they showed him, but they effectively got a doctor to
23 say that any change in troponin or that there was a
24 change in troponin somehow would be an indication of
25 heart muscle damage.

1 We've had four or five other
2 electrophysiologists and cardiologists look at this
3 data, and they were aghast at what CBS did with Rackley,
4 because in fact, even if the troponin changes did --
5 let's say there was heart damage. Troponin doesn't go
6 up by, you know, a small, insignificant amount. It goes
7 up by 10- or 20-fold. Huge increases. And in fact,
8 other pig studies have shown that merely the act of
9 putting a pig on its back -- and Dr. Kroll can comment
10 more on this, putting a pig on its back and intubating
11 it, you know, putting the tube in for the anesthesia,
12 that alone can cause troponin levels to move.

13 So this was a complete mischaracterization of
14 results, and unfortunately, it was some media
15 sensationalism.

16 Q. And Dr. Kroll that you just referred to is an
17 electrical engineer?

18 A. Yes, but he's also admitted to the American
19 Academy of Cardiology and has spent his career -- he's
20 former chief technology officer of the second largest
21 pacemaker company, and his credentials in this area, he
22 holds more patents on implantable cardiac devices than
23 anyone in the world. So this is a space where he's got
24 significant expertise.

25 Q. Page 24, there's a graph there on blood CO2.

1 And we don't need to go through your answer again, but I
2 think we've already got your position that that has to
3 do with the particular position and the anesthesia of
4 the pigs, and it would not be consistent with human
5 subjects?

6 A. It would not be entirely consistent with human
7 subjects. But humans exercising, you might see some
8 changes in CO2. So I think the best way to put it is
9 there are significant differences from what you would
10 see in a human subject.

11 Q. And we've already covered everything on that,
12 right?

13 A. I think so.

14 Q. Yeah. And the bottom of page 24, it says: The
15 issue is the extent to which Dr. Jauchem's work can be
16 usefully extrapolated to law enforcement scenarios,
17 which are highly unlikely to involve such a prolonged
18 series of shocks.

19 Do you think that Dr. Jauchem's work can be
20 usefully extrapolated to law enforcement scenarios which
21 do involve a prolonged series of shocks?

22 A. No, because of the respiratory differences, as
23 we've talked about, as shown in Dr. Ho's and Dr. Chan 's
24 work.

25 Q. And I really don't -- we're coming to the end

1 of this deposition; you don't need to repeat stuff
2 you've already said. I'm just kind of going over it
3 from a different angle, and if there's anything you feel
4 that you haven't covered on these topics, it would be a
5 good time to put it in. But I think everybody will
6 understand, and I'm saying it now for the transcript,
7 that just because you're not saying it now doesn't mean
8 you didn't say it earlier.

9 A. Thank you. I appreciate that.

10 Q. Do you agree with the statement: We believe
11 this work, Dr. Jauchem's work, is very valuable and
12 supports a number of preliminary hypotheses about the
13 role of blood pH, respiratory impairment, and sudden
14 in-custody death?

15 A. I think at the time, that was an accurate
16 statement. And I still think Dr. Jauchem's work is
17 valuable, and Dr. Jauchem's a good researcher, but I
18 think he would be the first to tell you as well that
19 human data in unanesthetized humans is much more
20 applicable, and that data is -- you know, basically
21 contradicts the data in that study.

22 Q. So I think this is the same point on page 31 on
23 respiratory impairment, pH changes, and multiple
24 applications.

25 A. I'm sorry, on page 31?

1 Q. 31 at the top.

2 A. May I have just a moment to ...

3 Q. Sure. Sure.

4 A. Okay. I'm sorry. And your question on
5 page 31?

6 Q. Yes. At the very beginning, it says at the
7 top: Depending on probe location in the upper torso, it
8 appears likely that the muscular tetany produced by a
9 TASER deployment could impair a subject's respiration.

10 We've already covered that, right?

11 A. Yes. I think, to summarize again, that that
12 was true in the case of the anesthetized pigs placed on
13 their backs, but has not been found in human subjects.

14 Q. And then: TI, that's your company,
15 acknowledges this in their most recent instructor-level
16 teaching material.

17 That was --

18 A. Yes.

19 Q. -- true as of this time?

20 A. Correct. I believe they're referring to our
21 slide in Version 12 where we brought this up as an
22 issue.

23 Q. Now, I think three-fourths of the way, or
24 two-thirds of the way down the page, there seem to be
25 two recommendations from AI, which I believe is Amnesty

1 International. And the first one is, number 8:
2 Repeated shocks should be avoided unless absolutely
3 necessary to avoid serious injury or death.

4 Do you see that?

5 A. I do.

6 Q. Do you agree or disagree with that
7 recommendation from Amnesty International?

8 A. I disagree.

9 Q. And without going through what you've already
10 said, do you think you've covered all your reasons for
11 disagreeing with that in the deposition already?

12 A. I would like to clarify that while we advise
13 and we would agree that the number of discharges should
14 be minimized, this language I think is too strong by
15 saying that repeated shocks should be absolutely
16 avoided.

17 You've got to look at the relative risk of
18 injury to the subject and to the police officer. And
19 what this language would be saying is, hey, if the
20 person is not under control after one discharge, go to
21 something else. Well, those other something elses are
22 likely to be baton strikes, kicks, punches, tactics that
23 result in a higher likelihood of injury to the police
24 officer and the subject.

25 So in light of that, you know -- I think the

1 problem with Amnesty International is they tend to look
2 at TASER in a vacuum, without considering what the
3 alternative courses of action are implied by such
4 stringent recommendations. And that's where the
5 disagreement comes. I think we have general agreement
6 on minimizing overall use of force. But when Amnesty
7 draws these bright lines, you -- unfortunately, we live
8 in a world of shades of gray, and those bright lines
9 might sound good intellectually, but to a police officer
10 on the street, they can have very dangerous
11 implications.

12 Q. And then number 9: Department should introduce
13 guidelines which prohibit the application of prolonged
14 shocks beyond the five-second discharge cycle.

15 Do you see that?

16 A. I do.

17 Q. And I assume you disagree with that?

18 A. I do.

19 Q. Do you have anything other than what you've
20 already said in the deposition about that?

21 A. I guess the -- I would just point out that this
22 would be totally contrary to police training in general.
23 There are no limitations to the number of baton strikes,
24 to the number of even bullets in a fatal or lethal force
25 confrontation, that setting an arbitrary number just

1 can't work in the field. It would force officers, like,
2 to potentially shoot and kill someone if they couldn't
3 user their TASER beyond the first five seconds. And as
4 you and I have talked about, the recovery from the TASER
5 is so fast and instantaneous that five seconds may not
6 be long enough to get the person under control. So it
7 seems a dangerously arbitrary recommendation.

8 Q. Now, there's this bold language, and this is
9 now I think the study's recommendation as opposed to
10 Amnesty International's: Training protocols, however,
11 should reflect that multiple applications, particularly
12 continuous cycling of the TASER for periods exceeding 15
13 to 20 seconds, may increase the risk to the subject and
14 should be avoided where practical.

15 Do you agree with that?

16 A. With the exception of the 15 to 20 seconds. We
17 didn't see any specific support for that level. That
18 seems somewhat arbitrary.

19 We agree with the concept of minimizing the
20 number of applications, but my disagreement would be
21 with the -- setting, you know, a limit of 15 to 20
22 seconds, again, is rather arbitrary. And the secondary
23 disagreement would be that, you know, this was based
24 solely on Jauchem's work and is -- I think this would
25 need to be tempered in light of the human data that's

1 been gathered since that time and the human data before
2 that time, but it just wasn't quantified the way that it
3 has been since with instrumented human subjects.

4 Q. Now, to move on from the Canadian study, just a
5 couple more subjects. There's this whole question about
6 whether a TASER can cause a ventricular fibrillation in
7 a human being, and then there was this incident in
8 Chicago, I'm sure you're aware of, with the 14-year-old
9 youth.

10 A. Correct.

11 Q. And I know that there's been an answer of TASER
12 to the letter that was published in the New England
13 Journal of Medicine by the doctors who I guess were
14 involved in the treatment of that young man. Is there
15 any -- and I've read that letter. I believe it was by
16 Dr. Luceri, if I'm not mistaken?

17 A. I believe so, yeah.

18 Q. And there's no need for you to summarize what
19 he said, because obviously he's a cardiologist and he
20 said it, but is there any sequelae to this? Is there
21 any resolution? I mean, is this sort of an open debate
22 over whether or not this young man had ventricular
23 fibrillation because of the TASER, or has there been
24 some kind of resolution beyond the two sides that were
25 published?

1 A. I'm not aware of any additional resolution.
2 You know, certainly, in my opinion, the time course of
3 events speaks for itself, and Dr. Luceri's opinions
4 speak for itself. The grammar on that wasn't very good.
5 His opinion speaks for itself.

6 The point is that the original manuscript
7 submitted to the New England Journal omitted serious and
8 important data. Since that time, anytime that case has
9 been discussed, when we present the data that was
10 missing in Luceri's report, it seems there's been no
11 contention on it anymore. There's been no legal
12 proceedings, for example, involving that case.

13 So I think intellectually the matter has been
14 largely resolved, and that the time lapse between the
15 events and the time course of events shows it clearly
16 was not caused by the TASER, but I can't point you to,
17 you know, any adjudicating body that has put some sort
18 of a stamp of approval on that per se. There hasn't
19 been a forum to do that.

20 Q. Let me just, like -- one question I had from
21 Dr. Luceri's letter. He says: We learned from EMS
22 reports and the time-stamped record from the TASER
23 device which was downloaded by the Chicago Police
24 Department, there was a period of 14 minutes that lapsed
25 between the time of the TASER application and the time

1 when the subject collapsed in a medical crisis.

2 When I read this, since I have never, ever seen
3 a dataport that was even remotely close to the correct
4 time, and we sort of had this discussion yesterday, do
5 you know, I mean, was that dataport timestamp somehow
6 correlated with, like, some other indication to show
7 that it was in fact an accurate time?

8 A. I believe it was.

9 Q. Are you following what I'm saying?

10 A. Yes. Yeah.

11 I believe there was supporting evidence. I was
12 not involved in sort of the discovery portion there
13 personally, but I know that it wasn't just the dataport
14 versus the time on the defibrillator, it was a number of
15 factors, including the time course of events that
16 occurred, that substantiated that information.

17 So I would -- again, I personally have not
18 reviewed the records, but, you know, I understand that
19 it has been substantiated that there was a significant
20 lapse of time, particularly -- well, at least part of it
21 I know was substantiated by the defibrillator itself,
22 that when it was initially applied, there were other
23 arrhythmias involved, not fibrillation, for quite some
24 period of time. It seems -- my understanding is they
25 were able to shock the young man out of these other

1 arrythmias and into fibrillation and back out of
2 fibrillation. And they should be commended I think, as
3 Dr. Luceri said, for resuscitating him. But both the
4 time course and the course of events that occurred
5 indicate a significant temporal distance between those
6 events.

7 Q. Do you know how many times he was shocked, that
8 particular youth?

9 A. Sitting here today, I don't recall.

10 Q. Would that case be the only case where somebody
11 has actually established that they were in ventricular
12 fibrillation after receiving a TASER shock, if you
13 follow my question?

14 A. I'm not sure that I do.

15 Q. Well, in that case, there seems to be no
16 dispute that the young man was shocked with a TASER, and
17 there also seems to be no dispute that at some time,
18 let's say within the hour, he was in ventricular
19 fibrillation. Are there any other cases that you know
20 of where it's documented that that happened, that there
21 was a TASER shock, and then within a -- let's say within
22 an hour, the target was seen to be in ventricular
23 fibrillation?

24 A. As I sit here today, not that I know of. But I
25 would not be surprised if in some of these other cases

1 where there are other arrhythmias, that someone may
2 have, like in this case, been shocked into fibrillation
3 in resuscitation attempts. So I wouldn't be surprised
4 to see a similar course somewhere else, but I don't know
5 of any offhand.

6 Q. Now, I'd like to -- I have kind of two more
7 areas of questioning. The first has to do with the
8 expert witnesses that TASER has designated in this case
9 besides yourself. You're one of the 15.

10 A. Okay.

11 Q. And I'd just like you, if you could, without
12 going through -- well, I'll ask follow-up questions, but
13 basically I want to get their relationship with TASER
14 over the years.

15 A. Okay.

16 Q. I think some of them, like Dr. Kroll -- well,
17 obviously, you have had quite intimate relations with
18 TASER and Dr. Kroll. Some of these I don't know, so
19 I'll just take them in the order I have them here. And
20 the first I have is Dr. Ho.

21 A. Okay.

22 Q. And besides being retained as an expert witness
23 in this case, he's performed studies that TASER has
24 contributed to his institution on?

25 A. Correct.

1 Q. And he also is a certified TASER instructor?

2 A. He is. And he's a police officer as well, I
3 believe a reserve police officer.

4 Q. So is he a master instructor?

5 A. No.

6 Well, before I speak to that, he's attended
7 some of the conferences. I don't believe he's a
8 master instructor, but he may have completed the
9 coursework.

10 Q. Has he ever been given stock options by the
11 company?

12 A. I don't believe so.

13 Q. Has he ever been an employee of the company?

14 A. No.

15 Q. Do you know how many cases he's been designated
16 as an expert witness on?

17 A. No, I don't know.

18 Q. How long has TASER had some sort of
19 professional relationship with Dr. Ho, would you
20 estimate?

21 A. I would estimate starting in 2003 or 2004, so
22 that would be two to, maybe at the outside, four years.

23 Q. Now, the next question I have is Dr. DiMaio.
24 Can you describe the relationship between TASER
25 International and Dr. DiMaio?

1 A. I first met Dr. DiMaio I believe at a
2 conference of medical examiners or forensic experts. I
3 don't remember exactly when that was. It was probably
4 one to two years ago. And I presented on TASER.
5 Actually, no, I don't believe I presented at that
6 conference.

7 Anyways, I met him at a conference, and --

8 Q. Was that an AAFS conference?

9 A. It likely was.

10 Q. Maybe February 2005?

11 A. That sounds about right. That likely would
12 have been where there was a presentation by a
13 Mr. Ruggieri on TASER devices, and I expressed some
14 opinions about Mr. Ruggieri's work, and I actually --
15 Vince DiMaio, or Dr. DiMaio, did as well, completely of
16 his own accord.

17 And I met him afterwards and came to understand
18 that he had written a book on excited delirium and is
19 clearly an established expert in that space. And I
20 think he -- at that point, he may have invited us to
21 present TASER data at another conference. So we talked
22 about the issue of excited delirium and whatnot.

23 So that's when I met him. I'm not aware of
24 any relationship aside from the fact that we have hired
25 him as an expert because of his work on excited

1 delirium.

2 Q. Are you aware that the Institute for the Study
3 of In-Custody Deaths has purchased numerous copies of
4 his books and distribute it to medical examiners?

5 A. Yes.

6 Q. Has TASER International had any role in that?

7 A. We may have sponsored some of that.

8 Q. And why would TASER do that?

9 A. Well, this is an important topic, as you
10 well know. And TASER International, we've supported
11 research in this space, and we think it's important
12 that everybody be educated about what excited delirium
13 is.

14 Q. Do you think that the question of what excited
15 delirium is and its potentially lethal effects and what
16 its criteria are is a matter of, let's say, medically
17 established fact right now, or a matter of some
18 controversy in development?

19 A. I don't see much controversy in it, frankly.
20 There's some discussion about the fact that it's -- I
21 don't even want to try to attempt it -- how it's
22 classified within the medical community, whether it's a
23 diagnosis or not.

24 But it's pretty clearly established in the
25 vast -- well, I'll put it to you this way: I don't

1 recall having seen any credible medical experts say that
2 it does not exist. They may be out there, but I
3 certainly haven't seen a significant controversy about
4 the condition and its potential lethality. That seems
5 to me that it's beyond dispute.

6 Q. Let me just ask you this question and then
7 we'll move on, because I don't think we're going to come
8 to agreement on it, but I think people who -- you know,
9 you referred to me and what I would know about this, and
10 in fact, this is something I've been looking at for
11 several years.

12 I think the difference between people who think
13 like me and Dr. DiMaio's approach to the question is
14 that while we recognize that somebody can be in an
15 agitated and somewhat irrational state because of, let's
16 say for example, what I see -- I don't see cocaine so
17 much anymore, I see methamphetamine, although I used to
18 see cocaine cases, or some central nervous system
19 stimulant, and that we understand that that would have
20 detrimental health effects, which would include some
21 extraordinary physiological demands which would lower
22 blood pH and so on; that we see police restraint
23 maneuvers and tactics, which include pepper spraying,
24 prone restraint, body weight, hog ties, and application
25 of the TASER, as potentially aggravating those

1 physiological markers and that's a combination in
2 bringing about someone's demise, whereas someone like
3 Dr. DiMaio, to us, seems to focus only on the
4 physiological consequences of the drug ingestion and the
5 state of excited delirium or agitation that preceded the
6 police intervention and treats the police intervention
7 as more or less a non-issue.

8 That's kind of the way that we see the debate.
9 Do you see the debate that way, or do you see it
10 differently?

11 A. Well, I would say I agree with -- you know,
12 we talked about the Canadian study earlier, and for
13 all of its concerns at the point in time it was
14 released, it still came to the conclusion that a single
15 application of the TASER is likely the preferred
16 approach to get these people under control. And the
17 point is, if they're engaging in behaviors and
18 activities that are causing this worsening of their
19 metabolic state, the treatment I think we all agree on
20 is that that behavior has to be stopped, the muscular
21 activity, and they need medical treatment. Without
22 medical treatment, the probability of death starts to
23 approach 100 percent.

24 So if we accept as a truism that therapy
25 requires restraint, then it comes down to a debate about

1 what is the most expeditious means of restraint in these
2 very difficult and dangerous situations. And, you know,
3 so I think as we look at those, restraint is not an
4 option but a necessity, and therefore, the -- really,
5 the nature of these cases is largely dependent on the
6 behavior and the metabolic state and the drug-induced
7 state of the subject. I don't think law enforcement
8 officers in many of these cases have a choice but to
9 restrain, or they would be negligent in getting these
10 people to the medical care they need.

11 And it's my understanding that a large number
12 of these people are saved. And my review of our own
13 database records on field uses on the TASER are
14 consistent with that, that there are many, many, many of
15 these cases where police are able to get them to medical
16 care in time. But in some cases, they can't.

17 Q. Well, just, do you think that in any of these
18 cases, the police tactics themselves go, went -- I'll
19 put it in the past tense -- went beyond what was
20 necessary to expeditiously restrain the person and
21 contributed to the death?

22 MS. GIBEAUT: Objection; foundation.

23 THE WITNESS: You know, sitting here today, I'm
24 in no position to second-guess the professionalism and
25 judgment of trained police officers that have to deal

1 with a situation that would scare the hell out of me. I
2 don't know what I would do in one of these situations,
3 and I'm not going to second-guess the officers.

4 I will tell you that my impression -- I've
5 never been a police officer. I've been working with
6 them for about six years. I am continually amazed by
7 the caliber of people that go into this profession and
8 the risks that they take for a not very financially
9 rewarding career and all the second-guessing that occurs
10 when they can't be Superman and they can't save
11 everybody and they can't -- you know, sometimes they
12 inherit really bad situations that don't turn out well,
13 and I am no one to second-guess them. I'm just glad
14 we've got people like them to deal with the problems of
15 our society, try and hold it together.

16 Q. BY MR. BURTON: Let me go to Dr. Kroll.

17 A. Okay.

18 Q. I know he has quite an extensive history with
19 your company.

20 A. Yes.

21 Q. Could you just summarize it for us?

22 A. A quick synopsis would be in either 2002 or 3,
23 I don't recall, we first made contact with Dr. Kroll.
24 His son had a patent related to stun guns, and we were
25 contacted by an intermediary to see if TASER was

1 interested in acquiring that patent. And we were
2 not, but somehow we came to understand who Dr. Kroll
3 was.

4 And he expressed an interest in this space. He
5 related his life's work was using electricity to save
6 people's lives in the cardiology field, and he felt we
7 were doing similar work in law enforcement, and so he
8 was interested in the company.

9 We were looking to expand our board of
10 directors, and you always look for different areas of
11 expertise. And we had expertise, for example, in law
12 enforcement and business and financial expertise, and we
13 felt that adding medical expertise to our board would
14 be -- medical and technical expertise would be a very
15 good addition. So we invited him to join our board of
16 directors. Not too long after that, Dr. Kroll suggested
17 that we form a separate advisory, medical advisory
18 board, so he initiated those efforts.

19 And so he has chaired our scientific and
20 medical advisory board, he's been a member of our board
21 of directors, he's been an advisor to me on scientific
22 and medical issues to the company in general, and then
23 he's also served as an expert for us in some of this
24 litigation.

25 Q. And has he received stock options in the

1 company?

2 A. He has. Every employee and director here, as
3 with most publicly traded companies, has received
4 options.

5 Q. Do you know how many options he's received?

6 A. I don't offhand.

7 Q. Or how many he's exercised?

8 A. I don't. That's a matter of public record in
9 our SEC filings. Would be easy for you to find.

10 Q. I'm not sure he's really a doctor or not. He
11 has "Ph.D." after his name: John Peters. Do you know
12 him?

13 A. I do know John Peters.

14 Q. Do you know what his Ph.D. is in?

15 A. I do not.

16 Q. Do you know if it's an online institution?

17 A. As I said, I don't know where it's from.

18 Q. How do you know Mr. Peters?

19 A. I know Dr. Peters through his work with the
20 Institute for the Prevention of In-Custody Death, which
21 of course we've talked about before.

22 Q. And has TASER paid him any money outside of
23 being an expert witness in the Heston case?

24 A. Yes, we have paid him instructor fees. He's
25 developed a course trying to prevent exactly the types

1 of tragedies we're here talking about today for dealing
2 with law enforcement and trying to help them identify
3 the types of cues and signals that might indicate the
4 potential for a death in custody, and developing
5 proactive measures to try and minimize that risk and
6 save lives. And obviously, we see that as cohesive with
7 our mission, and so we have paid to have Dr. Peters come
8 here to TASER International and teach this course for
9 students on site as part of our training academy.

10 Q. And Dr. Michael Evans. Do you know him?

11 A. The name is familiar, but -- I may have met him
12 once or twice at a conference, but I'm not aware of any
13 relationship beyond expert work.

14 Q. He's a toxicologist who has submitted a report
15 in this case. He's from Indianapolis.

16 A. Again, I personally am not very familiar with
17 him. I would -- I believe our relationship would purely
18 be expert, as an expert witness.

19 Q. And we mentioned already Dr. Alexander.

20 A. Yes.

21 Q. Can you just summarize his relationship with
22 TASER?

23 A. I met Dr. Alexander I believe at the same AAFS
24 meeting where I had met Dr. DiMaio, and after the
25 meeting, I talked to Dr. Alexander. And he had a very

1 interesting background in terms of warnings and safety
2 engineering, and he expressed an interest in assisting
3 TASER with refinement of our warnings in particular, our
4 legal warnings and whatnot.

5 So I know we engaged him in that effort, and
6 then we've also engaged him as an expert on warnings and
7 safety issues.

8 Q. And he's received no stock options?

9 A. No, he's not.

10 Q. Do you know Dr. Richard Clark?

11 A. I believe so.

12 Q. What's your understanding of who he is?

13 A. Is he -- he's a toxicologist?

14 Q. He's a toxicologist and an emergency room
15 doctor. He's an M.D.

16 A. Very limited experience with him. I believe I
17 saw him testify in the Alvarado trial, and that would be
18 the extent of it.

19 Q. Do you know if he's an associate of
20 Dr. Chan's?

21 A. I do not know.

22 Q. So as far as you know, his only relationship
23 with TASER has been as an expert witness?

24 A. Correct.

25 Q. And Dr. Raymond Ideker?

1 A. Dr. Ideker, he -- we have a relationship with
2 him where we sponsored some research, particularly
3 theoretical analysis of the safety of TASER
4 waveforms.

5 Q. Was that published?

6 A. It either was published or will be published
7 shortly.

8 Q. Could you just summarize what the basic finding
9 was?

10 A. Yes. What he did was he compared TASER outputs
11 to a variety of different safety standards. And he
12 is -- in my understanding, he's recognized as sort of
13 the world's expert on the phenomenon of fibrillation.
14 And he came to the conclusion that it was highly
15 unlikely a TASER would or could cause fibrillation.

16 Q. Dr. Mark Lehto, L-e-h-t-o.

17 A. I don't know that name.

18 Q. He submitted a report on warnings in the Heston
19 case.

20 A. Gotcha. Certainly, as you're aware, our
21 counsel engages experts from various fields. I don't
22 even know who they engage.

23 Q. I just told you that just in case it rang a
24 bell.

25 A. Appreciate it.

1 Q. And Dr. Luceri, L-u-c-e-r-i-e? I don't think
2 that's right.

3 A. Dr. Luceri is a member of our scientific and
4 medical advisory board.

5 Q. I think I misspelled that. There's no "e" on
6 the end.

7 A. Correct. "Potato."

8 Q. Right, not Dan Quayle, okay. I always think of
9 Dan Quayle putting the "e" on the end.

10 He's a member of your advisory board. How long
11 has he been affiliated with TASER International?

12 A. Probably a little over two years.

13 Q. And has he received any stock options?

14 A. No.

15 Q. What compensation does he receive outside of
16 his work on specific cases?

17 A. He's paid in cash for serving on our advisory
18 board. Basically, he's paid for his time.

19 Q. Was he paid specifically for his time on that
20 Chicago fibrillation case we discussed a few minutes
21 ago?

22 A. No. I don't believe we paid any marginal
23 consulting cost on that. Those are the types of issues
24 that our advisory board look at and advise the company
25 on.

1 Q. Dorin Panescu. Do you know Dr. Panescu?

2 A. I believe it's, yeah, Dorin Panescu.

3 Q. Okay, Panescu. P-a-n-e-s-c-u?

4 A. Yes.

5 Dr. Panescu, I believe his expertise is in
6 computer modeling of current flows, particularly in the
7 heart. Specifically I believe he works in the area of
8 electrode design for electrodes for pacemakers and
9 implantable cardiac devices.

10 We met him through -- well, both
11 Dr. Stratbucker knew him as an expert and Mark Kroll
12 from St. Jude. They both sort of independently pointed
13 us to Dr. Panescu as an expert in computer modeling of
14 current flows.

15 Q. So he's been used as an expert witness?

16 A. Correct.

17 Q. Has he been employed by TASER in any other
18 capacity?

19 A. Never employed. I believe --

20 Q. That's a bad word.

21 A. Yeah.

22 Q. Paid.

23 A. I believe we may have sponsored some of his
24 research as well to do some computer modeling that may
25 or may not have been related to a court case.

1 Q. Do you know if TASER has sponsored any research
2 by Dr. Panescu that's -- in regards to TASER that has
3 been published?

4 A. Yes, I believe there are one or two papers that
5 either have been published or are in the publication
6 process, particularly in IEEE journals.

7 Q. Can you just very briefly summarize what the
8 findings of those papers are?

9 A. Yeah. The findings of those papers and his
10 computer modeling in general shows that the current
11 flows from the TASER tend to stay up near the surface of
12 the body. They don't tend to penetrate very deep near
13 organs like the heart for a variety of reasons that have
14 to do with the construction of the human body.

15 Q. Dr. Charles Wetli.

16 A. Only relationship is expert witness.

17 Q. Do you know how often he's been engaged?

18 A. I don't.

19 Q. Dr. Debra Mash?

20 A. Expert witness would be the only relationship.

21 Q. Dr. Michael Graham?

22 A. Again, only as an expert witness.

23 Q. Now, my firm, the plaintiffs in the Heston
24 case, engaged an expert by the name of Mark Myers, who
25 is a cardiac electrophysiologist in Pasadena. And the

1 day after we designated him, Dr. Myers received a call
2 from a colleague of his named Dr. Charles Swerdlow, who
3 is a cardiology -- cardiologist/electrophysiologist from
4 Cedars-Sinai in Pasadena, to talk to him about the fact
5 that he was appearing as a plaintiffs' expert against
6 TASER. Do you have any idea how that would have come
7 about?

8 A. I don't.

9 Q. Do you know who Dr. Charles Swerdlow is?

10 A. I do.

11 Q. Do you know who contacted him on behalf of
12 TASER?

13 A. I don't, but -- well, I suspect that Dr. Kroll
14 may have mentioned to him that this other individual was
15 serving or was involved as an expert in this case.

16 Q. Well, how is it -- have you ever met
17 Dr. Swerdlow?

18 A. I have.

19 Q. How long ago was that?

20 A. Oh, two years.

21 Q. And have you seen him since then?

22 A. Yes.

23 Q. How frequently have you seen Dr. Swerdlow?

24 A. Probably two or three times in the last couple
25 of years.

1 Q. And in what connection?

2 A. He's been a consultant for the company.

3 Q. So the company has paid him money?

4 A. Yes.

5 Q. Do you know how much money the company has paid

6 Dr. Swerdlow?

7 A. No.

8 Q. Well, did you talk to Dr. Kroll about talking

9 to Dr. Swerdlow about talking to Dr. Myers?

10 A. No, I did not.

11 Q. Do you know if anybody did?

12 A. The only knowledge I have was basically

13 discussions with counsel --

14 Q. Well, you know --

15 A. -- which I assume were attorney/client

16 privileged discussions.

17 Q. You know Dr. Kroll pretty well, right? I mean,

18 you've worked together for a while?

19 A. I do.

20 Q. Do you think that Dr. Kroll would know better

21 than to call Dr. Swerdlow and ask him to call an expert

22 witness that's been designated by an adversary?

23 MS. GIBEAUT: I'm going to object. That's just

24 argumentative.

25 THE WITNESS: I don't understand what the

1 legal dos and don'ts are, so -- they all run in fairly
2 tight circles, and I wouldn't be surprised that in
3 casual conversations, something like that would have
4 come up.

5 Q. BY MR. BURTON: Well, it wasn't exactly a
6 casual conversation. He paged him the next morning
7 after the designation came in. I mean, the designation
8 was sent out at 5:00 p.m., and he paged him about
9 9:30 a.m. the next day specifically to discuss this. So
10 it was not a casual conversation.

11 A. Again, I don't know. I've not talked with
12 Dr. Kroll about this. My only knowledge was discussions
13 with counsel.

14 MR. BURTON: If I could just have one moment, I
15 think I've exhausted my questioning. And I've talked to
16 Mr. Brown, and I don't think he has any questions. Is
17 that correct?

18 MR. BROWN: That's correct.

19 MR. BURTON: And I don't think your lawyers
20 have any questions, although they are entitled to ask
21 them.

22 MS. GIBEAUT: No.

23 MR. BURTON: So if you could just give me one
24 second, please.

25 MR. BROWN: Can we go off the record?

1 MR. BURTON: Okay, why don't we do that. Off
2 the record.

3 THE VIDEOGRAPHER: We are going off the record
4 at 2:57 p.m.

5 (Recessed from 2:57 p.m. until 3:07 p.m.)

6 THE VIDEOGRAPHER: We are back on the record at
7 3:07 p.m.

8 Q. BY MR. BURTON: Steve Ward is a TASER vice
9 president?

10 A. He is.

11 Q. And are you aware he made a statement to the
12 media -- and I forgot to write down exactly where it
13 appeared -- and basically it's a rampant problem, false
14 allegations against law enforcement officers.

15 Are you familiar with that comment?

16 A. Not specifically, but I would not be surprised
17 by it. I would agree with it.

18 Q. Why is that a problem?

19 A. Oh, my gosh. You know, law enforcement
20 officers, as we -- as I mentioned earlier, have a very
21 difficult job, and frequently they're dealing with, you
22 know, persons that will undertake about any strategy
23 to -- I'm trying to be diplomatic. Let's just say that
24 people make false allegations against police as part of
25 a defensive strategy of their own, or sometimes for

1 other reasons. It is a big problem.

2 Q. Do you think excessive force by police is a
3 problem?

4 A. I think it is a -- it can be a problem. I
5 think there certainly have been cases of it.

6 Q. Well, do you think it currently is a problem in
7 American society? I mean, you think that -- "you"
8 meaning your company -- thinks that false allegations of
9 police misconduct are a current problem in contemporary
10 society, right?

11 A. Yes.

12 Q. So do you also think that police misconduct is
13 a problem?

14 A. I would say that it is a problem, although in
15 my opinion, the false allegations against police are
16 far more widespread than actual cases of police
17 misconduct.

18 But in cases where there is police misconduct,
19 it certainly is -- I think there's widespread agreement
20 it needs to be handled very seriously. But I -- the
21 agencies that I know, that I've worked with and I've
22 come to know, I can't think of an agency that doesn't
23 take that issue very seriously and doesn't have
24 procedures and protocols in place to try to mitigate the
25 risk of polite brutality, because we all agree it's

1 unacceptable.

2 MR. BURTON: Thank you. I have no further
3 questions.

4 MR. BROWN: I have no questions.

5 THE WITNESS: This concludes the videotaped
6 deposition of Rick Smith on December 15th, 2006, at
7 approximately 3:10 p.m. We are off -- oh, consisting of
8 four tapes.

9 We are off the record.

10 (Discussion off the record.)

11 MS. GIBEAUT: We'll read and sign.

12 MR. BURTON: I want everything, e-tran.

13 MR. BRAVE: We'll take everything and an
14 e-tran, as long as the condensed and ASCII don't cost as
15 much as the full-sized transcript.

16 MR. BROWN: Full-sized copy only.

17 (3:10 p.m.)

18 ---o0o---

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PATRICK WALLER SMITH

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CERTIFICATE

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I, Jacquelyn A. Allen, Certified Reporter for the State of Arizona, certify:

That the foregoing deposition was taken by me; that I am authorized to administer an oath; that the witness before testifying was duly sworn by me to testify to the whole truth; that the questions propounded by counsel and the answers of the witness were taken down by me in shorthand and thereafter reduced to print by computer-aided transcription under my direction; that deposition review and signature was requested; that the foregoing pages are a full, true, and accurate transcript of all proceedings and testimony had upon the taking of said deposition, all to the best of my skill and ability.

I FURTHER CERTIFY that I am in no way related to any of the parties hereto, nor am I in any way interested in the outcome hereof.

DATED at Phoenix, Arizona, this 28th day of December, 2006.

JACQUELYN A. ALLEN, RPR
Certified Reporter No. 50151
For the State of Arizona